State of the Regulated Petroleum Industry 2016-17

Oil and Gas Regulatory Authority
Government of Pakistan

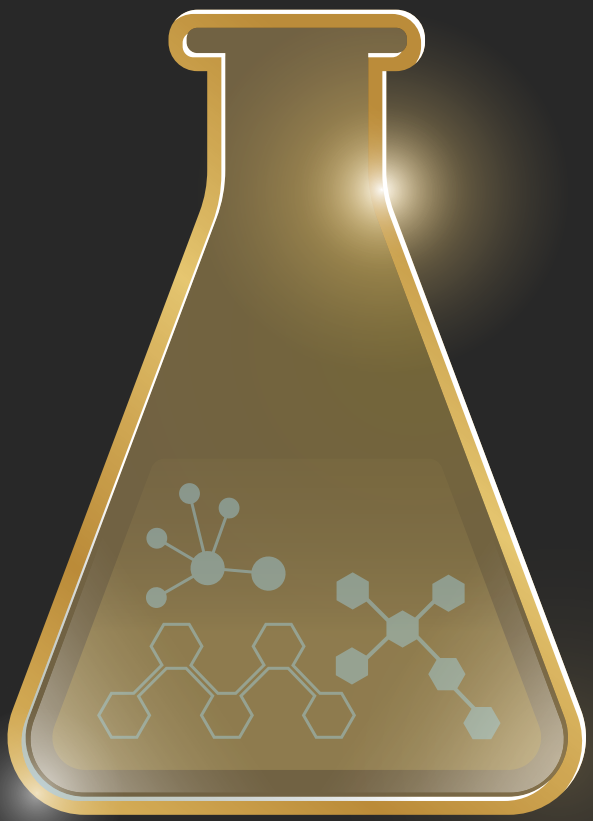

بسم الله الرحمن الرحيم

B A L A N C E

Balance is the key, and as a regulator of Pakistan's oil and gas sector, OGRA remains fully committed to ensure a level playing field for everyone, promoting and protecting the interests of all stakeholders

MISSION STATEMENT

To Safeguard public interest through efficient and effective regulation in the midstream and downstream petroleum sector



CONTENTS


O G
R A
GUARDING PUBLIC INTEREST

CONTENTS

EXECUTIVE SUMMARY

Executive Summary

"State of the Regulated Petroleum Industry", the 15th Report of Oil & Gas Regulatory Authority (OGRA) for fiscal year 2016-17 is presented in pursuance of Section 20 (1) (b) of the OGRA Ordinance, 2002.

OGRA was established under the OGRA Ordinance in March, 2002 with expressed objectives of fostering competition, increasing private investment and ownership in midstream and downstream petroleum sector and protecting public interest through effective, efficient and equitable regulation.

1.1 Natural Gas

Natural gas is a major contributing fuel in country's energy mix. The use of natural gas as a fuel of choice has also contributed in controlling environmental degradation. There is a significant rise in demand and consumption of gas by residential/domestic consumers owing to price differential vis-à-vis other competing fuels, i.e. Liquefied Petroleum Gas (LPG), fire wood and coal. On average, during the last five years, more than 0.3 million consumers were added/connected to the gas network, annually by the gas companies. The positive growth of sectors, such as power, commercial/residential and fertilizer has resulted in natural gas availability constraint. The demand for natural gas will further increase in the coming years.

During the period under review, power sector (including captive power) has remained the main consumer of gas, accounting for around 43 percent share followed by residential and fertilizer sectors with a share of 21 percent each. Province-wise gas consumption shows that Punjab and Sindh have remained the major consumers with shares of around 47 percent and 43 percent respectively, whereas on production front, Sindh, Balochistan, KP contributed 56 percent, 13 percent and 12 percent shares respectively. The share of Regasified Liquid Natural Gas (RLNG) in the gas supply was 16 percent.

Pakistan has a well-developed and integrated infrastructure for transmission and distribution of natural gas. The two main gas utilities are Sui Southern Gas Company Ltd. (SSGCL) and Sui Northern Gas Pipelines Ltd. (SNGPL). SSGCL and SNGPL increased their transmission network by 337 Km and 697 Km and distribution network by 760 Km and 6,700 Km respectively for providing gas to distant localities and added more consumers to the gas network. As of June 30, 2017, SSGCL & SNGPL's cumulative transmission network stood at 3,973 Km and 8,975 Km and distribution network at 45,521 Km and 110,217 Km respectively. The two utilities provided new gas connections to 486,418 consumers. The cumulative consumer base of both the companies as of June 30, 2017 stood at 8,575,760.

It is forecasted that due to ever increasing demand for gas, Pakistan will face an increasing deficit in gas supply. The shortfall in gas is expected to reach 3,999 MMcfd by FY 2019-20 and the gap will reach 6,611 MMcfd without imported gas by FY 2029-30. The Government of Pakistan (GoP) has initiated various measures to bridge the gap between demand and supply which includes incentivizing of local gas production, import of natural gas in the form of Liquefied Natural Gas (LNG) and cross country pipelines from Iran and Turkmenistan. Development of two LNG handling terminals (each having re-gasification capacity of 650 MMcfd) at Karachi Port is a major milestone achieved to mitigate gas shortages in the Country. During FY 2016-17, total supply of natural gas in the country, including imported RLNG, has reached 4,131 MMcfd.

1.2 Liquefied Petroleum Gas (LPG)

LPG plays an important role in the energy mix of Pakistan as it provides a cleaner alternative to biomass and dung based sources, especially in locations where natural gas is not available. The size of LPG market during the period under review was 1,209,420 Metric Ton (MT), mainly consumed by domestic, commercial and industrial sectors with respective shares of 37 percent, 36 percent and 27 percent.

The total supply of LPG during FY 2016-17 was 1,105,737 MT, accounted for about 0.7 percent of the total

primary energy supplies in the country. Gas producing fields & imports contributed 42 percent each followed by refineries with the share of 16 percent. LPG supply has increased to 3,029 MT per day in FY 2016-17 as compared to 2,801 MT per day in FY 2015-16 and consumption increased to 3,313 MT per day from 3,055 MT per day.

1.3 Liquefied Natural Gas (LNG)

Natural gas is presently contributing nearly 47 percent in Pakistan's primary energy supply mix. In view of the natural gas demand supply gap, GoP introduced LNG Policy for potential investors to facilitate the successful implementation of LNG import projects.

In pursuance of LNG Policy, 2006 and OGRA Ordinance, 2002, OGRA notified LNG Rules, 2007 and 2011 to bring the anticipated LNG activity under regulatory regime. LNG Policy encourages prospective project developers to enter into LNG Market after fulfilment of the requisite formalities as per LNG Rules. So far, OGRA has issued three licenses for the construction of LNG receiving terminal and one operation license. The addition of Regasified Liquid Natural Gas in the national grid will help mitigating the national gas short fall.

1.4 Oil

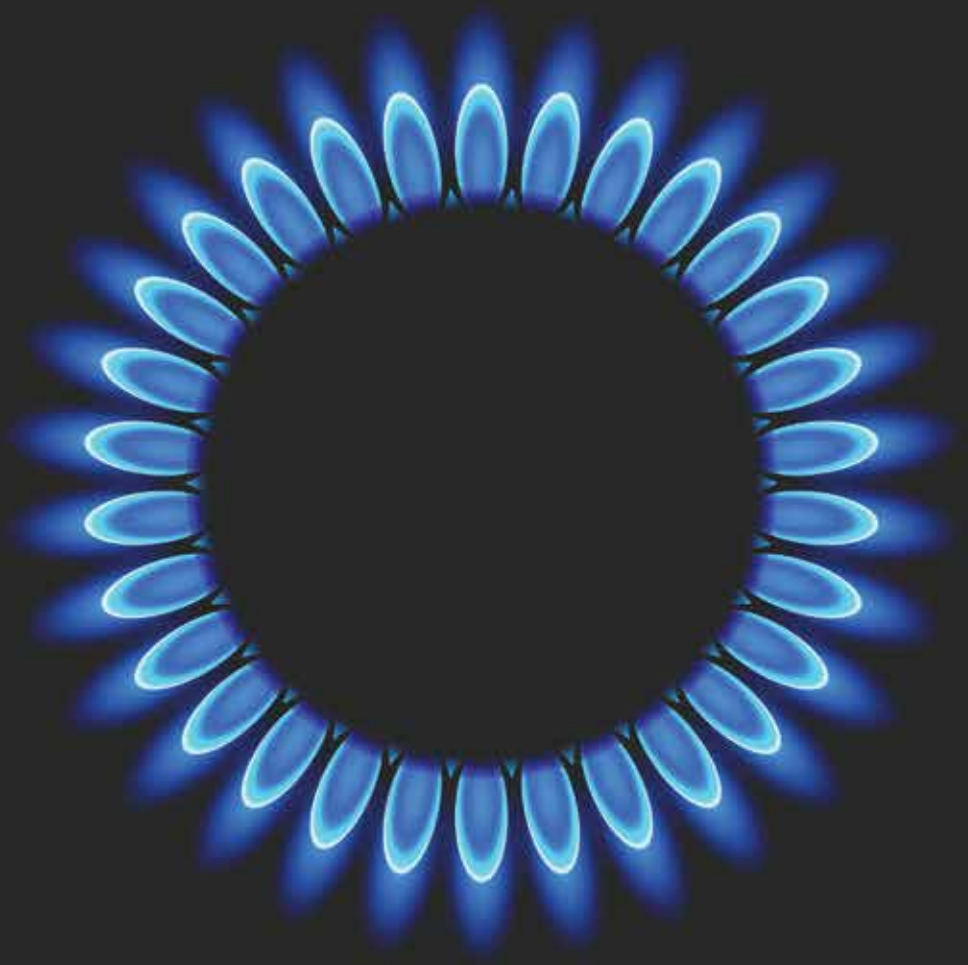
The consumption of petroleum products registered a growth rate of 9.7 percent (26.0 million tons) during FY 2016-17 compared to previous year's growth of 5.2 percent (23.7 million tons). During the year, main drivers of increased consumption were transport and power sectors, which registered high growth of 12 percent and 10 percent respectively as compared to FY 2015-16. The consumption of Motor Spirit (MS) in transport sector witnessed an increase of around 16 percent during the period under review. This increase may be attributed to rising demand of transport sector particularly the growing number of motorcycles and cars and partially to the lower prices of MS. Similarly, consumption of High Speed Diesel (HSD) grew by 10 percent compared to previous year mainly on account of higher utilization by transport sector indicating increased economic activity in the country. Transport and Power sectors consumed almost 90 percent of total Petroleum Oil Lubricant (POL) consumed in the country, with 57 percent and 33 percent shares respectively.

Pakistan State Oil (PSO) remained the lead player in total energy products supply to the consumers with 55 percent market share. PSO was followed by Shell with 9 percent, Attock Petroleum Limited (APL) and Hascol Private Limited (HPL) with 8 percent each. Total PARCO Marketing Limited (TPML) & Total PARCO Pakistan Limited (TPPL) captured 4 percent shares each. Byco Petroleum Pakistan Limited (BPPL) and other OMCs contributed 3 percent and 8 percent shares respectively.

Total production by the refineries during FY 2016-17, was 11.67 million tons compared to previous year's 11.31 million tons, showing a growth of 3.2 percent. PARCO was the largest and main producer of POL products with 39 percent market share in the total production, followed by National Refinery Limited (NRL) with 20 percent share, Attock Refinery Limited (ARL), Pakistan Refinery Limited (PRL) and Byco Petroleum Pakistan Limited (BPPL) with 18 percent, 14 percent and 10 percent respectively.

The demand for HSD, MS and FO were mostly met through imports as domestic production was not enough to meet the domestic requirements. Around 73 percent of MS, 69 percent of FO, 46 percent of HSD and 14 percent of Jet Fuels demand was met through imports of finished POL products in the country during FY 2016-17.

Source: The data/statistics mentioned in the 'Executive Summary' has been extracted from the respective chapters of the report.



NATURAL GAS

2. Natural Gas

Natural gas is a mjor contributing fuel in country's energy mix. The country has a huge network of gas pipelines providing natural gas to domestic, industrial, commercial and transport sectors. The use of natural gas as a fuel of choice has also contributed in controlling environmental degradation. There is a significant rise in demand/consumption of gas by residential/domestic consumers owing to price differential vis-a-vis other competing fuels, i.e. LPG, fire wood and coal. On average, during the last 5 years, more than 0.3 million consumers were added/connected to gas network annually by the Gas Utility Companies. The positive growth of sectors, such as power, commecial, residential and fertilizer has resulted in natural gas availability constraint. The increase in demand of natural gas will amplify further in the next coming years. The GoP has initiated various measures to bridge the gap between demand and supply which includes the incentivizing of local gas production, import of natural gas in the form of Liquefied Natural Gas (LNG) and Cross Country Pipelines from Iran and Turkmenistan. Development of two LNG Handling Terminals (each having re-gasification capacity of 650 MMcfd) at Karachi Port is major milestone achieved to mitigate gas shortage in the Country. During the FY 2016-17, total supply of natural gas in the country, including imported RLNG, has reached 4,131 MMcfd.

2.1 Regulatory Regime Overview

The regulatory functions of natural gas sector were transferred to OGRA on March 28, 2002 with the objective to break the public sector monopoly and open the natural gas transmission and distribution to private sector and promote and enhance competition in the midstream and downstream oil and gas sector. OGRA has been performing following functions:-

- Grant of licenses for regulated gas sector.
- Formulation of rules, regulations and procedures for the conduct of licensees.
- Determination of revenue requirement petitions of SNGPL & SSGCL.
- Monitoring and enforcement of rules, regulations and applicable license conditions.
- Resolution of disputes and complaints lodged by the consumers against licensees or between licenses in the natural gas sector.
- Pipeline capacity allocation.
- Licensing of low pressure (flare) gas.
- Licensing for sale of RLNG.

So far, OGRA has issued the licenses pertaining to the regulated gas sector to following companies. The detail is given in **Table 2.1** below:

Table 2.1: Licenses Issued by OGRA – June 30, 2017.

No.	Company	Type of License	Date of Issue	No of Licenses
1.	Sui Northern Gas Pipelines Limited (SNGPL)	1. Transmission, Distribution, and Sale of Natural Gas in the Punjab, KP, AJK, FATA and some parts of Sindh 2. Gas Storage Facility at Lilla Town, Punjab	September 3, 2003 April 30, 2008	02
2.	Sui Southern Gas Company Limited (SSGCL)	Transmission, Distribution, and Sale of Natural Gas in Sindh and Balochistan	September 3, 2003	01

3.	Mari Petroleum Company Limited (MPCL)	Sale of Natural Gas to: ▪ Fauji Fertilizer Company Limited (FFCL), ▪ Engro Chemicals Pakistan Limited (ECPL) ▪ Central Power Generation Company Limited (CPGCL) ▪ Any other retail consumer with prior approval of the Authority	August 11, 2004	01
4.	Pakistan Petroleum Limited (PPL)	Sale of Natural Gas to Central Power Generation Company Limited (CPGCL)	November 23, 2004	01
5.	Oil and Gas Development Company Limited (03 Licenses)	1. Transmission and Sale of Natural Gas to Uch Power Plant 2. Sale of Natural Gas to Fauji Kabirwala Power Company Limited 3. Sale of Natural Gas to Altern Energy	December 30, 2004	03
6.	Fauji Fertilizer Company Limited	Transmission of Natural Gas	April 7, 2005	01
7.	Engro Chemicals Pakistan Limited	Transmission of Natural Gas	April 7, 2005	01
8.	Central Power Generation Company Limited	Transmission of Natural Gas	April 14, 2005	01
9.	Fatima Fertilizer Company Limited	Transmission of Natural Gas	April 16 , 2007	01
10.	Foundation Power Company Limited	Transmission of Natural Gas	August 27, 2007	01
11.	Star Power Generation Limited	Transmission of Natural Gas	January 30, 2008	01
12.	Engro Fertilizer Ltd.	Transmission of Natural Gas	June 13, 2014	01
13.	OGDCL	Sale of Natural Gas from Reti Meru Gas Field	June 26, 2014	01
14.	OGDCL	Sale and Transmission of Natural Gas from UCH.	June 26, 2014	01
15.	ETPL	Transmission of Natural Gas from LNG receiving Terminal at Port Qasim (Karachi) to SSGC's Transmission Line Injection Point.	July 02, 2014	01

16.	Universal Gas Distribution Company Pvt. Ltd. (UGDCL)	Sale of Natural Gas (RLNG) to OGRA's Licenced CNG Stations.	February 22, 2016	01
17.	Gaseous Distribution Company Pvt. Ltd. (GDCL)	License to undertake Sale of Natural Gas (RLNG) to OGRA's licensed CNG Stations, whereby RLNG will be transported from T&D network of SSGCL and M/s GDCL will sell the RLNG to CNG Stations at their respective CMSs.	December 21, 2016	01
18.	Fauji Oil Terminal and Distribution Company Ltd. (FOTCO)	Licence to undertake Transmission of Natural Gas, which incorporates Construction and Operation of Natural Gas pipeline (30" x 13.3 Km long) along with ancillary/connected facilities for the purpose of transmission of Natural Gas from proposed Pakistan Gas Port Consortium Ltd. (PGPCL) Terminal to SSGC's tie in point located at Port Qasim, Karachi.	December 21, 2016	01

2.2 Profile of Licensees

2.2.1 Sui Southern Gas Company Limited (SSGCL)

SSGCL is the second largest integrated gas company engaged in the transmission, distribution and sale of natural gas. The company in its present shape was formed on March 30, 1989 following a series of mergers of three pioneering companies. It is a Public Limited Company listed on Pakistan Stock Exchange with 53.18 percent direct share holding by Government of Pakistan through President of the Islamic Republic of Pakistan.

The company is engaged in the business of transmission, distribution and sale of natural gas in the provinces of Balochistan and Sindh. The transmission system of SSGCL is spread in Balochistan and Sindh, comprising more than 3,973 Km of high pressure transmission network ranging from 6" to 42" diameter. The distribution network of over 45,000 Km is spread in cities/towns and villages in Sindh and Balochistan. The company has a capacity to transmit 2,927 MMcfd gas whereas its compression facilities are of 96,800 bhp. SSGCL also owns and operates the only gas meter manufacturing plant in the country, and has produced over 500,000 meters during FY 2016-17, under an agreement with M/s Itron-France. The plant has an annual production capacity of 356,000 domestic meters in a single shift. It is an ISO 9001: 2000 certified unit.

As one of the key stakeholders in the LNG Project, the company recently embarked on developing an ambitious infrastructure for transmitting RLNG to the consumers, as part of the GoP's objective of bridging demand – supply gap of natural gas. The company's scope of responsibility includes receiving RLNG and transporting it through a dedicated 42" diameter (352 Km) pipeline, currently under construction, a volume of 600 MMcfd capacity fuel to consumption nodes. The construction project pursued by SSGCL is the biggest, it has ever undertaken in recent years.

Table 2.2: Pattern of Shareholding in SSGCL – June 30, 2017

Sr. No	Categories of Shareholders	Percentage
1.	President of Pakistan	53.18
2.	Individuals	9.35
3.	Investment Companies	0.23
4.	Insurance Companies	10.23
5.	Joint Stock Companies	1.15
6.	Financial Institutions	5.62
7.	Mutual Fund	4.21
8.	Charitable Trusts	0.06
9.	Foreign Companies	4.96
10.	Others	11.01
	Total	**100.00**

Source: SSGCL

The company purchases gas in bulk from 24 gas fields of International and Local E&P companies for distribution in its franchise area. The addition of 760 Km in the distribution network during FY 2016-17 has enabled the company to connect 112 new towns and villages to its existing network. The company has sold over 400,000 MMscf of natural gas to over 2.8 million residential, commercial and industrial consumers during FY 2016-17.

Work in progress at Main Valve Assembly, Pakland in Port Qasim Authority Karachi as part of the dedicated 42"dia., 352 Km RLNG Transmissin Pipeline Project

2.2.2 Sui Northern Gas Pipelines Limited (SNGPL)

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, now Companies Ordinance, 1984, and is listed on Pakistan Stock Exchange.

It is the largest integrated gas company serving more than 5.7 million consumers in North Central Pakistan through an extensive network in Punjab, KP and Azad Jammu & Kashmir and is certified against ISO 14001:2004 & OHSAS 18001:2007 Standards. The company has over 53 years of experience in operation and maintenance of high pressure gas transmission and distribution system. It has also expanded its activities as Engineering, Procurement and Construction (EPC) Contractor to undertake the planning, designing and construction of pipelines, both for itself and other organizations.

SNGPL transmission system extends from Sui in Balochistan to Peshawar in KP comprising 8,975 Km of transmission system. The distribution activities covering 3,543 towns along with adjoining villages in Punjab and KP are organized through 15 regional offices. Distribution system consists of 110,217 Km of pipeline.

Table 2.3: Pattern of Shareholding in SNGPL – June 30, 2017

Sr. No.	Categories of Shareholding	Percentage
1.	The President of Islamic Republic of Pakistan	31.68
2.	Financial Institutions	9.34
3.	Insurance Companies	9.68
4.	Individuals	34.54
5.	Foreign Companies	5.53
6.	SNGPL Employees Empowerment Trust	4.32
7.	Joint Stock Companies	1.85
8.	Modaraba Companies	0.01
9.	All Others	3.04
	Total	**100.00**

Source: SNGPL

2.2.3 Mari Petroleum Company Limited (MPCL)

MPCL is a fully integrated exploration and production company of Pakistan, currently managing and operating the Country's largest gas reservoir (in terms of current reserves) at Mari Field, District Ghotki, Sindh.

In addition to Mari Gas Field, MPCL currently holds development & production leases over Zarghun South and Sujawal Gas Fields and has operator-ship of eight exploration blocks (Ziarat, Harnai, Sukkur, Sujawal, Karak, Ghauri, Peshawar East, and Khetwaro). The company is also a non-operating joint venture partner with leading national and international E&P companies in six exploration blocks (Kohlu, Kalchas, Kohat, Zindan, Hala and Bannu West) and one D&P lease (Adam X). The company's exploration and production assets has spread across the Country in all the four provinces.

MPCL is a major producer of natural gas currently holding around 11 percent market share. Other products

of the company include crude oil, condensate and LPG. The gas produced by the company is supplied to fertilizer manufacturers, power generation companies and gas distribution companies while crude oil and condensate are supplied to the refineries for further processing.

The paid-up share capital of the company is Rs. 1,102,500,000 divided into 110,250,000 ordinary shares of Rs.10/- each. The ordinary shares of the company are quoted on Pakistan Stock Exchange. Total market capitalization as on June 30, 2017 was around Rs. 174 billion (at closing price of Rs. 1,575 per ordinary share). Fauji Foundation holds 40 percent of the shareholding in the company along with management rights, while Government of Pakistan, OGDCL and General Public hold 18.39 percent, 20 percent and 21.61 percent of the shareholding, respectively.

During the financial year 2016-17, the company produced 32 million barrels of oil equivalent energy which resulted in foreign exchange saving of around Rs. 172 billion. In addition, the company contributed around Rs. 74 billion to the national exchequer on account of taxes, royalty, excise duty, sales tax, gas infrastructure development cess and gas development surcharge.

On a regional level, the company has not only provided jobs to the local population but also developed infrastructure in its areas of operations, which has significantly helped in development of these areas.

The company also aggressively follows CSR programs for the uplift of the communities inhabiting the areas of operations.

Table 2.4: Pattern of Shareholding in MPCL – June 30, 2017

Sr. No	Categories of Shareholders	Percent Shareholding
1.	Fauji Foundation	40.00
2.	Government of Pakistan	18.39
3.	Oil & Gas Development Company Limited	20.00
4.	General Public	21.61
	Total	**100.00**

(Source: MPCL)

During financial year ended on June 30, 2017, MPCL produced about 677.046 MMcfd from Mari, Zarghun South Field, Sujawal, Koonj (Sukkur Block), Kalabagh-1A and Halini (Karak Block) fields which was supplied to various customers as given below in **Table 2.5.**

Table 2.5: Gas Supplied by MPCL to various Customers

Sr. No	Customers	Gas Supplies (MMcfd)
1.	Fauji Fertilizers Ltd. (Goth Machi) (Plant- I & II)	171.360
2.	Fauji Fertilizers Ltd. (Mirpur Mathello) (Plant - III)	88.628
3.	Fatima Fertilizer Company Ltd.	98.31
4.	Engro Fertilizer Ltd.	160.22
5.	WAPDA	62.861

6.	SSGC	36.01
7.	SNGPL	6.862
8.	Foundation Power	49.963
9.	Western Power/Petrosin CNG	1.864
	Total	**677.046**

Source: MPCL

The company maintained uninterrupted supply of specification gas to all its downstream customers, namely, Engro Fertilizers Ltd., Fauji Fertilizer Co. Ltd., Fatima Fertilizer Ltd., SSGCL, Foundation Power Company, SNGPL, during the FY 2016-17.

2.2.4 Pakistan Petroleum Limited (PPL)

PPL holds a license from OGRA for sale of natural gas to Central Power Generation Company Limited (CPGCL), WAPDA from Kandhkot Gas Field.

PPL has been a front line player in the energy sector since the mid-1950s. PPL today contributes some 20 percent of the country's total natural gas supplies besides producing Crude Oil, Natural Gas Liquid and Liquefied Petroleum Gas.

The company's history can be traced back to the establishment of a Public Limited Company in June, 1950, with major shareholding by Burmah Oil Company (BOC) of the United Kingdom for exploration, prospecting, development and production of oil and natural gas resources. In September 1997, BOC dis-invested from the exploration and production sector worldwide and sold its equity in PPL to the Government of Pakistan. Subsequently, the government reduced its holding through an initial Public offer in June 2004, which was further decreased with the initiation of the Benazir Employees Stock Option Scheme (BESOS) in August 2009 when PPL employees were allotted 12 percent shares from the government's equity. Currently, the company's shareholding is divided between the government, which owns about 71 percent, PPL Employees Empowerment Trust that has approximately 7 percent — being shares transferred to employees under BESOS and private investors, who hold nearly 22 percent.

PPL currently operates ten (10) producing fields across the country at Sui, Adhi, Kandhkot, Chachar,

Mazarani, Adam, Adam West and Shahdadpur and holds working interest in seventeen (17) partner-operated producing fields, including Qadirpur, the country's second largest gas field.

As a major stakeholder in securing a safe energy future for the country, PPL pursues an aggressive exploration agenda aimed at enhancing hydrocarbon recovery and replenish reserves. PPL together with its subsidiaries has a portfolio of 47 exploration assets of which the company operates 27, including one contract in Iraq, while 20 blocks, comprising three offshore leases in Pakistan and two onshore concessions in Yemen, are operated by joint venture partners.

Over the years, PPL's endeavours have been recognized at various forums – the company was ranked among the Karachi Stock Exchange top 25 companies for six consecutive years between 2006 and 2011. The company received the Best Corporate Report Award for its annual reports in 2005, 2007, 2008, 2009, 2010 and 2011. PPL has also won the Good Learning Practices Award, awarded by the Pakistan Society for Training & Development.

During FY 2016-17, PPL spent around Rs. 1,290 million on CSR initiatives, with major spending for Projects in Balochistan and Sindh.

Table 2.6: Pattern of Shareholding in PPL – June 30, 2017

Sr. No	Categories of Shareholders	Percentage
1.	Government of Pakistan (GoP)	67.51
2.	PPL Employees Empowerment Trust	7.35
3.	Others	25.14
	Total	**100.00**

Source: PPL

Table 2.7: Regulated Gas Sold from PPL's Gas Fields during FY 2016–17

Sr. No	Name of Customers	Province	Volume (MMcfd)
1.	WAPDA (GENCO-II)	Sindh	96.00
2.	SSGCL	Sindh/Balochistan	137.00
3.	SNGPL	Balochistan, Punjab and Sindh	382.00
		Total	**615.00**

Source: PPL


Sui Field Gas Compressor Station

2.2.5 Oil & Gas Development Company Limited (OGDCL)

Background

OGDCL is the largest E&P company in Pakistan, listed on Stock Exchange of Pakistan as well as on the London Stock Exchange.

OGDCL was initially created under an Ordinance in 1961, as a Public Sector Corporation and was converted from a Statutory Corporation into a Public Limited Company w.e.f October 23, 1997. Currently Government of Pakistan is holding 74.97 percent of total equity in the company. OGDCL is responsible to plan, promote, organize and implement programmes for the exploration and development of oil and gas resources.

Exploration

As of June 30, 2017, OGDCL's concession portfolio constituted fifty eight (58) owned and operated joint venture exploration licenses along with holding working interest in five (5) blocks operated by other E&P companies. Having spread across all four (4) provinces of the Country, the company's exploratory licenses covered an area of 114,581 sq. km representing the largest exploration acreage held by any E&P company in Pakistan.

Wells

OGDCL, during the FY 2016-17, spudded twenty two (22) wells including twelve (12) exploratory/appraisal wells and ten (10) development wells.

Discoveries

OGDCL based on aggressive exploratory efforts to discover new hydrocarbon reserves made five (5) new oil and gas discoveries during FY 2016-17.

Production

During FY 2016-17, OGDCL's net production stood at 44,041 bpd of oil, 1,051 MMcfd of natural gas, 455 tons per day of LPG and 63 tons per day of sulphur.

On the financial front, OGDCL has reset the business strategy and is endeavouring to maintain a conservative financial framework and concentrate on a rigorous approach regarding capital allocation and cost control with the aim to carry out exploration, development and production operations competitively to meet future business challenges ahead.

OGDCL's pattern of shareholding (as of June, 2017) is shown in **Table 2.8** and detail of regulated gas sold during FY 2016-17 is shown in **Table 2.9**.

Table 2.8: Pattern of Shareholding in OGDCL – June 30, 2017

Sr. No	Categories of Shareholders	Percentage
1.	Government of Pakistan	67.48
2.	OGDCL Employees Empowerment Trust	10.05
3.	Privatization Commission of Pakistan	7.50
4.	Public Sector Companies & Corporations	0.38
5.	Banks, Financial Institutions, etc.	0.96
6.	Mutual Funds	2.23
7.	Foreign Investors	9.37
8.	Others	0.84
	Total	**100.00**

Source: OGDCL

Table 2.9: Regulated Gas Sold to Customers by OGDCL during FY 2016-17

Sr. No	Name of Customers	Province	Volume (MMcfd)
1.	SNGPL	KP, Sindh, Punjab and Balochistan	470.95
2.	SSGCL	Sindh	171.16
3.	Engro Fertilizer Ltd.	Sindh	10.17
4.	Uch Power Ltd.	Balochistan	315.13
5.	Fauji Kabirwala Power Company Ltd.	Punjab	9.97
		Total	**977.38**

Source: OGDCL

2.2.6 Fauji Fertilizer Company Limited (FFCL)

FFCL, the largest urea manufacturer of the country was incorporated in 1978 as a joint venture between Fauji Foundation and Haldor Topsoe A/S of Denmark. The company is operating three world class urea plants with an aggregate design capacity of over 2 million metric tonnes per annum.

The FFCL's Marketing Group, the largest marketing network in the country, with more than 50 percent market share, markets nearly 3.5 million metric tons of fertilizer per annum.

FFCL holds 49.88 percent stakes in FFBL and 6.79 percent in Fauji Cement. Beside it holds 43.14 percent stakes in Askari Bank Ltd. and 12.5 percent in Pakistan Maroc Phosphore SA (PMP) in Morocco.

FFCL has also pioneered a landmark Project of developing and operating grid connected Wind Power Plants in Pakistan in phases with a view to enhance Country's energy security. A 50 MW Wind Power Plant started commercial operation since May, 2013.

The company is listed on Pakistan Stock Exchange and is amongst the country's largest corporate entities.

Table 2.10: Detail of Regulated Gas Purchased by FFCL from Suppliers during FY 2016–17

Sr. No	Name of Supplier and Field	Province	Volume (MMcfd)
1.	Mari Petroleum Company Ltd. (Mari Gas Field)	Sindh	263.6
		Total	**263.6**

Source: Fauji Fertilizer Company Limited

2.2.7 Fatima Fertilizer Company Limited

Fatima Fertilizer Company Limited was incorporated in Pakistan on December 24, 2003 as a non-listed Public Company under the Companies Ordinance, 1984. The certificate of commencement of business was obtained on March 30, 2004. The main objective of the company is the production and sale of chemical fertilizers and its by-products. FFCL is a fully integrated fertilizer complex of Urea, Calcium Ammonium Nitrate (CAN), and Nitro Phosphate (NP) plants with off sites and utilities. The plant is located at Mukhtar Garh, Sadiqabad, Rahim Yar Khan.

During FY 2016-17, the company achieved milestone of completion of Ammonia Revamp and De-bottlenecking Project leading to enhancement of its ammonia production capacity and energy index improvement. Total production of Fatima Fertilizer for the said fiscal year was 1,179,486 MT of finished products.

Pattern of Shareholding of FFCL is shown in **Table 2.11**. Detail of regulated gas purchased from suppliers by FFCL during FY 2016-17 is given in **Table: 2.12**.

Table 2.11: Pattern of Shareholding in FFCL – June 30, 2017

Sr. No	Categories of Shareholders	Percentage
1.	Directors and Family Members	42.15
2.	Associated Companies	41.49
3.	Public Sector Companies and Corporations	0.43
4.	Foreign Companies	0.63
5.	General Public (local)	3.93
6.	General Public (foreign)	0.03
7.	Banks/Mutual Funds/DFI/NBFI/Pension Funds	6.45
8.	Others	4.88
	Total	**100.00**

Source: Fatima Fertilizer Company Limited

Table 2.12: Regulated Gas Purchased from Suppliers during FY 2016–17

Sr. No	Name of Supplier and Field	Province	Volume (MMcfd)
1.	Mari Gas Field (MPCL)	Punjab	99.10

Source: Fatima Fertilizer Company Limited

2.2.8 Foundation Power Company (Daharki) Limited (FPCDL)

FPCDL is subsidiary of Fauji Foundation, which registered itself for 175 MW Gas Based Power Plant at Daharki, Sindh in April, 2004 with Private Power & Infrastructure Board (PPIB). The company was incorporated on November 10, 2005 with the title of Foundation Power Company Daharki Limited under Companies' Ordinance, 1984.

FPCDL Power Plant is one of the pioneer projects of Independent Power Producers in Pakistan. The principle activities of the company are to own, operate and maintain gas based power plant with the net

capacity of 180 MW (gross capacity 202 MW). The combination of Power Plant includes, Gas Turbine & Generator (GTG), Heat Recovery Steam Generator (HRSG) and Steam Turbine & Generator (STG). The Fuel source is Mari Deep Well No. 6, having low BTU gas with no domestic and very low industrial use. FPCD's net profit for the FY 2016-17 was Rs. 1.7 billion.

Table: 2.13: Pattern of Shareholding in FPCDL – June 30, 2017

Sr. No	Categories of Shareholders	Percentage
1.	Daharki Power Holdings Limited	99.99
2.	Mr. Qaiser Javed	0.005
3.	Fauji Foundation	0.005
	Total	**100.00**

Table 2.14: Detail of Regulated Gas Purchased from Suppliers during FY 2016–17

Sr. No	Name of Supplier and Field	Province	Volume (MMcf)
1.	Mari Gas Field (MPCL)	Sindh	18,236

Source: FPCDL

2.3 Gas Transmission & Distribution Infrastructure

The licensed gas companies submit their Revenue Requirement Petitions to OGRA, and subsequently, on the basis of determinations done by OGRA, the Gas Companies carry out extensions to their gas network which enables them to provide gas facility to Residential, Commercial and Industrial consumers.

2.3.1 SNGPL Transmission Infrastructure

During FY 2016-17, an extension of 697 Km was undertaken by SNGPL in its transmission network. The major segments of the SNGPL transmission network along with their current capacity utilization are listed in **Table 2.15**. The total transmission network of SNGPL (as of June 30, 2017) is shown in **Table 2.16**.

Table 2.15: SNGPL's Capacity Utilization of Transmission System

MMcfd

Sr. No	Transmission Network Segment	Available Capacity (June 30, 2016)	Utilization %age	Available Capacity (June 30, 2017)	Utilization %age
1.	Sui - Bhong	480	109	480	86
2.	Sawan – Qadirpur *	560	73	1510	44
3.	Qadirpur – Bhong *	715	100	1,860	49
4.	Bhong - AC4 *	1,630	72	1,680	77
5.	AC4 - AV22 *	1,590	73	1,630	77
6.	AV22 - Kot Addu	350	54	350	83
7.	Dhodak - Kot Addu	70	20	70	17

8.	AV22 – Multan *	1,430	75	1,430	82
9.	Multan – AV29 *	1,350	74	1,350	82
10.	AV29 – Sahiwal – Lahore *	650	79	700	74
11.	AV29 – Faisalabad *	990	64	770	84
12.	Faisalabad – Lahore *	450	63	500	75
13.	Faisalabad – Galli Jagir	350	44	350	31
14.	Wah – Nowshera *	110	147	110	191
15.	Wah – Abbottabad	94	69	94	70
16.	Gurguri – Kohat	315	105	315	109
17.	FC1 – C6	314	21	314	22
18.	Nowshera – Mardan	75	107	75	101
19.	Mardan – Mangora	30	137	30	127

** Capacity of Sawan–Qadirpur, Qadirpur – Bhong, Bhong –AC4, AC4 – AV22, AV22 – Sahiwal – Lahore Segment increased to 1510 MMcfd, 1860 MMcfd, 1680 MMcfd, 1630 MMcfd and 700 MMcfd respectively, after partial commissioning of new pipelines under LNG .*

Source: SNGPL

Table 2.16: Details of SNGPL Transmission Network – June 30, 2017

		Diameter (Inch)													
Sr. No.	Region	3"	4"	6"	8"	10"	12"	16"	18"	20"	24"	30"	36"	42"	**Grand Total (Km)**
1.	Punjab	0.24	4.43	142.68	1352	586	350.48	1274	656	89.35	987.36	734	679	17.13	**6,970.921**
2.	KP	--	--	57.79	681	133	104.18	139.66	--	--	148.02	--	--	--	**1,263.25**
3.	Others	--	2.41	--	20.22	5.5	4.5	91.27	11.25	37.8	239.76	86.73	54.95	186.64	**741.03**
	Total	**0.24**	**6.84**	**198.49**	**2,053.15**	**724.46**	**459.16**	**1,504.938**	**767.19**	**127.15**	**1,375.14**	**820.93**	**733.75**	**203.77**	**8,975.20**

Source: SNGPL

2.3.1.1 Compression Facilities in SNGPL's Transmission System

SNGPL has 67 number of units of compression with a total capacity of 226,200 brake horse power (bhp).

Table 2.17: Compressor Stations in SNGPL Transmission System – June 30, 2017

Sr. No	Compressor Station/Location	Number of Units		Total Installed Power (bhp)	
		30-06-2016	30-06-2017	30-06-2016	30-06-2017
1.	AC-0 (Sui)	4	4	11,000	11,000
2.	AC-IX (S) (Bhong) Distt R.Y.Khan	8	7	39,040	35,040
3.	AC-IX (Q) (Bhong) Distt R.Y.Khan	6	5	28,920	24,920
4.	** AC-IX (LNG) (Bhong) Distt R.Y.Khan	---	4	---	17,400
5.	AC-4 (Uch Sharif) Distt Bahawalpur	8	8	39,020	39,020
6.	AC-6 (Multan)	9	9	40,620	40,620
7.	AC-8 (Faisalabad)	6	6	20,200	20,200
8.	BC-1 (Manawala)	7	7	7,000	7,000
9.	CC-1 (HaranPur) Distt Jehlum	6	6	12,000	12,000
10.	CC-3 (Gali Jagir) Distt Attock	6	6	12,000	12,000
11.	FC-1 (Dhulian)	7	7	7,000	7,000
	Total	**67**	**69**	**216,800**	**226,200**

*** To receive and handle additional, 1200 MMcfd LNG and Indigenous Gas Supply in SNGPL Network through Construction of New Compression Station.*

Source: SNGPL

2.3.2 SSGCL Transmission infrastructure

Table 2.18: SSGCL Transmission Network Commissioned during FY 2016-17

Sr. No.	Segment	Dia (Inch)	Length (Km)
	Sindh		
1.	RLNG – II Pipeline Project	42"	316
2.	Interlink Pipeline (Pakland to Khadeji)	24"	21
	Sub. Total		**337**
	Balochistan/Any other		
-	-	-	0
		Total	**337**

Table 2.19: SSGCL's Capacity Utilization of Transmission Network

MMcfd

Sr. No	Transmission Network Segment	Available Capacity (June 30, 2016)	Utilization % age	Available Capacity (June 30, 2017)	Utilization % age
1.	16" dia.Indus Left Bank Pipeline (ILBP) Nawabshah-Karachi Terminal	80	-	80	-
2.	24"/20"dia. Kadanwari Pipeline Kadanwari -Malir-Karachi	180	-	180	-
3.	20"/18"dia. Indus Right Bank Pipeline (IRBP) Dadu-Malir-Karachi	400	-	400	-
4.	12"/18"/20" dia. Quetta Pipeline Jacobabad Quetta	90	-	90	-
5.	18"dia.18 Km Abbe-gum to Mach Loopline	7	-	7	-
6.	18"x31 Km Dingra-Sibi,18"x15 Km Mach-Kolpur Loopline	10	-	10	-
7.	24"x30 Km Loopline from Gokart to Abbegum	6	--	6	-
8.	18"dia. Badin Pipeline Badin-Hyderabad	200	-	200	-
9.	24"dia.x116 Km loopline from Sind University to FJFC offtake	60	-	60	-
10.	24"dia.15 Km Masu-HQ3	40	-	40	-
11.	24"dia.x84 Km HQ2-Tando Adam	85	-	85	-
12.	24"dia.x34 Km Loopline from Tando Adam to Masu	23	-	23	-
13.	24"dia.x200 Km Bajara-Karachi Loopline	240	-	240	-
14.	18" x 18 Km loopline (Dhadar to Gokart)	36	-	36	-
15.	12" x 60Km HQ-Quetta-Zargun Line	25	-	25	-
Total Capacities for SSGC (A)		**1,482**	**91%**	**1,482**	**81 %**
Transmission Network Contracted for Transporting 3rd Party Gas					
16.	18" dia.Pirkoh Pipeline (OGDC) Pesh Bogi-Pirkoh	35	-	35	-
17.	16"dia.ILBP (SNGPL) Hassan -Sui	30	-	30	-

18.	20"dia.IRBP (Reverse Flow to SNGPL) Dadu-Sui	170	-	170	-
19.	16" ILBP reverse flow providing regulation between 20"dia.IRBP & 16" dia ILBP at RSI	10	-	10	-
	Total Contracted Network (B)	**245**	**100 %**	**245**	**100 %**
	RLNG – II Pipeline (C)	**--**	**---**	**1200**	**49**
	SSGC Total Available Transmission Network Capacity (A+B+C)	**1,727**	**-**	**2,927**	**-**

Source: SSGC

Table 2.20: Compressor Stations in the SSGCL Transmission System – June 30, 2017

Sr. No	Compressor Station Location	Size and Number of Units		Total Installed Power (bhp)	
		30-06-2016	30-06-2017	30-06-2016	30-06-2017
1.	Shikarpur	120 MMcfd per Unit	120 MMcfd per Unit	11,600	11,600
		2 Units Installed	2 Units Installed		
2.	Hyderabad	120 MMcfd per Unit	120 MMcfd per Unit	17,400	17,400
		3 Units Installed	3 Units Installed		
3.	Sibi	60 MMcfd per Unit	60 MMcfd per Unit	9,400	9,400
		2 Units Installed	2 Units installed		
4.	HQ-2	120 MMcfd per Unit	120 MMcfd per Unit	11,600	11,600
		2 Units Installed	2 Units Installed		
		-	200 MMcfd per Unit	-	46,800
		-	6 Units Installed	-	-
			Total	**50,000**	**96,800**

Source: SSGCL

Table 2.21: Details of SSGCL Transmission Network – June 30, 2017

Sr. No	Diameter (inch)	6"	12"	16"	18"	20"	24"	30"	42"	Grand Total (Km)
1.	Length (Km)	36	522	558	970	844	687	9	347	**3,973**

Source: SSGCL

2.3.3 Independent System Infrastructure

A number of natural gas customers (fertilizer plants, power plants etc) in the country are supplied with gas through independent/dedicated pipelines. Detail of such pipelines connecting the gas fields to their respective consumers is given in **Table 2.22** below:

Table 2.22: Independent System Infrastructure

Sr. No	Pipeline Operator	Segment	Diameter (Inch)	Length (Km)
1.	FFCL	Mari to Fauji Fertilizer 1	16	48
2.	FFCL	Mari to Fauji Fertilizer 2	14	48
3.	FFCL	Mari to Fauji Fertilizer Mirpur Mathelo	16	15
4.	ECPL	Mari to Engro Chemicals	10, 12	9, 9
5.	CPGCL	Mari to Guddu Thermal Power Station	20	60
6.	CPGCL	Kandhkot to Guddu Thermal Power Station	16	50
7.	CPGCL (WAPDA)	SNGPL's compression station at Sui field to Guddu Thermal Power Station	16	56
8.	OGDCL	Uch field to Uch Power Plant	26	47
9.	OGDCL	Nandipur Pinjpir to FKPCL	12	16
10.	Tullow	Sara/Suri Field to CPGCL Pipeline near Mari Well No.6	8	33
11.	FFCL	Mari to Fatima Fertilizer	20	47
12.	FPCDL	Mari to Foundation Power Company Ltd (Dhariki)	20	15
13.	ETPL	ETPL Jetty to SSGCL's tie in point at SMS Pakland.	24 & 42	6 & 18
14.	Engro Fertilizer Ltd. (EFL)	Reti Maru (OGDCL) Field to Engro's battery limits at Dharki	10	26
15.	Fauji Oil Terminal and Distribution Company Ltd. (FOTCO)	For transmission of RLNG from Pakistan Gas Port Consortium Ltd. (PGPCL) Terminal to SSGC's tie in point located at Port Qasim, Karachi.	30	13.3

2.3.4 SNGPL and SSGCL Distribution Mains and Service Lines

The gas companies are involved in supplying of gas to distant localities/customers, wherever it is economically viable and technically feasible. In FY 2016-17, an addition of 6,700 Km was made by the SNGPL in its distribution network, while SSGCL has added 760 Km to its distribution network. Region-wise and diameter-wise breakdown of SNGPL and SSGCL distribution network, as of June 30, 2017, are shown in **Tables 2.23 & 2.24**

Table 2.23: SNGPL's Cumulative Length of Major Distribution Network – June 30, 2017

Km

Sr. No	Punjab														
	REGION	**3/4"**	**1"**	**1.25"**	**1.5"**	**2"**	**4"**	**6"**	**8"**	**10"**	**12"**	**16"**	**18"**	**24"**	**Total**
1.	Islamabad	3,762	4,217	2,795	8	3,669	18,769	792	256	89	55	50	2	17	**17,591**
2.	Bahawalpur	873	1,245	730	-	1067	574	210	120	60	39	-	-	-	**4,952**
3.	Gujrat	74	9	155		95	78	15	14	-	-	26	-	-	**440**
4.	Sahiwal	71	18	111		48	60	9	-	-	-	-	-	-	**317**
5.	Sheikhupura	71	34	93		65	20	-	-	-	-	-	-	-	**284**
6.	Sargodha	80	-	234		83	94	25	-	-	-	-	-	-	**517**
7.	Faisalabad	2,974	4,358	2,119	-	2,523	1,778	712	358	9	32	26	-	-	**15,314**
8.	Lahore	4,997	8,701	3,370	12	4,978	1,980	867	489	120	115	180	33	31	**26,561**
9.	Multan	1,985	916	2,442	-	3,608	2,548	607	220	57	68	12	-	-	**12,610**
10.	Gujranwala	2,855	3,209	2,778	-	3,624	2,262	971	573	33	4	28	6	-	**16,752**
Sub-Total, Punjab		**18,707**	**22,861**	**14,233**	**20**	**19,469**	**11,020**	**4,339**	**2,043**	**375**	**321**	**302**	**41**	**48**	**93,781**
KP															
1.	Peshawar	2,550	2,888	1,230	-	2,937	1,944	897	349	196	36	32	8	-	**13,069**
2.	Abbottabad	641	1,060	387	-	713	352	99	70	-	3	4	-	-	**3,368**
Sub-Total, KP		**3,190**	**3,988**	**1,617**	**–**	**3,650**	**2,296**	**996**	**418**	**196**	**41**	**35**	**8**	**–**	**16,436**
Total Distribution Network		**21,898**	**26,850**	**15,851**	**20**	**23,119**	**13,316**	**5,335**	**2,461**	**572**	**362**	**337**	**48**	**48**	**110,217**

Source: SNGPL

Table 2.24: SSGCL – Cumulative Length of Distribution Network – June 30, 2017.

Km

Region	Cumulative Distribution Network									
	Sindh									
	1"–2"	3"	4"	6"	8"	10"	12"	16"	Others	Total
Sindh (Interior)	9,109	15	3,610	1,797	506	33	38	15	6,549	**21,672**
Karachi	5,136	--	803	480	610	15	180	99	8,686	**16,009**
Sub-total	**14,245**	**15**	**4,413**	**2,277**	**1,116**	**48**	**218**	**114**	**15,235**	**37,681**
Balochistan										
Balochistan	3,343	--	1,195	381	488	6	48	90	2,289	**7,840**
Grand Total	**17,588**	**15**	**5,608**	**2,658**	**1,604**	**54**	**266**	**204**	**17,524**	**45,521**

Distribution Network – Polythene Pipe

Km

Region	Sindh					
	20mm	40mm	63mm	125mm	180mm	Total
Sindh (Interior)	581	882	781	227	12	**2,483**
Karachi	696	1,031	1,564	407	227	**3,925**
Sub-total (Sindh)	**1,277**	**1,913**	**2,345**	**634**	**239**	**6,408**
Balochistan						
Balochistan	156	33	389	95	6	**679**
Grand Total	**1,433**	**1,946**	**2,734**	**729**	**245**	**7,088**

Source: SSGCL

2.3.5 Customers Addition to Gas Network

The total number of new gas consumers added during FY 2016-17 is shown in **Table 2.25** and cumulative number of consumers (country-wide), as of June 30, 2017, is shown in **Table 2.26**.

Table 2.25: Number of Consumers Added/(Disconnected) during FY 2016-17

Sr. No	Sector	SNGPL				SSGCL				Total Country
		Punjab	KP	AJK	**Total**	Karachi	Sindh Interior	Balochistan	**Total**	
1.	Domestic	364,188	56,065	168	**420,421**	39,837	20,198	5,974	**66,009**	**486,430**
2.	Commercial	195	87	0	**282**	(166)	(187)	36	**(317)**	**-35**
3.	Industrial	1	0	0	**1**	23	-3	2	**22**	**23**
Grand Total		**364,384**	**56,152**	**168**	**420,704**	**39,694**	**20,008**	**6,012**	**65,714**	**486,418**

Source: SNGPL & SSGCL

Table 2.26: Number of Consumers, Cumulative – June 30, 2017.

Sr. No.	Sector	SNGPL				SSGCL				Total Country
		Punjab	KP	AJK	**Total**	Karachi	Sindh Interior	Balochistan	**Total**	
1.	Domestic	4,938,525	725,797	6,993	**5,671,315**	1,760,001	793,123	259,087	**2,812,211**	**8,483,526**
2.	Commercial	49,202	9,268	115	**58,585**	15,898	4,206	2,660	**22,764**	**81,349**
3.	Industrial	5,867	820	2	**6,689**	3,497	640	59	**4,196**	**10,885**
Grand Total		**4,993,594**	**735,885**	**7,110**	**5,736,589**	**1,779,396**	**797,969**	**261,806**	**2,839,171**	**8,575,760**

Source: SNGPL & SSGCL

2.4 Natural Gas Consumption and Production

2.4.1 Gas Consumption

The consumers of natural gas are categorized into three basic categories namely, the Residential, Commercial and Industrial sectors. The Industrial sector also includes power, cement, general industry, fertilizer and transport sectors. The demand of gas increases considerably during the winter season. Consequently, the Gas Utility Companies, in accordance with the priorities set by the GoP, curtail gas supply to different sectors. The residential (domestic) sector remains at the top priority of the gas companies for maintaining gas supply, as per the GoP's Natural Gas Load Management Policy. During FY 2016-17, the Power Sector consumed the highest volume, i.e. 1,180 MMcfd of natural gas while the residential sector consumed about 796 MMcfd of natural gas. Sectoral gas consumption, as provided by gas companies (viz SNGPL, SSGCL, Gas E & P companies and bulk gas consumer companies), is exhibited in **Table 2.27**, which is based on the Country's gas consumption, net of own use and losses, of SNGPL, SSGCL and Independent Systems. The same consumption trend has also been exhibited further in **Fig. 2.1**. Province-wise gas consumption (for SNGPL and SSGCL system) is shown in **Table 2.28** & **Fig. 2.2** which show that Punjab and Sindh remained the major consumers with shares of around 47 percent and 43 percent, respectively.

Table 2.27: Sector-wise Gas Consumption for FY 2016-17

MMcfd

Sr. No.	Sector	SNGPL System	SSGCL System	Independent System	Total Country	Percentage Share (%) (Net of Own Use & Losses)
1.	Residential	527	269	0	**796**	**21**
2.	Commercial	62	28	0	**90**	**2**
3.	General Industry	172	154	0	**326**	**9**
4.	Fertilizer	181	59	531	**771**	**21**
5.	Cement	1	1	0	**2**	**0**
6.	Captive Power	204	189	0	**393**	**11**
7.	Power	424	222	534	**1,180**	**32**
8.	Transport	114	70	0	**184**	**5**
	Sub-total	**1,684**	**992**	**1,065**	**3,741**	**100**
9.	Own use	11	5	0	**16**	**-**
10.	UFG, T&D and Other Losses	170	204	0	**374**	**-**
	Grand Total	**1,865**	**1,201**	**1,065**	**4,131**	**-**

Source: SNGPL, SSGCL and Independent Systems.

Fig. 2.1: Country's Sectoral Gas Consumption for FY 2016-17

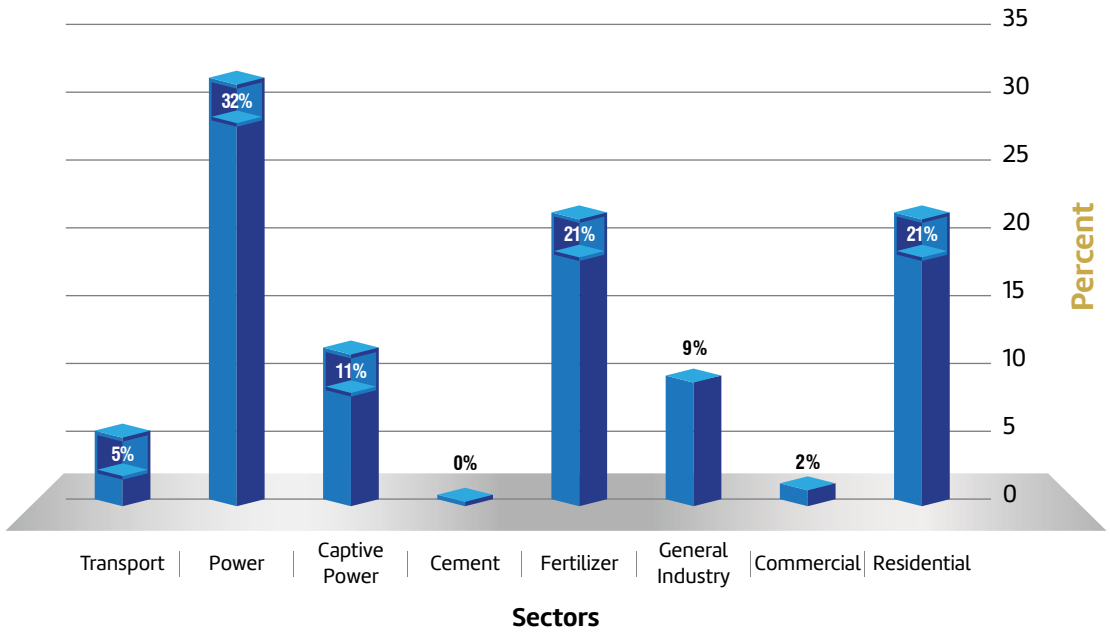
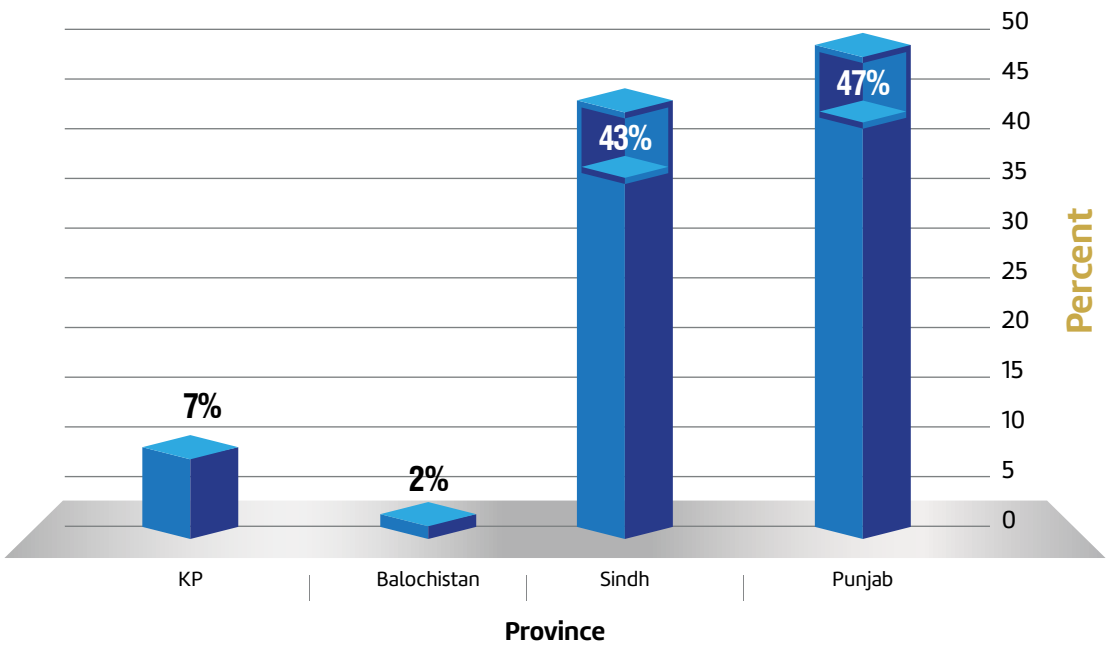


Table 2.28: Province-wise Gas Consumption for FY 2016-17 (SNGPL & SSGCL Systems only)

Sr. No.	Province	Consumption (MMcfd)		Percentage Share (%)	
		FY 2015-16	FY 2016-17	FY 2015-16	FY 2016-17
1.	Punjab	1,154	1,372	42	47
2.	Sindh	1,256	1,262	46	43
3.	Balochistan	51	69	2	2
4.	KP	266	212	10	7
	Total	**2,727**	**2,915**	**100**	**100**

Source: SNGPL & SSGCL

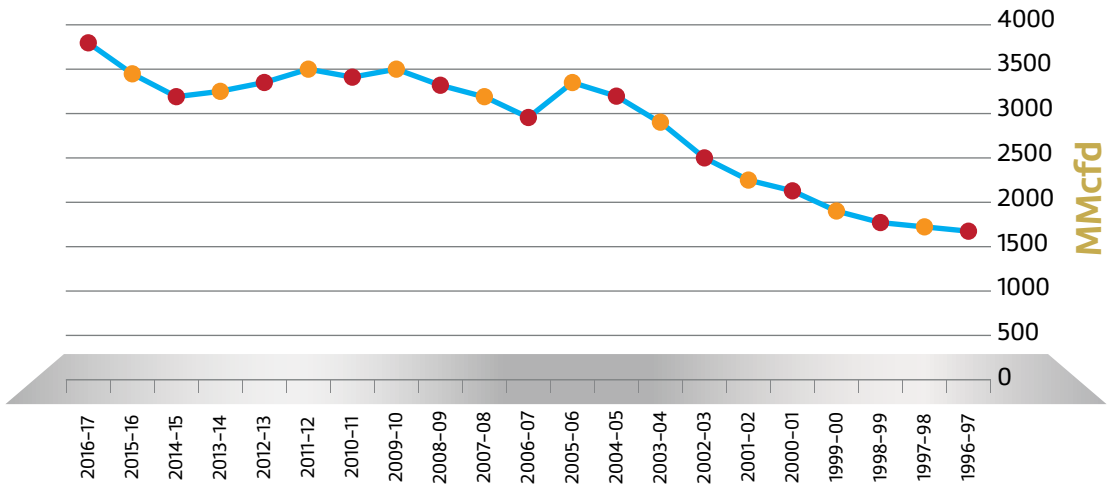
Fig. 2.2: Province-wise Gas Consumption (SNGPL & SSGCL System Only)



2.4.2 Sectoral Gas Consumption – Over The Years

Natural gas demand in the country has been increasing day by day. Some 20 years back, in 1996-1997, overall consumption of natural gas in the country was around 1,700 MMcfd whereas the same has increased to 4,131 MMcfd in FY 2016-17. Natural gas consumption in consolidated sectoral growth and sector-wise growth from FY 1996-97 to FY 2016-17 are shown in graphical form as under:

Fig. 2.3: Natural Gas Consumption Over the Years



Source: for FY 1996-97 to 2004-05 Pakistan Economic Survey.
For FY 2005-06 onwards OGRA's Annual Report

Fig. 2.4: Sectoral Growth Over the Years

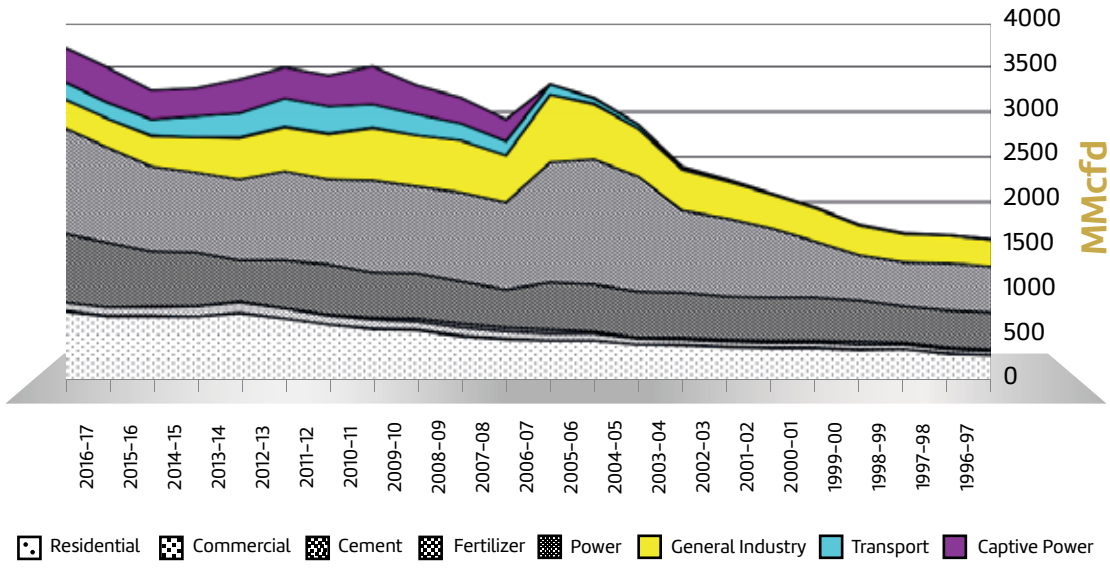


Fig. 2.5: Growth in Residential Sector

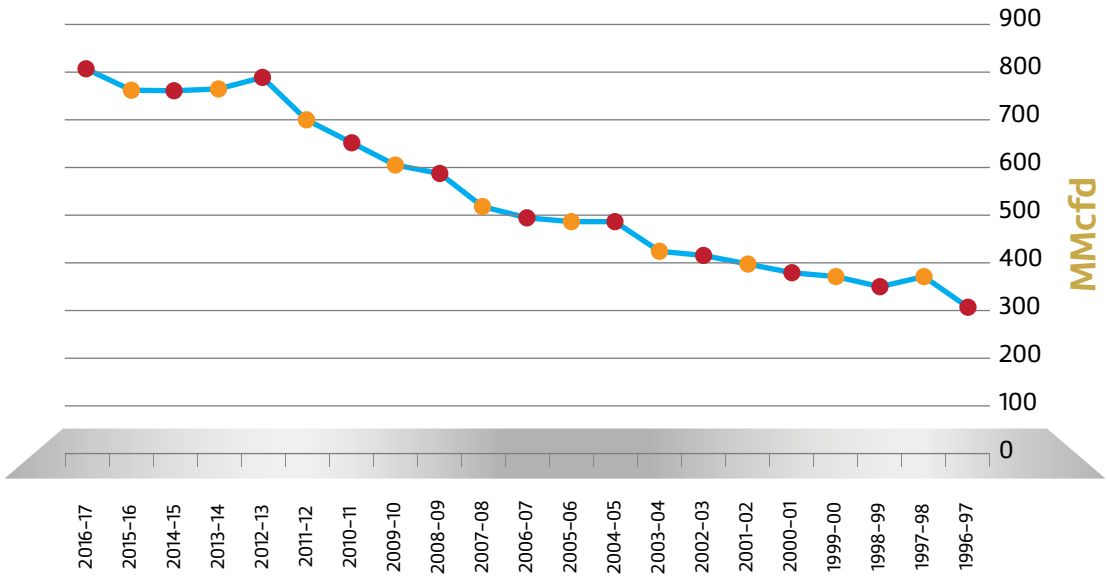


Fig. 2.6: Growth in Commercial Sector

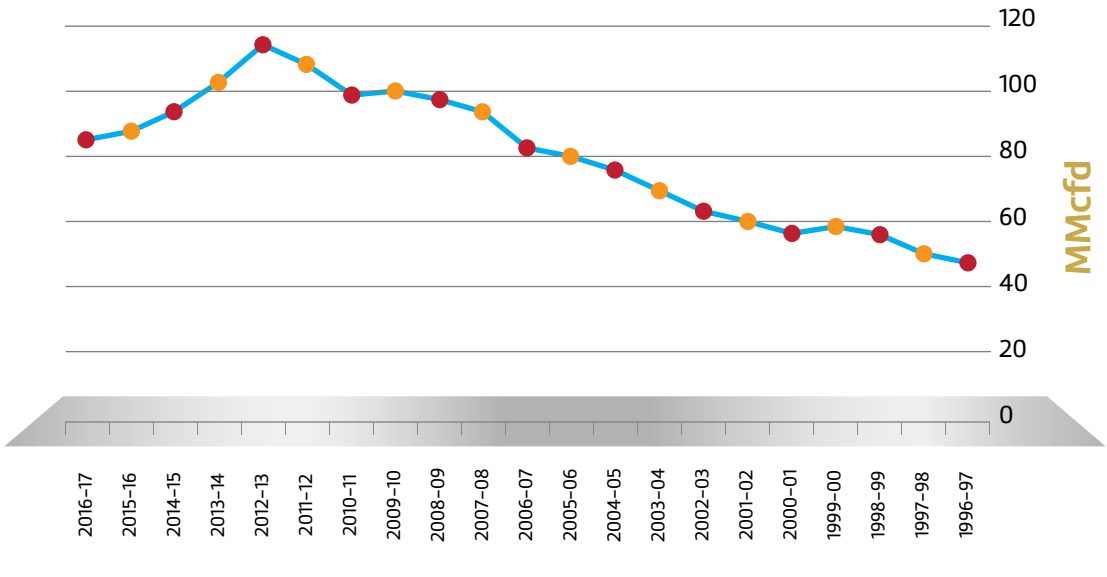


Fig. 2.7: Growth in Cement Sector

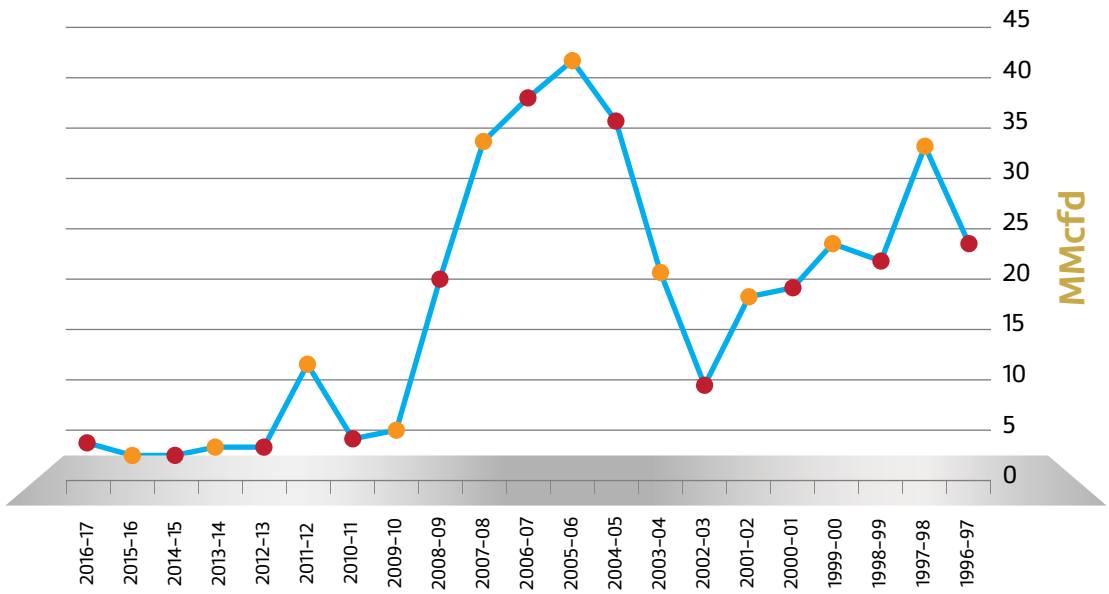


Fig. 2.8: Growth in Fertilizer Sector

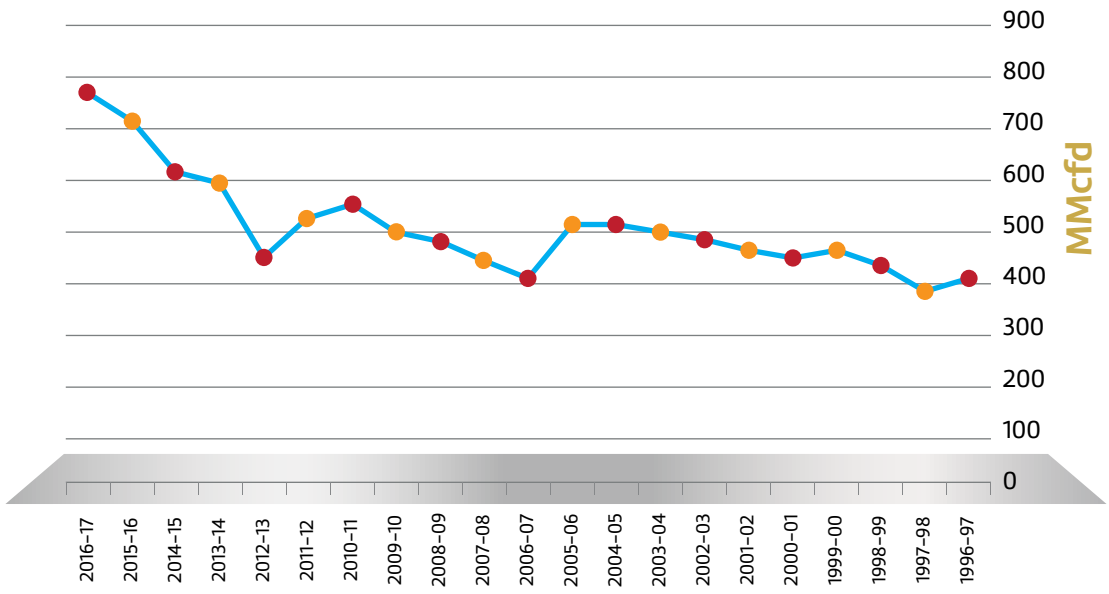


Fig. 2.9: Growth in Power Sector

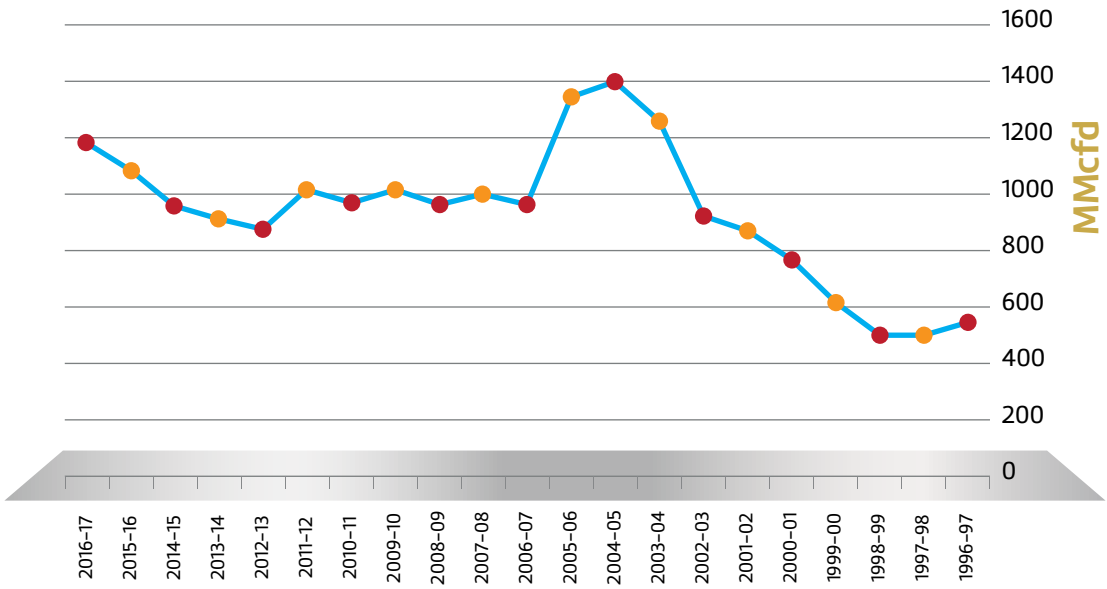


Fig. 2.10: Growth in General Industry Sector

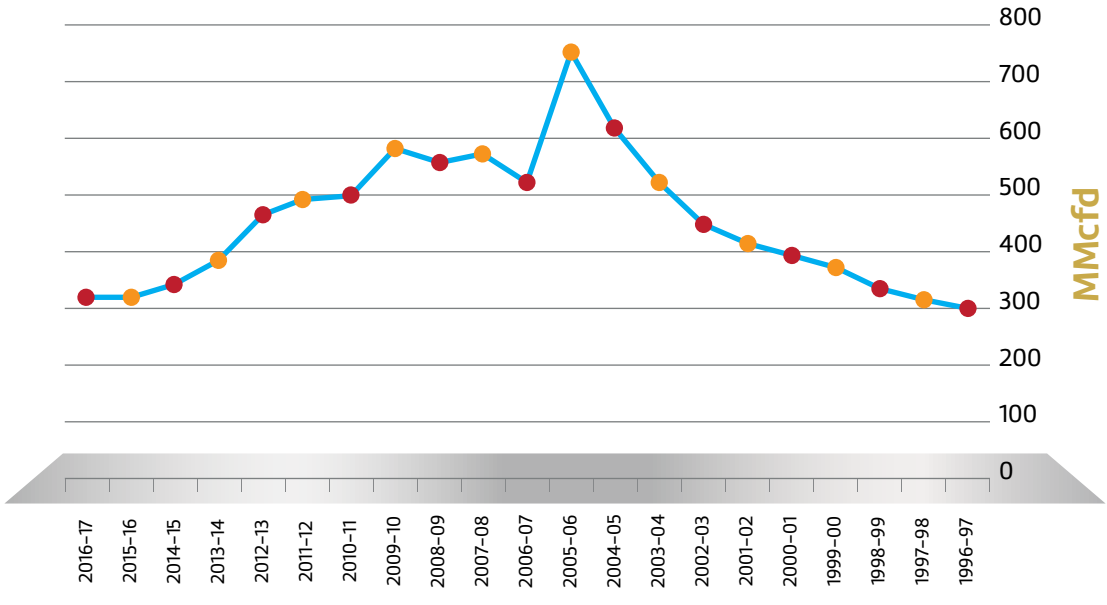


Fig. 2.11: Growth in Transport Sector

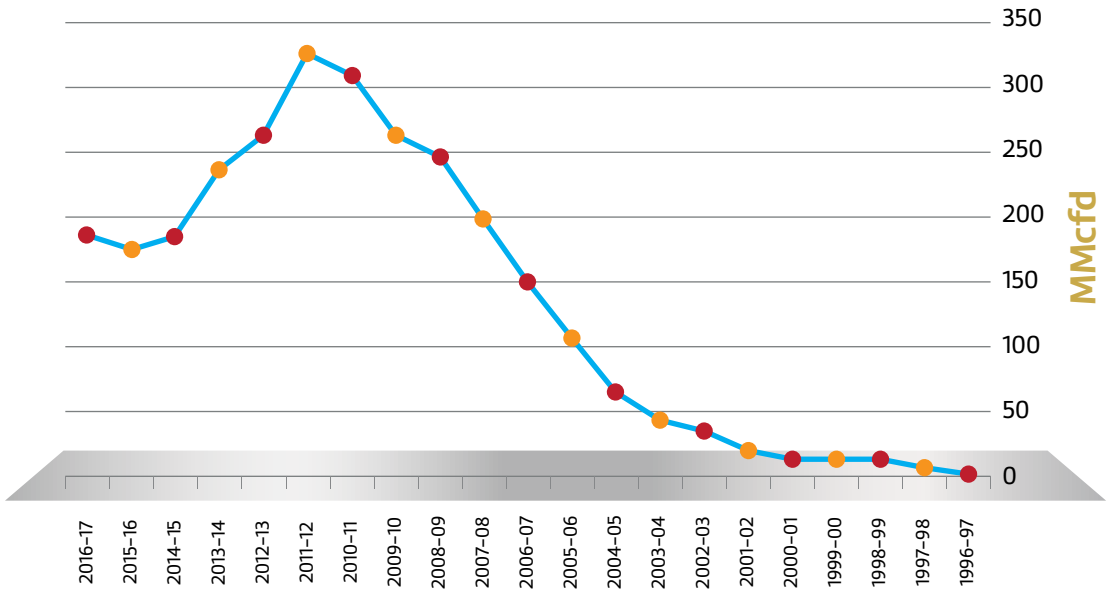
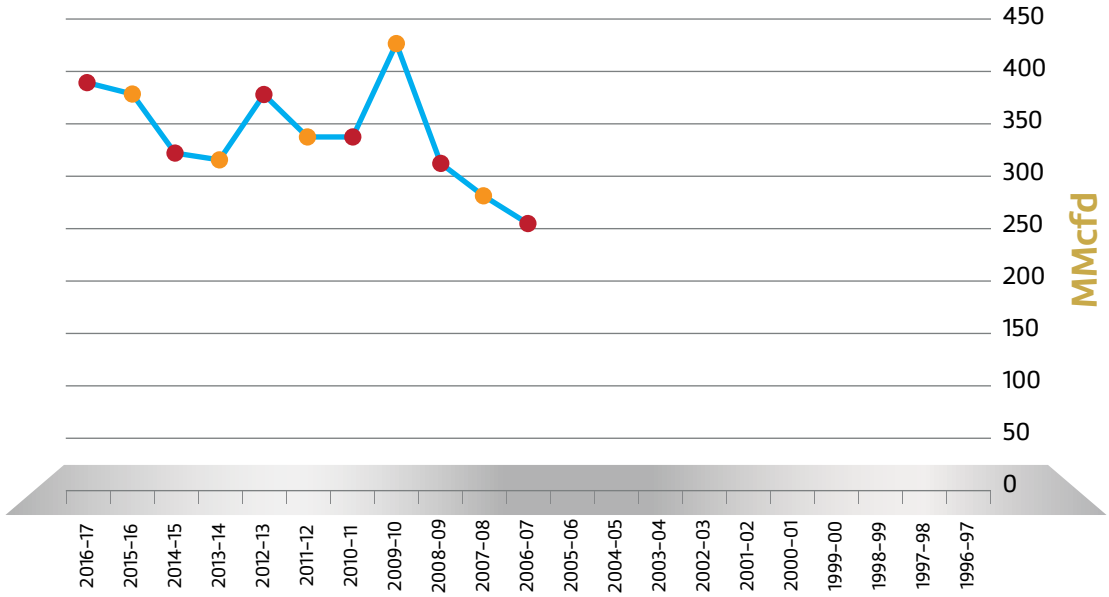


Fig: 2.12: Growth in Captive Power Sector



2.4.3 Gas Supplies

The natural gas is produced from the gas fields located in the provinces of Pakistan. The natural gas supply in the Country has reached to 4,131 MMcfd. The major gas fields of the country include Sui, Uch, Qadirpur, Sawan, Zamzama, Badin, Bhit, Kandhkot, Mari and Manzalai. In addition, Pakistan is importing the LNG since 2015, whereby the RLNG has contributed significantly in mitigating the natural gas shortage in the Country.

The data regarding imported RLNG and province wise production/supplies to the Gas Utility Companies are represented in **Figs. 2.13** and **2.14**. Sindh stood as the major supplier with a contribution in gas supply of around 56 percent while Balochistan, KP and Punjab followed with shares of 13 percent, 12 percent and 3 percent respectively. While RLNG share has reached to 16 percent.

The field-wise natural gas and RLNG supplies to SNGPL, SSGCL and Independent systems are shown in **Table 2.29**.

Fig. 2.13: Provincial Supplies of Gas (including RLNG) to Gas Utility Companies

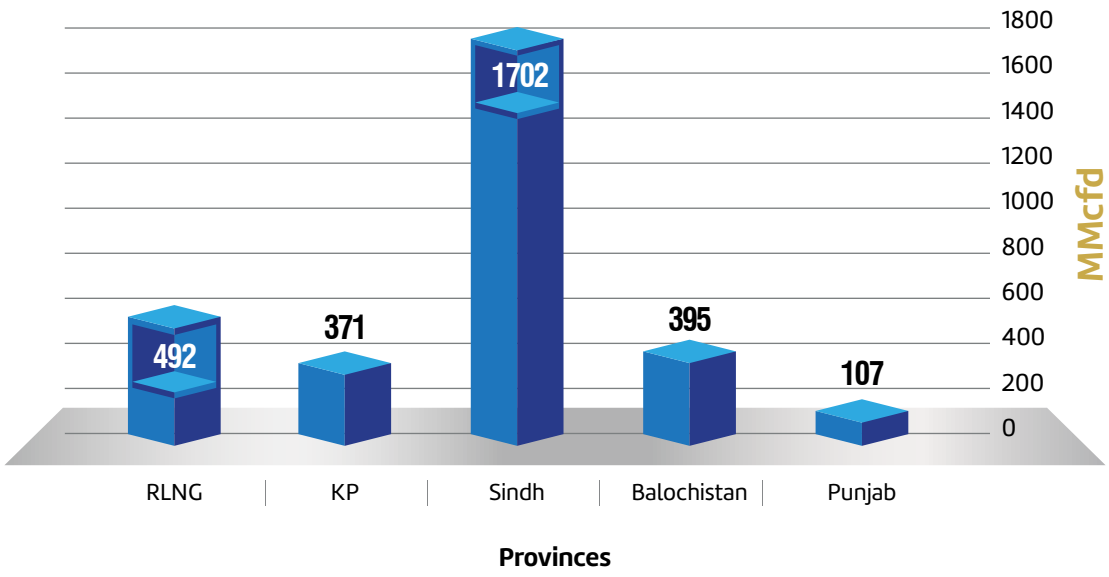


Fig. 2.14: Provincial Share (including RLNG) of Gas Supply to Gas Companies (%)

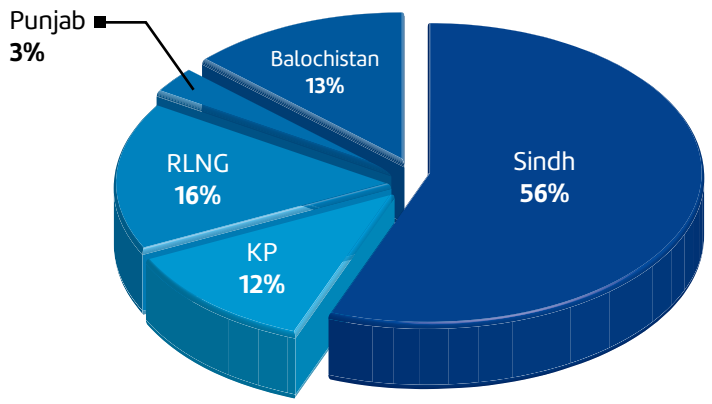


Table 2.29: Field-wise Natural Gas and Imported RLNG Supplies to SNGPL, SSGCL and Independent System

SNGPL							
Sr. No.	Gas Field	Calorific Value (Btu/scf)	FY 2015-16		Calorific Value (Btu/scf)	FY 2016-17	
			(MMcfd)	(BBtu/d)		(MMcfd)	(BBtu/d)
Balochistan							
1.	Loti	853	17	14	845	19	16
2.	Pirkoh	853	5	5	845	3	2
3.	Sui	958	270	259	958	267	256
	Sub-total, Balochistan	**-**	**292**	**278**	**-**	**289**	**274**
Sindh							
1.	Badar	577	12	7	575	17	10
2.	Chachar	796	3	2	786	3	2
3.	Hasan.b-22	685	9	6	681	10	7
4.	Kandhkot	826	63	52	828	83	69
5.	Qadirpur (PROC)	879	253	223	878	219	192
6.	Qadirpur (RAW)	842	39	33	839	38	32
7.	Qadirpur (PERM)	678	41	28	683	56	38
8.	Saqib-1A	-	(0)	(0)	-	-	-
9.	Sawan	1,003	38	39	1,011	22	22

10.	Tajjal	1,002	3	3	1,011	2	2
11.	Zamzama (SNGPL)	801	56	44	799	48	39
12.	Koonj	864	1	1	865	1	1
13.	Mari Deep	548	11	6	-	-	-
14.	Mari Engro	725	82	59	724	85	62
15.	Latif	1,003	37	37	1,011	23	23
	Sub-total, Sindh	**-**	**648**	**540**	**-**	**607**	**498**
	Punjab						
1.	Adhi	1,097	45	50	1,091	57	62
2.	Dakhni	1,062	22	23	1,060	21	22
3.	Dhodak	1,128	1	1	1,139	1	1
4.	Dhullian	1,066	2	2	1,070	2	2
5.	Dhurnal	1,207	0	0	-	-	-
6.	Meyal	1,061	0	0	1,059	0	0
7.	Bela/Uchhri	-	-	-	-	-	-
8.	Pariwali	1,067	5	5	1,070	4	4
9.	Pindori	1,115	0	0	1,129	0	0
10.	Ratana	1,119	0	0	1,131	0	0
11.	Ratana Meyal	1,066	11	11	1,069	5	5
12.	Sadkal	1,177	1	1	1,183	1	1
13.	Salsabeel	989	9	9	987	8	8
14.	Salsabeel Chiltan	870	1	1	868	0	0
15.	Soghari	1,062	8	9	1,061	8	8
	Sub-total, Punjab	**-**	**105**	**113**	**-**	**107**	**114**
	KP						
1.	Chanda	1,150	3	3	1,151	2	3
2.	Makori	1,040	1	1	1,034	1	1
3.	Makori East	1,059	69	73	1,040	71	74
4.	Manzalai	-	-	-	-	-	-

5.	Manzalai CPF	1,042	45	47	1,047	34	36
6.	Mela	1,161	12	14	1,163	7	8
7.	Mamikhel	1,059	30	32	1,055	25	27
8.	Maramazai	1,032	119	123	1,039	119	124
9.	Nashpa	1,169	82	96	1,165	87	101
Sub-total, KP		**-**	**359**	**387**	**-**	**371**	**398**
LNG		**-**	**272**	**252**	**-**	**492**	**503**
Country Total		**-**	**1,676**	**1,569**	**-**	**1,865**	**1,788**

SSGCL							
Sr. No.	**Gas Field**	**Calorific Value (Btu/scf)**	**FY 2015-16**		**Calorific Value (Btu/scf)**	**FY 2016-17**	
			(MMcfd)	**(BBtu/d)**		**(MMcfd)**	**(BBtu/d)**
Balochistan							
1.	Sui	966	100.4	97.0	957	105.6	101
Sub-total, Balochistan		**966**	**100**	**97**	**-**	**106**	**101**
Sindh							
1.	Kandhkot	813	1.6	1.3	828	1.5	1.3
2.	Mazarani	1,026	3.9	4.0	1,012	4.0	4.1
3.	Badin	1,075	62.6	67.3	1,090	36.1	39.4
4.	Bhit	951	263.0	250.0	950	193.0	183.4
5.	Kadanwari	993	44.5	44.2	994	26.8	26.6
6.	Miano	994	83.2	82.7	994	65.2	64.8
7.	Sawan	1,000	31.5	31.5	1,008	31.3	31.5
8.	Zamzama	800	57.9	46.3	799	48.2	38.5
9.	Khipro/Mirpur Khas	1,009	365.7	368.9	997	383.2	381.9
10.	TAY/Dars	-	-	-	1,027	4.8	4.9
11.	Hundi Sari	909	1.1	1.0	908	1.1	1.0
12.	Mari	700	1.0	0.7	729	1.0	0.7
13.	Bobi	1,111	3.6	4.0	1,112	3.7	4.2

14.	Hassan /SNGPL Towns (Ghotki,Rustam, Sher Ali, Ubaro, Chouniko)	857	4.9	4.2	871	4.7	4.1
15.	Adam-X	1,046	15.2	15.9	1,039	15.3	15.9
16.	Pakhro/Noorai Jagir	1,128	3.9	4.4	1,129	0.1	0.1
17.	Latif	1,000	36.5	36.5	1,007	22.9	23.1
18.	Pashaki deep & Kunnar deep	1,055	107.5	113.4	1,061	117.9	125.0
19	Sujawal/Sujjal	1,048	18.7	19.6	1,056	23.5	24.8
20.	Sinjhoro	1,012	25.4	25.7	1,032	29.4	30.3
21.	Nur Bagla field	1,088	3.4	3.7	1,104	3.6	4.0
22.	Kirther (Rehman) EWT	837	8.6	7.2	836	9.1	7.6
23.	Maher/Mubarak Block	1,091	14.3	15.6	1,085	12.0	13.0
24.	Rizq - EWT	-	-	-	918	7.4	6.8
25.	JakhroDachrapur/ Gopang	965	8.5	8.2	1,104	3.1	3.4
26.	Zargoon	953	10.6	10.1	955	11.5	11.0
27.	Gambat	1,096	5.2	5.7	953	34.9	33.2
Subtotal, Sindh		**991**	**1,182.3**	**1,172.1**	**990**	**1,095.2**	**1,084.5**
Total Sindh & Balochistan (B)		**989**	**1,283**	**1,269**	**987**	**1,201**	**1,186**

Independent System

(MMcfd)

Sr. No.	Fields	FY 2015-16	FY 2016-17
1.	Mari (Sindh)	593	633
2.	OGDCL Field Uch (Balochistan)	290	316
3.	OGDCL Field Reti Meru (Sindh)	13.4	10.2
4.	PPL Kandhkot (Sindh)	75	96
5.	OGDCL Nandpur (Punjab)	16.1	10
Total (Independent System) (C)		**988**	**1065**
Total Country Wide Supplies (A+B+C)		**3,947**	**4,131**

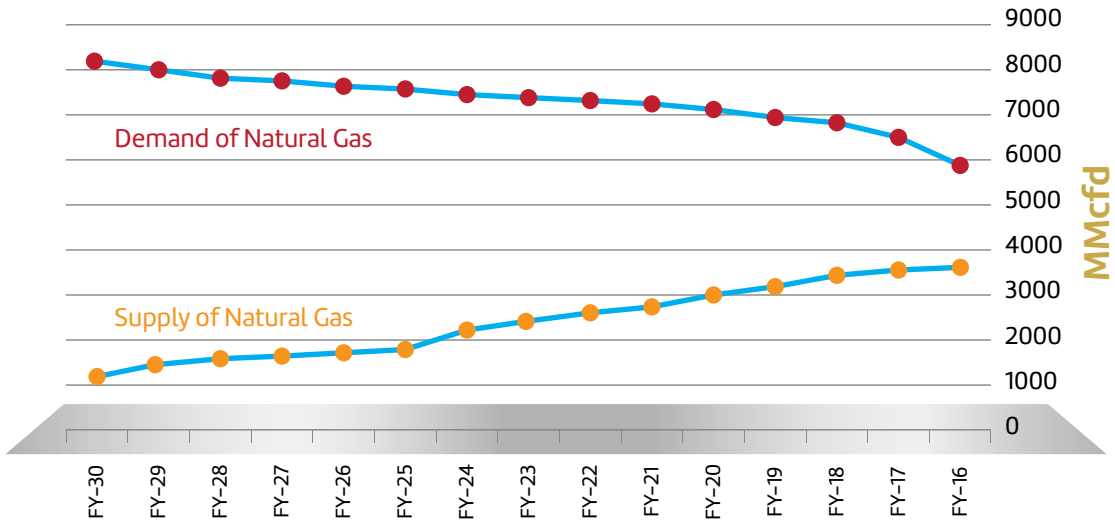
Source: SNGPL, SSGCL, Mari Petroleum Company Ltd, OGDCL, PPL

2.5 Future Outlook for the Natural Gas Sector (Demand and Supply Scenario)

2.5.1 Demand Forecast

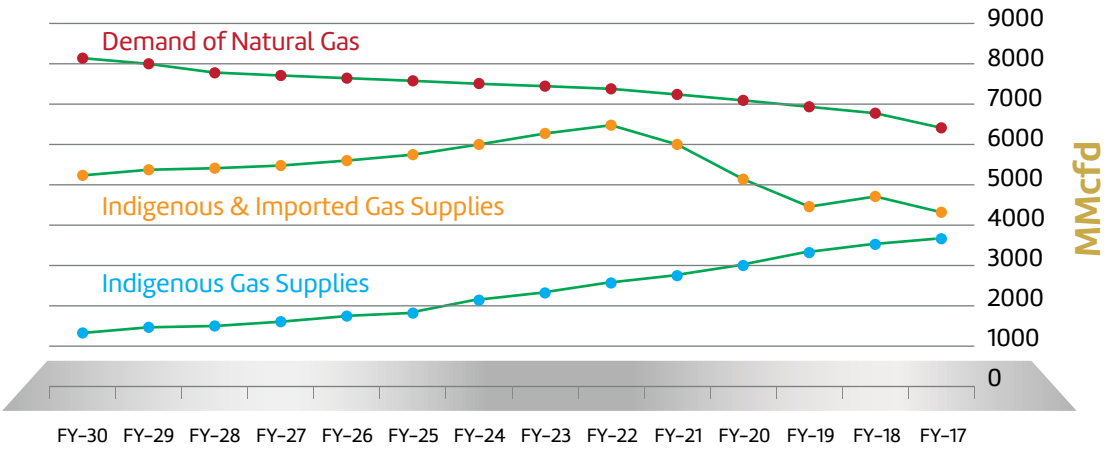
Both the Gas Utility Companies have added 486,418 consumers including domestic, commercial and industrial, in their respective systems, during the fiscal year 2016-17. Consumer addition is increasing the gap between demand and supplies, day by day. Especially in winter, the gas demand further increases and as a result the GoP is being forced to curtail supplies to various sectors. Demand - Supply scenario of natural gas (indigenous sources) from FY 2016-17 to FY 2029-30 is given in **Appendix-I**. The same is shown in graphical form in **Fig. 2.15**

Fig. 2.15: Demand Supply Scenario (Indigenous Supplies only)



The gap between the demand of natural gas and supplies (indigenous, imported natural gas and LNG) is shown in **Appendix-II** and at **Fig. 2.16**.

Fig. 2.16: Demand Supply Scenario (Indigenous & Imported supplies)



2.5.2 Possible Measures to Bridge the Gap

As evident from the aforesaid statistics and data, Pakistan is facing shortage of gas supply which will further increase in the future. The gap between the supply and demand is expected to increase to the tune of 3,999 MMcfd in FY 2019-20 and 6,611 MMcfd by the FY 2029-30 without imported gas. The possible gap can be bridged through enhancement in indigenous gas exploration & production through incentivizing this sector, import of interstate natural gas (through development of cross-country gas pipelines) and import of LNG.

2.6 Consumer Gas Pricing

Based on the revenue requirement of the gas companies, OGRA determines the prescribed price (i.e. price to be retained by the companies) for each category of consumers. The two gas utilities, SNGPL and SSGCL, supply gas to consumers in their operational areas. The Government fixes consumer gas prices and as a matter of policy, maintains them at a uniform level throughout the country. Therefore, the cost of supplying gas to customers at various locations is not accounted for and, regardless of the difference in cost due to location, all consumers within the same category pay a uniform price. Gas tariff for various consumer segments for FY 2016-17 is given in **Appendix – III.** The consumer price of natural gas in Pakistan comprises (a) the Prescribed Price for the gas companies and (b) Gas Development Surcharge (GDS). OGRA fixes the 'prescribed price' for the gas utilities after conducting public hearings where stakeholders express their views. Also, a thorough analysis is carried out in terms of prudence and rationale for revenue and capital expenditures.

The prescribed price includes the following elements:

- Producer gas prices, which are linked with international prices of Crude Oil and HSFO
- Transmission and distribution costs
- Depreciation
- Return to SNGPL and SSGCL at the rates of 17.5% and 17% respectively of the net depreciated value of the assets

OGRA has introduced incentive oriented efficiency benchmarks so as to curtail the gas utilities' uneconomical costs and to benefit the poor natural gas consumers. OGRA advises the revenue requirement of each utility and the prescribed prices to the Federal Government. The Government then determines the consumer prices for various categories of the consumers, after adding or subtracting GDS to the prescribed prices, and advises the same to OGRA for notification in the Official Gazette of Pakistan.


0
20
40
60
80
100
120
140
160
0
1
2
3
4
6
7
8
9
10
PRESSURE
bar
psi

LPG, LNG & CNG

3. Liquefied Petroleum Gas

3.1 Overview

Around 58 percent of the LPG consumed is met with local production in Pakistan, whereas the rest is imported. Refineries, Gas Producing Fields and Imports are three main sources of LPG supply in the Country. LPG is gradually becoming popular domestic fuel among people who live in far-flung areas and where the natural gas infrastructure does not exist. In the current energy scenario, LPG is the most viable alternative in the winters to cater for the demand supply gap of natural gas network. LPG is rapidly becoming significant component of energy mix since the same provides a cleaner alternative in comparison to biomass and dung especially in those locations where natural gas network is not available.

Currently, LPG accounts for about 0.7 percent of the total 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 in relation to competing fuels like natural gas, wood etc.

The current size of LPG market is around 1,209,420 MT/Annum. It is primarily meant to supply for the domestic fuel requirement especially in natural gas starved areas and in peak shaving times in the urban territories. The use of LPG as domestic fuel shall deter deforestation in hilly areas and shall provide a comparatively healthier and hygienically safe alternative to the common citizens. GoP has taken a policy decision to allow use of LPG in the automotive sector to share the burden with conventional auto fuels. Subsequently, OGRA has laid down an elaborated regulatory framework for supply of LPG to the vehicles.


View of LPG Plant

Currently, in Pakistan vast majority of poor people are relying on conventional fuels like coal, firewood, kerosene and biomass etc. with biomass playing main role among all conventional energy supply sources. For convenience, cleanliness, and public health, natural gas and LPG are by far the preferred fuels, followed by kerosene, which is a close substitute of LPG.

LPG consumption has increased during the current year and around 461,426 M.Tons of LPG has been imported during FY 2016-17. Enhanced supply of LPG through additional local production as well as import of LPG is a key to bridge the gap between demand and supply and to stabilize the LPG consumer prices especially during the winter season.

OGRA has simplified LPG licensing procedures, thereby strengthening the supply infrastructure and promoting an environment conducive to investment and competition.

The regulatory issue confronting OGRA is to prevent illegal business of LPG which includes illegal decanting of LPG, cross filing and shifting of LPG from one vessel/bowzer to another without adequate safety measures. OGRA on regular basis directs LPG companies to exercise adequate control to ensure complete and comprehensive safe practices throughout the LPG supply chain i.e. from LPG producers to the LPG marketing companies and authorized distributors to the end consumers. Appropriate stern action against defaulting companies is also initiated by OGRA wherever conformance is not observed.

As of June 30, 2017, there were 13 LPG producers, 129 LPG marketing companies operating in the country, having more than 4,000 authorized distributors. Further, there are 10 operational LPG auto refueling stations within the country and more than 150 LPG auto refueling stations have been granted licenses for construction.

Moreover, from 2008 onwards, OGRA started registration of LPG equipment manufacturing companies for the purpose to eradicate substandard manufacturing, sale and use of LPG equipments. So far, OGRA has pre-qualified 44 LPG equipment manufacturing companies as authorized manufacturer of LPG equipments.

3.2 LPG Consumption

During FY 2016-17, LPG consumption stood at around 3,313.47 tons per day. **Table 3.1** gives a regional/ sectoral consumption summary of LPG for FY 2016-17 in the country. LPG consumption has increased by 8.4 percent compared to last fiscal year.

Table 3.1: LPG Regional/Sectoral Consumption during FY 2016–17

Sr. No	Sectors/Regions	Domestic	Commercial	Industrial	Total
1.	Federal Capital Area	7,696	8,393	3,564	**19,654**
2.	Punjab	248,114	314,509	267,519	**830,142**
3.	Sindh	18,666	43,214	26,607	**88,487**
4.	KP	67,803	14,018	10,831	**92,652**
5.	Balochistan	9,594	8,383	12,684	**30,661**
6.	Northern Area	45,009	12,463	1,712	**59,184**
7.	FATA	21,103	9,263	0	**30,367**
8.	AJK	36,637	20,976	661	**58,275**
	Annual (Tonnes)	**454,623**	**431,220**	**323,577**	**1,209,420**
	Daily (Tonnes)	**1,245.543**	**1,181.425**	**886.5121**	**3,313.479**

Source: LPG Marketing Companies Reports

Fig. 3.1: LPG Regional Consumption Share during FY 2016–17

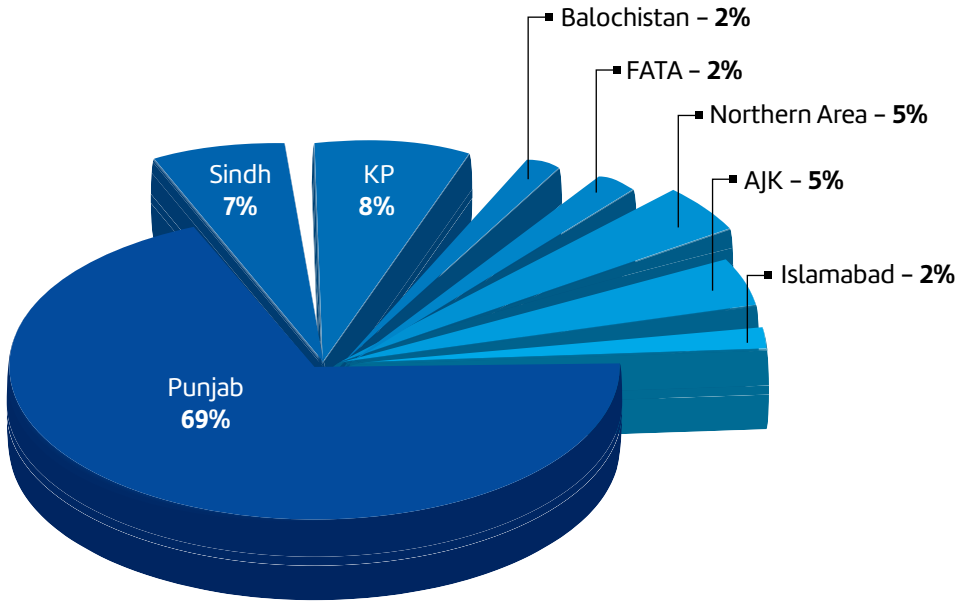
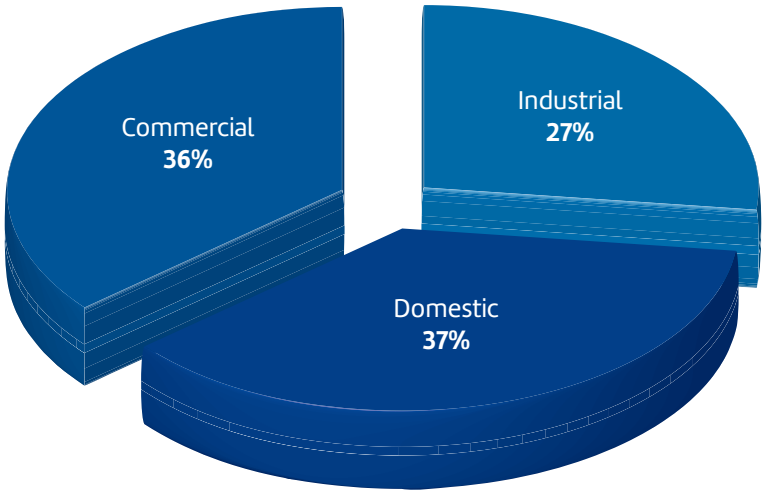


Fig. 3.2: Sector–wise LPG Consumption during FY 2016–17



3.3 LPG Supplies

Currently, LPG supplies are being met through three sources: refineries, gas producing fields and imports. The actual supply from refineries/producing fields is presented in **Table 3.1** and the respective share of each supply source in the total countrywide supply is shown in **Figs. 3.3 & 3.4.**

Table 3.1: LPG Supply during FY 2016–17

Sr. No	Sectors	Annual (Tonnes)	Daily (Tonnes)
	Refineries		
1.	Attock Refinery Limited	1,992	5
2.	Pakistan Refinery Limited	17,407	48
3.	National Refinery Limited	8,164	22
4.	Pak Arab Refinery Company	136,568	374
5.	Byco Petroleum	14,439	40
	Refineries Sub Total	**178,569**	**450**
	Fields		
1.	OGDC (Bobi)	7,584	21
2.	OGDC (Chanda)	2,797	8
3.	OGDC (Dakhni)	3,762	10
4.	OGDC (Kunnar)	7,489	21
5.	OGDC (Sinjhoro)	54,583	150
6.	UEPL (Naimat Basal) formerly BP	10,996	30
7.	OPI (Ratna, Ex-Meyal)	3,634	10
8.	JJVL(On behalf of SSGCL)	103,260	283
9.	POL (Mayal-Pindhori)	13,940	38
10.	PPL (Adhi)	76,933	211
11.	PPL (Gambat)	2,179	6
12.	PPL (Hala)	41	0
13.	MOL Pakistan	178,543	489
	Fields Sub Total	**465,741**	**1,276**
	Total Production (M.T)	**644,311**	**1,765**
	LPG Import (M.T)	**461,426**	**1,264**
	Total Supply (M.T)	**1,105,737**	**3,029**

Source: LPG monthly production reports of producers

Fig. 3.3: Sector–wise Production Share of LPG During FY 2016–17

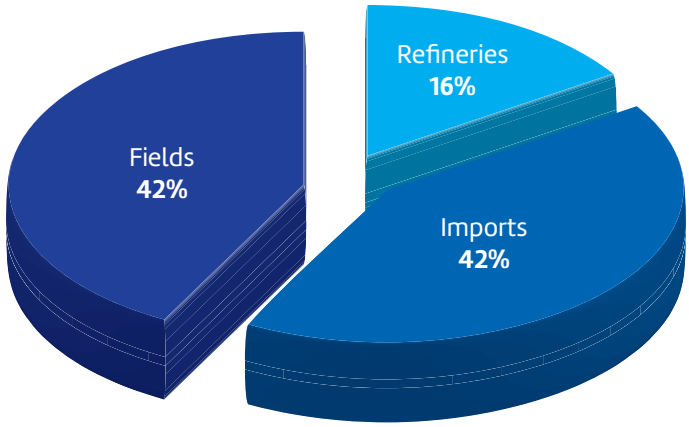
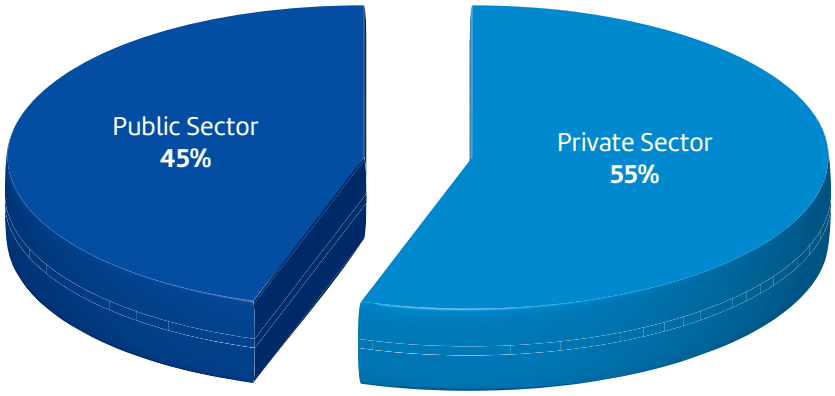


Fig. 3.4: Sector wise LPG Supplies Share during FY 2016–17




LPG Storage Tanks

4. Liquefied Natural Gas

Natural gas is presently contributing nearly 46 percent in Pakistan's primary energy supply mix. In view of the natural gas demand supply gap, GoP introduced LNG Policy for potential investors to facilitate the successful implementation of LNG import projects. As per the said Policy, the project structures can be (i) integrated in which the terminal developer arranges LNG imports as well as arrange its own buyers and (ii) unbundled in which the terminal developer, LNG importer and LNG buyers are different.

In pursuance of LNG policy 2006 and OGRA Ordinance 2002, OGRA notified LNG Rules 2007 to bring the anticipated LNG activity under regulatory regime. LNG Policy encourages prospective project developers to enter into LNG Market after fulfillment of requisite formalities as per LNG Rules.

The status of LNG licenses is as follows:-

(MMcfd)

Sr. No.	Name of LNG Developer	License Issuance Date	Type of License Issued	Envisaged RLNG
i.	PGP Consortium Ltd.	Dec 21, 2016	Modification of License for Construction of LNG Receiving Terminal at Port Qasim, Karachi.	600-750
ii.	Global Energy Infrastructure Pakistan Limited	Sept 23, 2016	Extension in license for construction for LNG Integrated Project at Port Qasim, Karachi	500
iii.	Engro Elengy Terminal Limited	Mar 18, 2016	Operation License of LNG Receiving Terminal at Port Qasim, Karachi	600-690
iv.	Bahria Foundation	Mar 17, 2015	Provisional License. The company has applied for construction license.	-

Engro Elengy Terminal Limited (EETL) established its LNG regasification terminal at Port Qasim Karachi. The LNG is being imported by the GoP through Pakistan State Oil Company Limited and EETL is providing the re-gasification services at a tolling tariff. The Licence for Operation of LNG Terminal was granted on 18th March, 2016.

EETL's terminal is based on floating concept with permanently moored FSRU (Floating Storage and Regasification Unit). LNG transported from export terminal via LNG Carriers. LNG is being transferred from LNGC to FSRU in a double banking arrangement. LNG is being stored and regasified on FSRU which is brought ashore by a pipeline and connected by overland extension (onshore pipeline) into the SSGC grid. The terminal is for tolling services having a contracted capacity of 200 MMcfd of RLNG in year-1 and 400 MMcfd from year-2 till the end of contract term of 15 years whereas EETL's FSRU is capable of pumping 690 MMcfd (peak) of RLNG into the grid with an average output of 600 MMcfd.

Pakistan produces around 4000 MMcfd (4 bcfd) of indigenous natural gas against demand of over 6000 MMcfd (6 bcfd). The addition of new LNG regasification terminals and respective enhancement of pipeline capacities of gas utility companies of the country shall open up new business avenues and help diversifying Pakistan's energy basket.

Pakistan Gas Port Consortium Limited is in process of establishing the second terminal of country and its first at Port Qasim, Karachi. The said terminal will help in mitigating the gas shortfall to considerable extent.

OGRA's role, being the concerned regulator is to grant license for construction and operation of LNG terminal and associated pipeline infrastructure to the companies interested in the instant business. LNG Rules, 2007 define the pre-requisites for obtaining licenses.

LNG Jetty and Working Platform

5. Compressed Natural Gas

In 1992, CNG was introduced in Pakistan as an alternate fuel for automotives to reduce environment degradation and save foreign exchange being spent on import of automotive fuels. OGRA being regulator has played a vital role for promotion of CNG in transport sector and setting standards for safe operation of CNG stations.

The use of CNG as an alternate fuel in transport sector has helped in reducing the air pollution to a considerable extent which also included excessive suspended particulate matter (SPM) emitted from the public transport as well as private vehicles.

Pakistan has been able to achieve a higher position in the International CNG ranking in a relatively short span of time due to fiscal incentives offered by GoP, rising prices of motor gasoline, environmental concerns etc. However, in the year 2006, it was envisaged that indigenous gas supplies would not be able to meet the rising demand of natural gas that resulted into widening of supply-demand gap of the natural gas in forthcoming years. Consequently, gas supply to various Sectors including CNG Sector has been curtailed. As a result, GoP imposed ban on issuance of new CNG Provisional Licenses all across the Country in 2008.

Whereas, during last few years, natural gas supply to CNG Sector has been improved, as the GoP has started import of LNG to reduce Country's demand supply gap of natural gas

5.1 Licenses for CNG Stations

Since February 2008, due to imposition of ban by the Federal Government, no new CNG license has been issued for establishment of CNG stations across the Country. However, four (04) existing licenses of CNG stations were extended for their operation upon fulfillment of requisite formalities, as per law and applicable rules.

5.2 Gas Consumption in CNG Sector

Gas Consumption in CNG Sector during last six fiscal years is tabulated below:-

Sr. No	Years	Gas Consumption (MMcfd)
1.	2011-12	325
2.	2012-13	274
3.	2013-14	240
4.	2014-15	184
5.	2015-16	176
6.	2016-17	184

5.3 Manufacturing of CNG Equipment:

OGRA has always given priority to safety and quality with regard to certification of local or foreign CNG Equipments. Further, in order to promote indigenous production of CNG equipments, the Authority has granted permission for manufacturing/assembling of CNG Compressors, Dispensers and conversion kits for vehicles subject to conformity of the laid down international technical standards. Consequently, locally manufactured CNG equipments are competing with international brands on the basis of their quality & performance.

OIL

6. Oil

6.1 Sectoral Consumption of Petroleum Products

The consumption of petroleum products during financial year 2016-17 observed a growth rate of 9.7 percent to 26.0 million tons from 23.7 million tons as shown in **Table 6.1**.

Table 6.1: Sectoral Consumption of Petroleum Products

(000 Tons)

Sr. No	Sector	MS + HOBC + 100 LL	HSD	Kerosene	Aviation Fuels	Fuel Oil	LDO	Total Energy	Non-Energy	Grand Total
1.	Domestic	-	-	77.2	-	0.0	-	77.2	-	**77.2**
2.	Industry	76.1	595.0	13.9	-	1,302.3	3.1	1,990.4	192.2	**2,182.6**
3.	Agriculture	-		-	-	-	12.7	12.7	-	**12.7**
4.	Transport	6,643.6	7,452.3	0.0	484.4	2.6	-	14,582.9	178.8	**14,761.7**
5.	Power	-	277.6	-	-	8,254.2	0.0	8,531.8	0.8	**8,532.7**
6.	Government	18.7	159.4	29.8	154.3	1.0	3.7	367.0	89.1	**456.1**
	Total FY 17	**6,738.4**	**8,484.3**	**121.0**	**638.7**	**9,560.1**	**19.5**	**25,561.9**	**460.9**	**26,022.8**
	Total FY 16	**5,801.1**	**7,745.9**	**142.1**	**620.2**	**8,953.6**	**24.1**	**23,286.9**	**441.8**	**23,728.7**
	% Growth	**16.2**	**9.5**	**(14.9)**	**3.0**	**6.8**	**(19.1)**	**9.8**	**4.3**	**9.7**

Source: OCAC

Transport and power sectors were the main drivers of the increased consumption, registered a high growth of 12 and 10 percent respectively during FY 2016-17 as compared to FY 2015-16. On the other hand, consumption of POL products in agriculture and government sectors contracted by 13 percent and 8 percent respectively during the same period. Industrial sector remained stagnant during the year without any growth.

The consumption of MS, which was mainly consumed by the transport sector increased by more than 16 percent in FY 2016-17 compared to FY 2015-16. This increase may be attributed to the rising demand of transport sector particularly the growing number of motor cycles and cars and partially to lower prices of MS over the years. Similarly, consumption of HSD grew by around 10 percent compared to the previous year mainly on account of higher utilization by transport sector indicating increased economic activity in the country.

Fig. 6.1 illustrates the sector-wise share in POL consumption of energy products during FY 2016-17. Transport and power sectors consumed almost 90 percent of total POL consumed in the country. The main consumer was transport sector consuming 57 percent of the total consumption and during the year its share has increased by 1 percent over the previous year. The share of power sector remained at 33 percent whereas the share of industry declined by 1 percent to 8 and that of government has declined by 1 percent in FY 2016-17.

Fig. 6.2 shows the trend line of various major POL products such as MS, HSD, FO and Jet Fuels. MS consumption indicates a steep rise over the years mainly due rising demand by the transport sector primarily by the growing number of motor cycles and cars and partially to the lower MS prices. HSD consumption was consistent up till 2013-14 and from 2014-15 onward the consumption of HSD has been rapidly rising. FO shows mixed trend and during current year its consumption jumped by 7 percent compared to last year. Whereas Jet Fuels showed slightly declining trend over the years but during the year it's consumption has increased by around 3 percent as compared to the previous year.

Fig. 6.1: Sectoral Share in POL Consumption of Energy Products

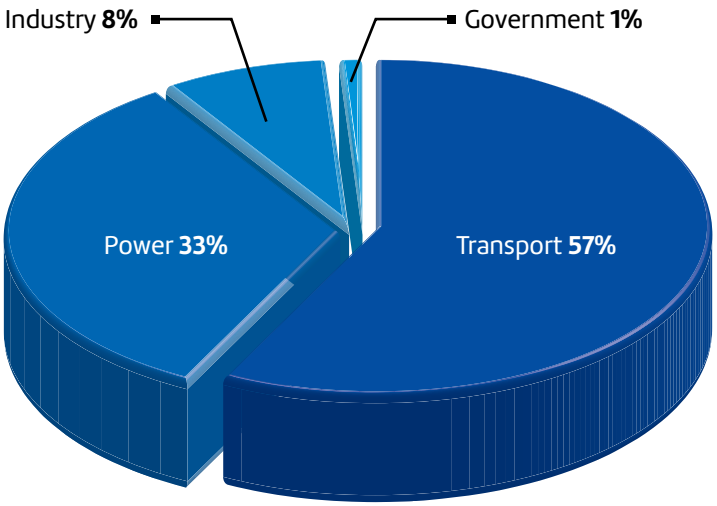
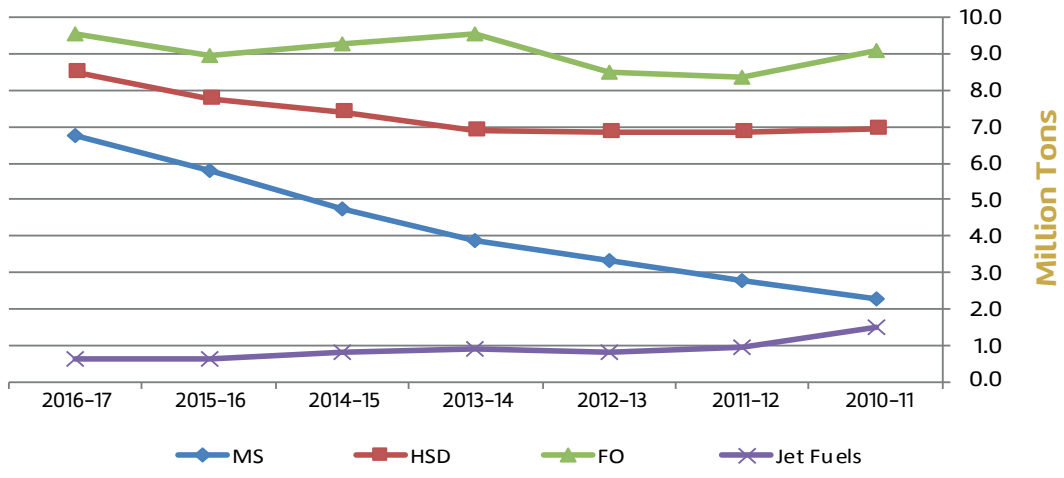


Fig. 6.2: Consumption Trend of Main POL Products



6.2. Market Share

PSO with 55 percent market share, was the main supplier of POL products. It lost 1 percent of its market share during FY 2016-17 compared to 55 percent last year. Shell, TPML and BPPLs' market share was 9, 4 and 3 percent respectively loosing 1 percent share each as compared to the previous year. The main gainer was HPL whose market share has been increased by 2 percent to 8 percent during FY 2016-17. APL and TPPL kept its market share at 8 and 4 percent respectively during current year. Smaller OMCs jointly

secured 8 percent of market share up from 7 percent in previous year. GOPL and BEPL has increased its share by around 1 percent during FY 2016-17 as shown in **Fig. 6.3**.

Fig. 6.3: Market Share in Energy Products during FY 2016-17

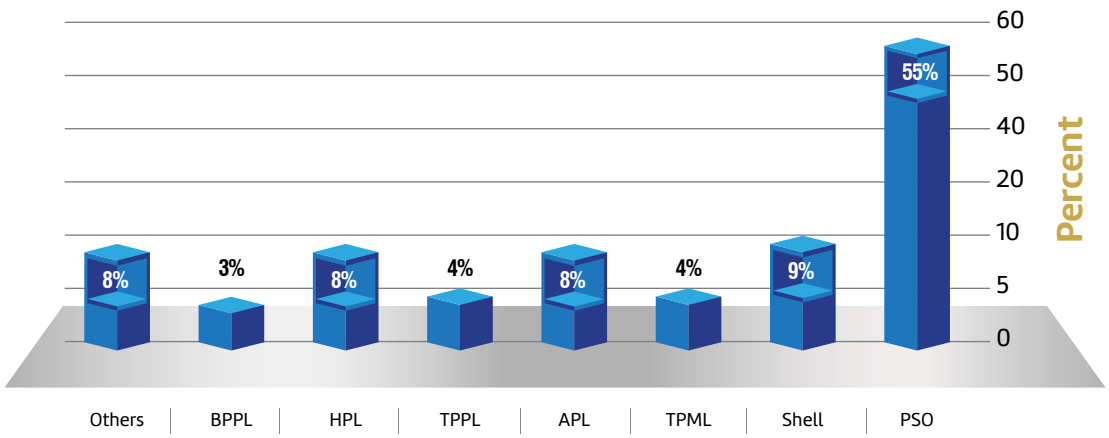


Table 6.2 and **Fig. 6.4** illustrate the detail of product-wise sales by OMCs. PSO remained the lead supplier of all POL products during FY 2016-17. Shell and APL were the other main suppliers.

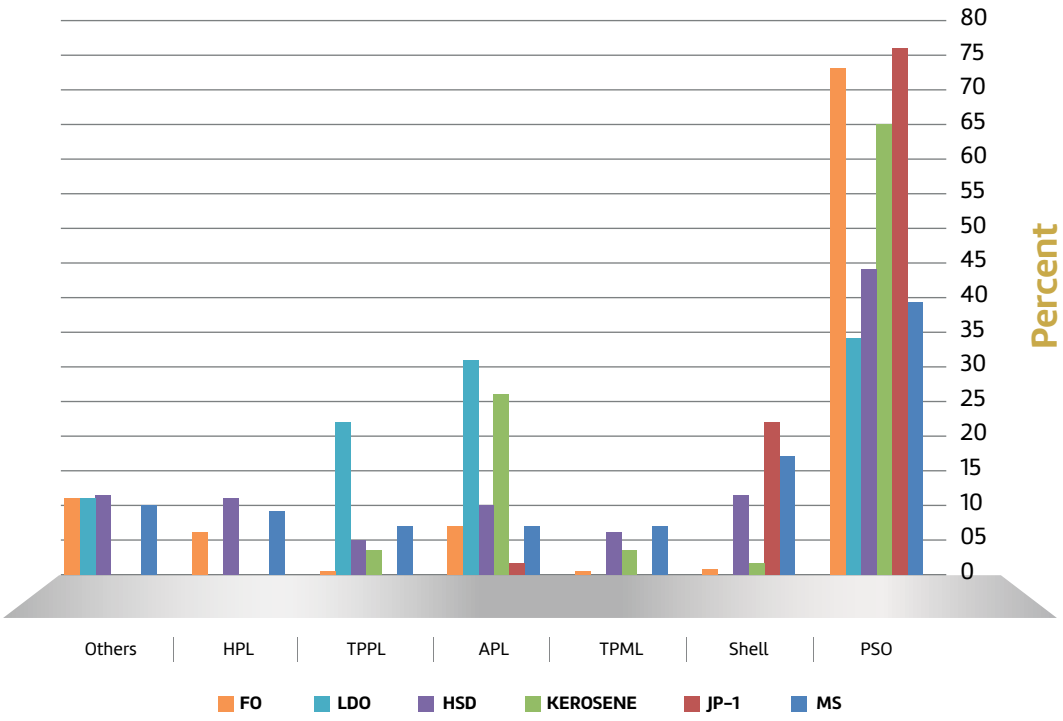
Table 6.2: Product – wise Sale by OMCs during FY 2016-17

(000 Tons)

Sr. No	Products	PSO	Shell	TPML	APL	TPPL	Pearl Parco	Admore	HPL	Askar	BPPL	BEPL	Zoom	GOPL	Outreach
1.	100/LL	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-
2.	HOBC	44.5	24.4	8.5	3.4	8.0	-	-	1.9	-	-	-	-	-	-
3.	MS	2,627.30	1,105.70	522.6	570	505.9	-	124.7	642.9	9.1	149.6	143	8.5	236.9	-
4.	JP-1	384.9	112.7	-	7.0	-	-	-	-	-	-	-	-	-	-
5.	Kerosene	78.3	2.4	4.5	31.2	3.7	0.1	-	0.0	-	0.2	-	-	-	-
6.	HSD	3,763.80	1,020.30	493.0	834.6	432.4	63.4	88.9	898.0	24.5	291.0	201.8	8.4	364.2	-
7.	LDO	6.8	-	0.0	6.0	4.4	0.3	-	-	-	1.9	-	-	-	-
8.	FO	7,001.50	71.7	39.3	656.0	70.3	420.5	0.5	596.9	-	311.3	353.4	-	4.8	34.0
	Total	**13,907.10**	**2,338.00**	**1,067.90**	**2,108.30**	**1,024.70**	**484.3**	**214.1**	**2,139.70**	**33.6**	**754.0**	**698.2**	**17.0**	**605.9**	**34.0**

Source: OCAC

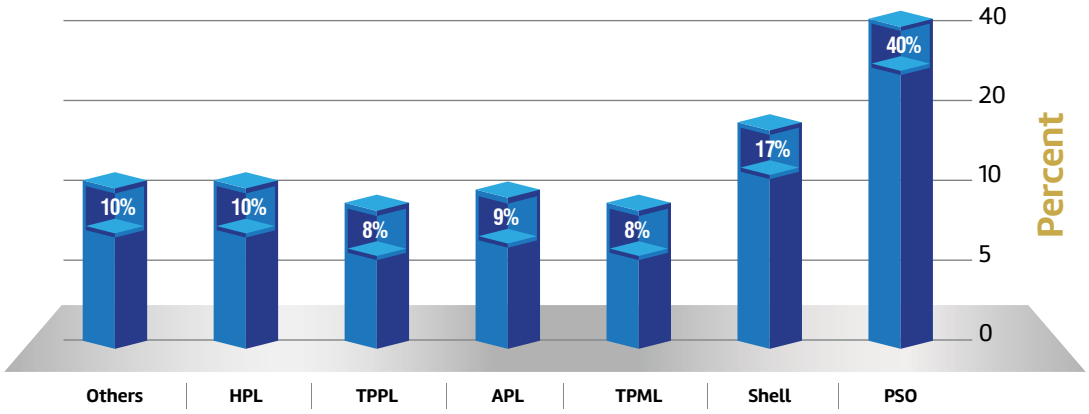
Fig. 6.4: Share of Major OMCs in Product-wise Sales



6.2.1 OMCs' Market Share in Product Sales

Fig. 6.5 shows that PSO share in MS sales by OMCs was down by 2 percent to 40 percent during 2016-17. Shell and TPML both lost 1 percent of its market share down to 17 and 8 percent respectively during the year whereas TPPL has kept share at 8 percent. HPL, APL and other small OMCs increased their market share by 2 percent each during FY 2016-17 to reach 10, 9 and 10 percent respectively. Within the smaller OMCs, GOPL and BEPL expanded its market share by 2 and 1 percent respectively to 4 and 2 percent as compared to the previous year.

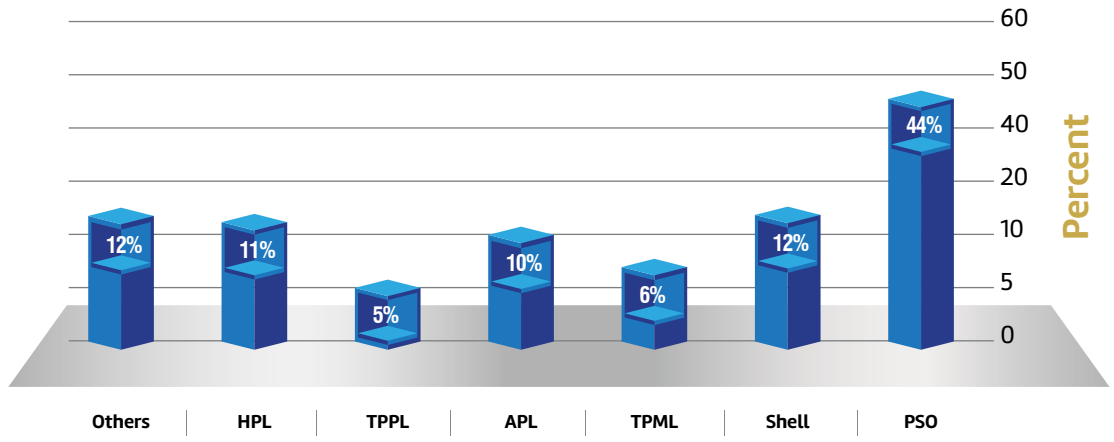
Fig. 6.5: OMCs' Share in MS Sale during FY 2016-17



Source: OCAC

Similarly, **Fig. 6.6** provides details of OMCs share in HSD sales. PSO supplied 44 percent of the total HSD sales during FY 2016-17 down from 48 percent a year ago. Shell, TPML and TPPL secured a market share of 12, 6 and 5 percent respectively loosing 1 percent share each during the year. HPL, APL and other smaller OMCs have expanded its market share by 3, 1 and 3 percent respectivley to 11, 10 and 12 percent during current year. GOPL and BPPL have increased its market share from 2 percent each in FY 2015-16 to 4 and 3 percent respectively during FY 2016-17.

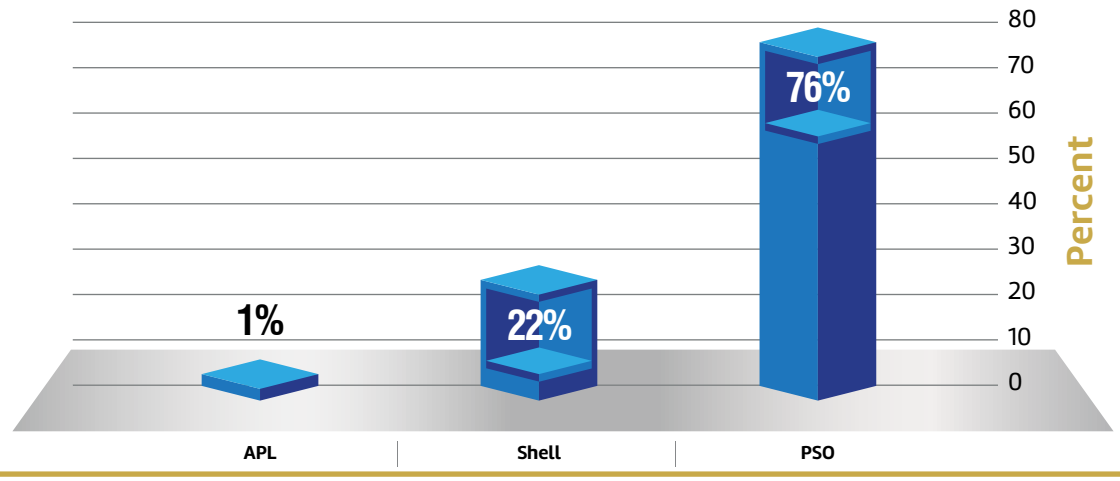
Fig. 6.6: OMCs' Share in HSD Sale during FY 2016-17



Source: OCAC

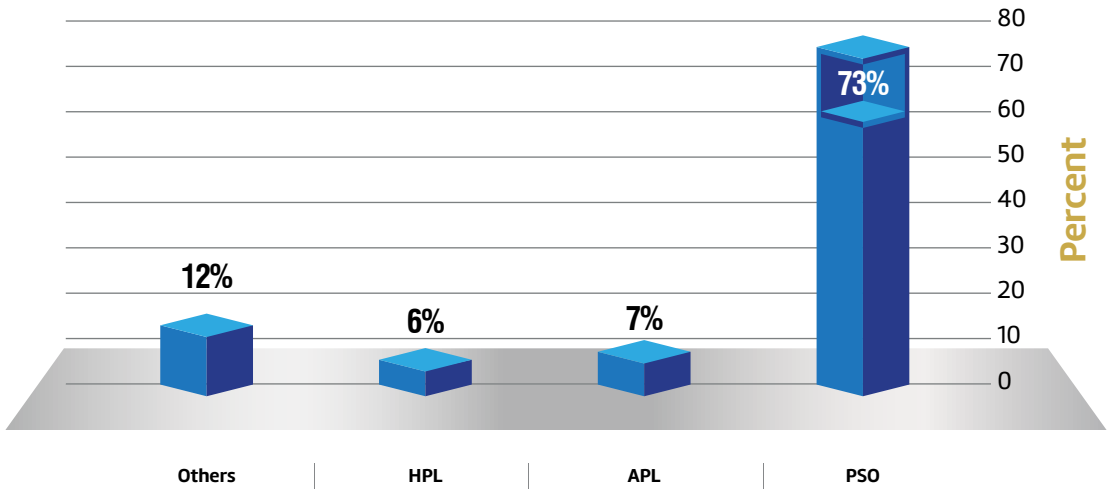
The main supplier of aviation fuel during FY 2016-17 was PSO with market share of 76 percent up from 67 percent in FY 2015-16 whereas Shell's market share of aviation fuel sharply declined from 32 percent to 22 percent during the same period as shown in **Fig. 6.7**.

Fig. 6.7: OMCs' Share in Aviation Fuel Sale during FY 2016-17



Likewise, **Fig: 6.8** illustrates OMCs' share in FO sales. PSO continued to increase its market share of FO sales to 73 percent from 71 percent a year earlier. APL has kept its share constant whereas HPL has slightly improved its share of the market during 2016-17. BPPL has lost 3 percent share bringing down share of other OMCs from 15 to 12 percent during the year under review.

Fig. 6.8: OMCs' Share in Fuel Oil Sale during FY 2016–17



6.3 Refineries' Production

Refineries production (energy and non-energy products) has increased to 11.67 million tons in FY 2016-17 from 11.31 million tons in FY 2015-16 showing a growth of 3.2 percent as shown in **Table 6.3**.

Table 6.3: Refineries Production & Growth during FY 2016–17

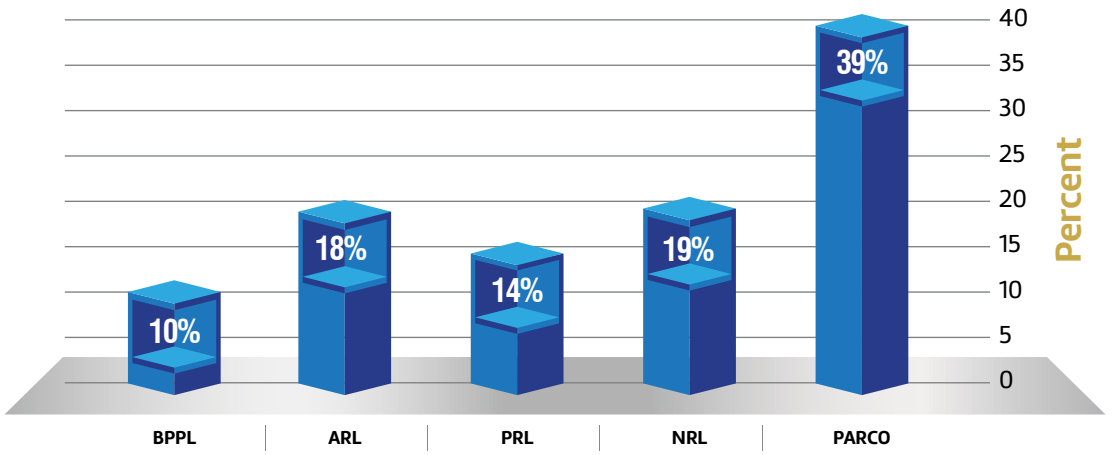
'000'Tons

Sr. No	Refinery	Energy Products	Non-Energy	Total (FY-17)	Total (FY-16)	Growth (%)
1.	PARCO	4,416.7	110.3	4,527.0	**4,391.7**	**3.1**
2.	NRL	1,898.2	372.5	2,270.7	**2,159.7**	**5.1**
3.	PRL	1,580.7	-	1,580.7	**1,635.5**	**(3.4)**
4.	ARL	2,016.7	67.0	2,083.6	**1,607.1**	**29.7**
5.	BPPL	1,207.2	1.5	1,208.7	**1,121.0**	**7.8**
6.	BOPL	-	-	-	**398.1**	**(100.0)**
	Total	**11,119.4**	**551.3**	**11,670.7**	**11,313.1**	**3.2**

Source: OCAC

This increase was mainly attributed to 30 percent more production by ARL during the year as compared to the previous year. ARL during FY 2016-17 increased its production of MS from 0.23 million tons to 0.46 million tons. Its production of HSD and FO also jumped by around 40 percent during FY 2016-17. PARCO, NRL and BPPL have increased their production by 3, 5 and 8 percent during the year compared to last year. PRL's production declined by 3 percent on account of more than 70 percent less production of Kerosene as well as less production of MS, HSD and aviation fuels in FY 2016-17.

Fig. 6.9: Production Share of Refineries during FY 2016-17



Source: OCAC

PARCO being the largest and main refinery produced almost 40 percent of all refineries total production. NRL, PRL and BPPL have kept their share of production constant whereas ARL has increased share by 4 percent to 18 percent from 14 percent a year earlier as shown in **Fig. 6.9**.

Individual refinery's product wise (energy products) production during FY 2016-17 is given in **Table 6.4.** PARCO produced around 40 percent of total production of energy products during FY 2016-17 and was the main producer of all products except Naphtha. PARCO was the only refinery in the country to produce HOBC, and it discontinued its production in December 2016. ARL, NRL, PRL and BPPL produced 18, 17, 14 and 11 percent of the total refineries production of energy products during FY 2016-17.

Table 6.4: Product-wise Production during FY 2016-17

(000 Tons)

Sr. No	Product	PARCO	NRL	PRL	ARL	BPPL	Total
1.	LPG	135	9	17	2	14	**178**
2.	Naphtha	-	230	80	229	100	**640**
3.	Avi. Fuels	431	135	118	163	3	**851**
4.	MS+HOBC	876	166	237	464	110	**1,853**

5.	Kero	53	8	5	49	3	**116**
6.	HSD	1,890	883	620	641	492	**4,525**
7.	LDO	11	0	-	8	6	**25**
8.	FO	1,021	467	504	460	478	**2,931**
	Total	**4,417**	**1,898**	**1,581**	**2,017**	**1,207**	**11,119**

Source: OCAC

6.3.1 Crude Oil Processed by Refineries

Refineries crude (local and imported) processing has increased by 3.4 percent to 12.20 million tons in FY 2016-17 from 11.80 million tons in FY 2015-16. The processing of local crude has been increased by 10 percent during FY 2016-17 whereas that of imported crude by 1 percent as compared to FY 2015-16. PARCO processed around 39 percent of the total crude followed by NRL with 20 percent, ARL 18 percent, PRL 13 percent and BPPL with 10 percent share as given in **Table 6.5**. The ratio of local and imported crude was constant at 28:72 during the year as compared to FY 2015-16. ARL processed only local crude.

Table 6.5: Crude Processed by Refineries during FY 2016-17

Tons

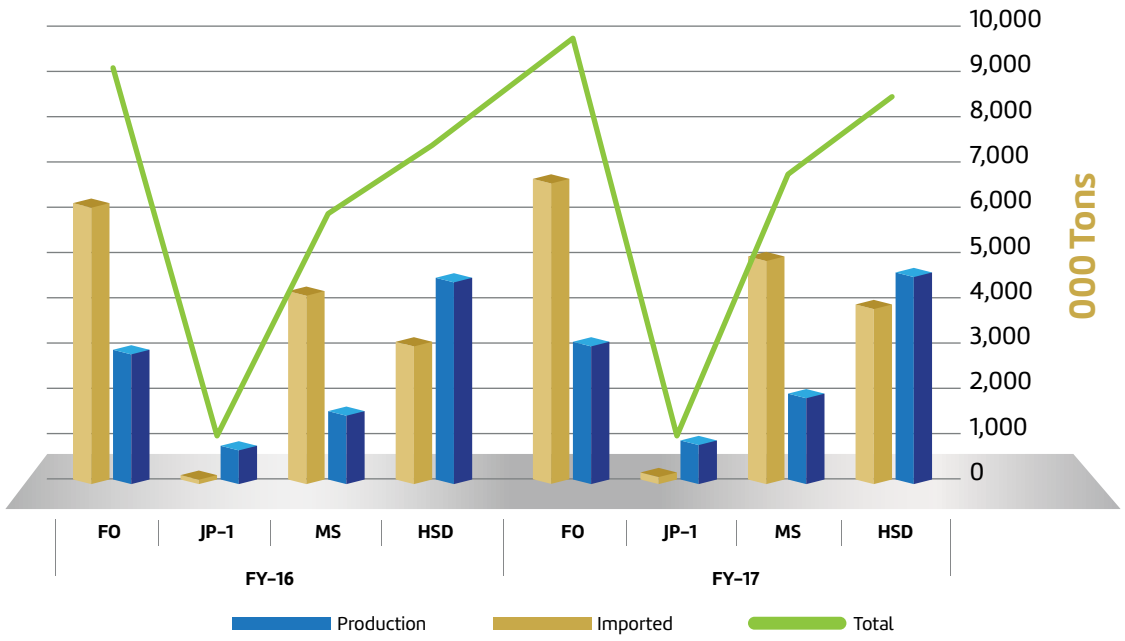
Sr. No	Refinery	Local	Imported	Total	% Share
1.	PARCO	726,249	3,977,733	**4,703,982**	**38.6**
2.	NRL	366,862	2,023,156	**2,390,018**	**19.6**
3.	PRL	287,408	1,356,534	**1,643,942**	**13.5**
4.	ARL	2,217,266	-	**2,217,266**	**18.2**
5.	BPPL	33,161	1,212,860	**1,246,021**	**10.2**
	Total	**3,630,946**	**8,570,283**	**12,201,229**	**100.0**

Source: OCAC/Refineries

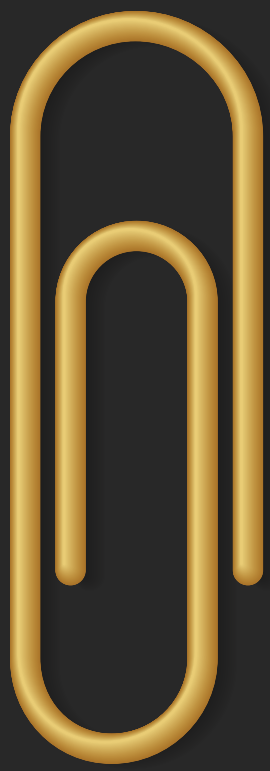
6.3.2 Imports and Local Production of Deficit Petroleum Products

Imports of MS, HSD and FO increased by 18, 26 and 8 percent respectively in FY 2016-17. 73 percent of MS, 69 percent of FO, 46 percent of HSD and 14 percent of Jet fuels demand were met through imports of finished POL products. The imports of MS, HSD and FO increased in FY 2016-17 as compared to FY 2015-16. With increasing demand particularly from transport sector, the share of imports is on rise to fill gap between demand and supply as evident from **Fig. 6.10**.

Fig 6.10: Domestic Production and Imports



Source: OCAC



APPENDICES

Appendix – I

Demand – Supply Scenario with Indigenous Natural Gas

MMcfd

Projected Demand (SNGPL)															
SNGPL	**FY-16**	**FY-17**	**FY-18**	**FY-19**	**FY-20**	**FY-21**	**FY-22**	**FY-23**	**FY-24**	**FY-25**	**FY-26**	**FY-27**	**FY-28**	**FY-29**	**FY-30**
Residential	610	764	803	842	881	920	959	998	1,037	1,076	1,115	1,154	1,193	1,232	1,271
Commercial	68	82	82	82	82	82	82	82	83	83	83	83	84	84	84
General Industries	400	455	455	455	455	455	455	455	455	455	455	455	455	455	455
Fertilizer	250	252	252	252	252	239	239	239	239	239	239	239	239	239	239
Cement	200	202	202	202	202	202	202	202	202	202	202	202	202	202	202
Captive Power	180	223	223	223	223	223	223	223	223	223	223	223	223	223	223
Power	650	767	1,136	1,136	1,136	1,136	1,136	1,136	1,136	1,136	1,136	1,136	1,136	1,136	1,136
Transport	300	382	382	382	382	382	382	382	382	382	382	382	382	382	382
Internal Consumption	12	10	9	8	7	7	6	5	5	5	4	3	2	1	0
Total	**2,670**	**3,137**	**3,544**	**3,582**	**3,620**	**3,646**	**3,684**	**3,722**	**3,762**	**3,801**	**3,839**	**3,877**	**3,916**	**3,954**	**3,992**

MMcfd

Projected Demand (SSGCL)															
SSGCL	**FY-16**	**FY-17**	**FY-18**	**FY-19**	**FY-20**	**FY-21**	**FY-22**	**FY-23**	**FY-24**	**FY-25**	**FY-26**	**FY-27**	**FY-28**	**FY-29**	**FY-30**
Power	600	637	637	637	637	637	637	637	637	637	637	637	637	637	637
Residential	230	250	265	280	296	313	331	351	371	392	415	439	465	492	520
Commercial	28	30	31	33	35	37	39	42	44	47	49	52	55	58	62
Transport	80	88	97	106	119	132	145	158	171	186	201	216	231	246	261
General Industry	211	166	179	193	208	224	242	261	281	303	326	351	376	401	426
Captive Power	207	120	135	150	165	180	195	210	225	240	255	270	285	300	315
Cement	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fertilizer	60	85	85	85	85	85	85	85	85	85	85	85	85	85	85
JJVL/LHF shrinkage	13	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Company Use (5 MMcfd)/ UFG 7.45% of Indigenious Gas Supplies	79	138	130	124	113	101	88	75	63	55	47	40	34	30	26
Winter Load	-	50	50	50	50	50	50	51	52	53	54	55	56	57	58
Total Constrained Demand	**1,509**	**1,580**	**1,625**	**1,674**	**1,724**	**1,775**	**1,829**	**1,885**	**1,945**	**2,014**	**2,085**	**2,161**	**2,240**	**2,322**	**2,406**

MMcfd

Projected Demand Independent System															
Independent System	**FY-16**	**FY-17**	**FY-18**	**FY-19**	**FY-20**	**FY-21**	**FY-22**	**FY-23**	**FY-24**	**FY-25**	**FY-26**	**FY-27**	**FY-28**	**FY-29**	**FY-30**
Uch Power Plant	197	197	188	188	188	188	188	188	188	188	188	188	188	188	188
Fauji Kabirwala PCL	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
CPGCL	328	363	363	363	363	363	363	363	363	363	363	363	363	363	363
Foundation Power Co. Ltd	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Star Power Generation Ltd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fauji Fertilizer	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229
Fauji Fertilizer (Captive Power)	46	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Fatima Fertilizer	71	73	74	74	74	84	84	84	84	84	84	84	84	84	84
Fatima Fertilizer (Captive Power)	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Engro Fertilizer	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185
Power	695	732	723	723	723	723	723	723	723	723	723	723	723	723	723
Fertilizer	485	487	488	488	488	498	498	498	498	498	498	498	498	498	498
Total	**1,180**	**1,219**	**1,211**	**1,211**	**1,211**	**1,221**	**1,221**	**1,221**	**1,221**	**1,221**	**1,221**	**1,221**	**1,221**	**1,221**	**1,221**

UFG, Losses, Winter load for SNGPL etc taken @ 500 MMcfd	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
Total Country Demand	**5,859**	**6,436**	**6,880**	**6,967**	**7,055**	**7,142**	**7,234**	**7,328**	**7,428**	**7,536**	**7,645**	**7,759**	**7,877**	**7,997**	**8,119**

Source: SNGPL, SSGCL, Independent systems (Central Power Generation Company Limited, Fauji Fertilizer company Limited, Uch Power, Fauji Kabirwala Power Company Limited, Fatima Fertilizer Company Limited, Foundation Power Company Limited)

MMcfd

Sector-wise Total Demand of the Country															
Sector	**FY-16**	**FY-17**	**FY-18**	**FY-19**	**FY-20**	**FY-21**	**FY-22**	**FY-23**	**FY-24**	**FY-25**	**FY-26**	**FY-27**	**FY-28**	**FY-29**	**FY-30**
Residential	840	1,014	1,068	1,122	1,177	1,233	1,290	1,349	1,408	1,468	1,530	1,593	1,658	1,724	1,791
Commercial	96	112	113	115	117	119	121	124	127	130	132	135	139	142	146
General Industries	611	621	634	648	663	679	697	716	736	758	781	806	831	856	881
Fertilizer	795	824	825	825	825	822	822	822	822	822	822	822	822	822	822
Cement	201	203	203	203	203	203	203	203	203	203	203	203	203	203	203
Captive Power	387	343	358	373	388	403	418	433	448	463	478	493	508	523	538
Power	1,945	2,136	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496
Transport	380	470	479	488	501	514	527	540	553	568	583	598	613	628	643
UFG, Gas Supply for LNG Plant, internal combustion, shrinkage etc	604	713	704	697	685	673	659	646	635	628	620	613	607	603	599
Total Demand	**5,859**	**6,436**	**6,880**	**6,967**	**7,055**	**7,142**	**7,234**	**7,328**	**7,428**	**7,536**	**7,645**	**7,759**	**7,877**	**7,997**	**8,119**

Committed and Anticipated Supplies (SNGPL)															
SNGPL	1,463	1,372	1,256	1,055	902	799	701	613	510	392	305	239	214	178	68

Committed and Anticipated Supplies (SSGCL)															
SSGCL	1,278	1,324	1,227	1,191	1,064	926	808	702	600	482	450	420	400	380	350

Committed and Anticipated Supplies (Independent System)															
Independent System	FY-16	FY-17	FY-18	FY-19	FY-20	FY-21	FY-22	FY-23	FY-24	FY-25	FY-26	FY-27	FY-28	FY-29	FY-30
	990	990	990	990	990	990	990	990	990	990	990	990	990	990	990

MMcfd

Total Committed and Anticipated Supplies															
	FY-16	**FY-17**	**FY-18**	**FY-19**	**FY-20**	**FY-21**	**FY-22**	**FY-23**	**FY-24**	**FY-25**	**FY-26**	**FY-27**	**FY-28**	**FY-29**	**FY-30**
Total Country Supply	**3,731**	**3,686**	**3,473**	**3,236**	**2,956**	**2,715**	**2,499**	**2,305**	**2,100**	**1,864**	**1745**	**1649**	**1604**	**1548**	**1408**
Committed & Anticipated Supply	**3,731**	**3,686**	**3,473**	**3,236**	**2,956**	**2,715**	**2,499**	**2,305**	**2,100**	**1,864**	**1745**	**1649**	**1604**	**1548**	**1408**
Total Demand	**5,859**	**6,436**	**6,880**	**6,967**	**7,055**	**7,142**	**7,234**	**7,328**	**7,428**	**7,536**	**7,645**	**7,759**	**7,877**	**7,997**	**8,119**
Gap	**2,128**	**2,750**	**3,407**	**3,731**	**4,099**	**4,427**	**4,735**	**5,023**	**5,328**	**5,672**	**5,900**	**6,110**	**6,273**	**6,449**	**6,711**

Appendix – II

Demand Supply Scenario with Indigenous and Imported Natural Gas

MMcfd

	FY-16	FY-17	FY-18	FY-19	FY-20	FY-21	FY-22	FY-23	FY-24	FY-25	FY-26	FY-27	FY-28	FY-29	FY-30
Committed & Anticipated Supply (Indigenous)	3,731	3,686	3,473	3,236	2,956	2,715	2,499	2,305	2,100	1,864	1,745	1,649	1,604	1,548	1,408
LNG Supply	600	600	1,200	1,200	1,200	1,200	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Iran – Pakistan Pipeline	0	0	0	0	450	750	750	750	750	750	750	750	750	750	750
TAPI	0	0	0	0	500	1,325	1,325	1,325	1,325	1,325	1,325	1,325	1,325	1,325	1,325
Total Supply (Indigenous & Imported)	**4,331**	**4,286**	**4,673**	**4,436**	**5,106**	**5,990**	**6,374**	**6,180**	**5,975**	**5,739**	**5,620**	**5,524**	**5,479**	**5,423**	**5,283**
Total Demand	**5,859**	**6,436**	**6,880**	**6,967**	**7,055**	**7,142**	**7,234**	**7,328**	**7,428**	**7,536**	**7,645**	**7,759**	**7,877**	**7,997**	**8,119**
Gap without IP, TAPI, LNG	**2,128**	**2,750**	**3,407**	**3,731**	**4,099**	**4,427**	**4,735**	**5,023**	**5,328**	**5,672**	**5,900**	**6,110**	**6,273**	**6,449**	**6,711**
Gap with IP, TAPI, LNG	**1,528**	**2,150**	**2,207**	**2,531**	**1,949**	**1,152**	**860**	**1,148**	**1,453**	**1,797**	**2,025**	**2,235**	**2,398**	**2,574**	**2,836**

SOURCE: Data taken from Gas Companies (SSGCL/SNGPL) and Independent System Companies (Central Power Generation Company Limited, FFCL Plants, Uch Power, Fauji Kabirwala Power Company, Fatima Fertilizer Company Limited, Foundation Power Company)

ASSUMPTION:
Total supplies for Independent System are taken as of FY 2016-17.
UFG, Losses, Winter load for SNGPL etc. taken @ 500 MMCFD.
The above figures are estimated projections.

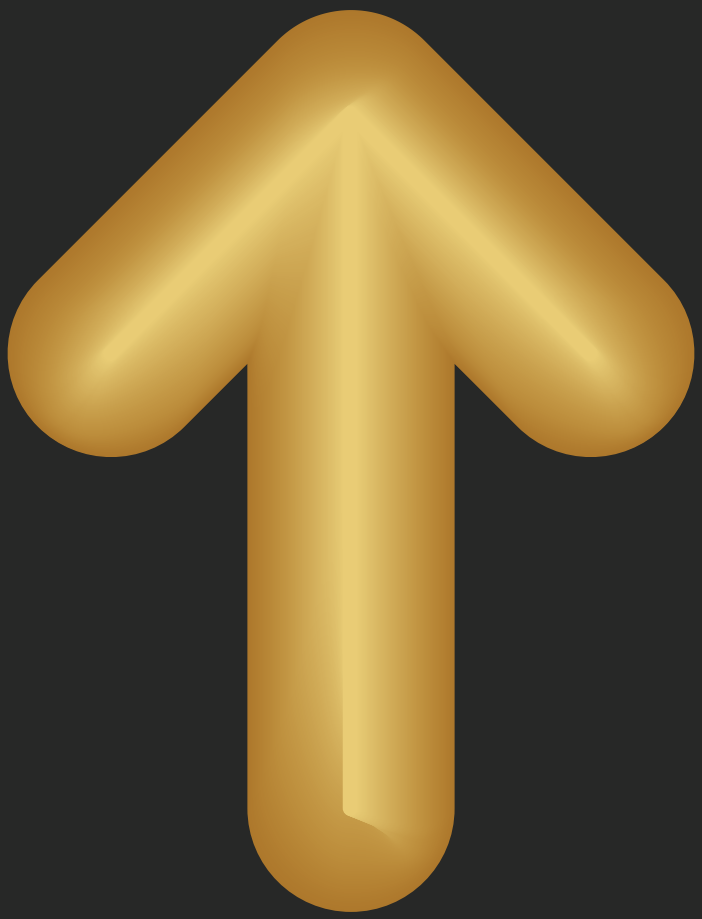
Appendix – III

Consumer Gas Tariff Schedule in FY 2016–17

Category			Sale Prices	
			w.e.f 01.07.2016	w.e.f 15.12.2016
			Rs./MMBTU	
(i)	A. Domestic Consumers			
	a)	Standalone Meters		
	b)	Mosques, churches, temples, madrassas, other Religious Places and Hostels attached thereto;		
	(i)	Upto 100 M^3 per month	110.00	110.00
		All off-takes at flat rate of		
	(ii)	Upto 300 M^3 per month	220.00	220.00
		All off-takes at flat rate of		
	(iii)	Over 300 M^3 per month	600.00	600.00
		All off-takes at flat rate of		
		Minimum Monthly Charges (Rs.)	148.50	148.50
	c)	**Bulk Consumers:** Government and Semi-Government Offices, Hospitals, Clinics, Maternity Homes, Government Guest Houses, Armed Forces Messes, Langars, Universities, Colleges, Schools and Private Educational Institutions, Orphanages and other Charitable Institutions along-with Hostels and Residential Colonies to whom gas is supplied through bulk meters including Captive Power.		
		All off-takes at flat rate of	600.00	600.00
		Minimum Monthly Charges (Rs.)	3,600.07	3,600.07
(ii)	B. Commercial Consumers			
		All establishments registered as commercial units with local authorities or dealing in consumer items for direct commercial sale like cafés, bakeries, milk shops, tea stalls, canteens, barber shops, laundries, hotels, malls, places of entertainment like cinemas, clubs, theatres and private offices, corporate firms etc.		
		All off-takes at flat rate of	700.00	700.00
		Minimum Monthly Charges (Rs.)	4,200.07	4,200.07

(iii)	C. Special Commercial (Roti Tandoors)			
	(i)	Up-to 100 M3 per month	110.00	110.00
		All off-takes at flat rate of		
	(ii)	Up-to 300 M3 per month	220.00	220.00
		All off-takes at flat rate of		
	(iii)	Over 300 M3 per month	700.00	700.00
		All off-takes at flat rate of		
		Minimum Monthly Charges (Rs.)	148.50	148.50
(iv)		D. Ice Factories		
		Sale Price	700.00	700.00
		Minimum Monthly Charges (Rs.)	4,200.07	4,200.07
(v)		E. Industrial Consumers		
		Sale Price	600.00	600.00
		Minimum Monthly Charges (Rs.)	20,232.00	20,232.00
(vi)		F. Captive Power		
		Sale Price	600.00	600.00
		Minimum Monthly Charges (Rs.)	20,232.00	20,232.00
(vii)		G. CNG Stations		
		Sale Price	700.00	700.00
		Minimum Monthly Charges (Rs.)	23,604.00	23,604.00
(viii)		H. Cement Factories		
		Sale Price	750.00	750.00
		Minimum Monthly Charges (Rs.)	25,290.00	25,290.00
(ix)		I. Fertilizer Factories		
(1)		Pak American Fertilizer Limited, Daudkhel.		
	(a)	Feed Stock	123.41	123.00
	(b)	Fuel	600.00	600.00
(2)		**Pak Arab Fertilizer Limited, Multan.**		
	(a)	Feed Stock	123.41	123.00
	(b)	Fuel	600.00	600.00

(3)		**Dawood Hercules Chemicals Limited, Chichoki Malian, Sheikhupura District:**		
	(a)	Feed Stock	123.41	123.00
	(b)	Fuel	600.00	600.00
(4)		**Pak-China Fertilizer Limited/Hazara Phosphate Plant Limited, Haripur.**		
	(a)	Feed Stock	123.41	123.00
	(b)	Fuel	600.00	600.00
(5)		**ENGRO Fertilizer Company Limited**		
	(a)	Feed Stock	72.73	$0.70
	(b)	Fuel	600.00	600.00
(6)		**Fauji Fertilizer Bin Qasim Ltd.**		
	i)	Feed Stock Upto 60 MMcfd	123.41	123.00
	ii)	Additional allocation (10 MMcfd) Provisional	70.61	-
	iii)	Fuel	600.00	600.00
(7)		**Hazara Phosphate Fertilizer Plant Ltd., Haripur**		
	i)	Feed Stock	123.4	123.00
	ii)	Fuel	600.00	600.00
(x)		**J. Power Stations**		
(a)		WAPDA/KESC		
		Sale Price	613.00	400.00
		Minimum Monthly Charges (Rs.)	20,670.36	13,488.00
(b)		**WAPDA's Natural Gas Turbine Power Station, Nishatabad, Faisalabad.**		
		Sale Price (All off-takes at flat rate)	613.00	400.00
		Fixed Monthly Charges (Rs.)	975,000	975,000
(c)		**Liberty Power Limited, Dharki.**		
		Sale Price	713.89	443.58
		Minimum Monthly Charges (Rs.)	24,071.94	14,957.52
(xi)		**K. Independent Power Producers**		
		Sale Price (All off-takes at flat rate)	613.00	400.00
		Minimum Monthly Charges (Rs.)	20,670.36	13,488.00



ABBREVIATIONS & ACRONYMS

Abbreviations & Acronyms

AJK	Azad Jammu and Kashmir
APL	Attock Petroleum Limited
ARL	Attock Refinery Limited
BBcfd	Billion Cubic Feet Per Day
BBTU	British Thermal Unit
BEPL	Bakri Energy Private Limited
BESOS	Benazir Employees Stock Option Scheme
Bhp	Brake horsepower
BOC	Burmah Oil Company
BOPL	Byco Oil Petroleum Limited
BPD	Barrel Per Day
BPPL	Byco Petroleum Pakistan Limited
BTU/Scf	British Thermal Unit/Standard Cubic Feet
CAN	Calcium Ammonia Nitrate
CMS	Consumer Meter Station
CNG	Compressed Natural Gas
CPGCL	Central Power Generation Company Limited
CSR	Corporate Social Responsiblity
D&P	Development and Production
DFIs	Development Finance Institutions
E&P	Exploration and Production
ECPL	Engro Chemicals Pakistan Limited
EETL	Engro Elengy Terminal Limited
EFL	Engro Fertilizer Limited
EPC	Engineering, Procurement and Construction
ETPL	Engro Terminal Pakistan Limited
EWT	Extended Well Test
FATA	Federally Administered Tribal Areas
FFBL	Fauji Fertilizer Bin Qasim Limited
FFCL	Fauji Fertilizer Company Limited
FFCL	Fatima Fertilizer Company Limited
FKPCL	Fauji Kabirwala Power Company Limited
FO	Fuel Oil/Furnace Oil
FOTCO	Fauji Oil Terminal & Distribution Company
FPCDL	Foundation Power Company Dharki Limited
FSRU	Floating Storage & Regasification Unit
FY	Fiscal Year/Financial Year
GDCL	Gaseous Disribution Company Private Limited
GDS	Gas Development Surcharge
GoP	Government of Pakistan
GOPL	Gas & Oil Pakistan Limited
GTG	Gas Turbine and Generator
HOBC	High Octane Blending Component
HPL	Hascol Private Limited
HRSG	Heat Recovery Steam Generator
HSD	High Speed Diesel
ILBP	Indus Left Bank Pipeline
IP	Iran Pakistan Gas Pipeline
IRBP	Indus Right Bank Pipeline
ISO	International Organization for Standardization
JJVL	Jamshoro Joint Venture Limited

JP	Jet Propellant
KERO	Kerosene Oil
KESC	Karachi Electric Supply Company
Km	Kilometer
KP	Khyber Pakhtunkhwa
LDO	Light Diesel Oil
LNG	Liquefied Natural Gas
LNGC	Liqufied Natural Gas Carrier
LPG	Liquefied Petroleum Gas
MMcfd	Million Cubic Feet per Day
MPCL	Mari Petroleum Company Limited
MS	Motor Spirit
MT/M.Ton	Metric Ton
MW	Megawatt
NBFIs	Non-Bank Financial Institutions
NP	Nitrogen Phosphate
NRL	National Refinery Limited
OCAC	Oil Companies Advisory Council
OGDCL	Oil and Gas Development Company Limited
OGRA	Oil and Gas Regulatory Authority
OHSAS	Occupational Health Safety Assessment Series
OMC	Oil Marketing Company
PARCO	Pak-Arab Refinery Company Limited
PGCPL	Pakistan Gas Port Consortium Limited
PMP	Pakistan Maroc Phasphore
POL	Pakistan Oilfields Limited/Petroleum Oil Lubricant
PPL	Pakistan Petroleum Limited
PRL	Pakistan Refinery Limited
PSO	Pakistan State Oil
RLNG	Re-gasified Liquid Natural Gas
Rs.	Rupees
SNGPL	Sui Northern Gas Pipelines Limited
SPM	Suspended Particulate Matter
SSGCL	Sui Southern Gas Company Limited
STG	Steam Turbine and Generator
T&D	Transmission and Distribution
TAPI	Turkmanistan - Afghanistan - Pakistan - India Gas Pipeline
TPML	Total-PARCO Marketing Limited
TPPL	Total-PARCO Pakistan Limited
UEPL	United Energy Pakistan Limited
UFG	Unaccounted For Gas
UGDCL	Universal Gaseous Distribution Company Limited
WAPDA	Water and Power Development Authority

OGRA Regional Offices

Regional Office Lahore

27-Civic Centre, Barkat Market, New Garden Town, Lahore.
Ph# 042-99230977, Fax# 042-99230976

Regional Office Karachi

House No. 2, Dattari Villas, Bath Island, Karachi.
Ph# 021-99332364, Fax# 042-99230976

Regional Office Quetta

1st Floor, Fida Building Plot No. 10
Panj Footi Main Samungli Road, Front, N.I.M, Quetta
Ph# 081-9204429, Fax# 081-9204480

Regional Office Peshawar

2nd Floor, Sarhad Chamber of Commerce & Industry Building,
Hashtnagri, GT Road, Peshawar
Ph# 091-9225327, Fax# 091-9212573


O G
R A
GUARDING PUBLIC INTEREST

Oil & Gas
Regulatory
Authority

54-B, Fazal-e-Haq Road,
Blue Area, Islamabad.
PABX: +92 51 9244090-98,
Fax: +92 51 9244310

www.ogra.org.pk