PAKISTAN LIQUIFIED PETROLEUM GAS (LPG)

POLICY, 2024

Government of Pakistan
Ministry of Energy (Petroleum Division)
Directorate General (Liquefied Gases)

MINISTRY OF ENERGY (PETROLEUM DIVISION)

Petroleum & Natural Resources Division was created in April 1977. Prior to that it was part of the Ministry of Fuel, Power and Natural Resources.

MISSION STATEMENT

To ensure availability and security of sustainable supply of oil and gas for economic development and strategic requirements of the Pakistan and to coordinate development of natural resources of energy and minerals.

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1 Energy Mix of Pakistan

Energy sources can primarily be categorized as non-renewable and renewable. Till recent years, non-renewable energy sources, especially fossil fuels, have been the mainstay for almost every country in the world. Fossil fuels, which consist of coal, oil, natural gas, Liquefied Petroleum Gas (LPG) and peat have been major source of energy in every sector, including domestic, industry, transportation, agriculture and power generation. While developed countries are transitioning aggressively towards the use of renewable energy sources, developing countries remain heavily reliant on fossil fuels.

In terms of energy-mix, Pakistan's reliance on thermal which includes oil, coal, domestic natural gas has been decreasing over last few years. Pakistan's dependence on natural gas in the overall energy mix is on decline which is due to declining natural gas reserves. The government is also taking measures to increase the shares of Hydel and Nuclear in energy-mix. Energy systems around the world are going through rapid transitions that will bring significant changes in the energy utilization of the end users. These trends will have widespread benefits and challenges for businesses, governments and individuals in the coming decades.

The per capita energy demand in Pakistan has been low compared to the global demand, primarily due to lower economic output and lack of technological advancement in the country.

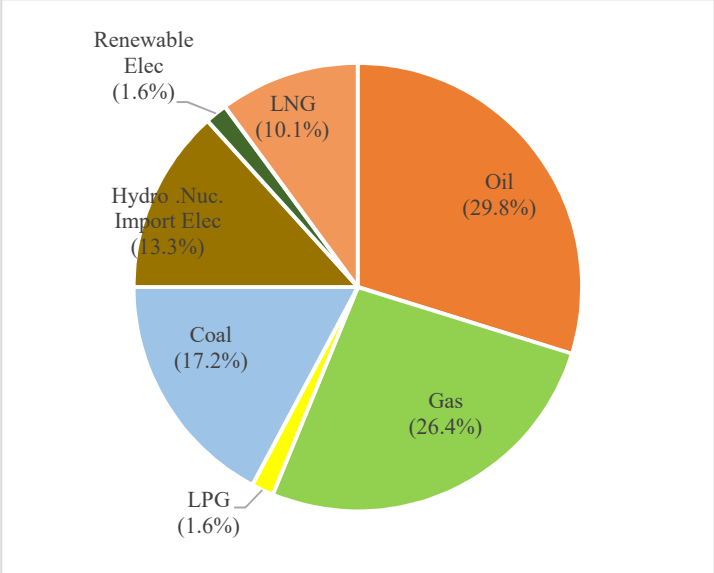

Figure 1: Energy mix of Pakistan.

However, recent significant rise in the demand for energy products especially in industrial, transportation and residential sector is driven by growing population and economic development in the country. The energy supply sources of the country consist of natural gas, oil, LNG, coal, LPG, hydro and nuclear electricity. In 2021-22, hydrocarbons dominated the energy sector, with oil and gas contributing over 58% of the overall primary energy mix of nearly 94 Million Tons Oil Equivalent (MTOE) [1]. Energy consumption in various sectors including domestic, commercial, industrial, agriculture and transport is shown in Figure 2 [1]. The energy mix in the domestic, commercial and industrial sectors is presented in Figure 3 [1], Figure 4 [1] and Figure 5 [1] respectively.

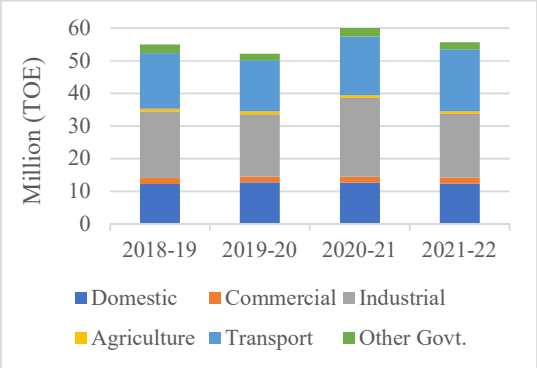

Figure 2: Energy mix by sector excluding power sector.

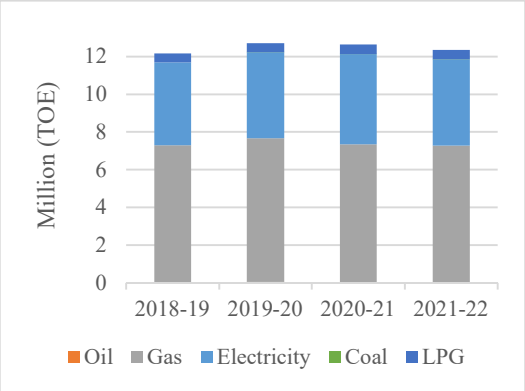

Figure 3: Energy mix of domestic sector.

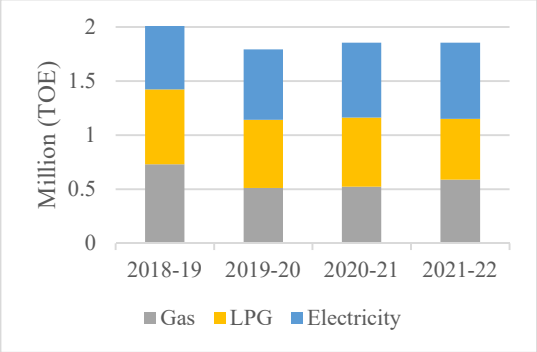

Figure 4: Energy mix of commercial sector.

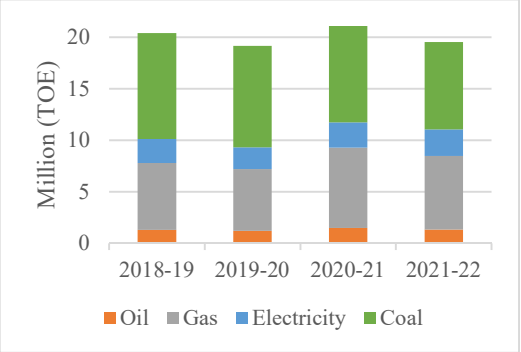

Figure 5: Energy mix of industrial sector.

1.1 Energy Challenges and Impact on the Economy

Due to declining domestic natural gas production, reliance on imported gas in the form of LNG has been increasing since 2015 to meet the growing demand. The increasing consumption and imports of oil, gas, and electricity has been continuously increasing the size of import bill. Higher growth of energy demand in the residential and industrial sector is expected to continue in the future resulting in increased import bill besides environmental challenges linked with fossil fuels. The continued practice of burning of biomass has been harmful to health and the environment. Moreover, following are gas (NG/LNG) sector challenges;

i) The energy crisis and circular debt began to manifest in 2007. The problem has evolved over the years from one of chronic power supply deficits to the emerging one where there is excess installed capacity but not enough cash flow in the system to run it.

ii) The circular debt in Pakistan's energy supply chain refers to the cash flow shortfall incurred in the power and gas sector from the delayed/non-payment of obligations by consumers, distribution companies and the government.

iii) Over time, the demand of gas grew consistently while declining domestic gas production which resulted in gas shortages. Due to gas shortage almost all

segments of life and the country's economy have been badly affected.

iv) Inadequate energy supplies coupled with higher prices have adversely impacted industrial sector causing either closure or shifting of industry from the country. Power outages caused economic damage.

v) Gas supplies are mainly diverted to domestic sector during winter months to meet heating demands thereby curtailing gas to other important sectors of the economy. On the other hand, cost of gas is not recovered from domestic consumers due to prevailing lower prices than actual cost of supplies.

vi) Due to gas shortages, commercial sector shifted from domestic natural gas towards alternate energy resources like LPG, electricity, and LNG from 2013-14 onwards. Decrease in use of domestic gas in the commercial sector has been mainly due to shortage of gas and resulting priority of supplies to other sectors like domestic, fertilizer, industry, and power. Due to declining domestic gas production and widening demand-supply gap, availability of cheaper gas is going to end for the domestic sector as well. To fill the demand-supply gap, imports of LNG were started in March 2015, but average cost of RLNG supplies to end consumers have been considerably higher.

2 Outlook of NG/LNG/LPG in Pakistan

2.1 Domestic Market Outlook of NG/LNG

The total gas consumers were more than 10 million by the end of FY 2021-22. There were 6.3 million and 2.9 million consumers on SNGPL and SSGCL network respectively. Power sector was the main consumer of natural gas during FY 2021-22, consuming 27% followed by fertilizer 24%, domestic sector 22%, industrial sector 17%, captive power 6%, transport 2%, and commercial sector having 2% share. The province-wise gas consumption reveals that Punjab share was the highest with 50%, followed by Sindh 35%, Baluchistan 10% and KPK 5% [2]. The gas demand from various sectors particularly power, domestic, fertilizer, captive power and industry is increasing but the supplies are not sufficient enough to cater this demand. The demand-supply gap is increasing over time and is estimated to reach 2850 MMCFD by FY 2031 (Figure 6) [2].

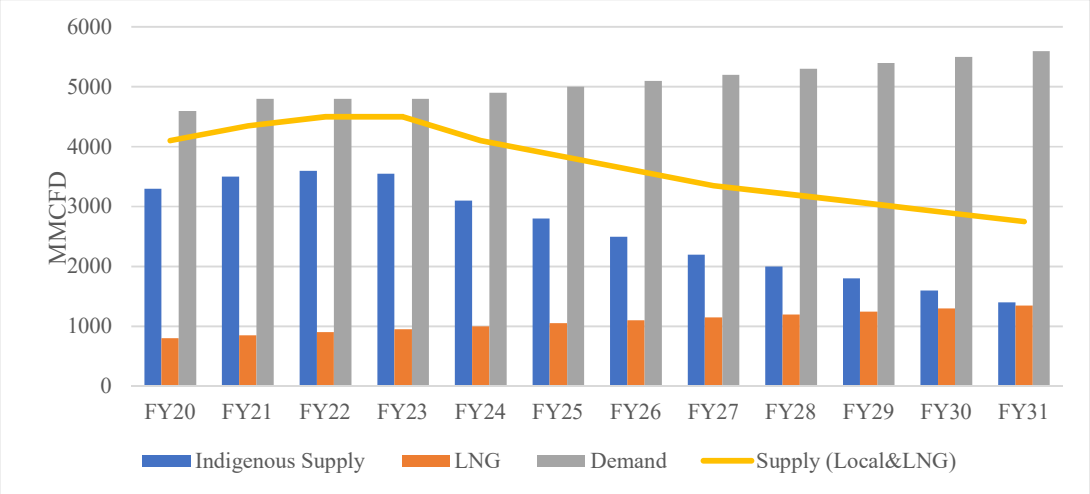

Figure 6: Demand-Supply projections of natural gas.

2.2 Domestic Market Outlook of LPG

Based on the projected GDP growth of 4% - 5%, it is estimated that the annual demand of LPG in the country would be around 14.5 MTOE by 2044, which necessitates careful planning of LPG supplies and infrastructure (Figure 7) [3].

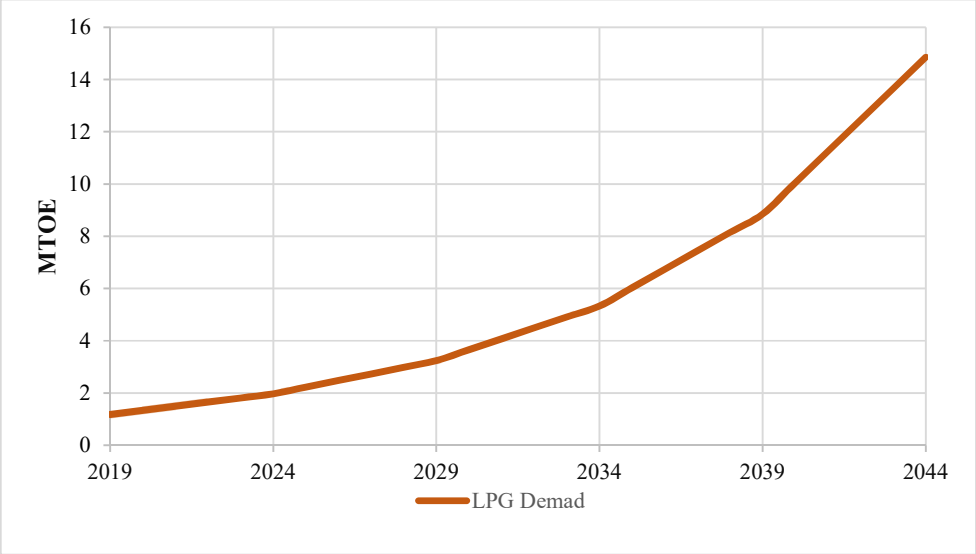

Figure 7: Demand-Supply Projections of LPG [3].

The above demand assessment is very conservative because of the fact that majority of the LPG market is still untapped as people are still using substitutes which are not environment-friendly, such as Kerosene (SKO), Light Diesel Oil (LDO), Furnace Oil (FO), Coal, Firewood etc.

3 Meeting Energy Demand of Off-Grid Consumers in Pakistan

The availability of gas is only limited to 10 million out of 35 million consumers and with the decline in domestic gas production, the supply has further being restricted during winters to piped gas consumers. The majority of the consumers in the country have no option but to use alternate sources of energy including Liquid Petroleum Gas (LPG), Kerosene, Wood etc.

The continuous decline of indigenous gas resources necessitates identifying and development of alternate fuel supplies. Various modern energy solutions like solar energy, small/mini hydro power, biogas, CNG, LNG and LPG can help meet energy demands of the off-grid consumers effectively. Figure 8 below, shows various energy supply options meeting energy demands of the off-grid domestic consumers. This policy document will focus on LPG as an alternative fuel to meet gas demand of the consumers in the country.

Figure 8: Energy supply options for off-grid domestic consumers

3.1 Addressing Energy Challenges

In Pakistan, about 30% of the population of the country has access to gas through pipelines whereas remaining population rely on other alternatives like LPG, Kerosene and Firewood. To achieve sustained growth, a country's economy needs a reliable, uninterrupted and affordable supply of energy. In order to address the challenge of depleting cheap source of domestic natural gas and limited availability of pipeline network, there is urgent need to identify and arrange alternate and sustainable source of energy supplies. Alternatives include Liquefied Natural Gas (LNG), Liquefied Petroleum Gas (LPG), Solar, Hydel, Biogas etc. Besides ensuring alternative fuel supplies to the off-grid consumers, there is urgent need to increase gas prices for the grid consumers to reflect and recover the cost of supplies to circumvent the issue of growing circular debt.

4 LPG as an Alternate Fuel to Natural Gas

Liquefied Petroleum Gas (LPG) is a color less, odor less, portable, clean and efficient energy source which is gaseous at normal temperature and pressure, and liquefiable under reduced temperatures or moderate pressure. A chemical ethyl mercaptan is added to impart a pungent odor for leak detection.

LPG is produced mainly by three type of producers namely (i) refineries, (ii) exploration and production companies through establishment of LPG extraction (from gas/condensate) plants at field and (iii) gas utility companies either directly or through outsourcing extraction plant on their pipelines (in case exploration and production company opt not to extract LPG at field). It is a mixture of hydrocarbons, mainly propane (40%) and butane (60%).

The global market for LPG is being driven by the rising environmental concerns. LPG has lower carbon emissions among other fossil fuel products. Thus, LPG has emerged as a clean and efficient energy source in various industries. LPG is being increasingly adopted in several industries, such as agriculture, commercial, and manufacturing applications. A significant rise in domestic applications was observed owing to its utilization for heating and cooking purposes. It is also considered as a potential alternative to conventional fuels, thus, reducing the oil dependency and lowering the greenhouse effect. Furthermore, the usage in the petrochemical and automobile industry is projected to provide an impetus for the market growth. These factors are expected to aid the LPG industry in the coming years.

4.1 LPG Applications

LPG has wide range of commercial, industrial and domestic applications that include cooking, heating applications, poultry rearing, forklifts, textile processing, water heating (geysers & boilers) and many more. Some of the key applications are mentioned in Table 1.

Table 1:Key usage of LPG.

Industry	Application
Hotels	Cooking boilers, washing laundry dryers, terrace heaters, utility carts, emergency generators, air conditioning, incinerators, mosquito repellent, terrace heaters, mobile catering units, geysers, baking
Chemicals	Reactor, boiler, thermic fluid heater, hot air generator, oven dryer, evaporator, calcinatory
Food processing	Baking, frying
Textile	Boiler, thermic Fluid Heater, Stentor, Singeing washing and drying
Metal	Gas carbonizing, paint heating, paint baking powder coating, galvanizing, gas cutting, melting, bolding, billet heating, heat-treatment, extrusion
Ceramics	Glazing, décor painting
Plastics	Wire rope-extrusion, pipe extrusion
Glass	Melting, holding, polishing & shining framing
Poultry	Brooding, Aerosol Container Pressurizing
Automobile	Auto Fuel, heat treatment, paint heating and baking

4.2 LPG as a Competing Fuel

LPG has good calorific value amongst the competing fuels. A comparison of LPG with its peers is illustrated in Table 2 [4].

Table 2: Comparison of LPG with other competing fuels.

Fuel	K Cal / Kg (At room temperature)	Approx. heat transfer efficiency
LPG	11,900	85%
SKO	11,100	65%
Light Diesel Oil (LDO)	10,700	65%
Furnace Oil (FO)	10,280	60%
Natural Gas	8,600	85%
Coal	2,200 – 6500	25% - 40%
Firewood	1,500 – 4,500	15% to 20%

LPG has various usage advantages over other fuels [4]:

- Easy to transport.
- Clean burning.
- High calorific value with good flame control.
- Easy to store.
- No soot; burners have longer life and low maintenance.
- Environment friendly; minimum sulphur contents and emissions.
- Variety of applications.
- Minimal effects of corrosion and scaling.
- Efficient direct firing systems.

5 Supply Chain of LPG Sector

Refineries, gas producing fields and imports are three main sources of LPG supply in the Country. In 2023, the local production was about 727,451 Metric Tons while import was nearly ~900,000 Metric tons [5]. At present, locally produced LPG is nearly 40-50% while imported LPG share is about 50-60% in total LPG supply in the country.

Indigenous LPG production may further decrease with decline in petroleum production in the country in the absence of significant hydrocarbon discoveries with potential increasing reliance on imported LPG to bridge the growing demand-supply gap. Figure 9 represents the eco-system of LPG supply chain in the country.

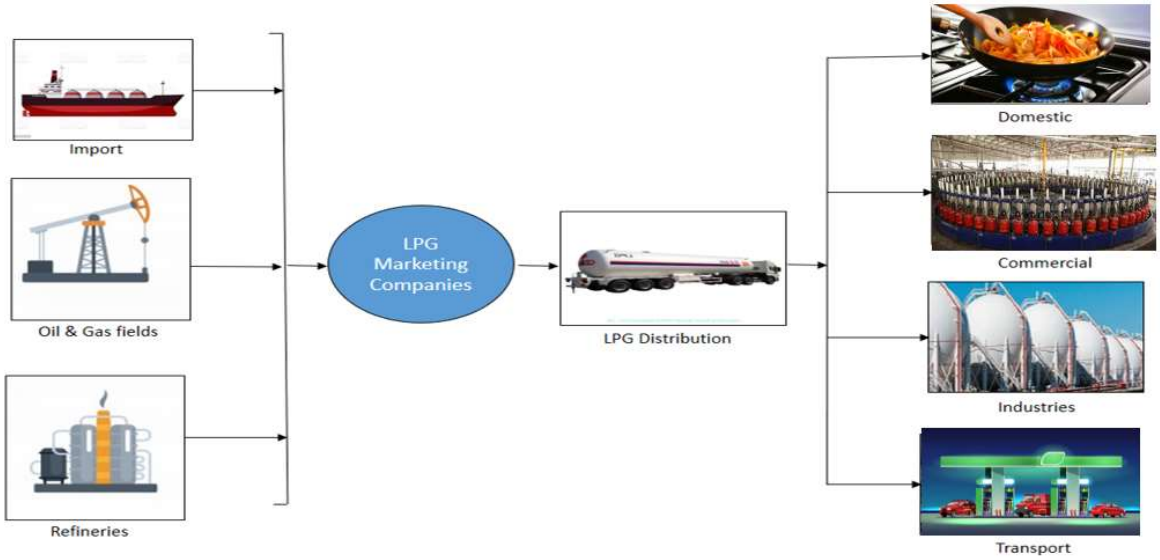

Figure 9: LPG supply chain

Due to limited availability of gas and depleting local gas resources, ensuring consistent supply of NG to domestic, commercial and industrial users has become a challenge. Given the challenges in natural gas supply, LPG becomes an efficient and primary environmental-friendly substitute of NG. LPG is the fuel for the most marginalized segment of the society; the people living in far-flung areas or the localities deprived of piped natural gas. Needs of off-grid domestic consumers may be met through LPG by making this sector more vibrant as LPG sector neither requires high capital nor has UFG problems. Currently out of around 38 million households in Pakistan [6], an estimated 10 million are connected to Piped Natural Gas (PNG) network [7] and the rest are relying on LPG and other commercial and non-commercial fuels like kerosene, coal, firewood, dung cake, and solar etc. (Figure 10) [7].

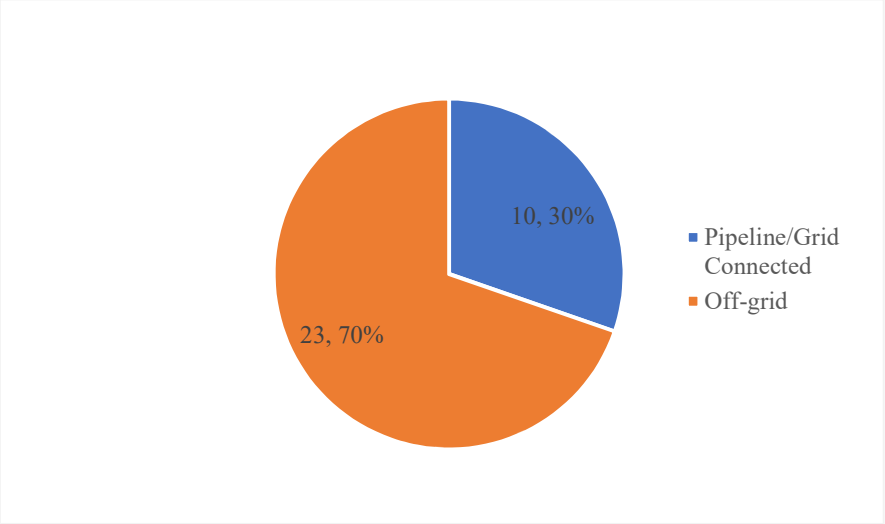

Figure 10: Number of Grid and Off-grid Consumers (millions, %).

5.1 LPG Production and Imports

Nearly 40-50% of the LPG demand is being met by local production. The production from local sources not only enhance supply security but also helps in price stability besides saving foreign exchange and employment generation. Local production increased from ~ 477,000 Mt/annum to ~ 811,000 Mt/annum, indicating nearly 70% increase during last eight years driven by mainly LPG extraction potential and related investments (Table 3) [5].

Table 3: LPG Production and Imports.

Producer	2018-19	2019-20	2020-21	2021-22	2022-23
PARCO	120,773	97,531	147,939	172,487	152,480
PRL	16,065	14,209	17,596	15,646	14,962
ARL	2,846	3,513	2,952	1,688	1,855
NRL	8,613	5,460	3,042	2,106	1,422
BYCO	53,025	35,205	28,489	11,524	9,742
Sub-Total Refineries	201,322	155,918	200,018	203,451	180,461
PPL	94,324	77,172	88,462	81,466	79,913
OGDCL	269,520	206,396	282,994	292,084	264,048
POL	15,920	13,129	15,187	14,581	13,289
OPL (Ocean Pet-Dhurnal)	2,168	0	0	0	0
UEPL	24,400	11,262	6,800	20,481	24,983
MOL	176,506	150,560	167,480	170,389	164,757
Sub-Total Gas Fields	582,838	458,519	560,923	579,001	546,990
JJVL	26,609	81,057	0	0	0
Total Indigenous Production	810,769	695,494	760,941	782,452	727,451
Vessel Imports (Port Qasim)	251,685	291,352	452,944	259,467	268,954
Total LPG Availability	1,062,454	986,847	1,213,885	1,041,919	996,405

5.2 LPG Marketing Companies (MCs)

Presently, there are around 280 MCs in Pakistan out of which 10 MCs are holding more than 50% of the market share.

5.3 LPG Storage Capacity

LPG marketing companies are required to develop adequate LPG storage facilities in the country in accordance with the provisions of license granted by OGRA. The detail of storages of LPG

Marketing Companies, Producers (E&P Companies & Refineries) and Terminals are given in Table 4 [5].

Table 4: LPG Storage Capacity.

Sr. No.	Category	Storage Capacity (MT)	Share %
1	E&P Companies	7,757	12
2	Refineries	5,520	8
3	LPG Marketing Companies	41,364	61
4	Import Terminals	13,120	19
Total		67,761	100

5.4 Price Comparison of LPG with NG and LNG

Substantial price disparity exists between LPG and piped natural gas supplied to the domestic consumers. As per the natural gas pricing slabs, consumption of 1 MMBtu (equivalent to nearly two (2) LPG 11.8 kg/cylinders), costs only Rs. 561 to the domestic consumers whereas equivalent consumption of LPG costs around Rs. 5,657 as per the LPG price notified by Oil & Gas Regulatory Authority (OGRA) for January, 2024. This implies that people living in remote areas are deprived of cheaper natural gas and rely on the costlier LPG. However, going forward reliance will be shifting on RLNG and LPG due to declining domestic natural gas in Pakistan.

6 Overview of Policy and Regulations Paradigms

6.1 Deregulated Regime (2000 to 2018)

In June 2000, the Federal Government decided to deregulate the LPG industry with a view to making it investor friendly, foster healthy competition, improve safety standards, and ensure better consumer services.

Accordingly, in supersession of LPG (Production & Distribution) Rules 1971, the LPG (Production & Distribution) Rules, 2001, were formulated under which LPG allocations made by the then Ministry of Petroleum & Natural Resources (MPNR) prior to deregulation were given protection to the extent of terms of existing agreements between the marketing companies and producers. These Rules also empower the producers and marketing companies to fix a reasonable producer price for their product and a retail price, respectively. After promulgation of OGRA Ordinance, 2002 all LPG regulatory functions as envisaged in the LPG (P&D) Rules, 2001, were transferred to OGRA in March 2003. The Government introduced LPG (Production & Distribution) Policy, 2006, with the objective to streamline its distribution at affordable prices and promoting competition etc. The policy covered the issues of licensing, safety standards, pricing, import and automobile sector. Subsequently, the Government introduced LPG (Production & Distribution) Policies, 2011 and 2013, with the objective to increase LPG supplies through indigenously produced and imported product. However, LPG prices remained high mainly due to imports not compatible with local LPG resulting in short of supplies.

6.2 Regulated Regime (2018 to 2023)

The Government formulated LPG (Production & Distribution) Policy, 2016 to regulate LPG prices at producer and consumer levels to protect the consumers from market manipulation and frequent price hikes. In accordance with the Policy 2016, upper limit of LPG producer price was fixed by OGRA based on international prices (Saudi Aramco Contract Price).

Despite regulation of LPG prices at producer and consumer levels, real LPG prices in the country were driven by international prices and the consumers remained suffering from frequent price hikes and shortage of supplies. In 2018, to circumvent the situation through enhanced supplies, fiscal incentives were offered on imported LPG (removal of regulatory duty, reduction of GST from 17% to 10%). These measures resulted in enhanced imports, improved competition, and market expansion with enhanced supplies across the country at stable prices. History of LPG pricing regimes is given in Table 5.

Table 5: History and basis of LPG pricing regimes (2000 onwards till this Policy)

Period	LPG Pricing	Basis
2000-2018	Deregulated	Market forces to determine prices at all levels of LPG supply chain.
2018 to date	Regulated (since February 2018)	OGRA notifies the following on monthly basis: • Maximum Producers price based on Saudi CP as ceiling, • Margin of Marketing and Distribution Companies (Rs. 35,000/MT) and • Consumer prices.
	Incentives on Imports offered in September, 2018: • Regulatory Duty waived off. • Reduction of Sales Tax from 17% to 10%.	• Enhanced supplies to meet the demand • Price stabilization • Product availability • Improved competition • Enhanced supplies to the consumers

7 Requirement of New Policy: Gap Analysis of Existing LPG Policy and Regulatory Framework

The existing LPG (Production & Distribution) Policy was introduced in 2016. In view of the evolving market dynamics, few of the shortcomings identified in the existing LPG Policy, 2016 and regulatory framework are discussed below:

7.1 Regulated Disposal of LPG by Producers

As per the prevailing policy, the Public Sector E&P and Refineries shall give preference in sale of LPG to Gas utility companies for supply to LPG Air-Mix Plants in pursuance of GoP's socio-economic consideration for supply to domestic consumers. In case Gas Utility companies are unable to lift LPG, the LPG would be disposed of in a transparent manner through a competitive bid process. It is argued that since disposal of LPG by producers is a commercial matter, disposal should be driven by market forces.

7.2 Controlled Imports

Clause 3.4.3 of LPG Policy, 2016 states that the Federal Government will, from time to time in consultation with OGRA and relevant stakeholders, determine the quantity of LPG to be imported to meet any gap between demand and supply and required quantity to be imported by Public Sector companies. Based on competitive market principles, it should be prerogative and function of market players to import the product at their own costs and risks based on market demand-supply and dynamics.

7.3 Lack of Control on Cross-filling

Although, the policy and regulations prohibit decanting and cross-filling of LPG cylinders, but there is no effective monitoring mechanism to penalize the companies involved in such unsafe practices. Therefore, it is imperative to implement effective enforcement mechanism.

7.4 LPG Quality Issues

In the absence of quality standards and effective enforcement mechanism from OGRA market players have been involved in imports of inferior quality LPG at relatively cheaper costs. Therefore, there is need to frame quality standards and establishment of check points/ labs at all major import routes.

7.5 Analysis of Existing Incentives

Despite price regulation in early 2018, the consumers remained suffering from frequent price hikes and shortage of supplies mainly due to non-competitive imports. In late 2018, to enhance LPG supplies, fiscal incentives were offered on imported LPG (removal of regulatory duty, reduction of GST from 17% to 10%).

8 Challenges in the LPG Sector

Frequent price hikes and disruptions in LPG supplies in the country can be linked to various major factors like lower indigenous LPG production compared to demand, significant dependence on imports (over 55%), inadequate storage facilities, import of inferior quality LPG, ineffective regulatory enforcements, and overlapping functions between policy maker and the regulator. One of the challenges is lack of further investment in three broad areas; (i) indigenous LPG production, (ii) storage and imports infrastructure development and (iii) consumer safety and network development.

8.1 Inadequate Domestic Production

During FY 2022-23, an average production of domestic LPG was around 1,994 Metric Tons per day (MT/day) with major share from Exploration and Production (E&P) companies at 1,499 MT/day and Refineries at 495 MT/day. To meet LPG demands in the country, over 55% of total LPG supplies were imported during FY 2022-23. Indigenous LPG production may further decrease with decline in hydrocarbon production in the country in the absence of addition of significant discoveries.

8.2 Inadequate Storage Facilities

The country lacks adequate storage facilities necessary for sustained LPG supplies. Nearly 41,364 MT of storage capacity lies with marketing companies in the country, which is equivalent to nearly eight days sale quantities (average 4,899 MT/day in FY 2022-23).

8.3 Dormant Role of State-Owned Entities (SOEs)

The role of state-owned entities (SSGC-LPG, PSO, and PARCO) involved in LPG marketing remained dormant due to various factors including but not limited to thin profit margins compared to private counterparts, PPRA compliant procurements, frequent and discouraging interferences of Audit and other investigating authorities etc.

8.4 Fragmented Market

Various factors (e.g. existing licensing conditions coupled with missing effective compliance) have resulted in highly fragmented market with over 280 small MCs with missing objectives of actual investments in any long-term development of the market. Ultimately, the end consumers suffer in the shape of irregular supplies during peak demand periods, poor customer service, and importantly missing safety compliance causing serious accidents.

8.5 Un-digitized LPG Sector

Digitization of LPG sector is critical for development of LPG sector in a structured manner, promoting competition, elimination of unsafe/unhealthy practices, making regulatory enforcement more effective and augmenting policy interventions. The digitization will also

help Government for provision of any targeted LPG subsidies as per the socio-economic agenda.

8.6 Regulatory Enforcement Challenges

Absence of LPG market intelligence/database due to un-digitization, inadequate LPG storage facilities/stocks and demand-supply imbalances resulting in shortage of supplies particularly in the far-flung areas are few of the examples of regulatory challenges.

8.7 Unsafe and Unethical Practices

One of the major challenges faced by LPG sector is the unethical practices which include import of substandard/inferior quality products, cross-filling of LPG cylinders and sales record falsification which is mainly due to ineffective regulatory framework.

9 Policy Goals and Objectives

Although natural gas is supplied to domestic consumers is cheaper compared to LPG, given the limited and costlier transmission/distribution infrastructure, declining domestic gas and increasing reliance of grid consumers towards costlier RLNG, LPG becomes an efficient alternate fuel with least health hazards and environmental footprints. Though addressing the prevailing challenges and offering needed incentives are essential for competitive market development for sustained supplies, development of a robust, well-structured and sustainable policy and regulatory framework is essential in achieving the policy goals and objectives.

This policy intends to deregulate LPG market for improved market functioning and its self-correction, provision of stable policy, adequate fiscal incentives, improved/ effective regulatory enforcements and stable business circumstance in which all market players can operate competitively in a non-volatile environment with broad oversight and market consolidation would be essential to ensure elimination of monopolies and exploitation of the consumers. Therefore, this policy while moving towards deregulation encompasses all necessary measures to achieve the goal of sustainable LPG supply chain for wider access and availability of LPG to the consumers across the country at stable prices.

Below are the broad policy goals and objectives that are thought to be essential in achieving the ultimate vision of sustainable LPG market development and supplies to the consumers in the country are presented in Figure 11.

Figure 11: Broad policy goal and objectives.

9.1 Enhancing Domestic Production

The share of domestic production (1,994 MT/day) in 2022-23 was only 45% in total LPG supplies which indicates its inadequacy and increasing reliance on imports. Though potential

of LPG production is decreasing over time due to decline in local gas production, there is possibility to add LPG production from addition of new gas discoveries and LPG extraction from imported rich LNG. In the prevailing circumstances enhancing domestic LPG production requires provision of needed fiscal incentives and continuity of Policies besides robust regulatory framework.

9.2 Enhancing Infrastructure/ Promoting Investments

The existing import infrastructure, storages and level of stocks are inadequate for LPG market to work efficiently. Pakistan requires investments in LPG import infrastructure as the existing two sea-import terminals with combined storage facility of around 14,000 tons is inadequate for economic sized import parcels. The policy incentivizes investments in import new terminals of large capacities capable of handling semi-refrigerated/refrigerated LPG cargos of higher capacity so that major suppliers can be contracted and handling/transportation costs of imported LPG can be optimized. For MCs, a minimum investment threshold needs to be embedded in the licensing requirements by the regulator on the lines of minimum storage days cover corresponding to their sales volumes as being practiced in oil business.

9.3 Market Liberalization

Towards market liberalization, Economic Coordination Committee (ECC) decided (case No.ECC-87/17/2018 dated 17th September 2018) to deregulate prices of LPG. Subsequently, a committee constituted by Cabinet Committee on Energy (CCOE) (case No. CCE-39/10/2020 dated 20th June 2020) recommended for deregulation of consumer prices whereas producer price discovery to be made through competitive monthly/quarterly auction/bidding process. It is perceived that complete deregulation of LPG prices will be challenging to keep LPG prices stable unless bottlenecks prevailing in the LPG market are addressed effectively. Therefore, in order to ensure fair competition in the LPG supply chain while safeguarding the consumers under a complete deregulated LPG sector, it will be vital to enhance supplies (enhancing indigenous LPG production and making LPG imports competitive/feasible through fiscal incentives), increase storage capacity in the country, and ensure effective and improved regulatory role of OGRA to minimize/eliminate the cartelization and exploitation power of market players.

For network development, minimum population of domestic/ commercial cylinders in circulation needs to be ensured by the regulator corresponding to the sales volumes in each segment of network. For each consumer being supplied with LPG, a minimum benchmark of quantity of cylinder to be put into circulation needs to be defined and monitored by the regulator on periodic basis. Similarly, investment in road transport LPG tankers of appropriate technical standards is also required to fulfill the increasing market demand.

9.4 Make SOEs Competitive

Gas Utility Companies (SNGPL and SSGCL) needs to be encouraged to participate in LPG supply chain, independently or under JV partnership, to benefit from their extended presence and wider reach to the consumers across the country.

9.5 Improving Governance

Regulator needs to see that all players are performing to the defined standards and are not involved in unfair market practices like price-setting and cartelization; not engaged in cross filling of cylinders; have adequate, safe and up to the mark infrastructure throughout supply chain to the end consumers; have requisite network development initiatives in place; are not importing and distributing sub-standard product etc. Coherent efforts of Petroleum Division and OGRA are essential for removal of difficulties, bottlenecks and challenges in the LPG sector through effective policy measures and regulatory enforcements.

9.6 Digitization

Digitization is critical not only for efficient market operations but also for improved and effective regulatory monitoring and enforcement in LPG sector.

9.7 LPG Subsidy for Off-grid Consumers

Creating equality between the grid connected and off-grid consumers requires provision of alternative fuel in the form of LPG to the poor segment of the society who are not beneficiary of cheap grid gas. There is need to supply LPG to such poor households at subsidized prices to off-set their disadvantage not being connected to gas grid and avoid deforestation and improve consumers health.

10 Policy Structure

Based on detailed diagnostic of prevailing challenges in the LPG sector, lesson learnt from international best practices, consensus reached with stakeholders after year-long extensive consultations the policy constituents are given in the following sections.

11 Production of LPG

11.1 E&P Companies and Refineries

11.1.1 E&P Companies shall directly or through other companies exercise their rights to set up LPG extraction facilities at production fields where LPG can be commercially extracted.

11.1.2 E&P Companies shall assess and submit a report to concerned regulator, within a year, for extraction/production of LPG which is commercially viable, from fields which are already on production. For new discoveries such report shall be submitted to concerned regulator within one year from start of commercial production.

11.1.3 Upstream regulator and OGRA shall take necessary measures to ensure extraction of LPG, which is commercially viable, from E&P sector and refineries respectively.

11.1.4 Upstream regulator and OGRA will work jointly to scatter Annual Turn Arounds (ATAs) of producing fields and refineries systematically throughout the year so as to ensure smooth LPG supplies from domestic production.

11.2 LNG Import Terminal Operators and Network Operators

11.2.1 All large-scale LNG import terminal developers/ operators (FSU, FSRU or land-based), with the exception of LNG import in small parcels/ containers, shall assess periodically (annually) the potential of LPG extraction from LNG or RLNG stream and will submit to OGRA, a detailed technical and financial proposals for LPG extraction.

11.2.2 Network Operators shall periodically (annually) assess the potential of LPG, which is commercially viable, from the stream of natural gas flowing in their respective transmission networks and shall submit to OGRA, a detailed technical and financial proposals for LPG extraction.

11.2.3 OGRA will take necessary measures to ensure extraction of LPG, which is commercially viable, either by LNG terminal operator/ developer, Network Operators or through third party.

12 Disposal of Indigenous LPG by Producers

12.1 All LPG producers will dedicate up to 10% of their production to Suis and MCs for exclusive consumption in LPG Air-Mix Plants(s) (developed and operated by Suis) and exclusive supplies in the far-flung/ hilly areas deprived of piped natural gas, respectively, with given order of preference. An additional 5% will be dedicated to MCs for their exclusive supplies in AJK and GB. These dedicated volumes (15%) will

be offered without following a bidding process, at a weighted average price of LPG sold under clause 12.2 and 12.3 for the respective period. OGRA will ensure compliance to give this effect.

12.2 LPG producers can sell partially or wholly their remaining production quantities (excluding dedicated sales of 15%) to their subsidiary(ies) involved in marketing under long-term contracts, provided such subsidiary(ies) will market and distribute the entire volumes at its own or through their distributors network without resale to any other MC(s) or their distributor(s).

12.3 For the left-over quantities, LPG producers will follow a monthly, quarterly or yearly competitive bidding process to dispose their product, to MC(s) having valid OGRA license and meeting pre-qualification criteria, at a competitive market price under deregulated pricing regime.

12.4 All LPG producers, within six (6) months, shall develop pre-qualification criteria, to be followed for sale of their LPG to MC(s) with the objective of transparent/ efficient auction/ bidding process while ensuring no cartelization/ hoarding in the market.

12.5 Invitation to bids will be published in at least one of the top-ranked daily newspapers (Dawn, The News, Daily Jang) besides sending bid information through emails to all pre-qualified LPG marketing companies.

12.6 Signature Bonus or similar Premiums shall be discontinued in future. Settlement of existing contracts will remain the issue between MC(s) and the producer(s). Upon completion of term of existing contracts all producers will move to competitive auction/ bidding process. OGRA shall monitor and ensure that the practice of Signature Bonus is not re-invented.

13 Marketing and Distribution

13.1 Any MC(s) having valid OGRA license, meeting pre-qualification criteria and terms of such license can engage in marketing and distribution of LPG (local and imported) subject to payment of applicable government duties and taxes.

13.2 OGRA shall review its existing licensing regime/ terms within six (6) months to include clear investment requirement and other necessary conditions (including international quality, health and safety standards) for MCs for consolidation of the market. OGRA shall set a minimum qualification-criteria, including but not limited to required minimum storage capacity, storage days, minimum cylinder inventory, road transport LPG tankers of appropriate standards, for grant of license as MC and revoke license of dormant/ non-compliant MC(s)

13.3 Such stringent licensing requirements shall be relaxed for marginalized/remote/hilly areas of Balochistan, Northern Area including Gilgit-Baltistan and AJK region where the sparse/ scattered population, low-income level and paying capacity with small sales and meagre market margins which ultimately becomes unattractive for large investments/ MCs. In such areas the licensing conditions (investment and infrastructure requirements) need to be relaxed to ensure that the existing MCs operating in such areas are not eliminated and supplies are maintained, however without compromising the safety and other regulatory requirements.

13.4 MCs which buy LPG quantities from producers (first buyer) will be obligated to market their LPG quantities at their own and cannot resell to any other MCs (second buyer) to avoid cartelization, windfall profits, impede competition and market distortion.

13.5 Entities with Government stakes or Gas Utility Companies (SNGPL and SSGCL) engaged in marketing of natural gas or LPG shall make necessary efforts to enhance market presence by development of retail network to ensure consistent supply of quality product to the end consumers. OGRA shall provide necessary facilitation enabling them participate in LPG supply chain, independently or under JV partnership, to benefit from their extended presence and wider reach to the consumers across the country.

13.6 LPG Marketing Companies (MCs) shall develop their Distributors' outlets which comply with applicable rules and HSE standards.

13.7 MCs/ Distributors can sell their LPG at competitive market price under a deregulated regime.

13.8 MC being a Licensee of OGRA, shall be responsible for observance of all applicable rules and safety codes/standards at their Distributors' outlet(s).

13.9 Explosive Department shall develop and ensure strong inspection regimes of MCs and Distributors and provide periodical (quarterly) monitoring feedback to OGRA.

13.10 In parallel to involvement of District Administration, OGRA may also involve third party inspectors for stringent periodical (quarterly) inspections/ monitoring of MCs and Distributors.

13.11 OGRA/Department of Explosive shall take the following measures:

13.11.1 Make it possible for sale of LPG cylinders on petroleum filling stations subject to meeting safety and other necessary requirements.

13.11.2 Effective availability, monitoring and compliance for small cylinders (1-10 kg) as per the relevant safety standards.

13.11.3 Register all the Distributors in the country. It shall be mandatory for MC(s) to get their Distributors registered with OGRA within one (1) year, meeting necessary requirements. No sales shall be allowed by any un-registered Distributors.

13.11.4 Punitive action, leading to cancellation of registration, against Distributors violating the rules, involved in decanting.

14 Import and Export of LPG

14.1 OGRA shall review its existing licensing regime/ terms within three (3) months to include clear investment requirement and other necessary conditions for LPG importers for consolidation of the market.

14.2 OGRA shall ensure quality of imported LPG for fair price competition between the importers and local producers besides avoiding severe health impacts on consumers. For the purpose, within three (3) months, OGRA shall review to set the benchmark specification of LPG, develop effective enforcement mechanism, and impose adequate penalties pro-rate of poor quality below the benchmark specification leading to cancellation of license for strict compliance and discourage inferior quality imports.

OGRA shall communicate the information, to all their licensees, related to benchmark specification and related penalties including cancellation of license for engaging in inferior quality imports.

14.3 OGRA shall provide necessary facilitation to SOEs to form consortiums/joint ventures and engage in LPG supply chain; imports under long-term contracts through competitive bidding process or Government-to-Government arrangements.

14.4 OGRA shall take necessary measures to ensure an evolving balance between SOEs and private sector for imports.

14.5 Export of surplus quantities of locally produced LPG after meeting local demand, if any, may be allowed by the Federal Government based on the recommendations of OGRA.

14.6 Re-export of imported LPG through sea will be possible to the extent which is not yet discharged into the terminal(s) from the sea vessel by fulfilling all related rules & regulations.

15 Storage Facilities and Stocks of LPG

15.1 OGRA shall review its existing licensing regime/terms within six (6) months to include clear investment requirements and other necessary conditions for marketing companies to meet minimum requirement of storage development, maintenance of stocks and cylinders commensurate to their sales volume.

15.2 OGRA shall ensure development of adequate storage facility and maintenance of stocks by every MC, to minimize chances of supply shortages while avoiding possibility of hoarding in the country.

16 Relaxation in PPRA Rules for SOEs

16.1 SOEs will be facilitated for partial exemption from PPRA Rules, 2004.

17 Fiscal Measures

17.1 The following fiscal incentives (Table 6) will be available across the entire LPG supply chain:

Table 6: Fiscal incentives.

Objective	Fiscal Incentives
• Enhancing indigenous production	• Zero import duty and taxes on plants/machineries/equipment/materials for LPG production. • Ten (10) years tax holiday for new LPG production. • Zero Petroleum Levy (PL) on locally produced LPG.
• Development of storage facilities at import terminals and across the country	• Zero import duty and taxes on plant/machinery/equipment/materials for development/expansion of LPG storage, bottling plants and LPG import terminal.
• Competitive imports for enhanced supplies	• Zero advance income tax on imports. Both imported and domestic LPG shall attract uniform tax treatment (applicable corporate income tax) on net earnings. • 5% GST on imported and locally produced LPG which will be reduced @ 1% per annum to 0% in subsequent five years.

18 Digitization of LPG Sector

For improved and effective regulatory monitoring and regulation of LPG sector:

18.1 OGRA shall develop, maintain, and update web-based database of entire LPG sector including but not limited to LPG production facilities, production volumes, import volumes, sales volume, import terminals, storage facilities, available stocks, and other necessary marketing information like consumer price across the country, etc.

18.2 OGRA shall manage the database Province and District wise in a printable format(s) for printing of such reports by OGRA itself and Petroleum Division.

18.3 OGRA shall revisit its terms of license that it deems necessary for digitization of LPG market.

18.4 Under OGRA regulatory framework, it will be mandatory for every producer, importer, terminal operator and MC to update their data on daily basis in the web-based database developed and maintained by OGRA.

18.5 In addition, all LPG Licensees shall furnish requisite information/data to OGRA as and when required.

18.6 OGRA will publish a list of authorized manufacturers for the LPG equipment i.e. pressure vessels, cylinders, vessels, LPG kits. The equipment manufactured by the authorized manufacturers will be verified, certified and monitored for conformance to the international standards/ Rules through strict quality control and quality assurance measures by the Department of Explosives, the statutory Authority in the matter under MIGS Rules, 2010 and other applicable Rules.

19 LPG Air-Mix Plants

19.1 Due to involved substantial capital cost, recurring subsidies, and decision of the ECC dated 26th March 2020 (shelve the LPG Air Mix projects), Government will not commission any new LPG Air-Mix Plant (LPG AMP) in future except those which are near completion.

19.2 Tariff for LPG AMP for supply to domestic and commercial consumers, owned and operated by state-entities which are already in operation or near completion, will be determined by the Federal Government from time to time in accordance with a framework of weighted average cost of gas (WACOG).

19.3 The private sector will be free to set up LPG AMP on commercial considerations at their own costs and liabilities subject to meeting all necessary OGRA's licensing and operational requirements, without claim to LPG supply quota, otherwise available for LPG AMP developed and operated by Sui Companies.

19.4 Tariff for LPG AMP, developed and operated by private sector, will be deregulated. Developer/ Operator will give the right to the consumers to switch to alternate/ competing fuels at any time without compulsion to ensure competition and protection of consumer interest. Developer/ Operator of such plant will submit detail of monthly tariff to OGRA latest by 10th of next month for record and necessary interventions, if needed, to protect consumer interest.

20 LPG Supplies to Off-Grid Poor Households

To meet the gas requirements of poor households deprived of PNG, the government may provide subsidies to the qualifying households, for their buying of LPG at subsidized rates, living in the areas to be prioritized by the government from time to time based on socio-economic considerations. Framework for such subsidy program(s) may be developed, as per the directions of the government from time to time, for the areas to be selected/ prioritized by the government, based on socio-economic considerations.

21 LPG Use in Auto Sector

21.1 OGRA to develop and announce comprehensive LPG Auto Fuel Regulations for LPG use in 3 wheelers and public service vehicles/ vans.

21.2 Till LPG Auto Fuel Regulations are in field, there will be a complete ban on use of LPG in transport sector i.e., passengers vehicles and auto etc, except for the filling stations which are already operational or OGRA has issued licenses thereto.

21.3 To the extent of filling stations, which are already operational or OGRA has issued licenses, prescribed codes and standards of OGRA for conversion of vehicles to LPG and the establishment of LPG refueling stations for the automobile sector shall be applicable.

21.4 OGRA may give special permission to qualified fuel/ CNG stations to install LPG kits in autos subject to compliance to pre-defined safety regulations and inspection checks from Hydrocarbon Development Institute of Pakistan (HDIP) or any other party authorized by OGRA.

22 Regulatory Framework

22.1 OGRA as a regulator shall issue license for LPG Production/Extraction, LPG Air-Mix Plants, LPG Storage/Filling Plants, LPG Marketing.

22.2 OGRA shall issue a provisional license for an initial period of two (2) years extendable to other two (2) years. Following the approach of ease of doing business, OGRA may grant provisional license on meeting the minimum possible requirements against a minimum possible fee. OGRA, in the provisional license, may stipulate necessary conditions and requirements, keeping in view the market consolidation, for necessary infrastructure development during the period of provisional license.

22.3 OGRA shall grant operational license, for a period of fifteen (15) years, upon its satisfaction of meeting all the necessary conditions and required infrastructure development by the company.

22.4 OGRA may either cancel the operational license or impose adequate penalty to the licensee in case of non-compliance with the licensing terms and conditions.

22.5 OGRA shall conduct Performance Audit within six (6) months, through reputable third-party(ies), of existing MCs and proceeding for necessary penalties or cancellation of license against non-compliant companies.

22.6 To ensure safety throughout the LPG supply chain i.e. LPG Extraction Plants, LPG Storage/Bottling Plants, LPG Air-Mix Plants, LPG Transport and Distribution Outlets, the Licensees will meet the minimum safety standards as set out by OGRA and updated from time to time.

22.7 OGRA to ensure updating and uniformity of prevailing standards related to quality specifications, technical and safety standards over the whole supply chain to make them at par with international best practices.

22.8 OGRA shall publish a list of authorized manufacturers in the country for all LPG equipment including storage tanks, bottling plants, conversion kits, fuel tanks, cylinders, etc., duly approved and certified by HDIP or any other party authorized by OGRA. The equipment manufactured by the authorized manufacturers shall be verified and monitored for conformance to the international standards through strict quality control and quality assurance measures by OGRA.

22.9 MCs shall provide certificates duly mentioning the serial number of their cylinders to OGRA before 31st December of each year confirming that the cylinders have been properly tested as per requirement of the LPG Rules/Standards set by OGRA. Further, it shall be the responsibility of MCs to ensure that their LPG cylinders have been revalidated as per law after a specific period as determined by OGRA.

22.10 In addition to the functions and roles indicated in this Policy, OGRA shall perform all such functions which fall under domain of a Regulator in accordance with the international best practices, including but not limited to the following:

- 22.10.1 Effective intervention, adopting hearing process, to settle disputes between its licensees and between a person(s)/entity(ies) and its licensees relating to commercial/ regulated activities.
- 22.10.2 Effective interventions, adopting hearing process, for timely removal of difficulties to ensure business friendly environment, level playing fields, and competitive market.
- 22.10.3 Protect the consumer rights by controlling the artificial shortages, price hikes and exploitation by the market players, etc.
- 22.10.4 Necessary anti-hoarding/anti-cartelization measures.
- 22.10.5 Ensure quality of LPG and safety standards at all levels of supply chain.
- 22.10.6 Effective measures to control un-authorized decanting of LPG.
- 22.10.7 Take punitive action against the market players involved in violation of its rules and regulations, terms and conditions of the license.

23 Demarcation of Functions Between Policy Maker and the Regulator

23.1 The role of Petroleum Division shall be limited to the core function of Policy Making to ensure independence of OGRA in its functions and decision making and that the regulatory process is transparent, fair, and independent of unnecessary interferences.

23.2 OGRA shall play its effective regulatory role and take necessary measures as deemed appropriate in line with the goals, objectives and principles stated in this policy and its ordinance.

23.3 OGRA shall make and/or amend its ordinance, rules, and regulations, wherever necessary, in line with the goals, objectives and principles stated in this policy and/or in connection with individual cases or commercial/ regulatory disputes, in future.

23.4 The stakeholder(s)/market players shall approach to OGRA for seeking its intervention, in case of difficulty(ies)/disputes that impede their lawful interest.

23.5 An appropriate "Appellate Tribunal" shall be established to enable the aggrieved party(ies) to challenge the actions and decisions of the regulator.

24 Policy Improvements

24.1 OGRA, based on its regulatory/ market experience and direct interaction with its licensees, may suggest/ recommend to Petroleum Division for improvements/ amendments in the policy, wherever necessary.

24.2 For the purpose an "LPG Committee" with composition given in Table 7 below shall deliberate on the suggestions of OGRA and finalize its recommendations for consideration of the relevant/competent fora. Upon approval from the relevant fora, the Federal Government may issue specific policy guidelines to OGRA. The committee may adopt relevant experts/ stakeholders for needed input.

Table 7: Composition of the LPG Committee

Sr. No.	Designation	Role
i.	Secretary (Petroleum Division)	Chairman
ii.	Secretary (Cabinet Division)	Member
iii.	Secretary (Finance Division)	Member
iv.	Secretary (Planning Division)	Member
v.	Secretary (Maritime Affairs)	Member
vi.	Chairperson (FBR)	Member
vii.	Chairperson (OGRA)	Member

25 Applicability and Effect of the Policy

25.1 This policy shall come into force with immediate effect upon notification publish in official gazette of Pakistan after necessary approval of the competent forum. However, provisions related to fiscal incentives shall come into force upon relevant notifications.

25.2 OGRA shall amend its Ordinance, rules and regulations as well as Licensing terms, wherever necessary, within three (3) months to give effect to this policy.

25.3 This policy supersedes all previous instructions, orders, guidelines, and policies issued by the Federal Government from time to time in respect of the matters specifically covered in this policy. In case of any conflict between the provisions of this policy and earlier instructions, policy guidelines/ directions, provisions of this policy will prevail.

26 Impact Analysis of Fiscal Incentives and Other Measures

The fiscal incentives and other measures in this policy are thought to result into following broad benefits for the market players and the consumers (Table 8).

Table 8: Impact analysis of fiscal incentives and other policy measures.

Fiscal Incentives/ Policy Measures	Expected Outcome/ Impact
• Zero import duty and taxes on plants/machineries/equipment/materials for LPG production. • Ten (10) years tax holiday for new LPG production. • Zero Petroleum Levy (PL) on locally produced LPG.	• Enhanced production • Enhanced producers' profitability • Expansion in storage and market infrastructure (import terminals, distributed bottling facilities, cylinder inventory, stocks) • Expanded role of SOEs in LPG supply chain • Enhanced competition and safety
• Zero import duty and taxes on plant/machinery/equipment/materials for development/expansion of LPG storage, bottling plants and LPG import terminal.	• Sustainable imports under long-term contracts at better prices • Ability to absorb international price shocks • Market expansion with wider LPG reach
• Zero advance income tax on imports. Both imported and domestic LPG shall attract uniform tax treatment (applicable corporate income tax) on net earnings. • 5% GST on imported and locally produced LPG which will be reduced @ 1% per annum to 0% in subsequent five years.	• Enhanced supply security and sustainability • Decrease in consumer prices • Meeting socio-economic agenda by meeting gas needs of the off-grid consumers with decreasing need for piped natural gas

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