Oil & Gas Regulatory Authority

(OGRA)

State of the Regulated Petroleum Industry 2015-16


بسم الله الرحمن الرحيم

MISSION STATEMENT

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

State of the
Regulated Petroleum
Industry **2015-16**

CONTENTS

Abbreviation & Acronyms

AJK	Azad Jammu and Kashmir
AOSPL	Askar Oil Services Pakistan Limited
APL	Attock Petroleum Limited
ARL	Attock Refinery Limited
BBcfd	Billion Cubic Feet Per Day
BESOS	Benazir Employees Stock Option Scheme
Bhp	Brake horsepower
BOC	Burmah Oil Company
BOPL	Byco Oil Petroleum Limited
BPPL	Byco Petroleum Pakistan Limited
BTCPL	Bakri Trading Company Pakistan limited
BTU/Scf	British Thermal Unit/Standard Cubic Feet
CAN	Calcium Ammonia Nitrate
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	Federal Administered Tribal Areas
FFBL	Fauji Fertilizer Bin Qasim Limited
FFCL	Fauji Fertilizer Company Limited
FFCL	Fatima Fertilizer Company Limited
FJFC	Fauji Jordan Fertilizer Company
FKPCL	Fauji Kabirwala Power Company Limited
FO	Fuel Oil/ Furnace Oil
FOTCO	Fauji Oil Terminal & Distribution Company
FPCDL	Foundation Power Company Dharki Limited

FY	Fiscal Year/Financial Year
GDS	Gas Development Surcharge
GEIP	Global Energy Infrastructure Pakistan
GoP	Government of Pakistan
GTG	Gas Turbine and Generator
HOBC	High Octane Blending Component
HPL	Hascol Private Limited
HRSG	Heat Recovery Steam Generator
HSD	High Speed Diesel
HSFO	High Sulphur Fuel Oil
ICP	Investment Corporation of Pakistan
ILBP	Indus Left Bank Pipeline
IRBP	Indus Right Bank Pipeline
ISO	International Organization for Standardization
JJVL	Jamshoro Joint Venture Limited
JP	Jet Propellant
KERO	Kerosene Oil
Km	Kilometer
KP	Khyber Pakhtunkhwa
KPT	Karachi Port Trust
LDO	Light Diesel Oil
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
LSFO	Light Sulphur Fuel Oil
MGCL	Mari Gas Company Limited
MMcfd	Million Cubic Feet per Day
MMscfd	Million Standard Cubic Feet per Day
MPCL	Mari Petroleum Company Limited
MS	Motor Spirit
MT/M.Ton	Metric Ton
MW	Megawatt
NBFIs	Non-Bank Financial Institutions
NIT	National Investment Trust
NP	Nitrogen Phosphate

NRL	National Refinery Limited
OCAC	Oil Companies Advisory Committee
OGDCL	Oil and Gas Development Company Limited
OGRA	Oil and Gas Regulatory Authority
OHSAS	Occupational Health Safety Assessment Series
OMCs	Oil Marketing Companies
OOTCL	Overseas Oil Trading Company Limited
OP	Oil Pier
OPL	Orient Petroleum Limited
PARCO	Pak-Arab Refinery Company Limited
PGPL	Pakistan Gas Port Limited
PMP	Pakistan Maroc Phasphore
POL	Pakistan Oilfields Limited/ Petrol Oil Lubricant
PPL	Pakistan Petroleum Limited
PQA	Port Qasim Authority
PRL	Pakistan Refinery Limited
PSOCL	Pakistan State Oil Company Limited
RLNG	Re-gasified Liquid Natural Gas
Rs.	Rupees
SNGPL	Sui Northern Gas Pipelines Limited
SPL	Shell Pakistan Limited
SPM	Suspended Particulate Matter
SSGCL	Sui Southern Gas Company Limited
STG	Steam Turbine and Generator
TPA	Tons per Annum/ Third Party Access
TPML	Total-PARCO Marketing Limited
TPPL	Total-PARCO Pakistan Limited
UEPL	United Energy Pakistan Limited
UFG	Unaccounted For Gas
US$	US Dollar
WAPDA	Water and Power Development Authority
ZOT	Zulfiqarabad Oil Terminal

EXECUTIVE SUMMARY

State of the Regulated Petroleum Industry 2015-16

1. Executive Summary

"State of the Regulated Petroleum Industry", the 14th Report of Oil & Gas Regulatory Authority (OGRA) for fiscal year 2015-16 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 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 and consumption of gas by residential / domestic consumers owing to price differential vis-à-vis other competing fuels, i.e. LPG, fire wood and coal. On average, during the last 5 years, more than 3 lacs consumers are added/connected to gas network, annually by the gas companies. The positive growth of sectors, such as power, commercial/ residential and fertilizers has resulted in natural gas availability constraint. Consequently, gas is being curtailed vis-à-vis priority of the sector. 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. During FY 2015-16, total supply of natural gas in the country has reached 3,947 MMcfd.

During the period under review, power sector (including captive power) has remained the main consumer of gas, accounting for around 41 percent share followed by residential and fertilizer sectors with a share of 21 percent each. Province-wise gas consumption shows that Sindh and Punjab have remained the major consumers with shares of around 46 percent and 42 percent respectively, whereas on production front, Sindh and Balochistan contributed leading shares of 64 percent and 17 percent respectively.

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 47 Km and 147 Km and distribution network by 1,029 Km and 3,644 Km respectively for providing gas to distant localities and bringing increase in the consumers. As of June 30, 2016 SSGCL & SNGPL's cumulative transmission network stood at 3,614 Km and 7,941 Km and distribution network at 44,761 Km and 103,517 Km respectively. The two utilities provided new gas connections to 324,501 domestic consumers. The cumulative consumer base of both the companies as of June 30, 2016 stood at 8,089,342.

It is projected that in face of ever increasing demand for gas, Pakistan will face an increasing deficit in gas supply. The shortfall in gas is expected to reach 4,099 MMcfd by 2019-20 and the gap will reach 6,711 MMcfd without imported gas by FY 2029-30

Since the increase in demand of natural gas will amplify further in the next few years therefore GoP has initiated various measures to bridge the gap between demand and supply which includes incentivizing indigenous exploration, import of natural gas in the form of Liquefied Natural Gas and import through development of Cross Country Gas Pipelines.

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 based sources, especially in locations where natural gas is not available. The size of LPG market during the period under review was 1,115,130 MT/Annum, mainly consumed by domestic, commercial and industrial sectors with respective shares of 38%, 37% and 25% respectively.

The total supply of LPG during FY 2015-16 was 1,022,367 tonnes, accounted for about 0.5% of the total primary energy supplies in the country. Gas producing fields contributed 46%, followed by imports and refineries with share of 37% and 17% respectively. LPG supply has increased to 2,801 tonnes per day in FY 2015-16 as compared to 1,899 tonnes per day in FY 2014-15 and consumption increased to 3,055 tonnes per day from 1,915 tonnes per day.

1.3 Liquified Natural Gas (LNG)

Natural gas is presently contributing nearly 46% in Pakistan's primary energy supply mix. In view of the natural gas demand supply gap Government of Pakistan (GoP) introduced LNG Policy for potential investors in year 2006 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 its 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 Rules encourage prospect project developed to enter into LNG market after fulfillment of requisite formalities including license from OGRA as per present Policy.

Engro Elengy Terminal Limited (EETL) has established its LNG regasification terminal at Port Qasim Karachi. 400 MMcfd of LNG is being imported by the GoP through Pakistan State Oil Company Limited (PSO) and EETL is providing the regasification services at a tolling tariff. OGRA granted license for operation of LNG terminal to EETL on 18th March, 2016.

Injection of additional volume of RLNG in the national grid shall mitigate the natural gas shortfall. 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.

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.

1.4 Oil

The consumption of petroleum products registered a moderate growth rate of 5.2 percent (23.7 million tons) during FY 2015-16 compared to previous year's growth of 5.1 percent (22.6 million tons). During the year, the main drivers of consumption were transport and power sectors, which registered growth of 56 percent and 33 percent respectively. The consumption of Motor Spirit (MS) in transport sector witnessed a growth of around 22 percent during period under review. This may be attributed to lower prices and increased demand of generators.

Pakistan State Oil remained the lead player in total energy products supply to the consumers with 56 percent market share compared to 57 percent last year. PSO has lost around 1 percent of market share to other players. PSO was followed by Shell with 10 percent, Attock Petroleum Limited (APL) around 8 percent and Hascol 6 percent,

PSO despite being remained in the lead has lost its share by 5 percent in Motor Spirit (MS) sale from 47 percent last year to 42 percent during the year. PSO was followed by Shell with 18 percent and Total Parco Marketing Limited (TPML) 9 percent. Being the largest Oil Marketing Company (OMC), PSO supplied about half of total High Speed Diesel (HSD) sales with market share of 48 percent down from 50 percent last year. Shell captured around 13 percent followed by Attock Petroleum Limited (APL) with 9 percent and Hascol with 8 percent share of the total sales.

Fuel Oil (FO) was mainly supplied by PSO with market share of 71 percent up from 67 percent last year followed by APL with 7 percent share down from 11 percent a year earlier and Hascol captured around 5 percent of the FO's market.

Total production by the refineries during FY 16, was 11.31 million tons compared to previous year's 11.43 million tons. This year's production fell to 1 percent from 3.5 percent last year. 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 19 percent share, Pakistan Refinery Limited (PRL) and Attock Refinery Limited with 14 percent share each. Byco Petroleum Pakistan Limited (BPPL) with 10 percent share.

The demand for HSD, MS and FO were mostly met through imports as domestic production was not enough to meet the domestic requirements. Around 41 percent of HSD, 73 percent of MS, 14 percent of Jet Fuels and 69 percent of FO of total POL demand in the country during FY 2016.

NATURAL GAS

State of the Regulated Petroleum Industry 2015-16

2. Natural Gas

Natural gas is a major 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 and consumption of gas by residential / domestic consumers owing to price differential vis-à-vis other competing fuels, i.e. LPG, fire wood and coal. On average, during the last 5 years, more than 3 lacs consumers are added/ connected to gas network, annually by the gas companies. The positive growth of sectors, such as power, commercial/ residential and fertilizers has resulted in natural gas availability constraint. Consequently, gas is being curtailed vis-à-vis priority of the sector. 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 LNG and cross country pipelines from Iran and Turkmenistan. During FY 2015-16, total supply of natural gas in the country has reached 3,947 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, with the objective to promote and enhance competition in the midstream and downstream oil and gas sector. OGRA has been performing following functions:-

- Grant of licenses
- Formulation of rules, regulations and procedures for the conduct of licensees
- Determination of tariff of SSGCL & SNGPL
- Monitoring and enforcement of rules, regulations and applicable license conditions.
- Resolution of disputes and complaints lodged by the consumers against licensees or between a licensee and another licensee in the natural gas sector
- Pipeline capacity allocation

So far, OGRA has issued following licenses in natural gas sector as given in **Table 2.1.**

Table 2.1: Licenses Issued by OGRA - June 30, 2016

Sr. No.	Company	Type of License	Date of Issue	No. of Licenses
1.	Sui Northern Gas Pipelines Limited	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	Transmission, Distribution, and Sale of Natural Gas in Sindh and Balochistan	September 3, 2003	01
3.	Mari Gas Company Limited	Sale of Natural Gas to: 1. Fauji Fertilizer Company Limited (FFCL), 2. Engro Chemicals Pakistan Limited (ECPL) 3. Central Power Generation Company Limited (CPGCL) 4. Any other retail consumer with prior approval of the Authority	August 11, 2004	01
4.	Pakistan Petroleum Limited	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

Sr. No.	Company	Type of License	Date of Issue	No of Licenses
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 Limited	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.	Elengy Terminal Pakistan Limited (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 to OGRA's Licensed CNG Stations	February 22, 2016	01

2.2 Profile of Major 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 Karachi, Lahore and Islamabad Stock Exchanges with 53.18% direct shareholding by Government of Pakistan through President of 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 3,600 Km of high pressure transmission network ranging from 6″ to 42" in 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 1,725 MMcfd gas whereas its compression facilities are of 50,000 bhp. SSGCL also owns and operates the only gas meter manufacturing plant in the country, and has produced 498,673 meters during FY 2015-16, 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.

Table 2.2: Pattern of Shareholding in SSGCL - June 30, 2016

Sr. No.	Categories of Shareholders	Percentage
1.	President of Pakistan	53.18
2.	Individuals	13.33
3.	Investment Companies	0.34
4.	Insurance Companies	8.43
5.	Joint Stock Companies	2.61
6.	Financial Institutions	4.81
7.	Mutual Fund	2.87
8.	Charitable Trusts	0.06
9.	Leasing Companies	0.00
10.	Foreign Companies	2.44
11.	Others	11.93
	Total	**100.00**

Source: SSGCL

The company purchases gas in bulk from 27 international and local E&P companies for distribution in its franchise area. The addition of 1,029 Km in the distribution network during FY 2015-16 has enabled the company to connect 189 new towns and villages to its existing network. The company has sold 384,988 MMscf of natural gas to over 2.7 million residential, commercial and industrial consumers during FY 2015-16.

SSGCL's Gas Pipelines

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 all the three Stock Exchanges of the country.

It is the largest integrated gas company serving more than 5 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 50 years of experience in operation and maintenance of high-pressure gas transmission and distribution systems. 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 over 7,941 Km of transmission system (Main lines & Loop lines). The distribution activities covering 3,367 towns along with adjoining villages in Punjab and KP are organized through 13 regional offices. Distribution system consists of 103,517 Km of pipelines.

Table 2.3: Pattern of Shareholding in SNGPL - June 30, 2016

Sr. No.	Categories of Shareholders	Percentage
1.	The President of Islamic Republic of Pakistan	31.68
2.	Public Sector Companies and Corporations	11.43
3.	Associated Companies, Undertakings and related Parties.	9.08
4.	Banks, Development Finance Institutions, Non-Banking Finance Companies, Insurance Companies, Takaful, Modaraba Companies and Pension Funds.	6.65
5.	Mutual Funds	3.70
6.	General Public (Local + Foreign)	12.80
7.	Foreign Companies	4.01
8.	SNGPL Employees Empowerment Trust	4.32
9.	Joint Stock Companies	5.63
10.	All Others	4.92
	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 operatorship 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 are spread across the country in all the four provinces.

MPCL is a major producer of natural gas currently holding around 11% 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, 2016 was around Rs. 100 billion (at closing price of Rs. 908 per ordinary share). Fauji Foundation holds 40% of the shareholding in the company along with management rights, while Government of Pakistan, OGDCL and General Public hold 18.39%, 20% and 21.61% of the shareholding, respectively.

During FY 2015-16, the company produced 30.48 million barrels of oil equivalent energy which resulted in foreign exchange saving of around Rs. 142 billion. In addition, the company contributed around Rs. 77.33 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 has 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. During FY 2015-16, the company spent around Rs. 193 million on CSR activities/projects in different blocks.

Table 2.4: Pattern of Shareholding in MPCL

Sr. No.	Categories of Shareholders	Percentage
1.	Fauji Foundation	40.00
2.	Government of Pakistan	18.39
3.	Oil & Gas Development Company Limited	20.00
4.	ICP – Banks – DFIs – NBFIs - Leasing Cos - Others	6.00
5.	Individuals – Others	6.50

Source: MPCL

During financial year ended on June 30, 2016, MPCL produced about 617.68 MMscfd from Mari, Zarghun South Field, Sujawal, Koonj (Sukkur Block) and Halini (Karak Block) fields which was supplied to various customers as given in **Table 2.5.**

Table 2.5: Gas Supplied from MPCL to Customers

MMscfd

Sr. No.	Customers	Gas Supplies
1.	Fauji Fertilizers Ltd. (Goth Machi) (Plant- I & II)	167.32
2.	Fauji Fertilizers Ltd. (Mirpur Mathello) (Plant - III)	89.16
3.	Fatima Fertilizer Company Ltd.	98.81
4.	Engro Fertilizer Ltd.	163.85
5.	WAPDA	24.90
6.	SSGC	30.70
7.	SNGPL	12.48
8.	Foundation Power	47.48
9.	Western Power	0.98
	Total	**635.68**

Source: MPCL

The company maintained un-interrupted 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 FY 2015-16.

Sujawal Gas Field

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 frontline 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 disinvested 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 operates eight (08) producing fields across the country at Sui (Pakistan's largest gas field), Adhi, Kandhkot, Chachar, Mazarani, Adam, Adam West and Shahdad and holds working interest in fifteen (15) 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 endeavors 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 2015-16, PPL spent around Rs. 930 billion on CSR initiatives, with major spending for projects in Balochistan and Sindh.

Table 2.6: Pattern of Shareholding – June 30, 2016

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

Source: PPL

Table 2.7: Regulated Gas Sold from PPL's Gas Fields during FY 2015-16

MMcfd

Sr. No.	Name of Customers	Province	Volume
1.	WAPDA (GENCO)	Sindh	75
2.	SSGCL	Sindh	119
3.	SNGPL	Punjab and Sindh	354
		Total	**548**

Source: PPL

Kandhkot Gas Field

2.2.5 Oil & Gas Development Company Limited (OGDCL)

Background

OGDCL is the largest exploration & production 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 74.98% of total equity in the company. OGDCL is responsible to plan, promote, organize and implement programs for the exploration and development of oil and gas resources.

Exploration

As of June 30, 2016, OGDCL's concession portfolio constituted sixty three (63) owned and operated joint venture exploration licenses along with holding working interest in six (6) 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 112,453 Sq.Km representing the largest exploration acreage held by any E&P company in Pakistan.

Well

OGDCL, during FY 2015-16, spudded twenty five (25) wells including twelve (12) exploratory/appraisal wells and fourteen (14) development wells.

Discoveries

OGDCL based on aggressive exploratory efforts to discover new hydrocarbon reserves made six (6) new oil and gas discoveries during FY 2015-16.

Production

During FY 2015-16, OGDCL contributed around 48% and 28% of the country's total oil and natural gas oil production, respectively.

On the financial front, OGDCL has reset the business strategy and is endeavoring 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 and meet future business challenges ahead.

OGDCL's pattern of shareholding (as of June, 2016) is shown in **Table 2.8** and detail of regulated gas sold during FY 2015-16 is shown in **Table 2.9.**

Table 2.8: Pattern of Shareholding in OGDCL

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	0.49
5.	Banks, Financial Institutions, etc.	0.59
6.	Mutual Funds	1.04
7.	General Public (foreign)	10.77
8.	Others	1.89
	Total	**100.00**

Source: OGDCL

Table 2.9: Regulated Gas Sold to Customers by OGDCL during FY 2015-16

MMcfd

Sr. No.	Name of Customers	Province	Volume
1.	SNGPL	KP, Sindh, Punjab and Balochistan	498.4
2.	SSGCL	Sindh	155.9
3.	Engro Fertilizer Ltd.	Sindh	13.4
4.	Uch Power Ltd.	Balochistan	290.2
5.	Fauji Kabirwala Power Company Ltd.	Punjab	16.1
		Total	**974.00**

Source: OGDCL

Qadirpur Gas Field

2.2.6 Fauji Fertilizer Company Limited (FFCL)

FFCL is 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% market share, markets nearly 3.5 million metric tons of fertilizer per annum.

FFCL holds 49.88% stakes in FFBL and 6.79% in Fauji Cement. Besides, it holds 43.14% stakes in Askari Bank Ltd. and 12.5% 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 farm started commercial operation since May, 2013.

The company is listed on all three stock exchanges of the country and is amongst the country's largest corporate entities.

Table 2.10: Detail of Regulated Gas Purchased by FFCL from Suppliers during FY 2015-16

MMcfd

Sr. No	Name of Supplier and Field	Province	Volume
1.	Mari Petroleum Company Ltd. (Mari Gas Field)	Sindh	257.2
		Total	**257.2**

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 object of the company is the production and sale of chemical fertilizers and its by-products. Fatima Fertilizer Company Limited 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, and Rahim Yar Khan.

During FY 2015-16, the company achieved milestones of completion of Ammonia Revamp and Debottlenecking Project leading to enhancement of its ammonia production capacity and energy index improvement. Total production of Fatima Fertilizer for the said FY was 1,179,486 MT of finished products.

Pattern of Shareholding of FFCL is shown below in **Table 2.11.** Details of regulated gas purchased from suppliers by FFCL, during FY 2015-16 is shown in **Table 2.12.**

Table 2.11: Pattern of Shareholding in FFCL

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

MMcfd

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

Source: Fatima Fertilizer Company Limited

Fatima Fertilizer

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 177 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. Pattern of shareholding of FPCDL is shown in **Table 2.13.**

Table 2.13: Pattern of Shareholding in FPCDL - June 30, 2016

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**

Source: FPCDL

Table 2.14: Detail of Regulated Gas Purchased from Suppliers during FY 2015-16

MMcf

Name of Supplier and Field	Province	Volume
Mari Gas Field (MPCL)	Sindh	17,379

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 2015-16, an extension of 146.99 Km was undertaken by SNGPL in its transmission network. The major segments of 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, 2016) is shown in **Table 2.16.**

Table 2.15: SNGPL's Capacity Utilization of Transmission System

MMcfd

Transmission Network Segment	Available Capacity (June 30, 2015)	Utilization %age	Available Capacity (June 30, 2016)	Utilization %age
Sui – Bhong	480	98	480	109
Sawan – Qadirpur	340	56	560	73
Qadirpur – Bhong	715	75	715	100
Bhong - AC4	1,630	67	1,630	72
AC4 - AV22	1,590	66	1,590	73
AV22 - Kot Addu	350	71	350	54
Dhodak - Kot Addu	70	24	70	20
AV22 – Multan	1,430	58	1,430	75
Multan - AV29	1,350	64	1,350	74
AV29 - Sahiwal – Lahore	650	77	650	79
AV29 – Faisalabad	990	45	770	64
Faisalabad – Lahore	450	45	450	63
Faisalabad - Galli Jagir	350	30	350	44
Wah – Nowshera *	110	124	110	147
Wah – Abbottabad	94	66	94	69
Gurguri – Kohat	315	99	315	105
FC1 - C6	110	73	314	21
Nowshera – Mardan	75	101	75	107
Mardan – Mangora	30	73	30	137

** With start / increase in gas supply from MOL's CPF, gas is flowing in reverse direction from Ismailkot / Nowshera towards Wah.*
Source: SNGPL

Table 2.16: Details of SNGPL Transmission Network - June 30, 2016

Km

Province/ Diameter (Inch)	3"	4"	6"	8"	10"	12"	16"	18"	20"	24"	30"	36"	42"	Grand Total
Punjab	0.24	4.43	142.68	1298.33	534.6	301.48	1110.85	663.22	59.35	680.55	617.33	546.57	--	**5959.58**
KP	--	--	57.79	678.60	133	104.18	139.66	--	--	148.02	--	--	--	**1261.24**
Balochistan	--	--	--	--	--	--	--	11.25	--	89.81	19.31	--	--	**120.37**
Sindh	--	2.41	--	2.87	5.5	4.5	91.27	--	37.8	149.95	67.42	54.95	129.69	**546.36**
AJK	--	--	--	17.35	--	--	--	--	--	--	--	--	--	**17.35**
Total	**0.24**	**6.84**	**200.47**	**1997.15**	**673.05**	**410.16**	**1341.78**	**674.47**	**97.15**	**1068.33**	**704.06**	**601.52**	**129.69**	**7941.08**

Source: SNGPL

2.3.1.1 Compression Facilities in SNGPL's Transmission System

SNGPL has 67 number of units of compression station with a total capacity of 216,800 brake horse power (bhp). SNGPL's compression system details are represented in **Table 2.17.**

Table 2.17: Compressor Stations in the SNGPL Transmission System - June 30, 2016

Compressor Station/ Location	Number of Units		Total Installed Power (bhp)	
	30-06-2015	30-06-2016	30-06-2015	30-06-2016
AC-0 (Sui)	4	4	11,000	11,000
AC-IX (S) (Bhong) Distt R.Y.Khan	7	8	35,040	39,040
AC-IX (Q) (Bhong) Distt R.Y.Khan	6	6	28,920	28,920
AC-4 (Uch Sharif) Distt Bahawalpur	8	8	39,020	39,020
AC-6 (Multan)	7	9	32,620	40,620
AC-7 (Shorkot) Distt Jhang	3	---	12,000	----
AC-8 (Faisalabad)	6	6	20,200	20,200
BC-1 (Manawala)	7	7	7,000	7,000
CC- 1 (HaranPur) Distt Jehlum	6	6	12,000	12,000
CC-3 (Gali Jagir) Distt Attock	6	6	12,000	12,000
FC-1 (Dhulian)	7	7	7,000	7,000
Total	**67**	**67**	**216,800**	**216,800**

Source: SNGPL

2.3.2 SSGCL Transmission Infrastructure

Tabular details of SSGCL transmission network and its compressor stations are given as under:-

Table 2.18: SSGCL Transmission Network Commissioned during FY 2015-16

Sr.No	Segment	Dia (Inch)	Length (Km)
Sindh			
1.	Nara – Sawan Pipeline Project	42	14
2.	Tando Adam to Masu Loopline	24	33
		Sub. Total	**47**
Balochistan / Any Other			
----	----	----	0
		Total	**47**

Source: SSGCL

Table 2.19: SSGCL's Capacity Utilization of Transmission Network

MMcfd

Transmission Network Segment	Available Capacity (June 30, 2015)	Utilization % age	Available Capacity (June 30, 2016)	Utilization % age
16" dia. Indus Left Bank Pipeline (ILBP) Nawabshah - Karachi Terminal	80	-	80	-
24"/20"dia. Kadanwari Pipeline Kadanwari - Malir-Karachi	180	-	180	-
20"/18"dia. Indus Right Bank Pipeline (IRBP) Dadu-Malir-Karachi	400	-	400	-
12"/18"/20" dia. Quetta Pipeline Jacobabad Quetta	90	-	90	-
18"dia. × 18 Km Abbe-gum to Mach Loopline	7	-	7	-
18"× 31 Km Dingra-Sibi,18"×15 Km Mach - Kolpur Loopline	10	-	10	-
24"x30 Km Loopline from Gokart to Abbegum	6	-	6	-
18"dia. Badin Pipeline Badin-Hyderabad	200	-	200	-
24"dia. × 116 Km loopline from Sind University to FJFC off take	60	-	60	-
24"dia. × 15 Km Masu-HQ3	40	-	40	-
24"dia.× 84 Km HQ2 - Tando Adam	85	-	85	-
24"dia. × 34 Km Loopline from Tando Adam to Masu	-	-	23	-
24"dia. × 200 Km Bajara-Karachi Loopline	240	-	240	-
18" × 18 Km loopline (Dhadar to Gokart)	36	-	36	-
12" × 60 Km HQ - Quetta-Zargun Line	25	-	25	-
Total Capacities for SSGC (A)	**1459**	**91%**	**1482**	**81%**

MMcfd

Transmission Network Segment	Available Capacity (June 30, 2015)	Utilization % age	Available Capacity (June 30, 2016)	Utilization % age
Transmission Network Contracted for Transporting 3rd Party Gas.	-	-	-	-
18" dia. Pirkoh Pipeline (OGDC) Pesh Bogi-Pirkoh.	35	-	35	-
16"dia.ILBP (SNGPL) Hassan -Sui	30	-	30	-
20"dia.IRBP (Reverse Flow to SNGPL) Dadu Sui	170	-	170	-
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%***
SSGC Total Available Transmission Network Capacity (A+B)	**1704**	**-**	**1704**	**-**

Note:
In order to calculate 5% of capacity utilization, off-take date 20-6-2016 is considered.
* 100% capacity utilization assumed as the pipeline have been dedicated to above companies.

Source: SSGCL

Table 2.20: Compressor Stations in the SSGCL Transmission System - June 30, 2016

Compressor Station Location	Size and Number of Units		Total Installed Power (bhp)	
	30-06-2015	30-06-2016	30-06-2015	30-06-2016
Shikarpur	120 MMcfd per unit 2 Units installed	120 MMcfd per unit 2 Units installed	11,600	11,600
Hyderabad	120 MMcfd per unit 3 Units installed	120 MMcfd per unit 3 Units installed	17,400	17,400
Dadu	120 MMcfd per unit 2 Units installed	- -	11,600	-
Sibi	60 MMcfd per unit 2 Units installed	60 MMcfd per unit 2 Units installed	9,400	9,400
HQ-2	- -	120 MMcfd per unit 2 Units installed	-	11,600
		Total	**50,000**	**50,000**

Source: SSGCL

Table 2.21: Details of SSGCL Transmission Network - June 30, 2016

Km

Diameter (inch)	6″	12″	16″	18″	20″	24″	30″	42″	Grand Total
Lenght (Km)	36	493	558	950	852	686	9	30	3,614

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. Details of such pipelines connecting the gas fields to their respective consumers are given in **Table 2.22** below:

Table 2.22: Independent System Infrastructure

Pipeline Operator	Segment	Diameter (Inch)	Length (Km)
FFCL	Mari to Fauji Fertilzer 1	16	48
FFCL	Mari to Fauji Fertilizer 2	14	48
FFCL	Mari to Fauji Fertilzer Mirpur Mathelo	16	15
ECPL	Mari to Engro Chemicals	10, 12	9, 9
CPGCL	Mari to Guddu Thermal Power Station	20	60
CPGCL	Kandhkot to Guddu Thermal Power Station	16	50
CPGCL (WAPDA)	SNGPL's Compresstion Station at Sui Field to Guddu Thermal Power Station	16	56
OGDCL	Uch Field to Uch Power Plant	26	47
OGDCL	Nandpur Pinjpir to FKPCL	12	16
Tullow	Sara/Suri Field to CPGCL Pipeline near Mari Well No.6	8	33
FFCL	Mari to Fatima Fertilzer	20	47
FPCDL	Mari to Foundation Power Company Ltd (Dhariki)	20	15
ETPL	ETPL Jetty to SSGCL's tie in point at SMS Pakland.	24 & 42	6 & 18
Engro Fertilizer Ltd. (EFL)	Reti Maru (OGDCL) Field to Engro's Battery Limits at Dharki	10	26

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 2015-16, an addition of 3,644 Km was made by SNGPL in its distribution network, while SSGCL has added 1,029 Km in its distribution network. Region-wise and diameter-wise breakdown of SNGPL and SSGCL distribution network, as of June 30, 2016, are shown in **Tables 2.23 & 2.24.**

Table 2.23: SNGPL - Cumulative Length of Major Distribution Network - June 30, 2016

Km

Punjab														
Region	**3/4"**	**1"**	**1.25"**	**1.5"**	**2"**	**4"**	**6"**	**8"**	**10"**	**12"**	**16"**	**18"**	**24"**	**Total**
Islamabad	3,603	4,137	2,486	8	3,409	1,757	733	223	77	51	36	2	17	16,538
Bahawalpur	803	1,245	617	-	1,004	550	204	109	46	27	-	-	-	4,605
Gujrat	74	9	155	-	95	78	15	14	-	-	-	-	-	440
Sahiwal	71	18	111	-	48	60	9	-	-	-	-	-	-	317
Sheikhupura	71	34	93	-	65	20	-	-	-	-	-	-	-	284
Sargodha	80	-	234	-	83	94	25	-	-	-	-	-	-	517
Faisalabad	2,974	4,358	1,381	-	2,212	1,533	712	358	9	32	26	-	-	13,595
Lahore	4,997	8701	2789	12	4,661	1,759	867	489	120	115	180	33	31	24,753
Multan	1,985	916	2201	-	3,408	2,459	607	220	57	68	12	-	-	11,934
Gujranwala	2,855	3209	2105	-	3,226	2,070	971	534	16	4	27	6	-	15,023
Sub-Total, Punjab	**17,512**	**22,628**	**12,173**	**20**	**18,212**	**10,380**	**4,142**	**1,947**	**324**	**298**	**280**	**41**	**48**	**88,005**
KP														
Peshawar	2,414	2,801	1,059	-	2,763	1,853	861	305	194	36	32	8	-	12,327
Abbottabad	608	1,060	315	-	680	352	94	70	-	3	4	-	-	3,185
Sub-Total, KP	**3,022**	**3,861**	**1,374**	**-**	**3,443**	**2,205**	**955**	**375**	**194**	**39**	**35**	**8**	**-**	**15,512**
Total Distribution Network	**20,535**	**26,489**	**13,547**	**20**	**21,655**	**12,585**	**5,097**	**2,321**	**518**	**337**	**316**	**48**	**48**	**103,517**

Source: SNGPL

Table 2.24: SSGCL – Cumulative Length of Distribution Network - June 30, 2016

Km

Cumulative Distribution Network										
Sindh										
Region	**1"-2"**	**3"**	**4"**	**6"**	**8"**	**10"**	**12"**	**16″**	**Others**	**Total**
Sindh (Interior)	9,015	15	3,531	1,726	495	33	38	15	6,412	**21,280**
Karachi	5,124	--	798	478	606	15	179	99	8,497	**15,796**
Subtotal	14,139	15	4,329	2,204	1,101	48	217	114	14,909	**37,076**
Balochistan										
Region	**1"-2"**	**3"**	**4"**	**6"**	**8"**	**10"**	**12"**	**16″**	**Others**	**Total**
Balochistan	3,277	--	1,151	372	487	6	48	90	2,254	**7,685**
Grand Total	**17,416**	**15**	**5,480**	**2,576**	**1,588**	**54**	**265**	**204**	**17,163**	**44,761**

Source: SSGCL

Distribution Network - Polythene Pipe

Km

Region	**Sindh**					
	20mm	**40mm**	**63mm**	**125mm**	**180mm**	**Total**
Sindh (Interior)	553	877	768	224	10	2,432
Karachi	662	1,031	1,519	394	216	3,822
Sub-Total (Sindh)	1,215	1,908	2,287	618	226	6,254
	Balochistan					
Balochistan	153	33	389	95	6	676
Grand Total	**1,368**	**1,941**	**2,676**	**713**	**232**	**6,931**

Source: SSGCL

2.3.5 Customers Addition to Gas Network

The total number of new gas consumers added during FY 2015-16 is shown in the **Table 2.25** and cumulative number of consumers (country-wide), as of June 30, 2016, is shown in **Table 2.26.**

Table 2.25: Number of Consumers added / (disconnected) during FY 2015-16

Number

Sector	SNGPL				SSGCL				Total Country
	Punjab	KP	AJK	Total (SNGPL)	Karachi	Sindh Interior	Balochistan	Total (SSGCL)	
Domestic	255,736	35,620	0	261,356	28,026	30,213	4,939	63,178	**324,534**
Commercial	188	84	0	272	(302)	(134)	109	(327)	**(55)**
Industrial	1	0	0	1	17	4	-	21	**22**
Grand Total	**225,925**	**35,704**	**0**	**261,629**	**27,741**	**30,083**	**5,048**	**62,872**	**324,501**

Source: SNGPL & SSGCL

Table 2.26: Cumulative Number of Consumers - June 30, 2016

Number

Sector	SNGPL				SSGCL				Total Country
	Punjab	KP	AJK	Total (SNGPL)	Karachi	Sindh Interior	Balochistan	Total (SSGCL)	
Domestic	4,574,510	669,732	6,652	5,250,894	1,720,164	772,925	253,113	2,746,202	**7,997,096**
Commercial	49,004	9,181	118	58,303	16,064	4,393	2,624	23,081	**81,384**
Industrial	5,865	820	3	6,688	3,474	643	57	4,174	**10,862**
Total	**4,629,379**	**679,733**	**6,773**	**5,315,885**	**1,739,702**	**777,961**	**255,794**	**2,773,457**	**8,089,342**

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 the power, cement, general industry, fertilizer and the 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 2015-16, the residential sector consumed about 741 MMcfd of gas. Sectoral gas consumption, as provided by gas companies (viz SNGPL, SSGCL and Independent System Companies), is given the **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 given in **Figure 2.1.** Province-wise gas consumption (for SNGPL and SSGCL system) is shown in **Table 2.28** and **Figure 2.2.** This table shows that Sindh and Punjab remained the major consumers with shares of around 46% and 42%, respectively.

Table 2.27: Sector-wise Gas Consumption for FY 2015-16

MMcfd

Sector	SNGPL System	SSGCL System	Independent System	Total Country	Percentage Share (Net of Own Use & Losses)
Residential	510	231	0	741	21
Commercial	64	28	0	92	3
General Industry	137	183	0	320	9
Fertilizer	136	51	533	720	21
Cement	1	1	0	2	0
Captive Power	138	186	65	389	11
Power	379	293	390	1,062	30
Transport (CNG)	97	79	0	176	5
Subtotal (Sector-wise Consumption)	**1,462**	**1,052**	**988**	**3,502**	**100**
Own use	13	4	0	17	-
UFG, Transmission & Distribution losses / Others	202	227	0	429	-
Total	**1,676**	**1,283**	**988**	**3,947**	-

Source: SNGPL, SSGCL and Independent Systems

Figure 2.1 Sectoral Gas Consumption Share (%)

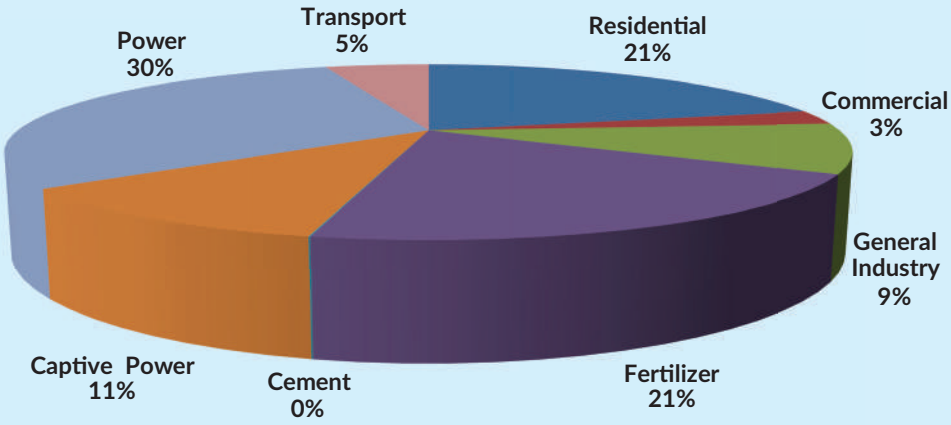
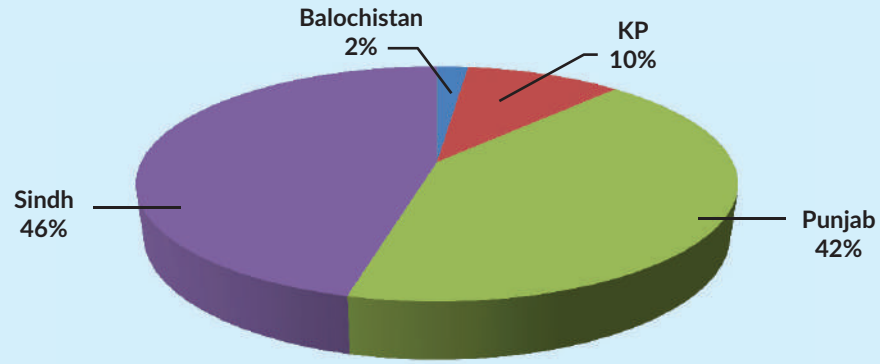


Table 2.28: Province-wise Gas Consumption during FY 2015-16 (SNGPL & SSGCL Systems only)

Province	Consumption (MMcfd)		Percentage Share	
	2014-15	2015-16	2014-15	2015-16
Punjab	1,035	1,154	42	42
Sindh	1,139	1,256	46	46
Balochistan	55	51	2	2
KP	241	266	10	10
Total	**2,470**	**2,727**	**100**	**100**

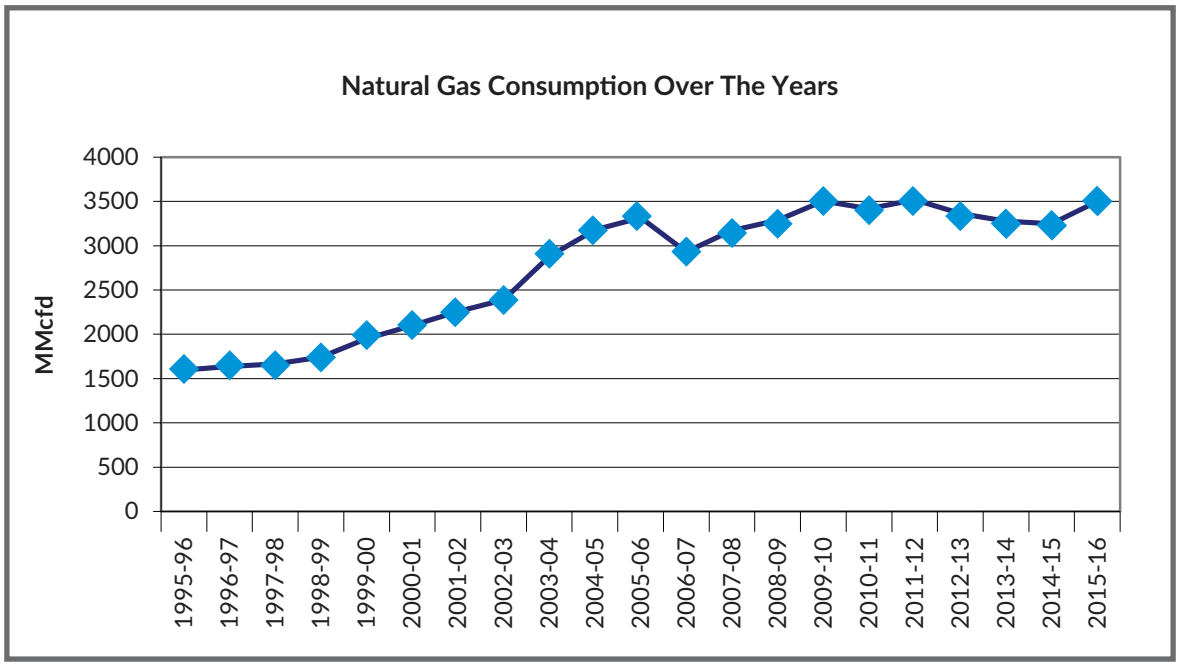
Source: SNGPL, SSGCL

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

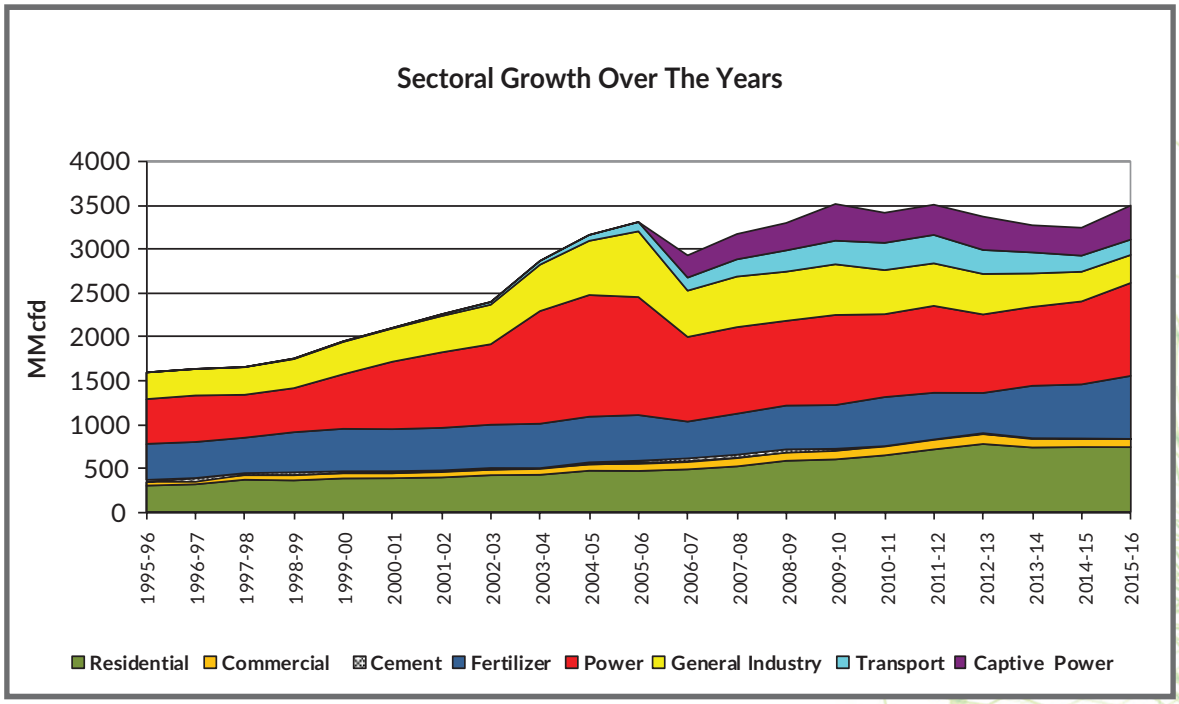


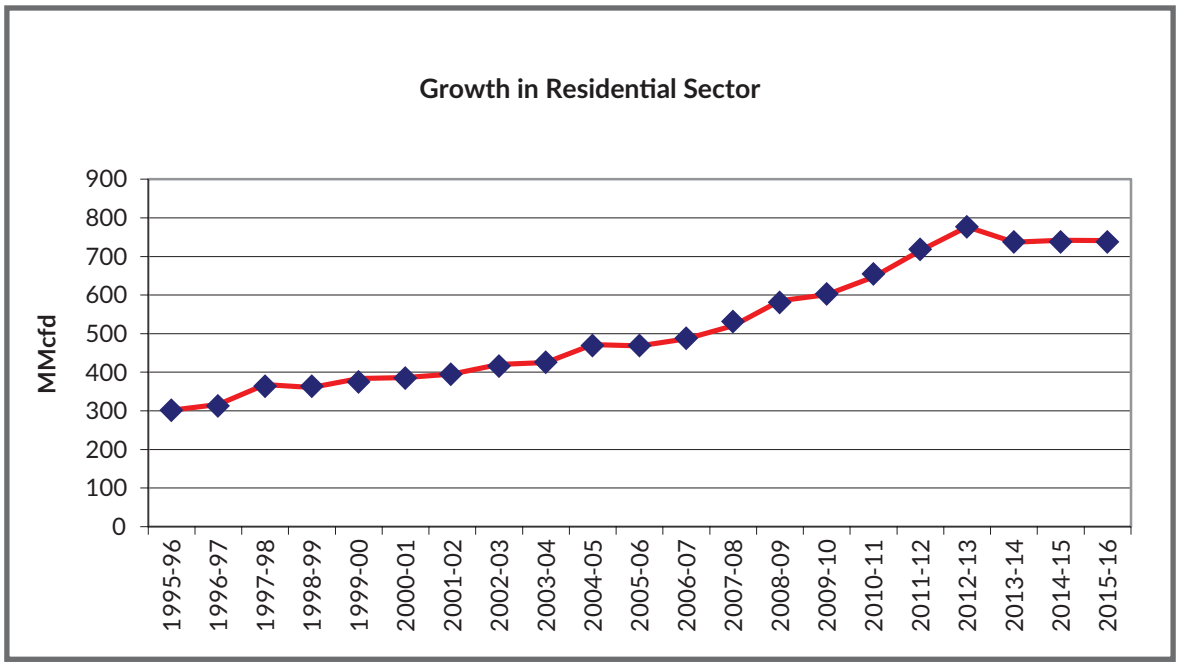
2.4.1.1 Sectoral Gas Consumption – Over The Years

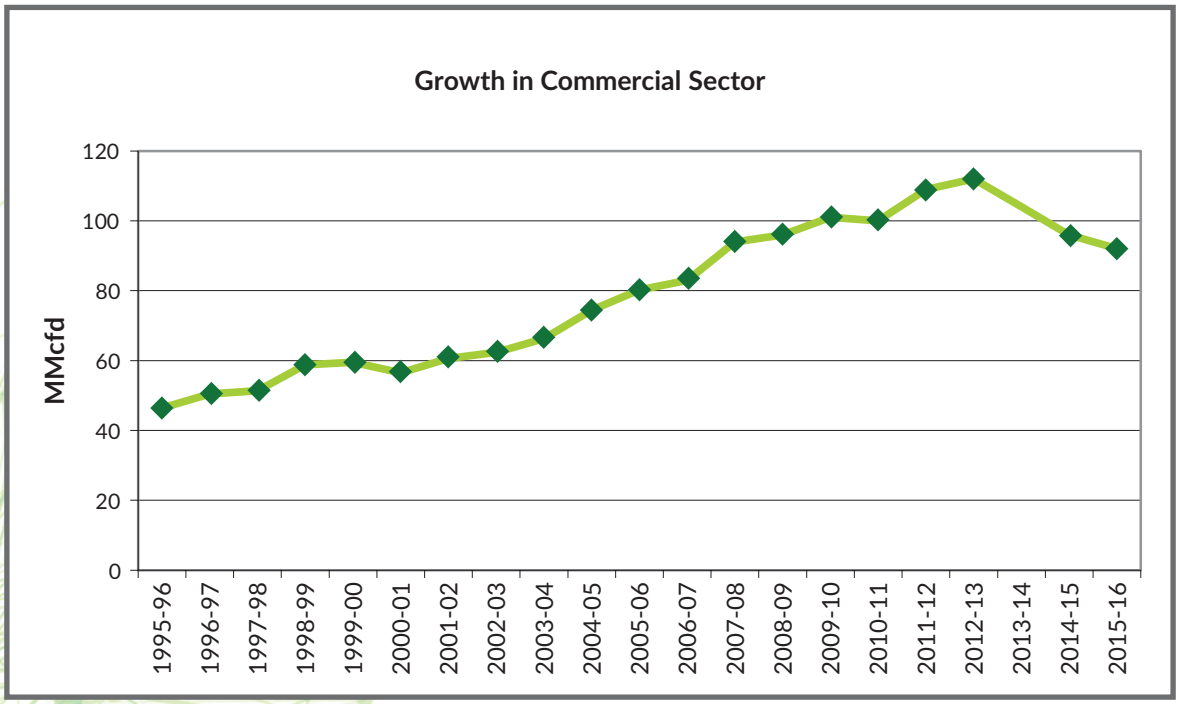
Natural gas consumption in the country has been increasing day by day. Some 20 years back, in 1995-1996, overall consumption of natural gas in the country was around 1,600 MMcfd whereas the same has increased to 3,502 MMcfd in FY 2015-16 (without system losses/ UFG). Natural gas consumption consolidated sectoral growth and sector-wise growth from 1995-96 to 2015-16 are shown in graphical form as under:

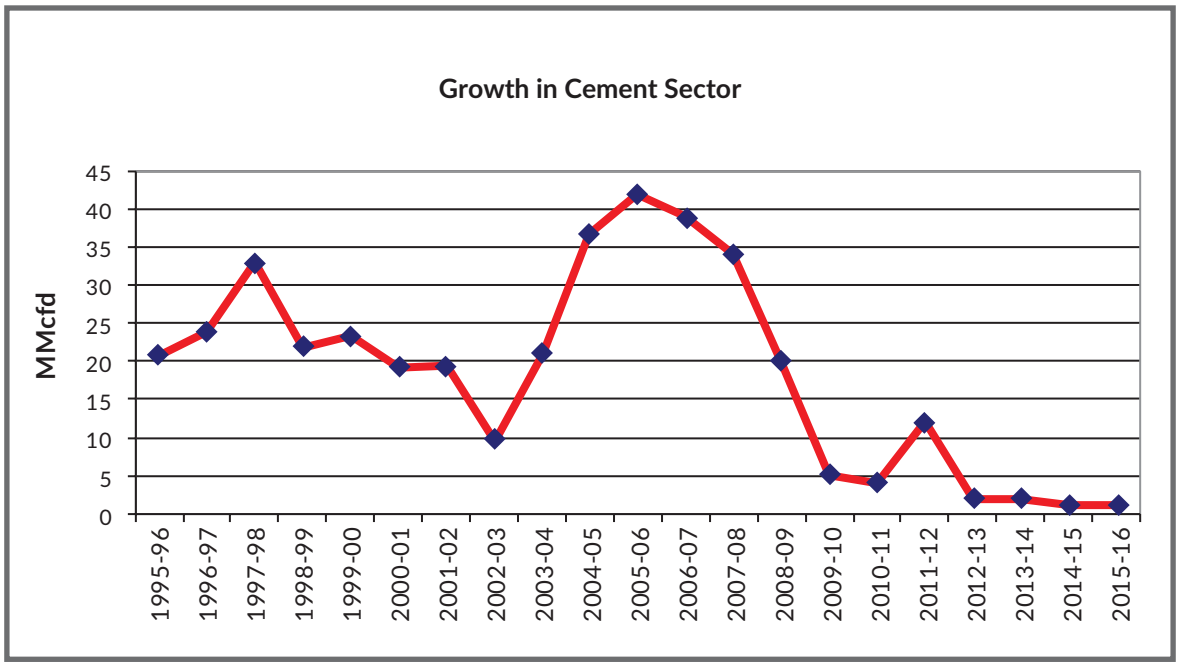


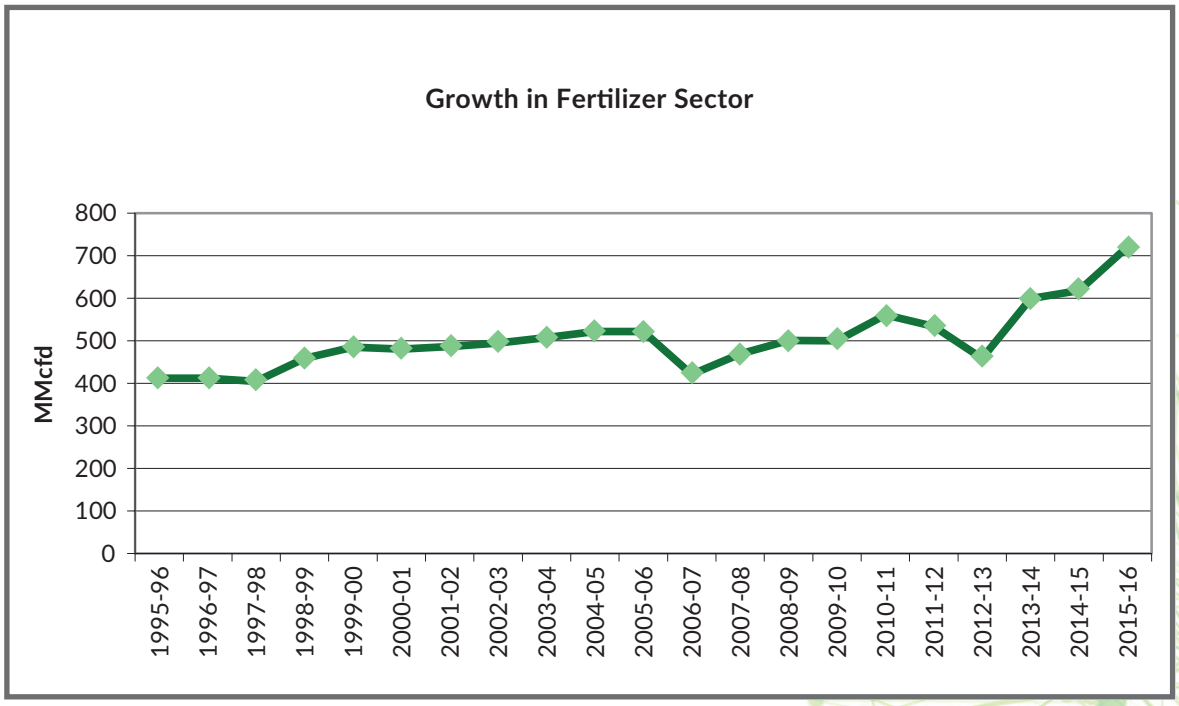
Source: For FY 1995-96 to 2004-05, Pakistan Ecnomic Servey. For FY 2005-06 onwards OGRA's Annual Report

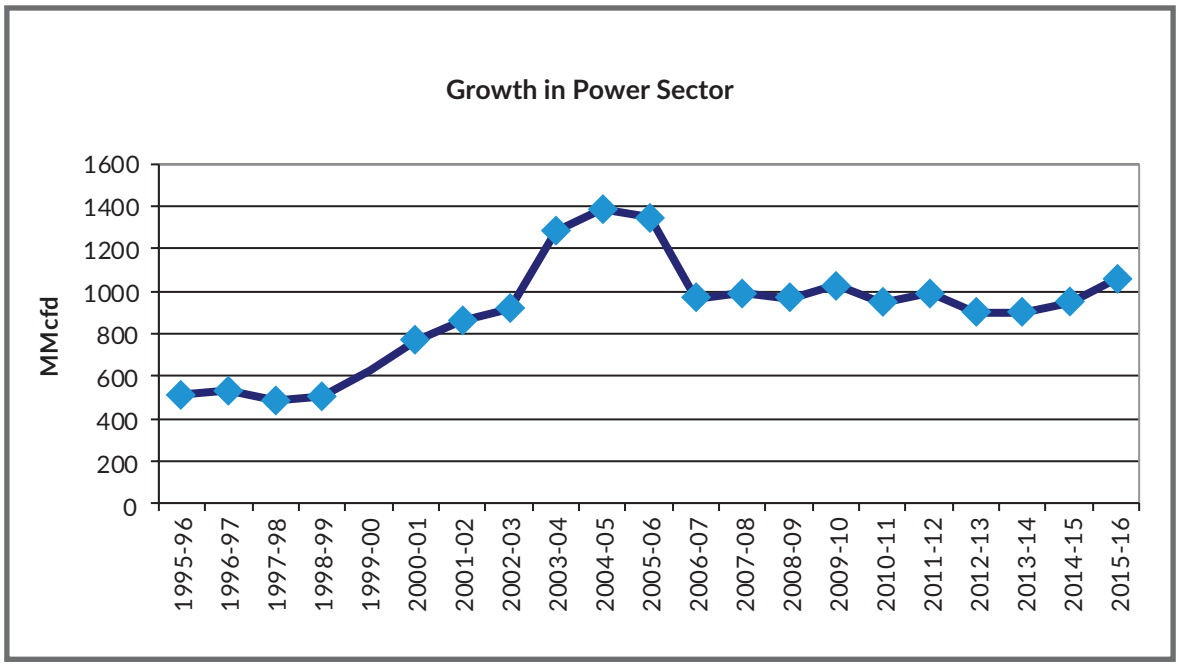


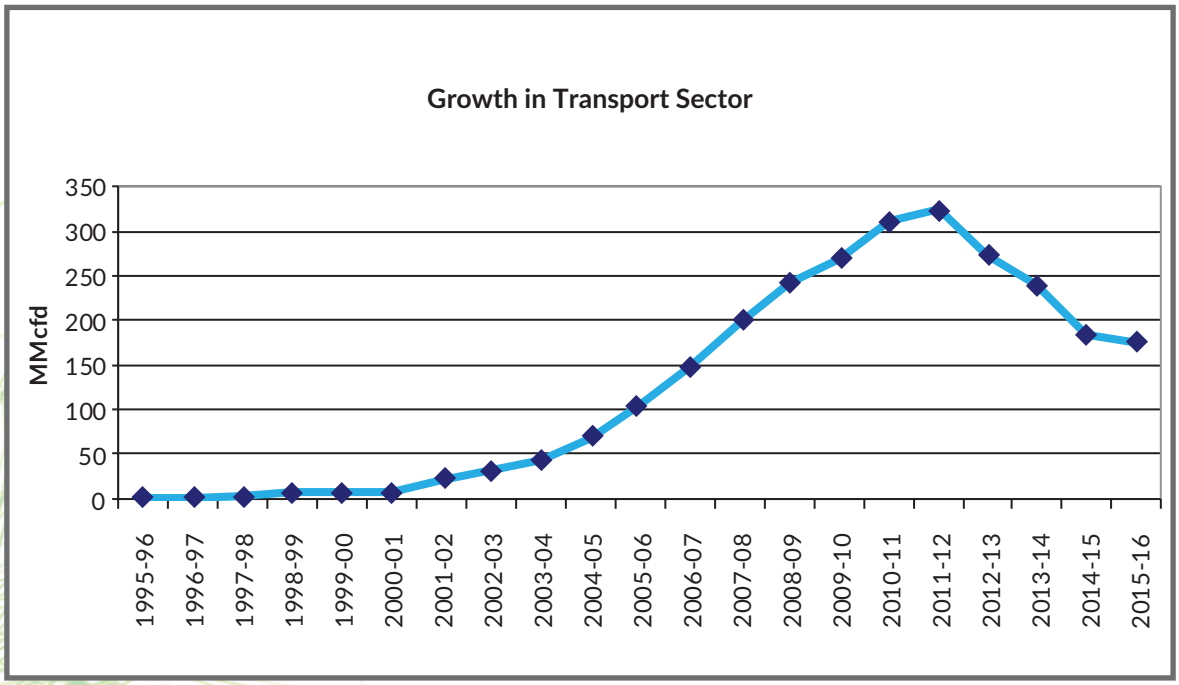

Growth in Residential Sector
MMcfd
900
800
700
600
500
400
300
200
100
0
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16


Growth in Commercial Sector
MMcfd
120
100
80
60
40
20
0
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16


Growth in Cement Sector
MMcfd
45
40
35
30
25
20
15
10
5
0
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16


Growth in Fertilizer Sector
MMcfd
800
700
600
500
400
300
200
100
0
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16


Growth in Power Sector
MMcfd
1600
1400
1200
1000
800
600
400
200
0
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16


Growth in Transport Sector
MMcfd
350
300
250
200
150
100
50
0
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
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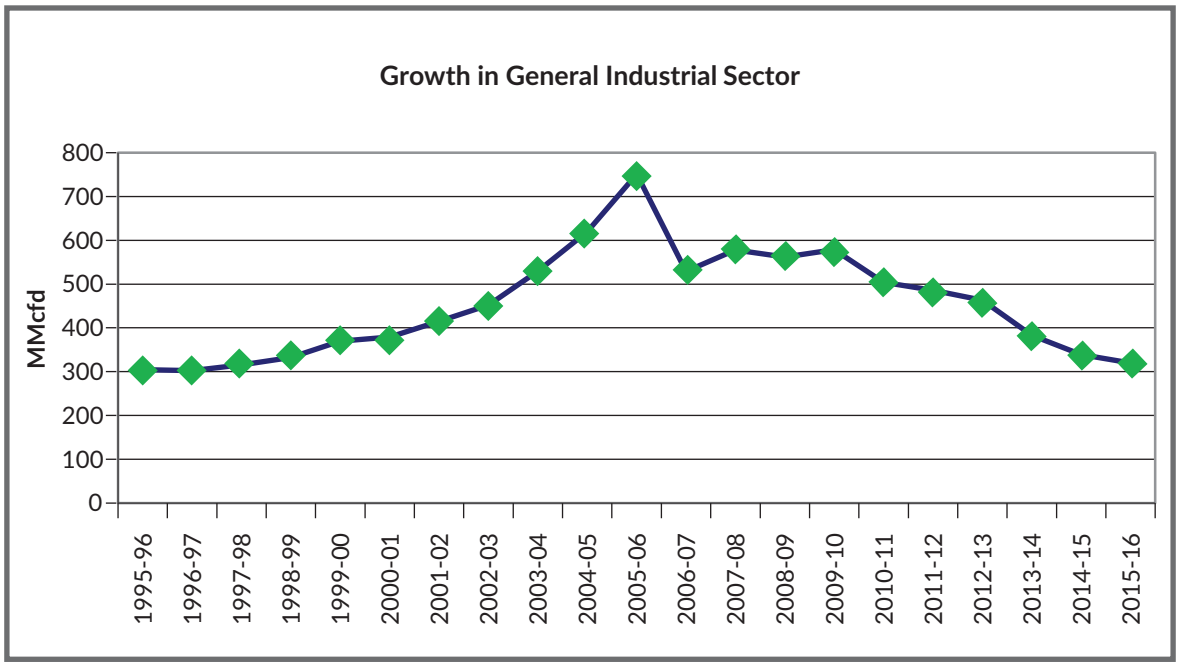
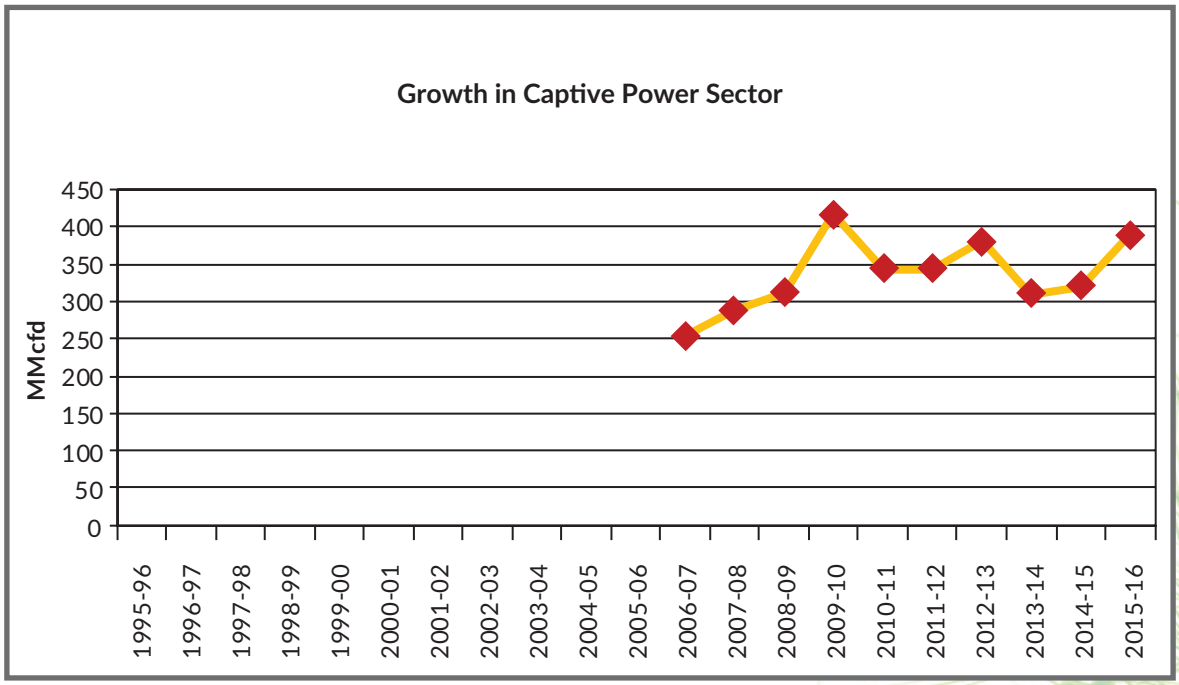
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16


Growth in General Industrial Sector
MMcfd
800
700
600
500
400
300
200
100
0
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16


Growth in Captive Power Sector
MMcfd
450
400
350
300
250
200
150
100
50
0
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

2.4.2 Gas Supplies

The natural gas is produced from the gas fields located in all the four provinces of Pakistan. The gas supply reached a figure of 3,947 MMcfd. The major gas fields of the country include Sui, Uch, Qadirpur, Sawan, Zamzama, Badin, Bhit, Kandhkot, Mari and Manzalai. In this regard the data related to province-wise natural gas supplies is placed at **Table 2.29.** The field-wise natural gas supplies to SNGPL, SSGCL and Independent systems are tabulated in **Table 2.30.** The data regarding province wise supplies (including LNG) are graphically represented in **Figures 2.3** and **2.4.** Sindh stood as the chief supplier at around 64% with Balochistan, KP and Punjab to follow with shares of 17%, 9% and 3% respectively.

Figure 2.3: Natural Gas Supplies (Including LNG) during FY 2015-16

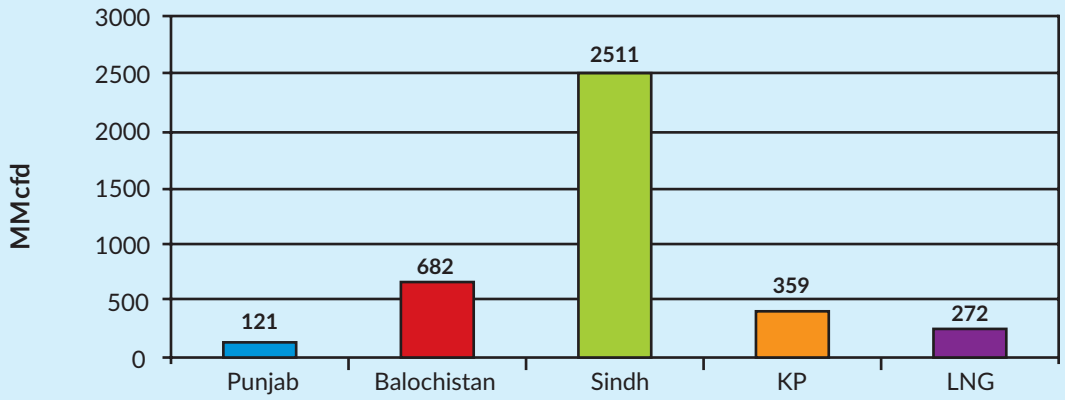


Figure 2.4: Provincial / RLNG Share in Gas Supplies

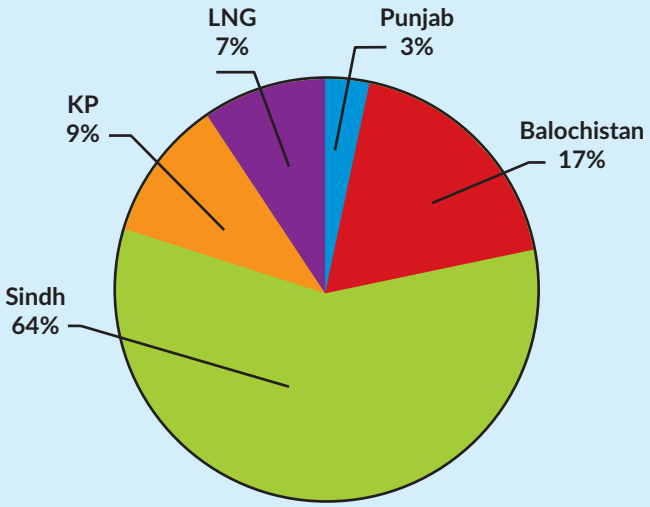


Table 2.29: Natural Gas Supplies (Including LNG) during FY 2015-16

MMcfd

Province	Production
Punjab	121
Balochistan	682
Sindh	2511
KP	359
LNG	272
Total	**3,945**

Table 2.30: Field-wise Natural Gas Supplies (including LNG) to SNGPL, SSGCL and Independent Systems

Natural Gas Supplies to SNGPL				
Gas Fields	2014-15		2015-16	
	MMcfd	BBtu/d	MMcfd	BBtu/d
Balochistan				
Loti Pirkoh	23	20	22	19
Sui	250	247	270	259
Subtotal, Balochistan (SNGPL)	**274**	**267**	**292**	**278**
Sindh				
Badar	11	7	12	7
Chachar	2	2	3	2
Hasan.B-22	6	4	9	6
Kandhkot	64	53	63	52
Qadirpur(Perm)	48	33	41	28
Qadirpur(Proc)	302	256	253	223
Qadirpur(Raw)	32	27	39	33
Saqib-1a	3	3	0	0
Sawan	89	88	38	39
Tajjal	10	10	3	3
Zamzama (SNGPL)	92	73	56	44
Koonj	2	1	1	1
Mari Deep	20	11	11	6
Mari Engro	25	18	82	59
Latif	44	44	37	37
Subtotal,Sindh (SNGPL)	**732**	**623**	**648**	**540**

Natural Gas Supplies to SNGPL				
Gas Fields	2014-15		2015-16	
	MMcfd	BBtu/d	MMcfd	BBtu/d
Punjab				
Adhi	39	43	45	50
Dakhni	27	29	22	23
Dhodak	2	2	1	1
Dhullian	2	2	2	2
Dhurnal	0	0	0	0
Meyal	0	0	0	0
Pariwali	6	7	5	5
Pindori	0	0	0	0
Ratana	0	0	0	0
Ratana Meyal	6	6	11	11
Sadkal	1	1	1	1
Salsabeel	10	10	9	9
Salsabeel Chiltan	3	2	1	1
Soghri	2	2	8	9
Subtotal, Punjab (SNGPL)	**97**	**103**	**105**	**113**
KP				
Chanda	3	4	3	3
Makori	2	2	1	1
Makori (East)	58	62	69	73
Manzalai	8	9	-	-
Manzalai CPF	58	60	45	47
Mela	10	11	12	14
Mamikhel	33	35	30	32
Maramazai	90	92	119	123
Nashpa	79	92	82	96
Subtotal - KP (SNGPL)	**339**	**367**	**359**	**387**
LNG Supply	**35**	**39**	**272**	**252**
Total Gas Supply (SNGPL System)	**1,477**	**1,393**	**1,676**	**1,569**

Natural Gas Supplies To SSGCL				
Gas Fields	2014-15		2015-16	
	MMcfd	BBtu/d	MMcfd	BBtu/d
Balochistan				
Sui	**102**	**101**	**100**	**97**
Subtotal, Balochistan(SSGCL)	**102**	**101**	**100**	**97**
Sindh				
Badin	84.5	89	62.6	67.3
Bhit	295.2	278.6	263	250
Kadanwari	83.5	82.6	44.5	44.2
Kandhkot	1.8	1.5	1.6	1.3
Khipro	48.7	47.8	142.2	141.1
Mari	0.9	0.7	1	0.7
Mazarani	5.5	5.5	3.9	4.0
Miano	54.6	54.1	83.2	82.7
Mirpurkhas	146.7	152.3	223.5	227.8
Haseeb	10.7	8.5	--	--
Sawan	12	12	31.5	31.5
Zamzama	71.5	57	57.9	46.3
Bobi	12.6	14.3	3.6	4.0
Latif	45.1	44.9	36.5	36.5
Adam-X	8.7	8.7	15.2	15.9
Pakhro/ Noorai Jagir	1.1	1.2	3.9	4.4
Hundi Sari	2	1.7	1	1.1
Ubro Town	2.1	2	2	1.7
Pashki Deep & Kunar Deep	118.7	122.2	107.5	113.4
Sujawal	9.4	9.6	18.7	19.6
Sinjhoro	9.7	11.4	25.4	25.7
Nur Bagla Field	7.3	7.9	3.4	3.7
Kirther (Rehman) EWT	10.1	8.7	8.6	7.2
Meher / Mubarak Block	11	11.7	14.3	15.6
Lundali	5.6	4.4	--	--
Jakhro	11.2	10.8	8.5	8.2
Dachrapur	--	--	--	--
SNGPL (Ghotki) - Ex Qadirpur	4.9	4.3	2.1	1.8
Zargoon	9.2	8.5	10.6	10.1
Gambat	0.4	0.4	5.2	5.7
Subtotal - Sindh (SSGCL)	**1,089**	**1,073**	**1,182**	**1,172**
Total Gas Supply (SSGCL System)	**1,190**	**1,774**	**1,283**	**1,269**

Independent System

MMcfd

Fields	2014-15	2015-16
Mari (Sindh)	554	593
OGDCL Field Uch (Balochistan)	286	290
OGDCL Field Reti Meru (Sindh)	7	13.4
Kandhkot (Sindh)	88	75
Nandpur / Panjpir (Punjab)	21	16.1
Total (Independent System)	**956**	**988**
Total Country wide Supplies	**3,585**	**3,947**

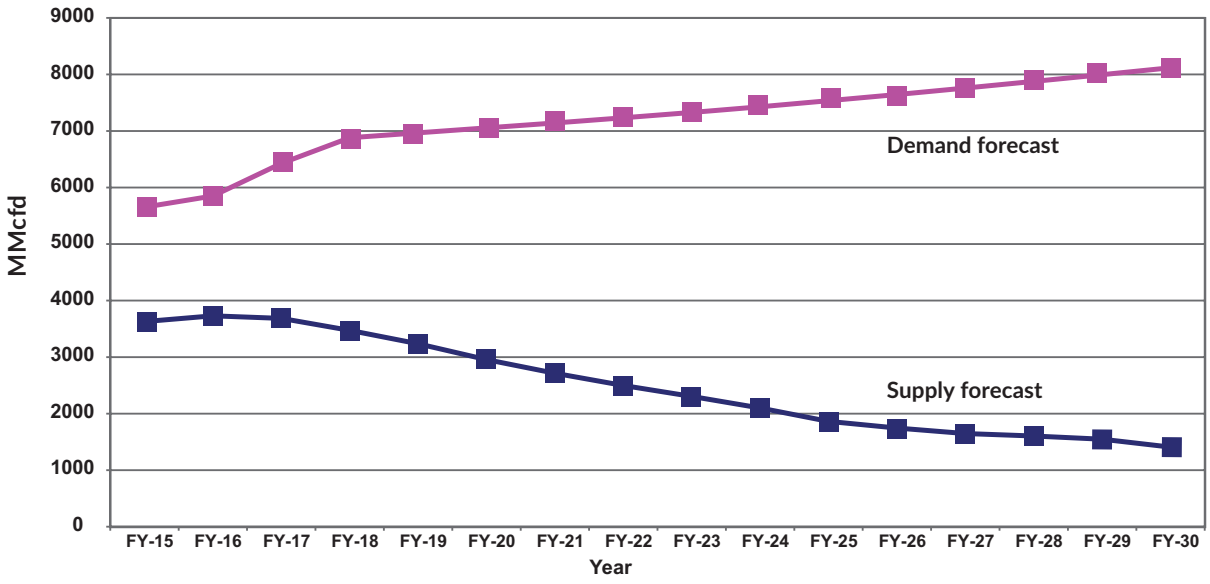
Source: SNGPL, SSGCL, MPCL, OGDCL, PPL

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

2.5.1 Demand Forecast

Both gas utility companies have added 324,501 consumers including domestic, commercial and industrial consumers, in their respective systems, during fiscal year 2015-16. Consumer addition is increasing the gap between demand and supplies, day by day. Especially in winter, the gas consumption 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 2015-16 to FY 2029-30 is given in **Appendix–I**. The same is shown in **Figure 2.5.**

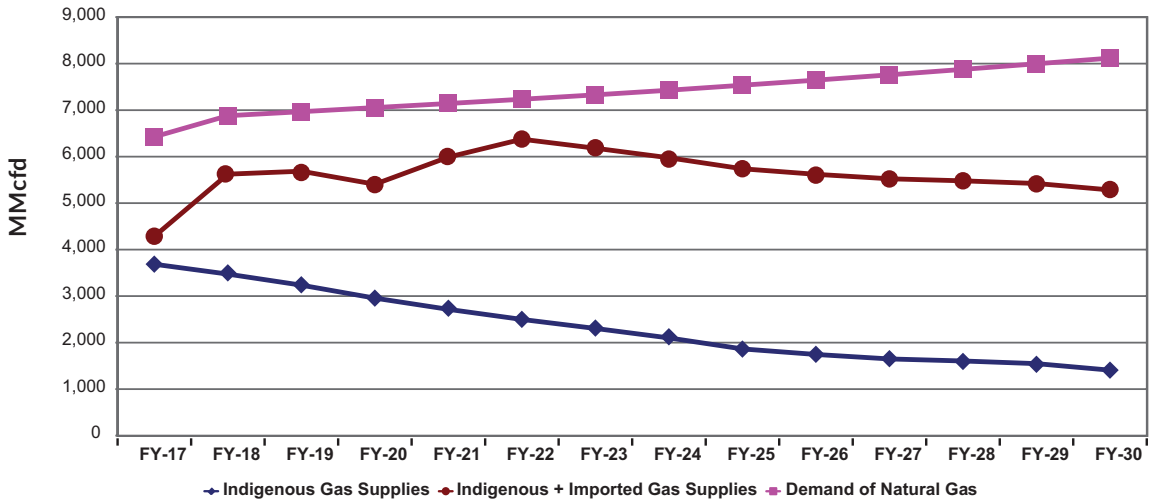
Figure 2.5 : Demand Supply Scenario (Indigenous Supplies Only)



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)

The gap between the demand of natural gas and supplies (indigenous, imported natural gas, LNG) is shown in **Appendix – II** and **Figure 2.6.**

Figure 2.6 : 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 4,099 MMcfd in FY 2019-20 and 6,711 MMcfd by FY 2029-30 without the imported gas. The possible gap can be bridged through enhancement in indigenous exploration, import of interstate natural gas and LNG, etc.

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, however, the Government fixes consumer gas prices and as a matter of policy, maintains them at a uniform level throughout the country. The two utilities, SSGCL and SNGPL supplying gas to consumers in their operational areas are not required to maintain or provide a breakdown of costs of service delivery for different segments of the transmission and distribution system or for supplying gas to different consumer categories. 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 tariffs and the prescribed prices determined by OGRA for SSGCL & SNGPL and for various consumer segments for FY 2015-16 are given in **Table 2.31.**

The consumer price of natural gas in Pakistan comprises (a) the prescribed price for the gas companies and (b) a Gas Development Surcharge (GDS). OGRA fixes the 'prescribed price' for the gas utilities after public hearings where stakeholders express their views. The prescribed price includes the following elements:

- Producer gas prices, which are linked with international prices of crude oil and HSFO
- Excise duty
- Transmission and distribution costs
- Depreciation
- Return to SSGCL and SNGPL at the rates of 17% and 17.5% respectively of the net depreciated value of the assets excluding non-operating income and expenditure, and income tax.

The prescribed price is designed to enable the two T&D companies to achieve fixed returns on assets and difference between consumer tariffs and prescribed

prices is reflected in the GDS account. OGRA had introduced incentive oriented efficiency benchmarks for Unaccounted for Gas and Human Resource Cost, after due consultation with all concerned, which are having salutary effect on the performance of the utilities. 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.

Table 2.31: Consumer Gas Tariff Schedule for FY 2015-16

1) Sui Northern Gas Pipelines Limited 2) Sui Southern Gas Company Limited						
Category			Sale Prices			
			w.e.f 01-07-2015	w.e.f 01.09.2015	w.e.f 01.01.2016	w.e.f 01.04.2016
			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	106.14	110.00	110.00	110.00
		All off-takes at flat rate of				
	(ii)	Upto 300 M^3 per month	212.28	220.00	220.00	220.00
		All off-takes at flat rate of				
	(iii)	Over 300 M^3 per month	530.69	600.00	600.00	600.00
		All off-takes at flat rate of				
		Minimum Monthly Charges (Rs.)	143.29	148.50	148.50	148.50
	c)	**Bulk Meters**: Government and semi-Government offices and Hospitals, Clinics, Maternity Homes, Government Guest Houses, Armed Forces messes, Langars, Universities, Colleges, Schools and Private Educational Institutions, Orphanages and other Charitable Institutions alongwith Hostels and Residential Colonies to whom gas is supplied through bulk meters including captive power.				
		Sale Price: All off-takes at flat rate of	530.69	600.00	600.00	600.00
		Minimum Monthly Charges (Rs.)	3,184.20	810.00	810.00	810.00
(ii)		**B. Commercial Consumers:** All Establishments Registered as Commercial Units with Local Authorities or Dealing in Consumer Items for Direct Commercial Sale like Cafes, Bakeries, Milk Shops, Tea Stalls, Canteens, Barber Shops, Laundries, Hotels, Malls, Places of Entertainment like Cinemas, Clubs, Theaters and Private Offices, Corporate Firms etc.				
		Sale Price: All off-takes at flat rate of	636.83	700.00	700.00	700.00
		Minimum Monthly Charges (Rs.)	3,821.04	3,304.00	3,304.00	3,304.00

(iii)		C. Special Commercial (Roti Tandoors)				
	(i)	Upto 100 M^3 per month	106.14	110.00	110.00	110.00
		All off-takes at flat rate of				
	(ii)	Upto 300 M^3 per month	212.28	220.00	220.00	220.00
		All off-takes at flat rate of				
	(iii)	Over 300 M^3 per month	636.83	700.00	700.00	700.00
		All off-takes at flat rate of				
		Minimum Monthly Charges (Rs.)	143.29	148.50	148.50	148.50
(iv)		D. Ice Factories				
		Sale Price	636.83	700.00	700.00	700.00
		Minimum Monthly Charges (Rs)	3,821.04	3,304.00	3,304.00	3,304.00
(v)		E. Industrial Consumers				
		Sale Price	488.23	600.00	600.00	600.00
		Minimum Monthly Charges (Rs)	16,463.14	20,232.00	20,232.00	20,232.00
(vi)		F. Captive Power				
		Sale Price	573.28	600.00	600.00	600.00
		Minimum Monthly Charges (Rs)	19,330.66	20,232.00	20,232.00	20,232.00
(vii)		G. CNG Stations				
		Sale Price	656.52	700.00	700.00	700.00
		Minimum Monthly Charges (Rs)	22,138.76	23,604.00	23,604.00	23,604.00
(viii)		H. Cement Factories				
		Sale Price	742.97	750.00	750.00	750.00
		Minimum Monthly Charges (Rs)	25,053.41	25,290.00	25,290.00	25,290.00
(ix)		I. Fertilizer Factories				
(1)		**Pak American Fertilizer Limited, Daudkhel.**				
	(a)	Feed Stock	123.41	200.00	200.00	123.41
	(b)	Fuel	488.23	600.00	600.00	600.00
(2)		**Pak Arab Fertilizer Limited, Multan.**				
	(a)	Feed Stock	123.41	200.00	200.00	123.41
	(b)	Fuel	488.23	600.00	600.00	600.00
(3)		**Dawood Hercules Chemicals Limited, Chichoki Malian, Sheikhupura District:**				
	(a)	Feed Stock	123.41	200.00	200.00	123.41
	(b)	Fuel	488.23	600.00	600.00	600.00

(4)		Pak-China Fertilizer Limited / Hazara Phosphate Plant Limited, Haripur.				
	(a)	Feed Stock	123.41	200.00	200.00	123.41
	(b)	Fuel	488.23	600.00	600.00	600.00
(5)		ENGRO Fertilizer Company Limited				
	(a)	Feed Stock –NEW	70.61	70.61	72.73	72.73
	(b)	Fuel	488.23	600.00	600.00	600.00
(6)		Fauji Fertilizer Bin Qasim Ltd.				
	i)	Feed Stock upto 60 MMcfd	123.41	200.00	200.00	123.41
	ii)	Additional allocation (10 MMcfd) Provisional	70.61	70.61	200.00	123.41
	iii)	Fuel	488.23	600.00	600.00	600.00
(x)		J. Power Stations				
		WAPDA/KESC				
	(a)	Sale Price	488.23	600.00	600.00	613.00
		Minimum Monthly Charges (Rs)	16,463.14	20,232.00	20,232.00	20,670.36
	(b)	WAPDA's Natural Gas Turbine Power Station, Nishatabad, Faisalabad.				
		Sale Price	488.23	600.00	600.00	613.00
		Fixed Monthly Charges (Rs)	975,000	975,000	975,000	975,000
	(c)	Liberty Power Limited, Dharki.				
		Sale Price	713.89	713.89	648.52	648.52
		Minimum Monthly Charges (Rs)	24,071.94	24,071.94	21,867.71	21,867.71
(xi)		K. Independent Power Producers				
		Sale Price	488.23	600.00	600.00	613.00
		Minimum Monthly Charges (Rs)	16,463.14	20,232.00	20,232.00	20,670.36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LIQUEFIED PETROLEUM GAS
LIQUEFIED NATURAL GAS
COMPRESSED NATURAL GAS

State of the
Regulated Petroleum
Industry **2015-16**

3. Liquefied Petroleum Gas (LPG)

3.1 Overview

Around 64% 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 starved country like Pakistan 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 0.5% 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 1,115,130 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 is being encouraged to slow down the ongoing deforestation in hilly areas and for providing healthier and hygienically safe living 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. Currently, in Pakistan vast majority of poor people is relying on conventional

View of LPG Plant

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 372,850 M.Tons of LPG has been imported during FY 2015-16. 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.

Given the de-regulated environment in the LPG sector, 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. Subsequently, 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.

As of June 30, 2016, there are 12 LPG producers, 108 LPG marketing companies operating in the country, having more than 4,000 authorized distributors. Further, there are 8 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 36 LPG equipment manufacturing companies as authorized manufacturer of LPG equipments.

3.2 LPG Consumption

During FY 2015-16, LPG consumption stood at around 3,055 tons per day. **Table 3.1** gives a regional/sectoral consumption summary of LPG for FY 2015-16 in the country. LPG consumption has increased by 59% compared to last fiscal year.

Table 3.1: LPG Regional/Sectoral Consumption for FY 2015-16

Sectors/Regions	Domestic	Commercial	Industrial	Total
Federal Capital Area	5,869	6,141	0	**12,010**
Punjab	220,904	294,078	222,202	**737,184**
Sindh	16,853	37,992	26,732	**81,577**
KP	83,941	12,106	7,038	**103,085**
Balochistan	9,037	32,965	16,981	**58,983**
Northern Area	47,430	9,622	469	**57,521**
FATA	15,280	9,533	0	**24,813**
AJK	29,369	8,857	1,731	**39,957**
Annual (Tonnes)	**428,683**	**411,294**	**275,153**	**1,115,130**
Daily (Tonnes)	**1,174**	**1,127**	**754**	**3,055**

Source: LPG Marketing Companies Reports

Figure 3.1: LPG Regional Consumption Share

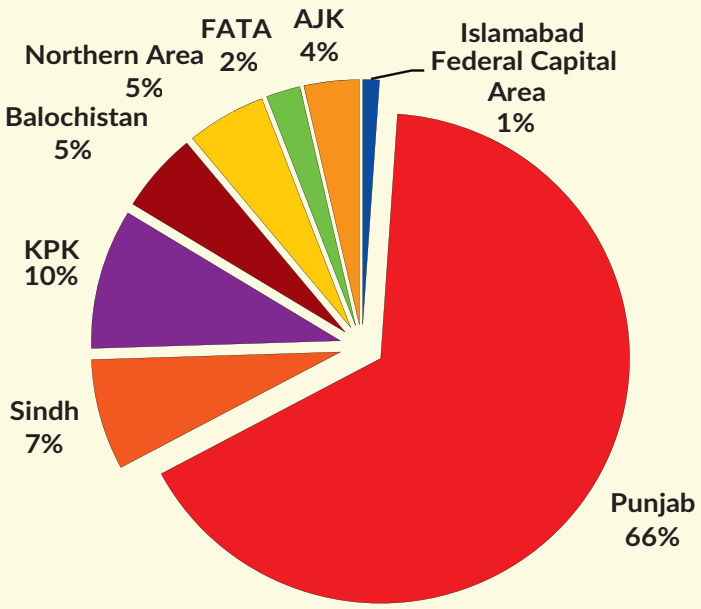
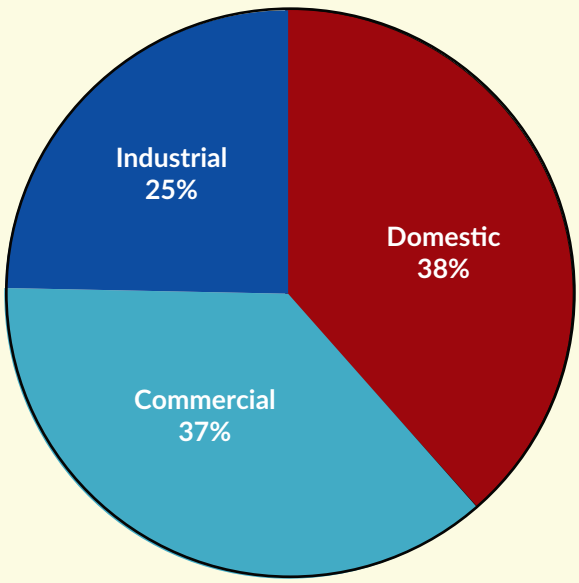


Figure 3.2: Sector-wise LPG Consumption



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 3.2** and the respective share of each supply source in the total countrywide supply is shown in **Figures 3.3 and 3.4.**

Table 3.2: LPG Supply during FY 2015-16

Sector	Annual (Tonnes)	Daily (Tonnes)
Attock Refinery	2,039	6
Pakistan Refinery	14,767	40
National Refinery	5,864	16
Pak-Arab Refinery	139,670	383
Byco Refinery	15,510	42
Subtotal - Refineries	**177,850**	**487**
Fields		
OGDC (Bobi)	8,494	23
OGDC (Dakhni)	3,209	9
OGDC (Kunnar)	8,054	22
OGDC (Chanda)	3,589	10
OGDC (Sinjhoro)	42,520	116
UEPL(Naimat Basal)	25,877	71
OPL (Ratana)	7,420	20
POL	21,460	59
PPL(Adhi)	58,385	160
PPL(Hala)	82	0
JJVL (On behalf of SSGCL)	134,939	370
MOL	157,637	432
Subtotal - Fields	471,667	1,292
Imports	**372,850**	**1,022**
Total Supply	**1,022,367**	**2,801**

Source: LPG monthly production reports of producers

Figure 3.3: Sector-wise Production Share of LPG during 2015-16

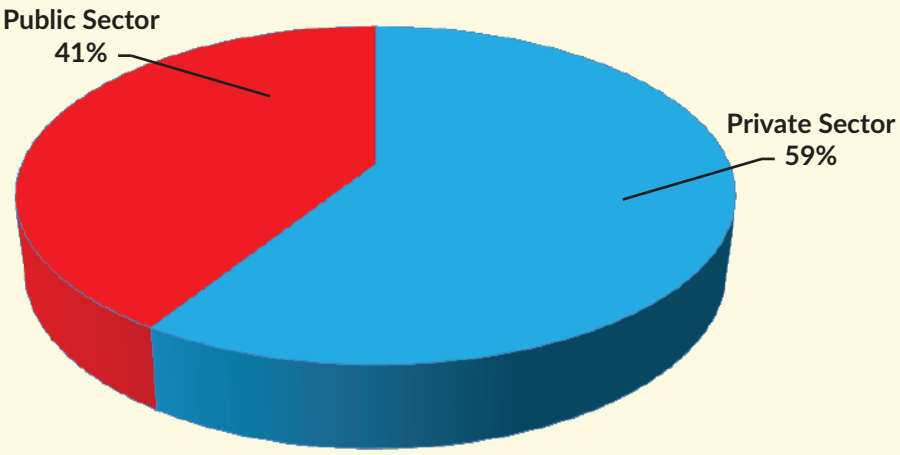
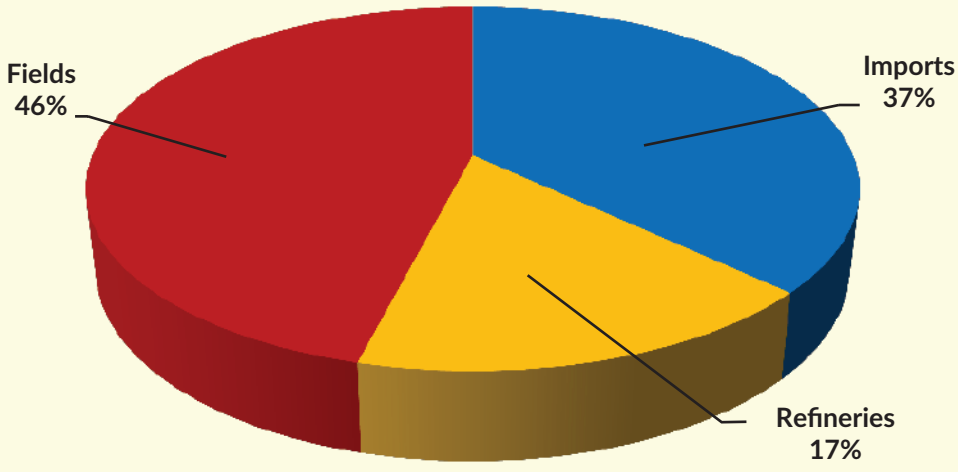


Figure 3.4: Sector-wise LPG Supplies Share 2015-16



LPG Storage Tanks

4. Liquefied Natural Gas (LNG)

Natural gas is presently contributing nearly 46% in Pakistan's Primary Energy Supply mix. In view of the natural gas demand supply gap, GoP introduced LNG Policy for potential investors in year 2006 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 its 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 Rules encourage prospect project developed to enter into LNG market after fulfillment of requisite formalities including license from OGRA as per present Policy.

Table 4.1: The Status of LNG Licenses - June 30, 2016

Sr.No	Name of LNG Developer	License Issuance Date	Type of License Issued	Envisaged RLNG Volume (MMscfd)
i.	Pakistan GasPort Ltd. (PGPL)	Oct 03, 2011	Construction License of LNG Receiving Terminal, operation, sales and marketing of RLNG/LNG (Port Qasim, Karachi) The case is under review for extension in Terminal Construction Period	400 Under Review
ii.	Global Energy Infrastructure Ltd. (GEIP)	Oct 03, 2011	Construction License of LNG Receiving Terminal, operation, sales and marketing of RLNG/LNG (Port Qasim, Karachi) The case is under review for extension in Terminal Construction Period	500 Under Review
iii.	Engro Elengy Terminal Ltd. (EETL)	Mar 18, 2016	Operation License of LNG Receiving Terminal(Gharo Creek, Port Qasim, Karachi) Operation License Issued	600-690 Issued
iv.	Bahria Foundation	-	Request received for grant of Construction License Under Process	Provisional
v.	PSO	-	Marketing of LNG	In Process

Engro Elengy Terminal Limited (EETL) has established its LNG regasification terminal at Port Qasim Karachi. 400 MMcfd of LNG is being imported by the GoP through Pakistan State Oil Company Limited and EETL is providing the regasification services at a tolling tariff. OGRA granted license for operation of LNG terminal to EETL on 18th March 2016.

Injection of additional volume of RLNG in the national grid shall mitigate the natural gas shortfall. Pakistan produces around 4,000 MMcfd (4 bcfd) of indigenous natural gas against demand of over 6,000 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.

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.

5. Compressed Natural Gas (CNG)

In Pakistan, CNG was introduced in year 1992 as an alternate fuel for automotives with a view 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 past few years, indigenous gas supplies were not been able to meet the rising demand of natural gas which resulted into widening of supply-demand gap of the natural gas. Consequently, gas supply to various sectors including CNG sector has been curtailed. In view of this situation, GoP has imposed ban on issuance of new CNG provisional licenses all across the country.

5.1 Licenses for CNG Stations

Since February 2008, no new license has been issued, due to imposition of ban on issuance of new CNG licenses for establishment of CNG stations across the country by the Federal Government except to province of Balochistan as the ban was subsequently lifted for Balochistan. However, nineteen (19) existing licenses of those CNG stations were extended upon fulfillment of the requisite formalities, as per law and applicable rules, for operation of CNG stations.

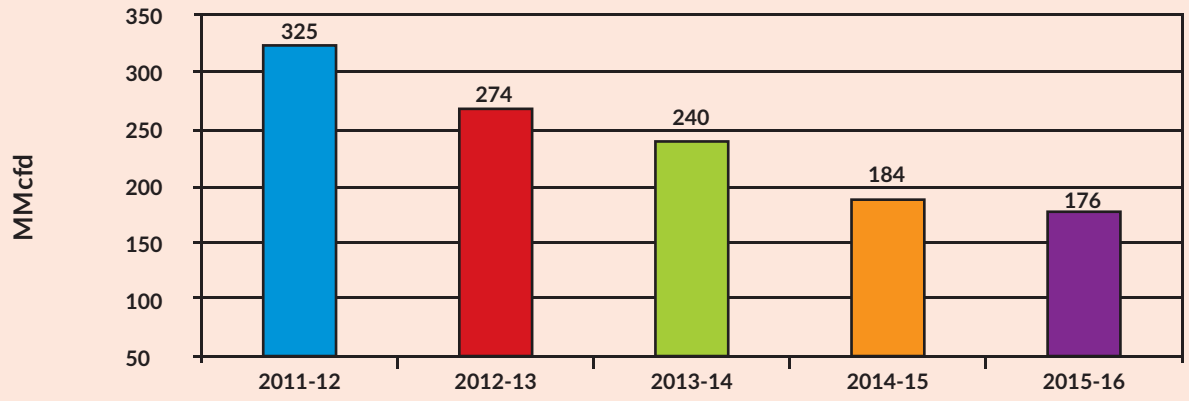
5.2 Gas Consumption in CNG Sector

Gas consumption in CNG Sector during last five fiscal years (i.e., from 2011-12 to 2015-16) is shown in following **Figure 5.1.**

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.

Figure 5.1: Gas Consumption in CNG Sector during Last Five Years

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OIL

State of the Regulated Petroleum Industry 2015-16

6. Oil Sector

6.1 Sectoral Consumption of Petroleum Products

The financial year 2015-16 registered a growth rate of 5.2 percent in the consumption of petroleum products to 23.7 million tons from 22.6 million tons during FY 2014-15 (**Table 6.1**)

Table 6.1: Sectoral Consumption of Petroleum Products

000 Tons

Sector	MS+HOBC +100 LL	HSD	Kerosene	Aviation Fuels	Fuel Oil	LDO	Total Energy	Non-Energy	Grand Total
Domestic	-	-	74.3	-	0.1	-	74.5	-	74.5
Industry	61.3	461.6	32.0	-	1,464.0	4.6	2,023.4	166.7	2,190.1
Agriculture	-	-	-	-	-	14.5	14.5	-	14.5
Transport	5,725.8	6,831.1	0.6	463.4	1.5	0.7	13,023.0	162.2	13,185.3
Power	-	280.0	-	-	7,485.3	0.0	7,765.3	0.8	7,766.1
Government	14.0	173.2	35.2	156.8	2.7	4.3	386.2	112.1	498.3
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**
Total FY-15	**4,756.1**	**7,411.5**	**175.2**	**571.7**	**9,202.6**	**43.1**	**22,160.1**	**392.8**	**22,553.0**
% Growth	**22.0**	**4.5**	**(18.9)**	**8.5**	**(2.7)**	**(44.1)**	**5.1**	**12.5**	**5.2**

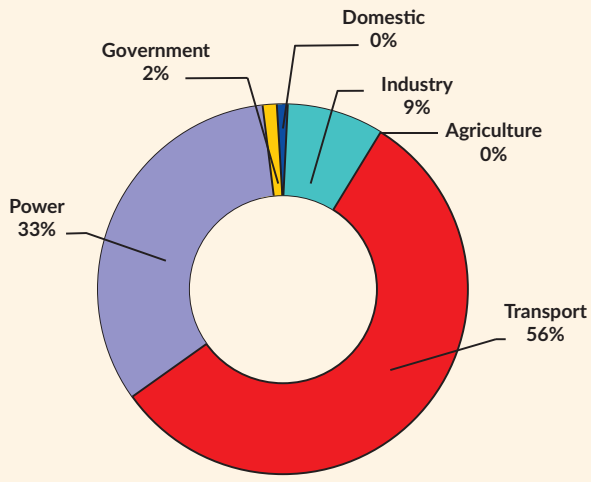
Source: OCAC

The sectoral consumption during FY 2016 showed a mixed trend, whereby industrial, transport and government sectors grew by 49 percent, 15 percent and 13 percent respectively as compared to the previous year. The consumption of POL products in agriculture, domestic and power sectors contracted by 61 percent, 16 percent and 14 percent respectively during the same period.

The consumption of MS increased by 22 percent in FY 2016 compared to FY 2015 which was mainly consumed by the transport sector. This increase may be attributed to lower prices of MS and increased demand for generators due to load-shedding. Similarly, HSD consumption grew by 5 percent over the previous year mainly on account of higher utilization by transport sector as compared to last year.

Figure 6.1 illustrates the sector-wise share in POL consumption. The share of transport sector increased by

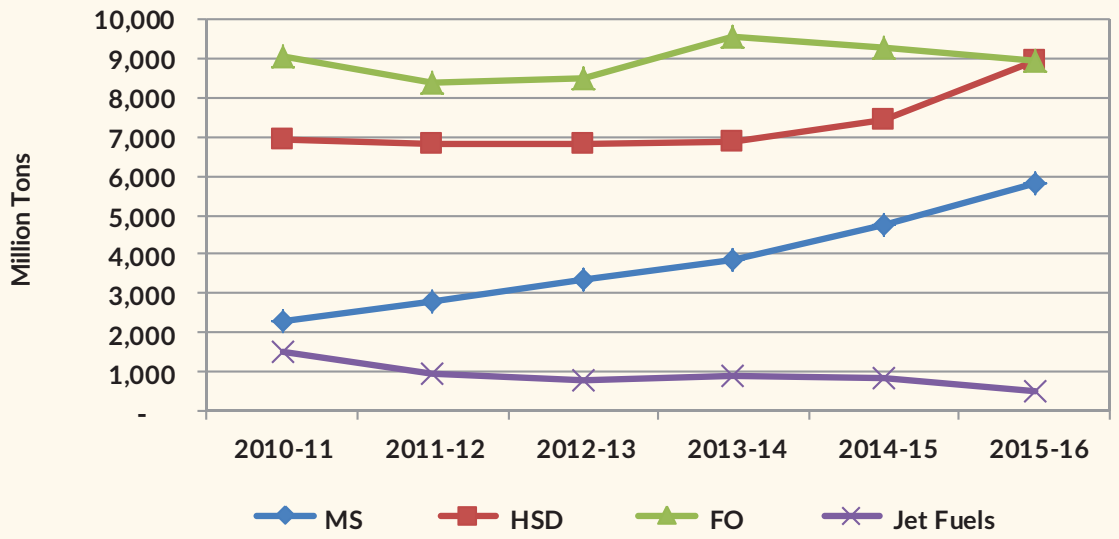
Figure 6.1: Sector Share in POL Consumption



5 percent from 51 percent to 56 percent during FY 2016 whereas the share of power sector declined by 8 percent from 41 percent to 33. The share of industrial sector increased by 3 percent from 6 percent to 9 percent during current year as compared to the corresponding period last year mainly on account of higher consumption of Furnace Oil by the industrial sector for power generation.

Figure 6.2 depicts the trend of main POL products such as MS, HSD, FO and Jet Fuels. MS consumption indicate a steep rise over the years mainly due to rising demand by the transport sector along with increasing demand for generators due to load shedding and lower prices of MS because of steep decline in oil prices in the international market. HSD trend line show more consistent trend up till 2013-14 and slight growth in 2014-15 and more robust rise in demand in the current year. FO shows mixed trend whereas Jet Fuels indicates slightly decline trend over the years.

Figure 6.2: Consumption Trend of Main POL Products



6.2 Market Share

The main supplier of POL products during FY 2016 was Pakistan State Oil (PSO) with 56 percent market share slightly down from 57 percent compared to the corresponding period last year. The second major player was Shell with 10 percent market share. Other major participant, APL lost 2 percent of market share from 10 percent to 8 percent during the same period, whereas TPML and TPPL kept intact their share at 5 percent and 4 percent respectively. Hascol and GOPL have increased their market share by more than 1 percent during the period under discussion. PSO and Shell were followed by APL with 8 percent, Hascol with 6 percent and TPML with 5 percent market share in the supply of petroleum products to the consumers during FY 2016 **(Figure 6.3.)**

Figure 6.3 : Market Share in Energy Products

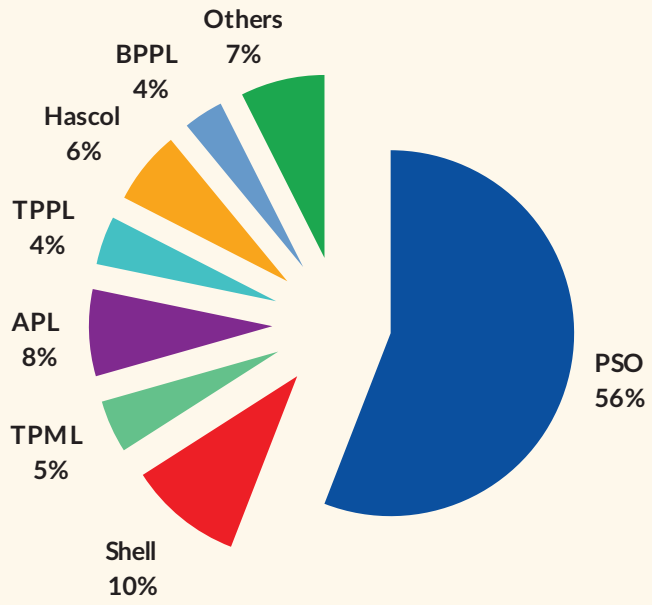


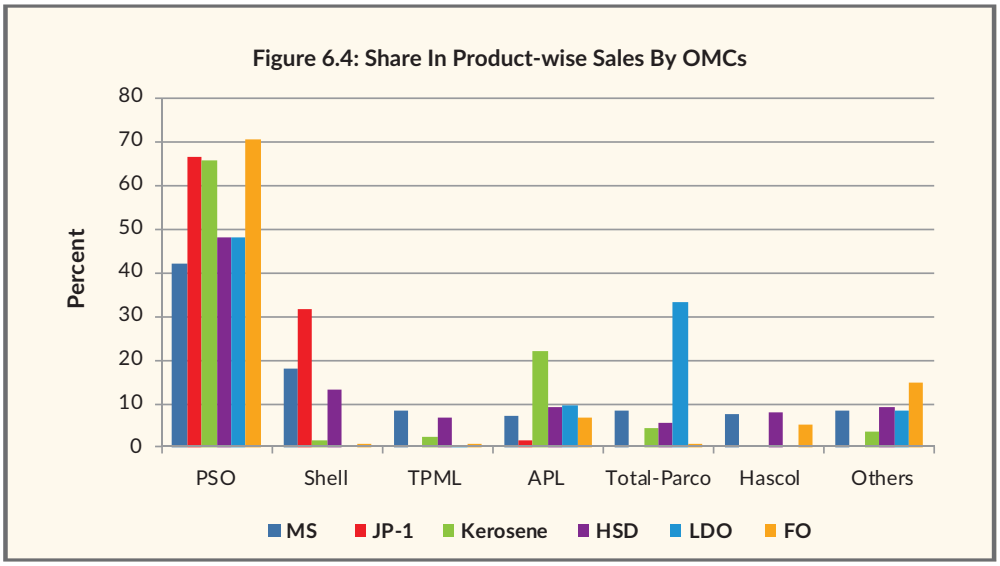
Table 6.2 and **Figure 6.4** illustrate the details of the product-wise sales by OMCs. PSO remained the lead supplier of all POL products during FY 2016. Shell and APL were the other main suppliers.

6.2: Product-wise Sales by OMCs

000 Tons

Products	PSO	Shell	TPML	APL	Total-Parco	Pearl Parco	Admore	Hascol	Askar	OOTCL	BPPL	BTCPL	Zoom	GO
100/LL	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-
HOBC	20.9	10.5	5.6	0.4	3.1	-	-	-	-	-	0.0	-	-	0.0
MS	2,421.9	1,042.9	491.2	410.0	476.6	-	96.7	435.4	8.3	71.1	99.0	83.5	0.9	121.8
JP-1	323.8	152.8	-	7.4	-	-	-	-	-	-	-	-	-	-
Kerosene	92.9	2.3	3.6	31.1	6.1	0.4	4.7	-	0.0	-	-	-	-	-
HSD	3,731.9	1,041.7	521.0	701.0	429.7	86.4	64.3	608.0	15.4	96.2	140.1	130.1	-	180.1
LDO	11.7	-	0.1	2.3	8.0	1.9	-	-	0.0	-	-	-	-	0.0
FO	6,333.0	75.1	57.7	623.1	71.0	407.5	2.2	461.9	0.3	0.3	576.3	334.7	0.2	10.7
Total	12,936.0	2,326.4	1,079.3	1,775.3	994.5	496.3	167.8	1,505.4	24.1	167.6	815.4	548.3	1.2	312.7

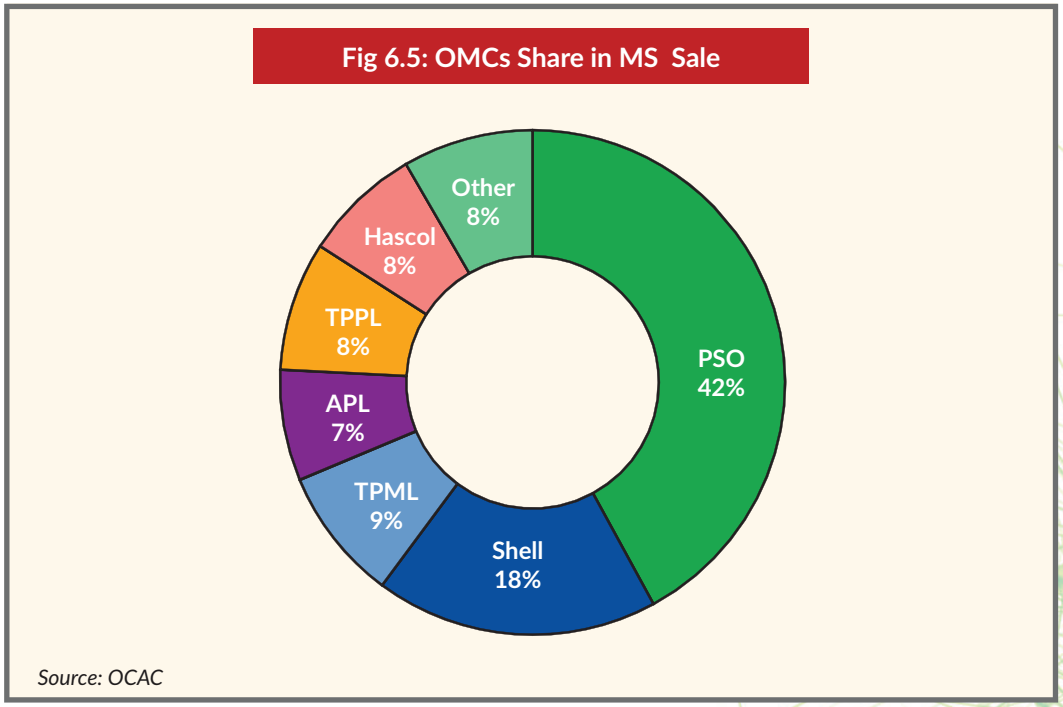
Source: OCAC



6.2.1 OMCs' Market Share in Product Sales

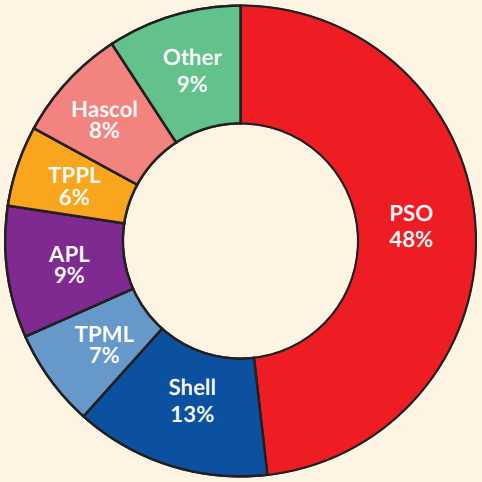
PSO acquired 42 percent OMCs' share in sale of MS, however its share declined by 5 percent during FY 2016 as shown in **Figure 6.5.** Other major OMCs such as Shell, TPML and TPPL have lost some of its market share whereas main gainers were Hascol and other small OMCs whose share in MS sale has increased by about 4 percent each during the same period. PSO was followed by Shell with 18 percent, TPML 9 percent, TPPL and Hascol each with 8 percent market share in MS supply.

Similarly, **Figure 6.6** provide details of OMCs share in HSD sales. Being the largest OMC and the main supplier, PSO supplied almost half of total HSD sales. However, its market share has declined from 50 percent to 48 percent



during current year. Shell, TPML and APL lost some of its market share whereas Hascol and other small OMCs combinedly increase their market share by around 3 percent each. Shell captured around 13 percent, APL 9 percent and Hascol 8 percent share of total HSD sales. Market of Jet Fuel was shared by PSO and Shell with ratio of around 70 to 30. PSO has increased its share in JP-1 supply from 63 percent to 67 percent over the last

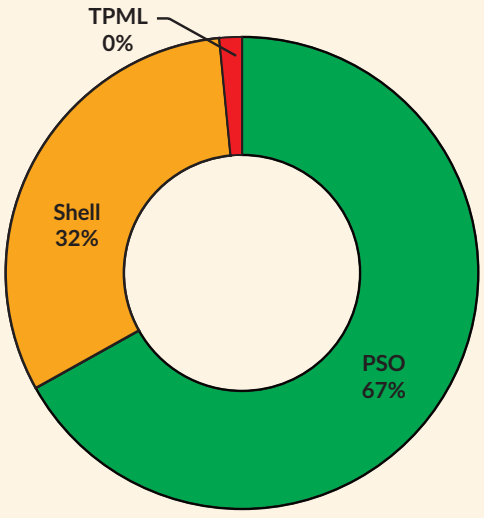
Fig 6.6: OMCs' Percent Share in HSD Sale



Source: OCAC

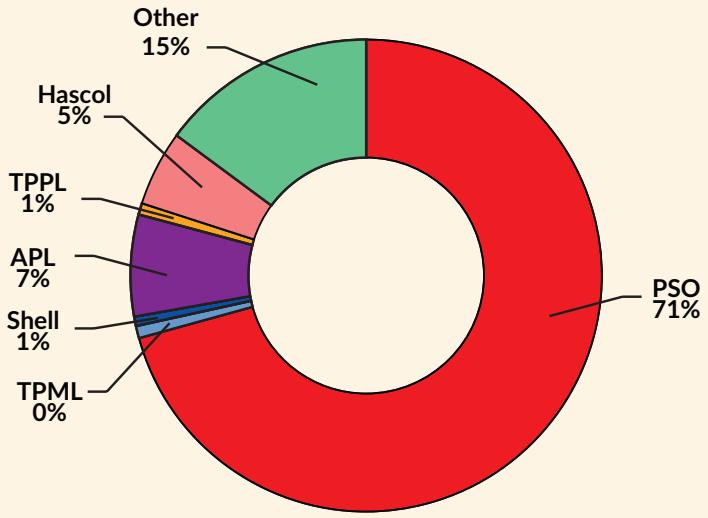
year whereas Shell's share has declined from around 35 percent to 32 percent during the same period (**Figure 6.7).** Likewise, **Figure 6.8** illustrates OMCs' share in FO sales. PSO has increased its market share from 67 percent last year to 71 percent at present and remained the main supplier of FO. APL has lost almost 4 percent of

Fig 6.7: OMCs' Share in JP-1 Sale



Source: OCAC

Fig 6.8: OMCs' Percent Share in FO Sale



Source: OCAC

its market share from 11 percent to 7 percent during the same period. Hascol and other smaller OMCs have secured their shares with minor variations.

6.3 Refineries' Production

Total refineries production (energy & non-energy) was 11.31 million tons in FY 2016 compared to last year's 11.43 million tons **(Table 6.3).** Total production by refineries during FY 2016 declined by almost 1 percent as against the growth of 3.5 percent last year. This decline may be attributed to 15 percent less production by ARL (due to shut down for maintenance) during the year compared to last year. BPPL registered a growth of 36 percent during the year mainly on account of higher production of FO (60 percent), Naphtha (49 percent) and HSD (25 percent) compared to last year.

Table 6.3: Refineries Production & Growth During FY 2016

000 Tons

Refinery	Energy Products	Non-Energy	Total (FY-16)	Total (FY-15)	Growth (%)
PARCO	4,273.3	118.4	4,391.7	4,425.2	(0.8)
NRL	1,764.4	395.3	2,159.7	2,116.3	2.1
PRL	1,635.5	-	1,635.5	1,458.2	12.2
ARL	1,537.4	69.7	1,607.1	1,900.9	(15.5)
BPPL	1,094.2	26.8	1,121.0	823.8	36.1
BOPL	391.4	6.7	398.1	709.9	100.0
Total	**10,696.1**	**617.0**	**11,313.1**	**11,434.4**	**(1.1)**

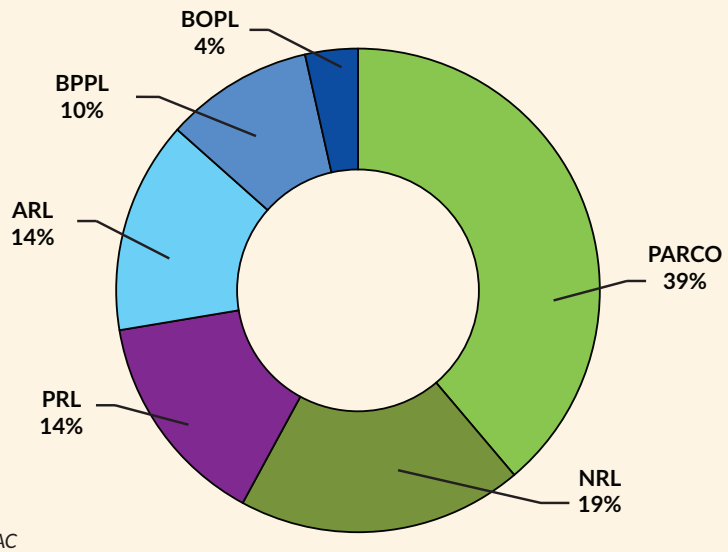
Source: OCAC

With 39 percent market share, PARCO was the largest and main producer of POL products in the country followed by NRL with 19 percent, PRL and ARL each with 14 percent and BPPL with 10 percent share in the total production. PRL and BPPL have increased market share by 1 and 3 percent respectively whereas ARL and BOPL lost its market share 1 and 2 percent respectively during FY 2016 **(Figure 6.9).**

Refineries product wise production pattern during FY 2016 is tabulated in **Table 6.4.**

PARCO produced around 40 percent of total production during FY 2016 and was the main producer of all products except Naphtha. NRL and PRL produced 16 percent and 15 percent of the total refineries production in the same period.

Fig 6.9: Production Share of Refineries



Source: OCAC

Table 6.4: Product-wise Production

000 Tons

Product	PARCO	NRL	PRL	ARL	BPPL	BOPL	Total
LPG	136	7	15	2	11	4	**174**
Naphta	-	227	69	339	93	71	**800**
Avi. Fuels	411	138	128	123	6	-	**806**
MS+HOBC	875	153	256	230	110	7	**1,631**
Kero	63	9	17	43	2	-	**134**
HSD	1,813	821	651	465	433	148	**4,331**
LDO	20	0	-	3	5	3	**31**
FO	955	409	499	333	433	160	**2,789**
Total	**4,273**	**1,764**	**1,635**	**1,537**	**1,094**	**391**	**10,696**

Source: OCAC

6.3.1 Crude Oil Processed by Refineries

Refineries during FY 2016 processed 11.80 million tons of crude (local and imported) compared to previous year's 11.82 million tons. PARCO processed 39 percent of the total crude followed by NRL with 19 percent and PRL & ARL 14 percent share each as given in **Table 6.5.** The ratio of local and imported crude was 28:72 in FY 2016 compared to 30:70 during FY 2015.

Table 6.5: Crude Processed by Refineries

Tons

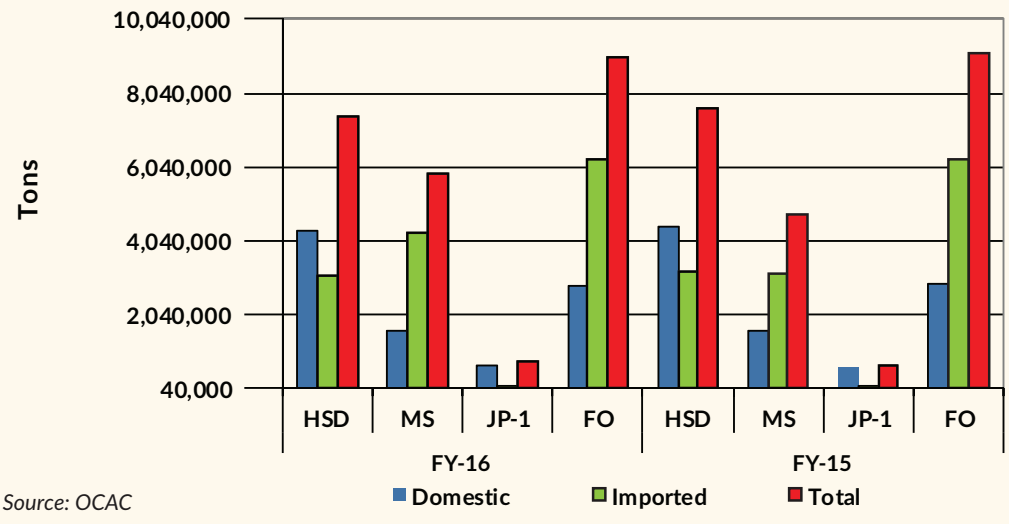
Refinery	Local	Imported	Total	% Share
PARCO	700,037	3,863,240	4,563,277	38.7
NRL	431,164	1,856,088	2,287,252	19.4
PRL	316,577	1,378,846	1,695,423	14.4
ARL	1,683,259	-	1,683,259	14.3
BPPL	165,177	995,806	1,160,983	9.8
BOPL	19,194	390,911	410,105	3.5
Total	**3,315,408**	**8,484,891**	**11,800,299**	**100.0**

Source: OCAC

6.3.2 Imports and Local Production of Deficit Petroleum Products

Imports contributed to 41 percent of HSD, 73 percent of MS, 14 percent of Jet fuels and 69 percent of FO of total POL demand in the country during FY 2016. Major development was witnessed in the import of MS as its share has increased from 66 percent last year to 73 percent at the present, mainly due to shutdown of ARL refinery for maintenance during the same period **(Figure 6.10).**

Fig 6.10: Domestic Production and Imports



Source: OCAC

6.4 Oil Supply Infrastructure

The pipelines, storages operated by refineries and OMCs, port terminals are the main facilities of the oil supply infrastructure. In addition to these main installations, depots and retail outlets of OMCs are also part of the country's oil infrastructure. Oil products are moved using a pool of around 10,000 tank lorries/bowsers and a number of railway tank wagons and pipelines connecting ports, refineries and OMCs installations.

6.4.1 Port Handling Facility

Karachi is the only seaport in the country with two port terminals, viz, Keamari (KPT) and Port Qasim (PQ), which have a combined operational capacity of 35 million TPA. Keamari is the larger of the two and is operating with three oil piers with a combined capacity of 24 million TPA. The pier-wise operational capacities of both ports are given in **Table 6.6.**

Table 6.6: Available Port Infrastructure in Pakistan for Oil Imports

Oil Pier	Operational Capacity Million Tonnes per Annum
Karachi Port Trust	
OP-I	8.0
OP-II	8.0
OP-III	8.0
Port Qasim Authority	
(MW-1)	2.0
FOTCO	9.0
Total	**35.0**

Source: OCAC

6.4.2 Refineries and OMCs Storage

The OMCs and refineries receive, store, process, and distribute crude oil and petroleum products from their network of depots/installations. The main installations are at Karachi [Keamari, ZOT (Zulifiqarabad Oil Terminal) Korangi and Karachi Airport], Shikarpur, Mehmood Kot, Machike and Morgah in addition to PARCO's pipeline-related storage at Korangi, Qasba Gujrat (Muzaffar Garh), Faisalabad and Machike. The main contributor in OMCs' storage addition was by HPL which increased its MS storage capacity by more than 7500 tons during current year. The product-wise storage capacities of OMCs and refineries are provided in **Table 6.7** and **Table 6.8.**

Table 6.7: OMCs' Up-Country Storage Capacities by Product as of June, 2016

Tons

OMC	JP-1	HOBC	MS	KERO	HSD	LDO	FO	Total
PSOCL	2,279	677	50,545	25,938	137,138	6,796	79,640	**303,013**
SPL	3,300	245	16,147	1,115	52,770	-	-	**73,577**
TPML	-	289	2,850	333	10,390	-	-	**13,862**
APL	-	-	3,688	505	31,547	-	210	**35,950**
TPPL	-	-	4,761	-	4,000	-	-	**8,761**
ADMORE	-	-	1,251	1,349	6,345	-	-	**8,945**
HPL	-	-	9,125	-	16,825	-	-	**25,950**
AOSPL	-	-	147	-	1,433	-	-	**1,580**
BTCPL	-	-	3,500	-	7,000	-	-	**10,500**
ZOOM	-	-	392	-	292	-	-	**684**
GO	-	-	735	-	3,000	-	-	**3,735**
Total	**5,579**	**1,211**	**93,141**	**29,240**	**270,740**	**6,796**	**79,850**	**486,557**

Source: OCAC

Source: OCAC

Table 6.8: Refineries' Storage Capacities by Product as of June, 2016

Tons

Product	ARL	BPPL	NRL	PRL	PARCO	Total
LPG	150	630	210	0	2,276	**3,266**
JP-1	11,000	0	5,800	2,478	15,800	**35,078**
JP-8	2,500	0	3,000	2,296	4,000	**11,796**
MS	17,400	13,900	4,500	8,499	16,300	**60,599**
LDO	1,000	0	1,000	0	5,100	**7,100**
Kerosene	7,000	0	600	1,292	12,500	**21,392**
HSD	20,700	66,000	32,000	18,196	55,700	**192,596**
HSFO / LSFO	45,400	28,000	34,000	19,842	34,000	**161,242**
Naphta	20,200	30,500	33,500	17,200	0	**101,400**
Crude	91,900	128,000	155,000	150,000	358,000	**882,900**
Total	**217,250**	**267,030**	**269,610**	**219,803**	**503,676**	**1,477,369**

Source: OCAC

6.4.3 OMCs' Retail Outlets

PSO has the largest retail outlet network in the country with 47 percent share down from 50 percent last year, followed by Shell with 10 percent and TPML and APL with 7 percent share each. GOPL has added 85 new outlets during FY 2015-16, whereas HPL and PSO expanded its network by 62 and 60 outlets respectively. Details of Region-wise retail outlets of each OMC are shown in **Table 6.9.**

Table 6.9: Region-wise Number of OMCs Retail Outlets - June 2016

Region	PSO	Shell	TPML	APL	TPPL	Admore	Hascol	Askar	BPPL	BTCPL	Zoom	GO	Total
Sindh	762	199	149	77	61	101	117	14	81	90	-	172	**1,823**
Punjab	2,114	446	295	385	189	306	174	272	134	160	12	-	**4,487**
KP	395	75	46	73	22	40	33	63	27	19	-	-	**793**
Balochistan	198	21	-	1	6	9	11	7	9	-	-	-	**262**
Gilgit Baltistan	35	4	10	4	3	3	2	6	5	3	-	-	**75**
Azad Kashmir	49	18	12	17	4	11	3	9	5	2	-	-	**130**
FATA	66	10	2	6	1	1	2	1	-	-	-	-	**89**
Total	**3,619**	**773**	**514**	**563**	**286**	**471**	**342**	**372**	**261**	**274**	**12**	**172**	**7,659**

Source: OCAC

6.5 Financial Performance of OMCs & Refineries

Key financial parameters have been assessed to gauge the financial performance of companies in the downstream oil sector for FY 2015-16. **Table 6.10** and **Table 6.11** present the relevant income statement and balance sheet indicators. **Table 6.12** shows selected financial ratios depicting the solvency, profitability and efficiency of said OMCs.

Table 6.10: Income Statement Indicators of OMCs

Rs. Million

Indicator	PSO	Shell*	APL
Gross Sales	906,204	248,571	144,108
Gross Profit	22,863	10,595	5,633
Taxation	6,016	1,434	1,805
Profit after Taxes	10,273	911	3,829

Table 6.11: Balance Sheet Indicators of OMCs

Rs. Million

Indicator	PSO	Shell*	APL
Fixed Assets (Property Plant Equipement)	6,607	8,089	3,012
Current Assets	274,255	26,236	26,002
Share Capital & Reserves	91,581	5,981	14,317
Current Liabilities	245,963	31,488	15,582

Table 6.12: Selected Financial Indicators of OMCs

Indicator	PSO	Shell*	APL
Current Assets to Liabilities	1.12	0.83	1.67
Earnings per Share (Rs.)	37.81	8.51	46.16

Source: OMCs' Annual Reports

** SPL Annual Report (December 31, 2015)*

Relevant income statement and balance sheet indicators for refineries for FY 2015-16 are shown in **Tables 6.13, 6.14 & 6.15** showing selected ratios representing the solvency, profitability and efficiency of the refinery companies.

Table 6.13: Income Statement Indicators of Refineries

Rs. Million

Indicator	ARL	NRL	PRL	BYCO
Gross Sales	95,960	141,295	64,733	115,400
Gross Profit (Loss)	(902)	11,043	1,990	2,761
Taxation	(5)	2,401	(203)	650
Profit / (Loss) after Taxes	816	7,688	283	1,367

Table 6.14: Balance Sheet Indicators of Refineries

Rs. Million

Indicator	ARL	NRL	PRL	BYCO
Fixed Assets (Property Plant Equipement)	34,965	23,628	12,100	12,581
Current Assets	6,714	29,957	12,302	20,642
Share Capital & Reserves	22,378	36,822	(1,330)	1,834
Current Liabilities	27,816	16,241	20,348	39,179

Table 6.15: Selected Financial Indicators of Refineries

Indicator	ARL	NRL	PRL	BYCO
Current Assets to Liabilities	0.96	1.84	0.60	0.53
Earnings / (Loss per Share (Rs.)	9.57	96.14	0.93	1.40

Source: Refineries Annual Reports, 2016

APPENDICES

State of the Regulated Petroleum Industry 2015-16

MMcfd

Demand Supply Scenario with Indigenous Natural Gas — Appendix - I

Projected Demand

SNGPL	FY-15	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	610	764	803	842	881	920	959	998	1037	1076	1115	1154	1193	1232	1271
Commercial	68	68	82	82	82	82	82	82	82	83	83	83	83	84	84	84
General Industries	400	400	455	455	455	455	455	455	455	455	455	455	455	455	455	455
Fertilizer	250	250	252	252	252	252	239	239	239	239	239	239	239	239	239	239
Cement	200	200	202	202	202	202	202	202	202	202	202	202	202	202	202	202
Captive Power	180	180	223	223	223	223	223	223	223	223	223	223	223	223	223	223
Power	650	650	767	1136	1136	1136	1136	1136	1136	1136	1136	1136	1136	1136	1136	1136
Transport	300	300	382	382	382	382	382	382	382	382	382	382	382	382	382	382
Internal Consumption	12	12	10	9	8	7	7	6	5	5	5	4	3	2	1	0
Total	**2670**	**2670**	**3137**	**3544**	**3582**	**3620**	**3646**	**3684**	**3722**	**3762**	**3801**	**3839**	**3877**	**3916**	**3954**	**3992**

Projected Demand

SSGCL	FY-15	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	600	637	637	637	637	637	637	637	637	637	637	637	637	637	637
Residential	230	230	250	265	280	296	313	331	351	371	392	415	439	465	492	520
Commercial	28	28	30	31	33	35	37	39	42	44	47	49	52	55	58	62
Transport	80	80	88	97	106	119	132	145	158	171	186	201	216	231	246	261
General Industry	211	211	166	179	193	208	224	242	261	281	303	326	351	376	401	426
Captive Power	207	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	1
Fertilizer	60	60	85	85	85	85	85	85	85	85	85	85	85	85	85	85
JJVL/LHF shrinkage	13	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	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	1,509	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

Projected Demand

Independent System	FY-15	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	188	188	188	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	50
CPGCL	189	328	363	363	363	363	363	363	363	363	363	363	363	363	363	363
Foundation Power Co. Ltd	53	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	0
Fauji Fertilizer	208	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229
Fauji Fertilizer (Captive Power)	48	46	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Fatima Fertilizer	60	71	73	74	74	74	84	84	84	84	84	84	84	84	84	84
Fatima Fertilizer (Captive Power)	15	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Engro Fertilizer	163	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185
Power	543	686	723	723	723	723	723	723	723	723	723	723	723	723	723	723
Fertilizer	431	485	487	488	488	488	498	498	498	498	498	498	498	498	498	498
Total	974	1,171	1,210	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	500
Total Country Demand	5,653	5,850	6,427	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

MMcfd

Sector wise Total Demand of the Country

Appendix - I

	FY-15	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	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	130	96	112	113	115	117	119	121	124	127	130	132	135	139	142	146
General Industries	883	611	621	634	648	663	679	697	716	736	758	781	806	831	856	881
Fertilizer	741	795	824	825	825	825	822	822	822	822	822	822	822	822	822	822
Cement	201	201	203	203	203	203	203	203	203	203	203	203	203	203	203	203
Captive Power	387	387	343	358	373	388	403	418	433	448	463	478	493	508	523	538
Power	1,793	1,936	2,127	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	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	604	713	704	697	685	673	659	646	635	628	620	613	607	603	599
Total Demand	5,959	5,850	6,427	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 & Anticipated Supplies

SNGPL	FY-15	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
	1443	1463	1372	1256	1055	902	799	701	613	510	392	305	239	214	178	68

Committed & Anticipated Supplies

SSGCL	FY-15	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
	1195	1278	1324	1227	1191	1064	926	808	702	600	482	450	420	400	380	350

Committed & Anticipated Supplies

Independent*	FY-15	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	990

Total Committed and Anticipated Supplies

Total Country Supply	FY-15	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
	3628	3731	3686	3473	3236	2956	2715	2499	2305	2100	1864	1745	1649	1604	1548	1408

	FY-15	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	3628	3731	3686	3473	3236	2956	2715	2499	2305	2100	1864	1745	1649	1604	1548	1408
Total Demand	5,653	5,850	6,427	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	2,025	2,119	2,741	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

Assumptions:
Total supplies for independent system are taken as of FY 2015-16
UFG, Losses, Winter load for SNGPL etc taken @ 500 MMcfd
The above figures are estimated projections

Demand Supply Scenario with Indigenous and Imported Natural Gas (MMcfd) — Appendix - II

	FY-15	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)	3,628	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	200	400	600	1200	1200	1200	1200	1800	1800	1800	1800	1800	1800	1800	1800	1800
Iran - Pakistan Pipeline	0	0	0	450	750	750	750	750	750	750	750	750	750	750	750	750
TAPI	0	0	0	500	500	500	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325
Total Supply (Indigenous & Imported)	3,628	4131	4286	5623	5686	5406	5990	6374	6180	5975	5739	5620	5524	5479	5423	5283
Total Demand	5,653	5,850	6,427	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 witout IP, TAPI, LNG	2,025	2,119	2,741	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	2,025	1,719	2,141	1,257	1,281	1,649	1,152	860	1,148	1,453	1,797	2,025	2,235	2,398	2,574	2,836

Assumptions:
Total supplies for independent system are taken as of FY 2015-16
UFG, Losses, Winter load for SNGPL etc taken @ 500 MMcfd
The above figures are estimated projections

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)

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