

# STATE OF THE REGULATED PETROLEUM INDUSTRY 2018-19



**Oil & Gas Regulatory Authority**  
Government of Pakistan

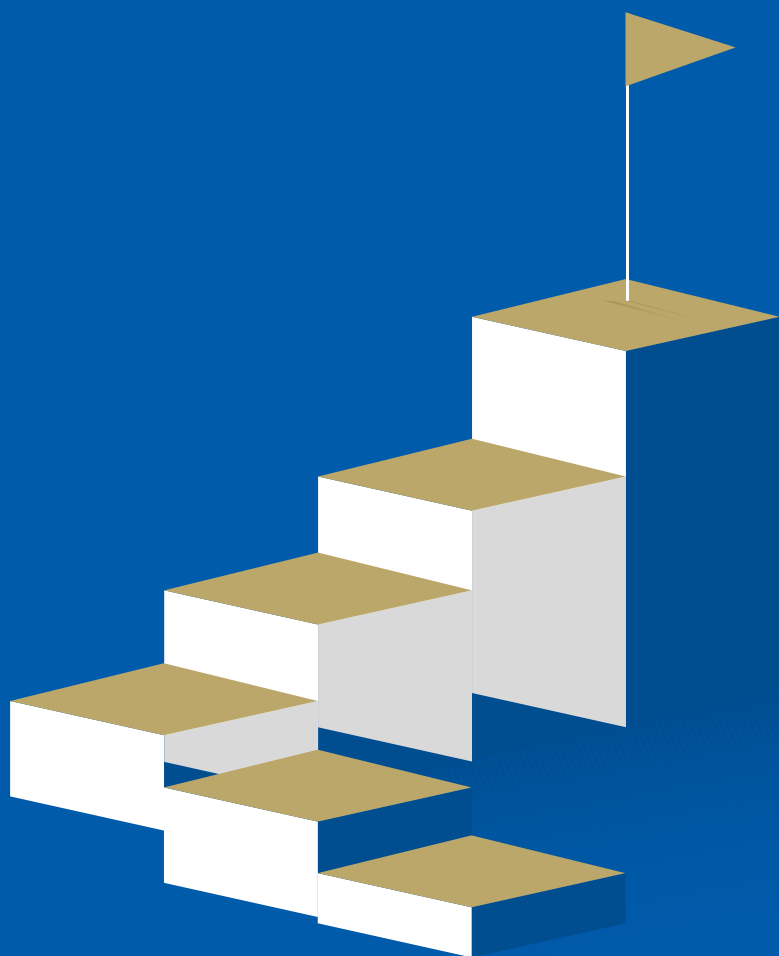








Good Governance is the core of efficient and effective organizational framework, which intends to ensure fairplay within the regulated sphere, resulting the trust and credibility among the stakeholders. This is only possible when the organization has transparency as core of entire structure. Transparency is selected as this year's theme of annual report with the vision to implement it in letter and spirit across the systems and procedures for public convenience and stakeholders' confidence.





## MISSION STATEMENT

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



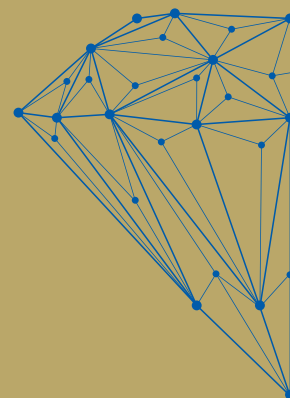




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## EXECUTIVE SUMMARY





# 1. Executive Summary

“State of the Regulated Petroleum Industry”, for fiscal year 2018-19 in pursuance of Section 20 (1) (b) of the OGRA Ordinance, 2002., is being presented for the review of the stakeholders.

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

## Sectoral Review

### 1.1 OIL

The consumption of petroleum products declined by 20.62 percent to 19.56 million tons during FY 2018-19 as compared to previous year's 24.64 million tons. The contraction in consumption was observed in all main sectors including power, which suffered huge decline of 56.72 percent to 2.76 million tons during FY 2018-19 as compared to 6.37 million tons in FY 2017-18, followed by industrial sector, which observed lower consumption by 30.16 percent and transport sector showed a fall of 6.01 percent.

The product-wise consumption of Petroleum Oil Lubricant (POL) products shows that Furnace Oil (FO) consumption decreased by 52.54 percent, High Speed Diesel (HSD) by 13.64 percent, Aviation Fuel by 12.25 percent and Kerosene Oil by 10.10 percent in FY 2018-19 as compared to last year. The decline in consumption of FO is mainly owing to lower intake by power sector for power generation and less HSD consumption due to sluggish economic activities in the country. Whereas the consumption of Light Diesel Oil (LDO) increased by 19.98 percent and Motor Spirit (MS) by 2.33 percent during this period.

The market share of Pakistan State Oil (PSO) remained at the top, as usual, with 41.76 percent of the total energy supply. It was followed by Attock Petroleum Limited (APL) with 10.45 percent, Total Parco Pakistan Limited (TPPL) 10.13 percent and Hascol 10.07 percent. During the year under review, PSO regained almost 3.0 percent of market share as compared to last year. Byco Petroleum Pakistan Limited (BPPL) also increased its market share by 3.0 percent. The main losers were TPPL, Shell and Hascol, whose market share declined by 5.0 percent, 4.0 percent and 3.0 percent respectively during FY 2018-19 as compared to FY 2017-18.

Refineries' total production declined by 9.20 percent to 12.40 million tons during FY 2018-19 as compared to 13.64 million tons in FY 2017-18. Pak-Arab Refinery Limited (PARCO), National Refinery Limited (NRL), BPPL and Pakistan Refinery Limited (PRL) have shown sharp decline in production as compared to last fiscal year. Comparatively, ARL and ENAR production remained steady.

PARCO was the major contributor in POL production with 30.50 percent share followed by BPPL with 18.80 percent, ARL and NRL with 17.23 percent and 16.48 percent share respectively during FY 2018-19

### 1.2 Natural Gas

Natural gas is a major contributing fuel in country's energy mix. Pakistan has a huge network of transmission (13,452 Km) and distribution (177,029 Km) gas pipelines providing natural gas to domestic, industrial, commercial and transport sectors. There is a significant rise in demand and consumption of gas by residential / domestic consumers owing to price differential vis-a-vis other competing fuels, i.e. LPG, fire wood and coal. The gas utility

companies during last five years connected/added around 0.3 million consumers to the gas network annually. The increased demand from sectors, such as power, commercial, residential and fertilizer has resulted in natural gas availability constraint. Total gas consumption during current financial year was 3,969 MMCFD. Total supply of natural gas during the year was 4,319 MMCFD of which gas utility companies supplied 2,379 MMCFD, Independent Systems 1,040 MMCFD and 901 MMCFD of RLNG was imported.

The gas utility companies expanded their transmission and distribution network to cater the demand of its new consumers. SNGPL and SSGCL have extended their transmission network by 81 Km and 24 Km respectively during FY 2018-19. Similarly, SNGPL extended its distribution network by 7,782 Km and SSGCL by 660 Km during current financial year.

SNGPL has connected 430,411 new consumers during FY 2018-19 reaching to 6.8 million total consumers on its network. SSGCL has added 106,054 new connections, making a total of 3.0 million consumers on its network. Overall, there were 9.8 million natural gas consumers in the country by the end of FY 2018-19.

The main consumer of natural gas was power sector, consuming 38 percent, followed by domestic sector 22 percent, fertilizer 16 percent, general industry 9 percent and captive power 8 percent of the total gas consumed during FY 2018-19. Province-wise gas consumption shows that Punjab's share was 51 percent, Sindh 38 percent, KP 9 percent and Balochistan 2 percent of total gas consumption during the year under review.

Natural gas supply during the year was 4,319 MMCFD. Sui, Uch, Qadirpur, Sawan, Zamzama, Badin, Bhit, Kandhkot, Mari and Manzalai were major gas fields. Out of total supplies, 3,279 MMCFD gas (including 901 MMCFD imported RLNG) was supplied through gas utility companies to their consumers and remaining 1,040 MMCFD was supplied by the gas fields directly to the consumers. Sindh's share in gas supply was 46 percent, whereas KP, Balochistan and Punjab supplied 12, 11 and 3 percent respectively.

Due to increasing demand from various sectors of the economy, particularly power, domestic, fertilizer, captive power and industry, the supplies are not sufficient enough to meet the rising demand. The demand supply gap during FY 2018-19 was 1,440 MMCFD, which is expected to rise to 3,684 MMCFD by FY 2024-25 and 5,389 MMCFD by FY 2029-30.

### 1.3 LPG

LPG share in country's primary energy supplies is about 1.2%. This low share of LPG may be attributed to supply constraints and comparatively higher price of LPG in relation to competing fuels like natural gas and wood etc. The size of LPG market during FY 2018-19 was around 1,061,447 MT/Annum which is 17 percent lower as compared to last year's 1,280,550 MT/Annum. Major decline in LPG consumption was observed in industrial sector amounting to 25 percent, commercial 19 percent and domestic 10 percent as compared to last year. The decline in import of LPG from 34 to 24 percent may be attributed to less consumption of LPG during the period under review.

Refineries, gas producing fields and imports are three main sources of LPG supply in the Country. Refineries and gas fields production accounted for 76 percent of LPG consumption whereas the rest 24 percent was imported during FY 2018-19. The share of gas producing fields in LPG supply has increased from 48 percent last year to 57 percent at present.

There were 12 LPG producers, 190 LPG marketing companies, having more than 5,500 authorized distributors by the end of FY 2018-19. Further, there were 20 operational LPG auto refueling stations in the country.



## 1.4 LNG

Natural gas is presently contributing nearly 45% in Pakistan's Primary Energy Supply mix. In view of the Natural gas demand supply gap, Government of Pakistan (GoP) introduced LNG Policy in year 2006 for potential investors to facilitate the successful implementation of LNG import projects. The said policy in year 2011 was modified to attract more investment. As per the said Policy, the project structures can be Integrated; in which the terminal developer arranges LNG imports as well as arrange its own buyers and Unbundled; in which the terminal developer, LNG importer and LNG buyers are different.

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

Import of LNG has been mandated by the GoP to the state-owned companies i.e. Pakistan State Oil (PSO) and Pakistan LNG Limited (PLL) on behalf of the Government of Pakistan. PSO has signed a Government to Government contract with Qatar Gas for a period of 15 years whereas PLL has shorter-term LNG contracts with Gunvor and Shell.

With the sharp increase in the energy demand and to sustain development in the country, the Government of Pakistan is determined to optimize the primary energy mix, based on economic and strategic considerations. Moreover, with the anticipated shortfall in natural gas indigenous reserves as compared to fast growing demand, LNG is one of the preferred short to mid-term alternatives to bridge the supply-demand gap. The LNG industry is capital-intensive and requires a multi-billion-dollar investment across the LNG supply chain.

LNG imports were 901 MMCFD during FY 2018-19 as compared to 754 MMCFD in FY 2017-18. Its share in overall natural gas supplies has increased from 24 percent last year to 27 percent in FY 2018-19.

## 1.5 CNG

OGRA has played a vital role in promotion of CNG in transport sector and setting of higher 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 includes excessive suspended particulate matter (SPM) emitted from the public transport as well as private vehicles. Natural gas consumption in transport sector has gradually declined over the years due to dwindling indigenous gas production. During FY 2018-19, natural gas consumption in transport sector has declined from 193 MMCFD in FY 2017-18 to 178 MMCFD.

OGRA has always given priority to safety and quality with regard to certification of local and foreign CNG equipment. Further, in order to promote indigenous production of CNG equipment, the Authority has granted permission for manufacturing/ assembling of CNG Compressor, Dispenser and Conversion Kits for vehicles subject to conformity of the laid down international technical standards.

اور اسی طرح کیٹیج پاور نے 8 فیصد گیس استعمال کی۔ صوبوں کے لحاظ سے گیس کا استعمال ظاہر کرتا ہے کہ پنجاب میں اسی عرصے کے دوران 51 فیصد، سندھ میں 38 فیصد، خیبر پختونخوا میں 9 فیصد جبکہ بلوچستان میں 2 فیصد استعمال ہوئی۔

مالی سال 2018-19 کے دوران قدرتی گیس کی فراہمی 4,319 ملین مکعب فٹ تھی جو کہ سوئی، آج، قادر پور، سواں، مزملہ، بدین، کندکوٹ، ماڑی، اور منڈلی کی گیس فیلڈز سے آرہی تھی۔ گیس کی مجموعی پیداوار میں سے 3,279 ملین مکعب فٹ (بشمول 901 ملین مکعب فٹ درآمد شدہ RLNG) گیس یوٹیلیٹی کمپنیوں کی جانب سے جبکہ بقیہ 1,040 ملین مکعب فٹ گیس فیلڈز کی جانب سے براہ راست صارفین کو مہیا کی گئی۔ گیس کی اس فراہمی میں سندھ کا حصہ 46 فیصد، خیبر پختونخوا، بلوچستان اور پنجاب کا بالترتیب 11، 12 اور 3 فیصد رہا۔ ملک کے مختلف شعبہ جات خاص کر پاور، گھریلو اور کھاد کے شعبے میں بڑھتی ہوئی طلب کے باعث گیس کی فراہمی اس طلب کو پورا کرنے کیلئے کافی نہیں تھی۔ مالی سال 2018-19 کے دوران طلب اور رسد میں فرق 1,440 ملین مکعب فٹ تھا جو مالی سال 2024-25 تک 4,144 ملین مکعب فٹ اور مالی سال 2029-30 میں 5,698 ملین مکعب فٹ تک بڑھنے کا اندیشہ ہے۔

### ایل پی جی

ملک کی بنیادی توانائی کی فراہمی میں ایل پی جی کا حصہ تقریباً 1.2 فیصد ہے۔ ایل پی جی کا یہ کم حصہ اس کی فراہمی میں رکاوٹ اور اس کی زیادہ قیمت قدرتی گیس اور لکڑی کے مقابلے کی وجہ سے ہے۔ مالی سال 2018-19 کے دوران ایل پی جی کا سائز 1,061,447 میٹرک ٹن سالانہ تھا جو گزشتہ سال کے 1,280,550 میٹرک ٹن کے مقابلے میں 17 فیصد کم تھا۔ ایل پی جی کے تصرف میں سب سے زیادہ کمی پچھلے سال کے مقابلے میں صنعتی شعبے میں ہوئی جہاں پراس کا استعمال 25 فیصد، کمرشل میں 19 فیصد اور گھریلو شعبے میں 10 فیصد تھا۔ ریفاٹریز، گیس فراہم کرنے والی فیلڈز اور درآمدات ملک میں ایل پی جی فراہمی کے تین اہم ذرائع ہیں۔ ایل پی جی کھپت کا 76 فیصد حصہ ریفاٹریز اور گیس فیلڈز کی پیداوار کا ہے جبکہ بقیہ 24 فیصد حصہ مالی سال 2018-19 کے دوران درآمد کیا گیا۔ ایل پی جی کی فراہمی میں گزشتہ سال کے 48 فیصد کے مقابلے میں اس سال گیس فراہم کرنے والی فیلڈز کا حصہ 57 فیصد رہا۔ مالی سال 2018-19 کے اختتام تک ملک میں 112 ایل پی جی پروڈیوسرز، 190 ایل پی جی مارکیٹنگ کمپنیاں جبکہ 5,500 سے زائد مجاز ڈسٹری بیوٹر تھے۔ مزید برآں ملک میں 20 فعال ایل پی جی آٹوریٹیو لنگ اسٹیشن تھے۔

### ایل این جی

قدرتی گیس کا کافی اوقات ملکی بنیادی توانائی ذرائع میں 45 فیصد حصہ ہے۔ قدرتی گیس کے منصوبے میں حائل طلب اور رسد کے فرق کے تناظر میں حکومت پاکستان نے 2006 میں ایل این جی پالیسی مکمل سرمایہ کاروں کیلئے متعارف کروائی ہے تاکہ ایل این جی درآمدات کے منصوبوں پر عملدرآمد کو کامیاب بنایا جاسکے۔ 2011 میں مزید سرمایہ کاری کو راغب کرنے کیلئے اس میں ترمیم کی گئی۔ اس پالیسی کے تحت ان منصوبوں کا ڈھانچہ مربوط ہو سکتا ہے جس میں ٹرمینل ڈویلپرز ایل این جی امپورٹ اور اس کے ساتھ ساتھ اپنے خریداروں کا بندوبست کر سکتے ہیں اور منصوبے کا ڈھانچہ الگ الگ ہونے کی صورت میں ٹرمینل ڈویلپرز، درآمد کنندہ اور خریدار علیحدہ ہوں گے۔

ایل این جی پالیسی اور اوگرا آرڈیننس 2002 کے تحت اوگرانے ایل این جی سرگرمیوں کو ریگولیٹ کرنے کیلئے ایل این جی رولز 2007 متعارف کروائے۔ ایل این جی رولز کے مطابق یہ پالیسی متوقع پروڈیکٹ ڈویلپرز کو متعلقہ قانونی تقاضے پورے کرنے کے بعد ایل این جی مارکیٹ میں شامل ہونے کے حوالے سے حوصلہ افزائی کرتی ہے۔

حکومت پاکستان نے اپنی جانب سے ایل این جی کی درآمد کی کمپنیوں یعنی پاکستان اسٹیٹ آئل اور پاکستان ایل این جی لمیٹڈ کو سونپی گئی ہے۔ پی ایس او نے حکومتی سطح پر قطر گیس کے ساتھ 15 سال کے عرصے کیلئے معاہدہ کر رکھا ہے جبکہ پی ای ایل نے Gunvor اور شیل کے ساتھ قلیل مدتی ایل این جی معاہدہ کر رکھا ہے۔

ملک میں توانائی کی بڑھتی ہوئی طلب کے پیش نظر اور ڈویلپمنٹ کو برقرار رکھنے کیلئے حکومت پاکستان معاشی اور حکمت عملی کو مد نظر رکھتے ہوئے پرائمری انرجی کس کو بہتر بنانے کیلئے پرعزم ہے۔ مزید برآں بڑھتی ہوئی طلب کے مقابلے میں قدرتی گیس کے ملکی ذخائر میں متوقع کمی کے باعث ایل این جی اس طلب و رسد کے فرق کو دور کرنے کا قلیل سے وسط مدتی ترجیحی متبادل ہے۔ ایل این جی کی صنعت سرمائے کے لحاظ سے بھی صنعت ہے جس میں کئی ملین ڈالر کی سرمایہ کاری کی ضرورت ہے۔

مالی سال 2018-19 کے دوران ایل این جی امپورٹ 901 ملین مکعب فٹ تھی جبکہ گزشتہ مالی سال کے ساتھ اس کا موازنہ کیا جائے تو یہ 754 ملین مکعب فٹ تھی۔ قدرتی گیس سپلائی میں اس کا شیئر پچھلے سال کے 24 فیصد کے مقابلے میں اس سال 27 فیصد تھا۔

### سی این جی

اوگرانے ٹرانسپورٹ کے شعبے میں سی این جی کو فروغ دینے اور سی این جی اسٹیشنوں پر محفوظ آپریشن کو یقینی بنانے کیلئے اہم کردار ادا کیا۔ نقل و حمل کے شعبے میں متبادل طور پر سی این جی کے استعمال نے کافی حد تک فضائی آلودگی کو کم کرنے میں مدد کی ہے، اس آلودگی میں پبلک اور پرائیویٹ ٹرانسپورٹ سے نکلنے والے SPM شامل ہے۔ ٹرانسپورٹ کے شعبے میں قدرتی گیس کا استعمال کئی سالوں سے اس کی بدترتیب کم پیداوار کی وجہ سے آہستہ آہستہ کم ہوا ہے۔ مالی سال 2018-19 کے دوران نقل و حمل کے شعبے میں قدرتی گیس کا استعمال 193 ملین مکعب فٹ سے کم ہو کر 178 ملین مکعب فٹ رہا۔

اوگرانے مقامی اور غیر ملکی سی این جی آلات کی سرٹیفیکیشن کے حوالے سے ہمیشہ تحفظ اور معیار کو ترجیح دی ہے۔ مزید یہ کہ سی این جی آلات کی ملکی سطح پر پیداوار کو فروغ دینے کیلئے اتھارٹی نے عالمی تکنیکی معیارات اپنانے سے مشروط گاڑیوں کیلئے سی این جی کمپریسر، ڈپنسر اور کنورژن کٹس کی تیاری/جوڑنے کی اجازت دے رکھی ہے۔

## ایگزیکٹو سمیری

آئل اینڈ گیس ریگولیٹری اتھارٹی اوگرا آرڈیننس 2002 کی شق (b)(i) 20 کے تحت مالی سال 2018-19 کی ”اسٹیٹ آف دی ریگولیٹڈ پٹرولیم انڈسٹری رپورٹ“ اسٹیک ہولڈرز کے جائزے کیلئے پیش کر رہا ہے۔ اوگرا مارچ 2002 میں اوگرا آرڈیننس کے تحت قائم کیا گیا جس کے مقاصد میں مقابلے کی فضا کو فروغ دینا، مندرجہ ذیل انڈسٹری میں منظم کاری اور ملکیت کو بڑھانا اور موثر ریگولیشن کی بدولت مفاد عامہ کے تحفظ کو یقینی بنانا شامل ہے۔

## شعبہ جاتی جائزہ:

### آئل

مالی سال 2018-19 کے دوران پٹرولیم مصنوعات کی کھپت 20.62 فیصد سے گرتے ہوئے 19.56 ملین ٹن تک پہنچ گئی جس کا پچھلے سال سے موازنہ کیا جائے تو یہ 24.64 ملین ٹن تھی۔ کھپت میں یہ کمی تمام اہم شعبہ جات میں دیکھنے کو ملے بشمول پاور جہاں مالی سال 2018-19 کے دوران 56.72 فیصد کی غیر معمولی کمی کے باعث 2.76 ملین ٹن ہوئی۔ اگر اس کا مقابلہ مالی سال 2017-18 سے کیا جائے تو یہ کھپت 6.37 ملین ٹن تھی، اسی طرح صنعتی شعبے میں کھپت 30.16 فیصد کم ہوئی اور نقل و حمل کے شعبے میں 6.01 فیصد ہوئی۔

مالی سال 2018-19 کا موازنہ گزشتہ برس سے کریں تو پٹرولیم آئل لبریکیٹ (POL) کی مصنوعات بالحاظ کھپت یہ ظاہر کرتی ہیں کہ فرنس آئل (FO) کی کھپت میں 52.54 فیصد، ہائی سپیڈ ڈیزل (HSD) میں 13.64 فیصد، ایوی ایشن فیول میں 12.25 فیصد، جبکہ مٹی کے تیل میں 10.10 فیصد تک کمی واقع ہوئی۔ فرنس آئل کی کھپت میں کمی پاور سیکٹر کی جانب سے پاور جنریشن کیلئے کم استعمال کی وجہ سے جبکہ ہائی اسپیڈ ڈیزل کی کھپت میں کمی ملک میں سست معاشی صورتحال کی وجہ سے ہوئی۔ لائٹ ڈیزل آئل (LDO) کی کھپت میں 19.98 فیصد اضافہ ہوا اور اسی طرح موٹر سپرٹ (MS) میں 2.33 فیصد اضافہ ہوا۔

مالی سال 2018-19 کے دوران پاکستان اسٹیٹ آئل (PSO) کا مارکیٹ شیئر کل توانائی کی رسد کا 41.76 فیصد رہا جس کے بعد انک پٹرولیم لمیٹڈ کا 10.45 فیصد، ٹوٹل پارکو پاکستان لمیٹڈ کا 10.13 فیصد اور حسکول کا حصہ 10.07 فیصد رہا۔ اسی عرصے کے دوران پی ایس او نے گزشتہ برس کے مقابلے میں 3.0 فیصد مارکیٹ شیئر حاصل کیا جبکہ پٹرولیم پاکستان لمیٹڈ نے بھی اپنے مارکیٹ کے حصے میں 3.0 فیصد تک اضافہ کیا۔ مالی سال 2017-18 کے مقابلے میں مالی سال 2018-19 کے دوران ٹی پی ایل، شیل اور حسکول کے حصص میں بالترتیب 5.0 فیصد، 4.0 فیصد اور 3.0 فیصد کمی واقع ہوئی۔

مالی سال 2018-19 کے دوران ریفرنسز کی کل پیداوار 9.20 فیصد کی گراؤ سے 12.40 ملین ٹن تک پہنچ گئی۔ جبکہ مالی سال 2017-18 سے موازنہ کیا جائے تو یہ 13.64 ملین ٹن تھی۔ گزشتہ مالی سال کے مقابلے میں 2018-19 کے دوران نیشنل ریفرنسز لمیٹڈ، بی پی پی ایل اور پاکستان ریفرنسز لمیٹڈ کی پیداوار میں واضح کمی دیکھنے کو ملے ہے نسبتاً اس کے مقابلے میں ARL اور ENAR کی پیداوار میں استحکام رہا۔ مالی سال 2018-19 کے دوران پارکونے POL کی پیداوار میں 30.50 فیصد حصے کے ساتھ اہم کردار ادا کیا جبکہ اسی عرصے کے دوران بی پی ایل کا حصہ 18.80 فیصد ARL اور NRL کے حصے بالترتیب 17.23 فیصد اور 16.48 فیصد رہے۔

## قدرتی گیس

ملکی توانائی کے ذرائع میں قدرتی گیس کا ایک اہم حصہ ہے۔ پاکستان میں گیس کی 13,452 کلومیٹر طویل نظام ترسیل جبکہ 1,77,029 کلومیٹر طویل نظام تقسیم کا بہت بڑا جال بچھا ہوا ہے جہاں سے گھریلو، صنعتی، کمرشل اور نقل و حمل کے شعبہ جات کو قدرتی گیس فراہم کی جاتی ہے۔ رہائشی صارفین کی جانب سے گیس کی غیر معمولی طلب اور استعمال میں اضافہ دیکھنے کو ملا جس کی وجہ ایل پی جی، جلائے کی لکڑی اور کوئلہ کی قیمتوں کا زیادہ ہونا تھا۔ پانچ برسوں کے دوران گیس یوٹیلٹی کمپنیوں کی جانب سے 0.3 ملین صارفین کو سالانہ گیس کے نیٹ ورک میں شامل کیا گیا۔ پاور، کمرشل اور کھاد کے شعبے میں بڑھتی ہوئی طلب کے باعث گیس کی دستیابی میں کمی واقع ہوئی۔ رواں مالی سال کے دوران گیس کی کل کھپت 3969 ملین مکعب فٹ ہوئی جبکہ اسی دوران قدرتی گیس کی کل فراہمی 4,319 ملین مکعب فٹ رہی جس میں سے یوٹیلٹی کمپنیوں نے 2,379 ملین مکعب فٹ، انڈیپنڈنٹ سسٹم نے 1,040 ملین مکعب فٹ گیس فراہم کی جبکہ 901 ملین مکعب فٹ RLNG درآمد کی گئی تھی۔

گیس یوٹیلٹی کمپنیوں نے اپنے صارفین کی طلب کو پورا کرنے کیلئے اپنی ترسیل اور تقسیم کے نیٹ ورک کو وسیع دی۔ مالی سال 2018-19 کے دوران سوئی ناردرن گیس پائپ لائنز لمیٹڈ نے اپنے ترسیل کے نیٹ ورک میں 81 کلومیٹر جبکہ سوئی سدرن گیس پائپ لائنز لمیٹڈ نے 24 کلومیٹر کا اضافہ کیا۔ اسی طرح رواں مالی سال کے دوران سوئی ناردرن نے اپنے تقسیم کے نیٹ ورک میں 7782 کلومیٹر جبکہ سدرن نے 660 کلومیٹر کا اضافہ کیا۔

سوئی ناردرن نے مالی سال 2018-19 کے دوران 43,041 نئے صارفین کو اپنے نیٹ ورک میں شامل کیا جس سے اس کے کل صارفین کی تعداد اب 6.8 ملین تک پہنچ گئی۔ سوئی سدرن نے 106,054 نئے کنکشن کا اضافہ کیا جس سے اس کے صارفین کی کل تعداد 3.0 ملین ہو گئی۔ مجموعی طور پر مالی سال 2018-19 کے اختتام تک ملک میں قدرتی گیس کے صارفین کی کل تعداد 9.8 ملین تھی۔

مالی سال 2018-19 کے دوران کل استعمال ہونے والی گیس کا اہم صارف پاور سیکٹر تھا جس نے 38 فیصد گیس، گھریلو صارفین نے 22 فیصد، کھاد کے شعبے میں 16 فیصد، عام صنعت نے 9 فیصد







## 2. Oil

### 2.1 Sectoral Consumption of Petroleum Products

The consumption of petroleum products (both energy and non-energy) declined by 20.62 percent to 19.56 million tons during FY 2018-19 as compared to previous year's consumption of 24.64 million tons (**Table 2.1**).

**Table 2.1: Sectoral Consumption of Petroleum Products**

(000 Tons)

Sr. No.	Sector	MS+ HOBC+ 100LL	HSD	Kero	Aviation Fuels	FO	LDO	Total Energy	Total Non-Energy	Grand Total
1.	Domestic	-	-	60.5	-	0.0	-	60.6	0.0	<b>60.6</b>
2.	Industry	18.9	502.1	11.5	-	759.4	7.6	1,299.4	114.0	<b>1,413.5</b>
3.	Agriculture	-	-	-	-	-	15.0	15.0	-	<b>15.0</b>
4.	Transport	7,651.8	6,671.0	0.0	350.3	0.3	-	14,673.6	151.4	<b>14,825.0</b>
5.	Power	-	25.9	-	-	2,733.4	0.1	2,759.5	0.7	<b>2,760.2</b>
6.	Government	15.3	155.3	30.7	204.5	0.2	2.5	408.5	78.9	<b>487.4</b>
<b>Total FY 19</b>		7,686.0	7,354.4	102.8	554.8	3,493.3	25.2	19,216.6	345.1	<b>19,561.6</b>
<b>Total FY 18</b>		7,511.3	8,516.5	114.4	632.3	7,360.7	21.0	24,156.1	486.7	<b>24,642.8</b>
<b>% Growth</b>		2.33	(13.64)	(10.10)	(12.25)	(52.54)	19.98	(20.45)	(29.10)	<b>(20.62)</b>

(Source: OCAC)

The consumption of petroleum products in Power Sector suffered huge decline of 56.72 percent to 2.76 million tons during FY 2018-19 as compared to 6.3 million tons in FY 2017-18, followed by industry where consumption declined by 30.16 percent and transport by 6.01 percent. The consumption of POL products in Government and agriculture sector increased by 25.69 percent and 3.59 percent respectively during current year as compared to the previous year. Product-wise analysis reveals that consumption of FO decreased by 52.54 percent, HSD 13.64 percent, Aviation Fuel 12.25 percent and Kerosene by 10.10 percent in FY 2018-19 as compared to last year. Whereas the consumption of LDO increased by 19.98 percent and MS by only 2.33 percent during this period.

**Fig 2.1** illustrates sector-wise share in consumption of energy products. During FY 2018-19, the share of transport was 76.36 percent, power 14.36 percent, industry 6.76 percent, Government 2.13 percent, agriculture and domestic both constituted less than half of a percent. More than 98 percent of POL products were consumed by three sectors namely; transport, power and industry.

Fig 2.1: Sectoral Consumption of POL Products

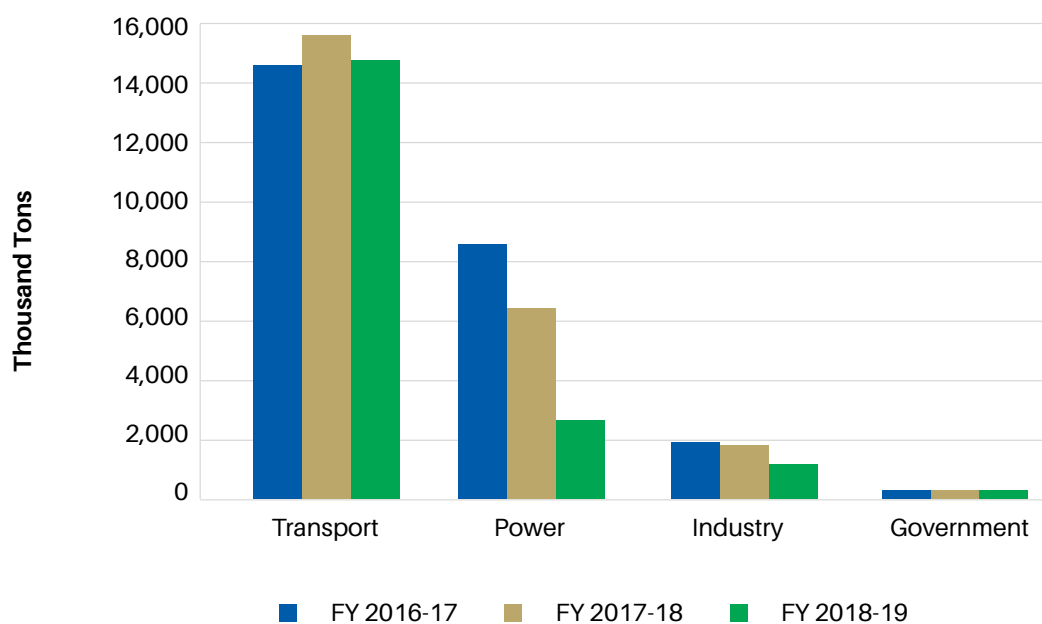
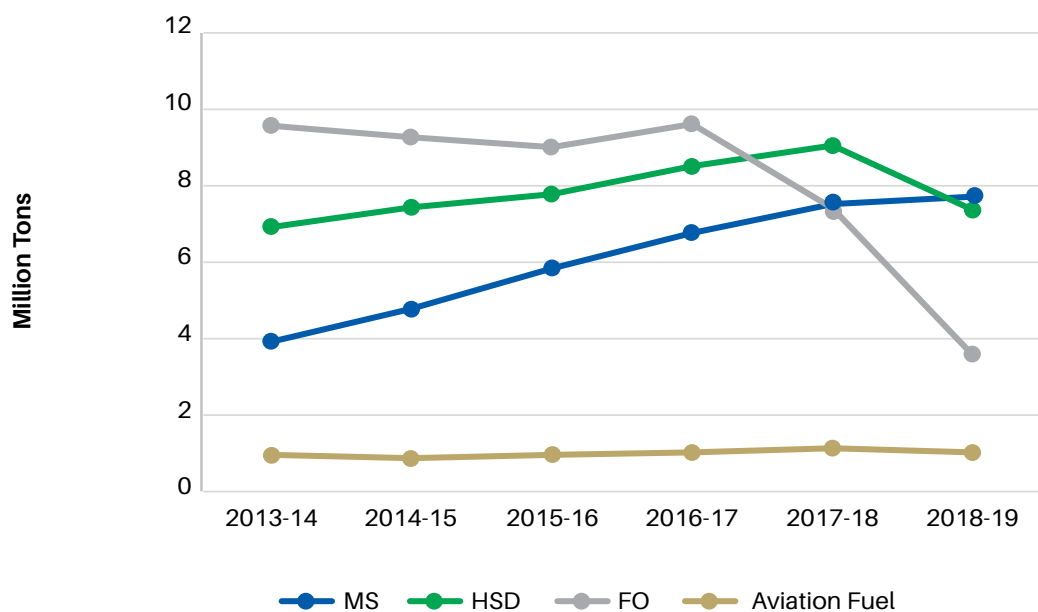


Fig 2.2 shows the consumption trend of various major POL products i.e. MS, HSD, FO and Jet Fuels. MS consumption indicates a moderate rise over the years due to rising demand in transport sector. HSD consumption has declined sharply contrary to its consistent rise over past four years up to FY 2017-18. Whereas the consumption of FO declined sharply from FY 2016-17 onwards due to less intake by the power sector. Jet Fuel shows an almost consistent consumption trend.

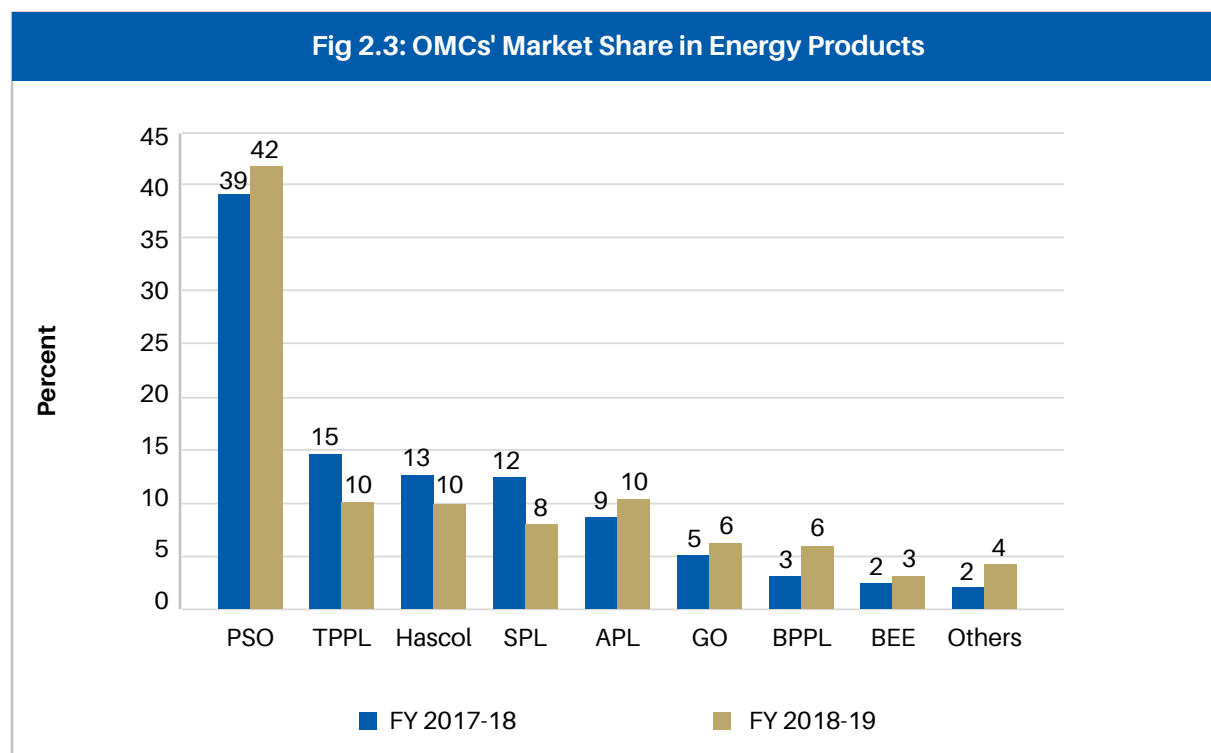
Fig 2.2: Consumption Trend of POL Products





## 2.2 Market Share

The market share of PSO remained at the top, as usual, with 41.76 percent of the total energy supply. It was followed by APL with 10.45 percent, TPPL 10.13 percent and Hascol 10.07 percent. **Fig 2.3** represents the market share of OMCs in energy products.



**Table 2.2** and **Fig 2.4** show the detail of the product-wise sales by OMCs for energy products, wherein PSO is at top for all product except 100 LL, followed by mixed leads by OMCs in various POLs.

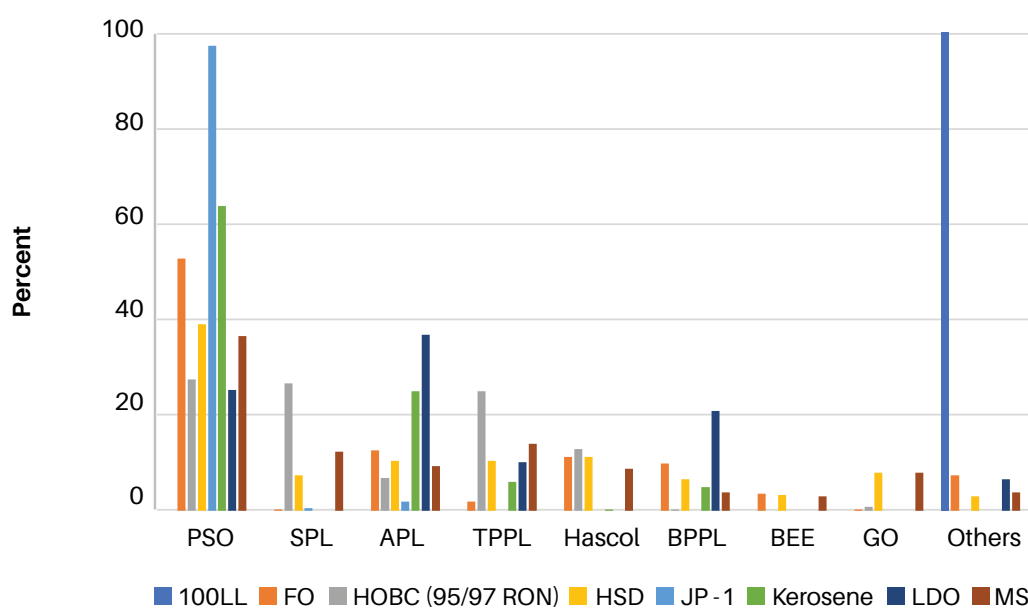
**Table 2.2: Product-wise Sales by OMCs**

(000 Tons)

Sr. No.	Product	PSO	SPL	APL	TPPL	PARCO (PEARL)	PUMA	Hascol	Askar	BPPL	BEE	ZOOM	GO	OTO	Horizon	ZMOPL	ANPL	QUALITY 1	TOTAL
1.	100 LL	-	-	-	-	-	0.61	-	-	-	-	-	-	-	-	-	-	-	0.61
2.	FO	1,843.27	3.01	446.80	65.01	215.54	-	397.08	-	346.61	127.62	-	0.55	47.24	-	-	0.59	-	3,493.34
3.	HOBC (95/97 RON)	23.88	23.03	5.98	21.61	-	-	11.22	-	0.06	-	-	0.83	-	-	-	-	-	86.62
4.	HSD	2,871.69	548.68	770.97	763.57	1.59	163.79	838.08	16.27	496.77	246.03	24.61	588.38	4.30	0.23	4.57	8.99	5.90	7,354.41
5.	JP-1	359.72	2.48	7.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	369.52
6.	Kerosene	65.34	-	25.55	6.21	-	-	0.01	-	5.11	-	-	-	-	-	-	-	-	102.22
7.	LDO	6.35	-	9.28	2.57	1.70	-	-	-	5.27	-	-	-	-	-	-	-	-	25.18
8.	MS	2,777.30	939.68	723.42	1,069.62	-	138.54	669.58	29.51	293.17	223.25	59.54	599.08	1.01	13.06	37.24	9.79	14.73	7,598.51
Total		7,947.55	1,516.88	1,989.33	1,928.60	218.84	302.33	1,915.97	45.78	1,147.00	596.90	84.15	1,188.83	52.55	13.29	41.81	19.37	20.63	19,029.80

(Source: OCAC)

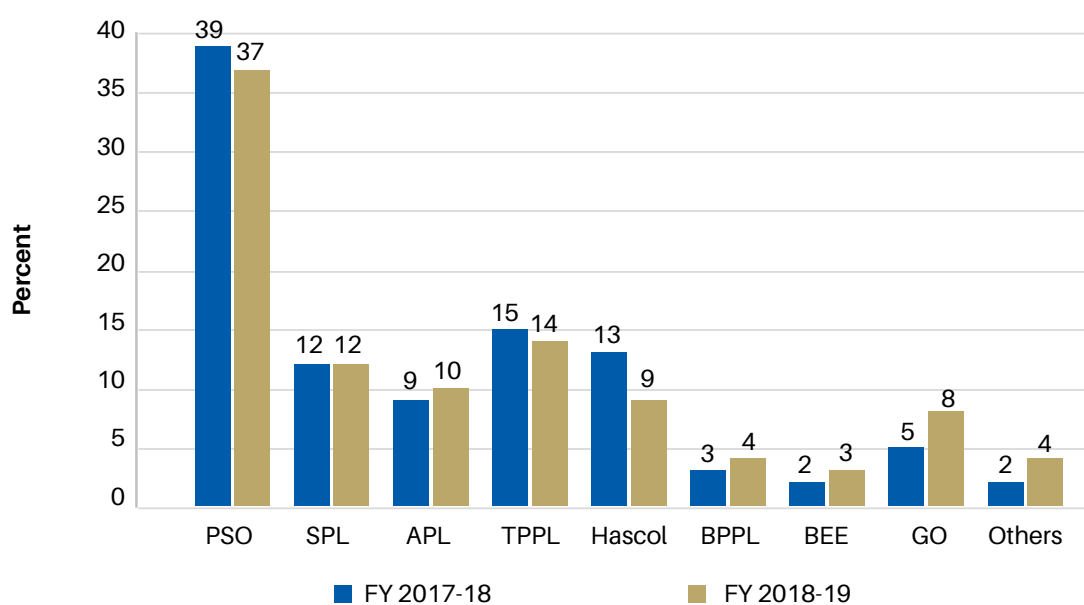
**Fig 2.4: Share of Major OMCs in Product-wise Sale**



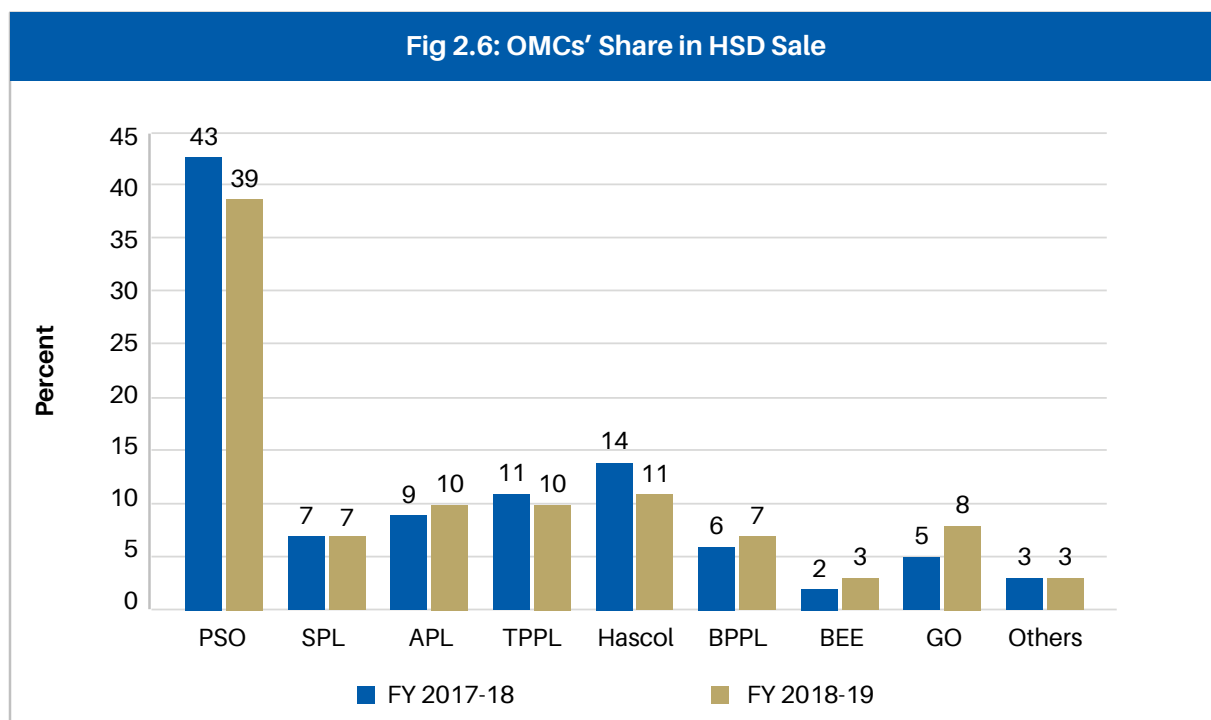
### OMCs' Market Share in Product-wise Sales

**Fig 2.5** illustrates the share of OMCs in MS sale, wherein PSO leads with 39 percent followed by TPPL and SPL with 14 percent and 12 percent respectively.

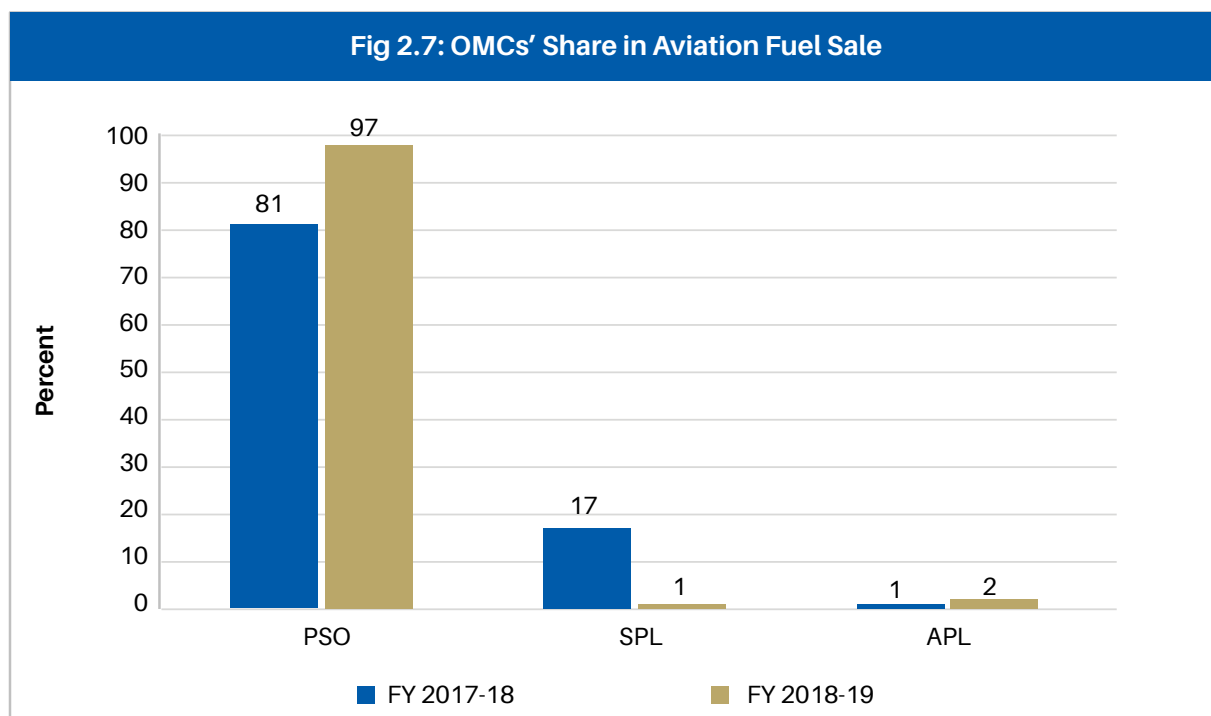
**Fig 2.5: OMCs' Share in MS Sale**



**Fig 2.6** provides details of OMCs' share in HSD sale, wherein PSO remained at the top with 39 percent share, Hascol 11 percent, TPPL and APL with 10 percent share each during FY 2018-19.

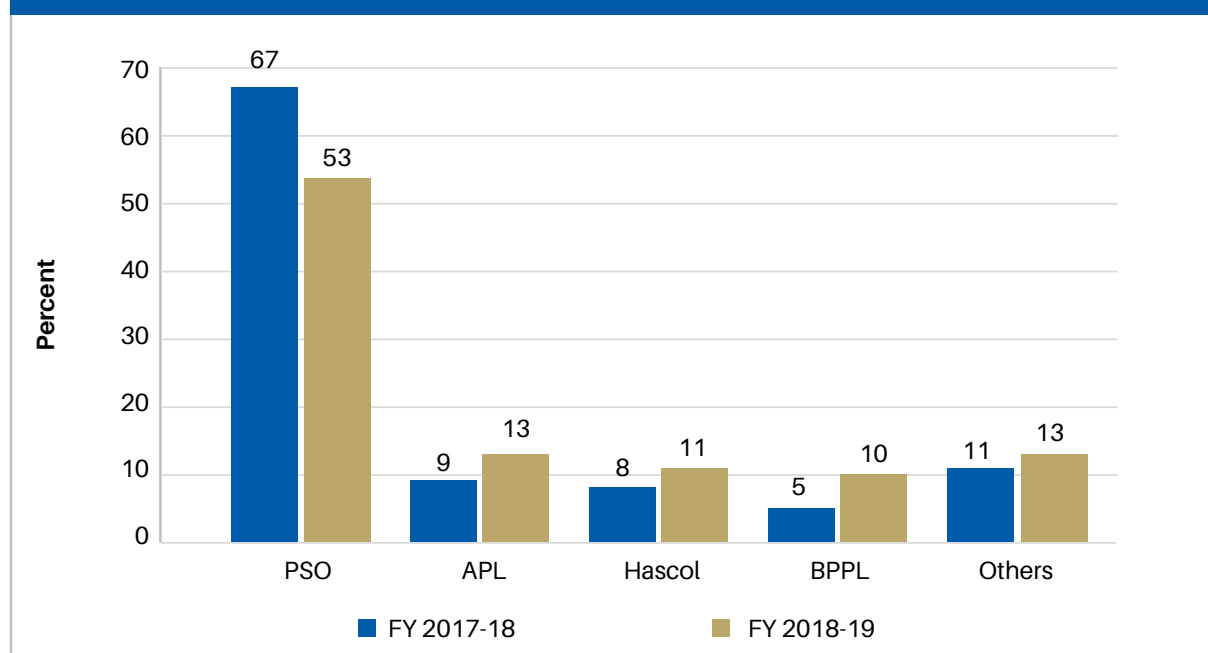


In Aviation fuel sales, PSO is the main contributor with 97 percent share in total supply as depicted in **Fig 2.7**.



In FO sale, PSO supplied bulk with 53 percent share followed by APL & Hascol with 13 percent & 11 percent share respectively in total FO supply as shown in **Fig 2.8**.

**Fig 2.8: OMCs' Share in Fuel Oil Sale**



## 2.3 Refineries' Production

Refineries' total production (energy & non-energy) declined by 9.2 percent to 12.4 million tons during FY 2018-19 as compared to 13.6 million tons in FY 2017-18 as given in **Table 2.3**. PARCO, NRL, BPPL and PRL have shown sharp decline in production as compared to last fiscal year. Whereas the production of ARL and ENAR remained steady.

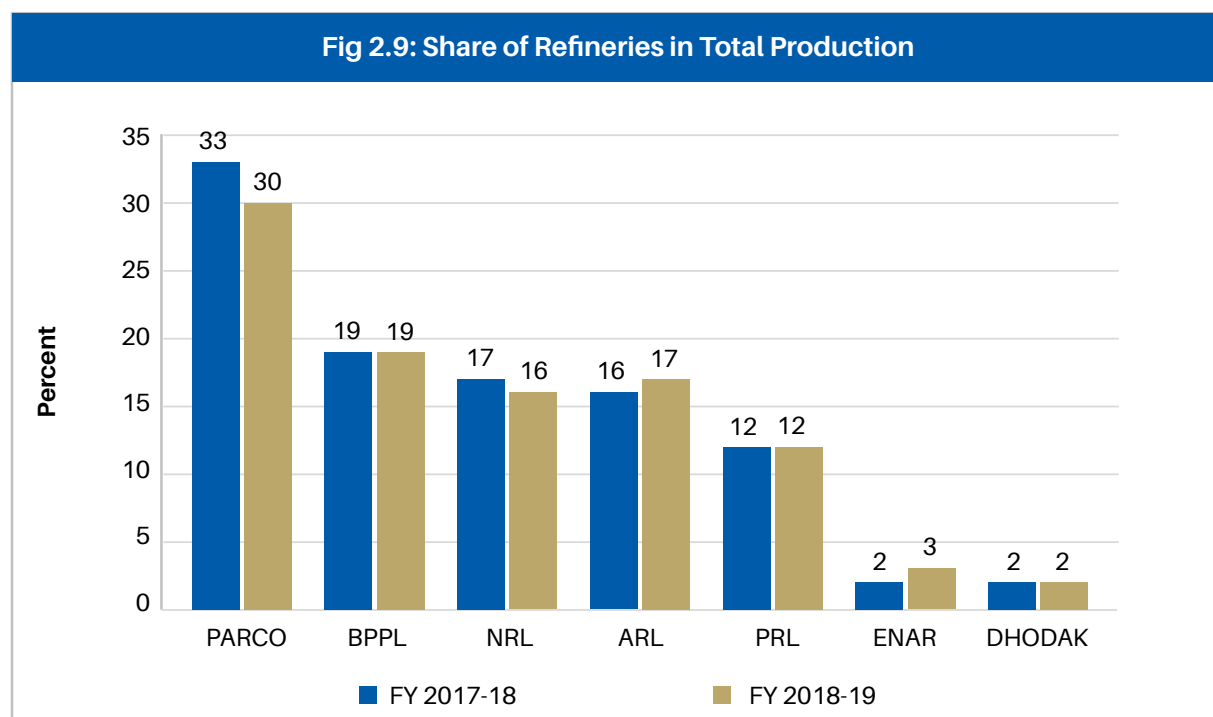
**Table 2.3: Refineries' Production & Growth during FY 2018-19**

(000 Tons)

Sr. No.	Refinery	Energy Products	Non-Energy Products	Total (FY-19)	Total (FY-18)	Growth (%)
1.	PARCO	3,696.33	81.57	3,777.90	4,447.70	(15.06)
2.	NRL	1,683.15	358.18	2,041.33	2,307.98	(11.55)
3.	PRL	1,503.25	-	1,503.25	1,634.29	(8.02)
4.	ARL	2,074.54	61.32	2,135.85	2,151.53	(0.73)
5.	BPPL	2,323.27	6.96	2,330.23	2,580.23	(9.69)
6.	ENAR	310.07	-	310.07	310.88	(0.26)
7.	DHODAK	270.31	20.08	290.39	205.44	41.35
<b>Total</b>		<b>12,930.38</b>	<b>528.10</b>	<b>12,389.01</b>	<b>13,638.05</b>	<b>(9.16)</b>

(Source: OCAC)

PARCO was major contributor in POL production with 30 percent share followed by BPPL with 19 percent and ARL and NRL with 17 percent and 16 percent share respectively during FY 2018-19 as shown in **Fig 2.9**.

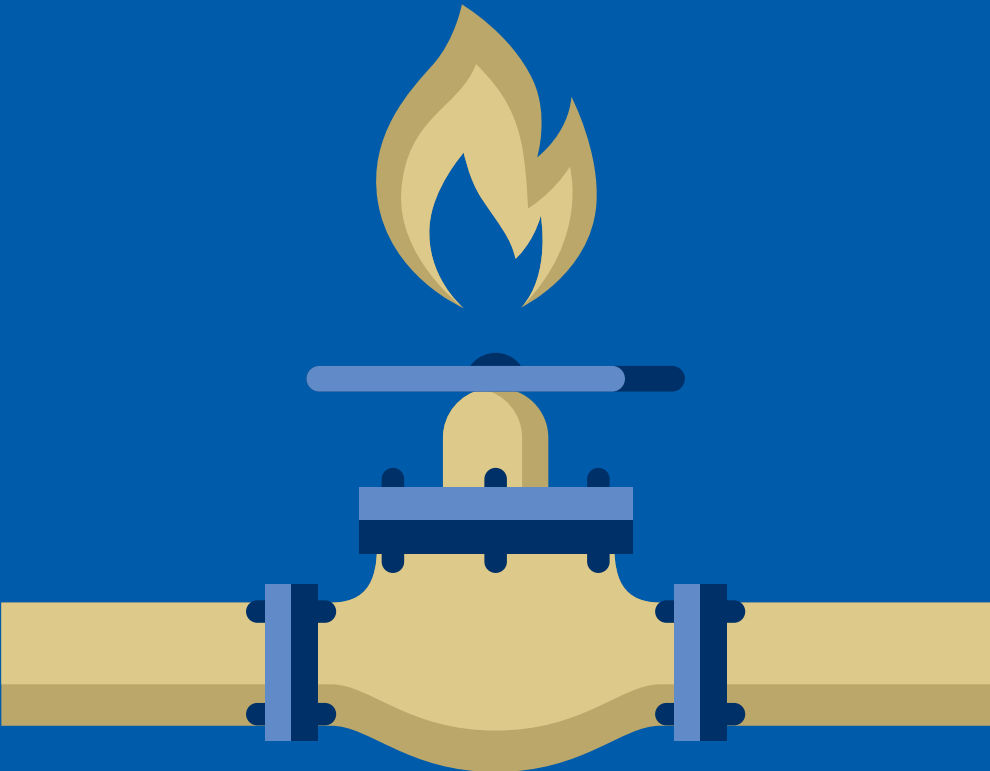


**Table 2.4** gives detail of the production pattern of the refineries in terms of energy products which reveals that PARCO is at top for all products except naphtha.

**Table 2.4: Product-wise Production by Refineries during FY 2018-19**

(000 Tons)

Sr. No.	Product	ARL	BPPL	NRL	PARCO	PRL	ENAR	DHO-DAK	Total
1.	Avi Fuels	172.01	8.26	132.97	355.51	100.95	18.74	-	<b>788.44</b>
2.	Furnace Oil	413.35	704.87	394.91	796.30	471.09	93.23	-	<b>2,873.75</b>
3.	HSD	680.49	1,081.00	768.96	1,567.74	584.68	57.84	-	<b>4,740.70</b>
4.	Kerosene	47.46	6.34	2.41	33.44	8.70	12.03	-	<b>110.37</b>
5.	LDO	10.37	20.46	-	8.06	-	-	-	<b>38.89</b>
6.	LPG	2.85	47.11	8.94	118.40	15.69	-	270.31	<b>463.30</b>
7.	MS	602.81	404.31	228.87	816.89	216.84	-	-	<b>2,269.71</b>
8.	Naphtha	145.19	50.86	146.09	-	105.31	128.24	-	<b>575.69</b>
<b>Total</b>		<b>2,074.54</b>	<b>2,323.21</b>	<b>1,683.15</b>	<b>3,696.33</b>	<b>1,503.25</b>	<b>310.07</b>	<b>270.31</b>	<b>11,860.85</b>





**NATURAL GAS**







### 3. Natural Gas Sector

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 of gas by residential / domestic consumers owing to price differential vis-a-vis other competing fuels, i.e. LPG, fire wood and coal. On average, during the last five years, more than 0.3 million consumers are added/ connected to gas network, annually by the Gas Utility Companies. The positive growth of sectors, such as power, commercial/ residential and fertilizer has resulted in natural gas availability constraint. The increase in demand of natural gas will amplify further in the next coming years. The GoP has initiated various measures to bridge the gap between demand and supply which include the incentivizing of local gas production, import of natural gas in the form of Liquefied Natural Gas (LNG) and development of cross-country pipelines from Iran and Turkmenistan. Construction and operation of two LNG Handling Terminals (each having re-gasification capacity of around 650 MMCFD) at Karachi Port are major milestones achieved to mitigate gas shortage in the Country. The share of RLNG, in the overall gas supply during FY 2018-19 has increased to 21%. The total supply of natural gas in the country including imported RLNG has reached 4,319 MMCFD in FY 2018-19.

#### 3.1 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 to promote and enhance competition in the midstream and downstream oil and gas sectors. OGRA has been performing following functions pertaining to the Natural Gas Sector: -

- Grant of licenses for the regulated gas sector.
- Formulation of rules, regulations and procedures for the conduct of licensees.
- Determination of Revenue Requirement Petitions of SNGPL & SSGCL.
- Monitoring and enforcement of rules, regulations and applicable licence conditions.
- Pipeline capacity allocation.
- Licensing of low pressure (flare) gas.
- Licensing for transmission, distribution and sale of RLNG.
- Approval of Gas Sale Agreements (GSAs) for supply of gas between the Gas Producers and Gas Companies/ Consumers.

So far, OGRA has issued licences to the Companies as given in **Appendix-I** pertaining to the regulated gas sector.

#### 3.2 Profile of Licensees

##### 3.2.1 Sui Southern Gas Company Limited (SSGCL)

SSGC's success story began in 1954 when engineers and technicians of Sui Gas Transmission Company pioneered

the construction of Asia's first 16-inch diameter, 558 Km long pipeline. The pipeline was part of a grand vision to harness natural gas discovered in Sui, Balochistan and transport it all the way to feed the budding industrial hub of Karachi. Sixty-five years later, SSGC is a pulsating energy power house, engaged in transmission and distribution of gas to around 3 million domestic, commercial and industrial customers located in its franchise areas of Sindh and Balochistan. The Company provides clean and affordable fuel to 2,990,311 domestic, 24,597 commercial and 4,270 industrial customers.

A downstream company, SSGC purchases natural gas from 24 gas fields, operated by upstream local and multinational exploration and production companies. The Company's transmission and distribution network stretches across 4,054 Km and 46,872 Km, respectively. The Company's core business includes transmission, distribution and sale of Natural Gas, design and construction of transmission and distribution Project and more recently the transmission of Re-gasified LNG (RLNG).

Among the Company's non-core businesses are the sale of Liquefied Petroleum Gas (LPG), Natural Gas Liquid and Condensate and manufacturing of domestic gas meters. The Company also runs a subsidiary company by the name of SSGC-LPG (Pvt.) Ltd. which is engaged in the marketing and distribution of LPG across the country.

The Company comes under the umbrella of the Ministry of Energy (Petroleum Division). It is managed by an autonomous Board of Directors for policy guidelines and overall control, with a Managing Director managing day to day affairs.

SSGC is served by several nerve centers or Headquarters, strategically located in different locations of Sindh and Balochistan. These Headquarters ensure optimum gas transmission and compression, from the fields to customers in the respective regions.

As one of the key stakeholders in the LNG project, the Company recently completed an ambitious infrastructure for transmitting re-gasified LNG to the consumers, as part of the Government of Pakistan's objective of bridging the demand-supply gap of natural gas. Since 1975, SSGC owns and operates the only manufacturing plant of domestic gas meters in the country. The plant is based on state-of-the-art technology and is capable for producing up to one million units annually.



A view of SSGC's Meter Manufacturing Plant in Karachi

SSGC's commitment to an unremitting gas supply comes up with an almost instinctive responsibility of providing 24-hour customer service, with speed, alacrity and a smile. The Company has raised the bar of customer service by continuously adding to a fleet of 1199 vans, making itself accessible to customers through 22 customer facilitation centers and responding to their complaints through 24/7 call centers.

The Company runs its own state of the art bill printing facility that prints more than 650 pages per minute. Over the years, the Company has emerged as one of Pakistan's most enabled IT companies through constant technological enhancement. Many of these solutions including the Geographical Information System (GIS) have been devised in-house, saving costs and strengthening the Company's capacity to serve its customers even more efficiently.

The Company, under the directives of Government of Pakistan is installing LPG-Air Mix Plants or Synthetic Natural Gas Plants in those towns of Balochistan and Sindh which are far off from the distribution grid, thus providing the consumers with an alternative source of energy. So far, LPG-Air Mix Plants have been set up in Gwadar, Noshki and Surab in Balochistan and in Kot Ghulam Mohammad in Sindh. On the directives of the Government of Pakistan, the Company is in the process of installing LPG-Air Mix plants in Sindh and Balochistan.

**Table 3.1: Pattern of Shareholding in SSGCL as of June 30, 2019.**

Sr. No.	Categories of Shareholders	Percentage Shareholding
1.	President of Pakistan	53.18
2.	Individuals	9.49
3.	Investment Companies	0.33
4.	Insurance Companies	8.17
5.	Joint Stock Companies	2.91
6.	Financial Institutions	7.23
7.	Mutual Fund	2.92
8.	Charitable Trusts	0.11
9.	Leasing Companies	0.00
10.	Foreign Companies	4.51
11.	Others	11.15
<b>Total</b>		<b>100.00</b>

(Source: SSGCL)

### **3.2.2 Sui Northern Gas Pipelines Limited (SNGPL)**

Sui Northern Gas Pipelines Limited was incorporated as a Private Limited Company in 1963 and converted into a

Public Limited Company in January 1964 under the then Companies Act 1913, now the Companies Act 2017, and is listed on the Pakistan Stock Exchange (PSX).



SNGPL is the largest integrated gas company serving more than 6.7 million consumers in North and Central Pakistan through an extensive network in Punjab, Khyber Pakhtunkhwa (KP) and Azad Jammu & Kashmir. The Company has over 56 years of experience in operation and maintenance of high-pressure gas transmission and distribution system. It has also expanded its activities as Engineering, Procurement and Construction (EPC) Contractor to undertake the planning, designing and construction of gas pipelines, both for itself and other organization.

**Table 3.2: Pattern of Shareholding in SNGPL as of June 30, 2019**

Sr. No.	Categories of Shareholders	Percentage Shareholding
1.	The President of Islamic Republic of Pakistan	31.68
2.	SNGPL Employees Empowerment Trust	4.32
3.	Insurance Companies, Takaful, Development Finance Institutions, Banks, Modarabas and Pension Funds etc.	14.77
4.	Joint Stock Companies	3.14
5.	Public Sector Companies and Corporations	14.78
6.	Mutual Funds	15.15
7.	General Public (Local + Foreign)	8.10
8.	Foreign Companies	4.93
9.	All Others	3.13
<b>Total</b>		<b>100.00</b>

(Source: SNGPL)



### 3.2.3 Mari Petroleum Company Limited (MPCL)

Mari Petroleum is an integrated exploration and production company, currently managing and operating Pakistan's largest gas reservoir (in terms of remaining reserves) at Mari Gas Field, Daharki, Sindh. With 18% market share, Mari Petroleum is the third largest gas producer in the Country with cumulative daily production of 100,000 barrels of oil equivalent.

The Company's exploration and production assets are spread across all the four provinces of Pakistan. The Company enjoys the highest exploration success rate of 70%, much higher than industry average of 33% (national) and 14% (international). At the same time, it is the most cost-efficient E&P Company in the Country with lowest operating cost of under 10% of gross sales.

The Company plays a pivotal role in ensuring food security of Pakistan as more than 80% urea production in the Country is based on MPCL supplied gas. The Company also supplies gas for power generation and domestic consumers. To its credit, Mari Petroleum has the unique record of maintaining uninterrupted gas supply to its customers from Mari Field for the last fifty years without availing even the permitted outages.

Mari Petroleum is an ISO certified Company for Quality, Environment, Information Security, Occupational Health & Safety and has achieved Advanced Level in ISO Certification for Social Responsibility.

**Principal Business Activities:** Mari Petroleum is primarily an exploration and production company in the upstream segment of the petroleum industry. Its principal business activities include oil and gas exploration, drilling, field development, production and distribution of hydrocarbons (including natural gas, crude oil, condensate and LPG) as well as provision of E&P related services on commercial basis.



**Major Brands, Products and Services:** MPCL is a major producer of natural gas. It also produces crude oil, condensate and LPG. All the products of the Company are generic and supplied to midstream and downstream customers without any specific brand name. The Company also provides 2D/3D seismic data acquisition, seismic data processing and drilling services.

**Major Customers/Markets:** The gas produced by the Company is supplied to fertilizer manufacturers, power generation and gas distribution companies, while crude oil and condensate are supplied to the refineries for further processing. The Company only caters to local customers with no activity in the export market.

Product	Total Output	MPCL's Output	MPCL's Share
Gas (MMCF)	1,436,542	260,007	18.1%
Oil & Condensate (BBLs)	32,495,148	603,332	1.9%

Source: Pakistan Petroleum Information Service by LMKR on behalf of DGPC. Based on the data for FY 2018-19.

**Future Plans:** MPCL has positioned itself for sustainable growth in the coming years. The Company has acquired new exploration acreages as well as additional working interests in different blocks. Other high reward exploration acreages both locally and internationally are also being evaluated to expand the existing exploration portfolio, to pursue aggressive exploration and drilling for achieving a higher reserves replenishment ratio and consequently sustaining production, revenues and returns in the long-term.

In addition to opening up highly prospective but security sensitive blocks (Bannu West in KP & Block-28 in Balochistan) for exploration, the Company is taking all measures to expand exploration acreage to add prospective blocks to exploration portfolio. During FY 2019-20, the Company has planned to drill 08 Exploratory and 01 Development Well in both Operated & Non-Operated blocks across the country.

**Table 3.3: Pattern of Shareholding in MPCL as of June 30, 2019**

Sr. No.	Categories of Shareholders	Percentage Shareholding
1.	Fauji Foundation	40.00
2.	Oil & Gas Development Company Ltd	20.00
3.	Government of Pakistan	18.39
4.	General Public	21.61
<b>Total</b>		<b>100.00</b>

(Source: MPCL)

The segregation of the regulated gas sold by MPCL during FY 2018-19 is given in **Table 3.4** below:

**Table 3.4: Regulated Gas Sold by MPCL to its Customers during FY 2018-19**

Name of Purchaser & Field	Province	Volume (MMCFD)
Engro Fertilizers Limited <b>Mari Field</b>	Sindh	71
Engro Fertilizers Limited (SML) <b>Mari Field</b>	Sindh	3.11
Fauji Fertilizers Co.Ltd. Mirpur Mathelo <b>Mari Field</b>	Sindh	90
Fauji Fertilizers Company Limited - 1 <b>Mari Field</b>	Punjab	97
Fauji Fertilizers Company Limited - 2 <b>Mari Field</b>	Punjab	73
Fatima Fertilizer Company Limited <b>Mari Field</b>	Punjab	100.3
Central Power Generation Company <b>Mari Field</b>	Sindh	94
Sui Southern Gas Company Ltd. <b>Mari Field</b>	Sindh	0.96
MPCL Own Contract	Sindh	1
Foundation Power Company Daharki Limited <b>Mari Field</b>	Sindh	54.3
Sui Northern Gas Pipelines Ltd. (EFERT) <b>Mari Field</b>	Sindh	89
SSGCL - Sale of Gas from Hala Block <b>Hala Field</b>	Sindh	5.4
Egas Pvt. Limited <b>Halini Field</b>	Punjab	0.4
Petrosin CNG Private Ltd. - Sale of Gas from Halini Block <b>Halini Field</b>	Punjab	0.6
SNGPL - Sale of Gas from Sukkur Block <b>Koonj Field</b>	Sindh	0.44
SNGPL - Sale of Gas from Kalabagh 1A <b>Kalabagh Field</b>	Punjab	2.3
SSGCL - Sale of Gas from Sujawal Block <b>Sujawal Field</b>	Sindh	17.7
SSGCL - Sale of Gas from Zarghun South Block <b>Zarghun Field</b>	Balochistan	4.83

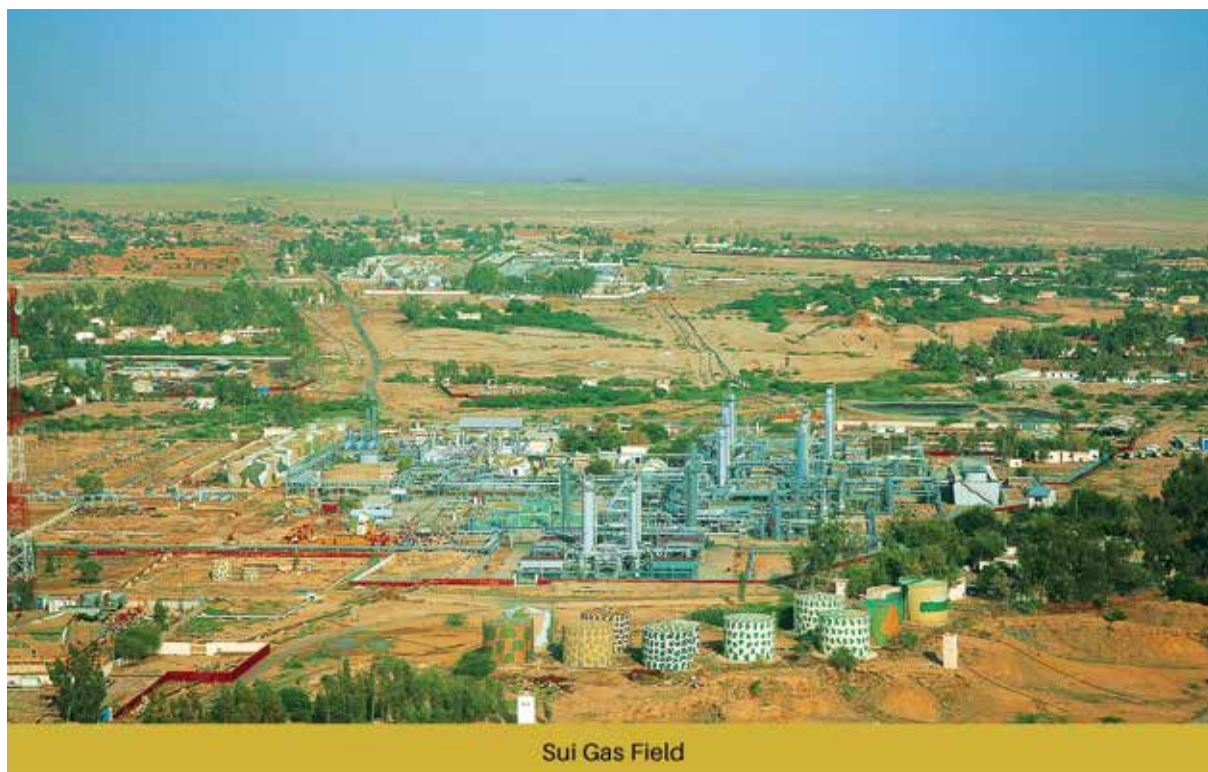
(Source: MPCL)

### 3.2.4 Pakistan Petroleum Limited (PPL)

Pakistan Petroleum Limited is a pioneer in the natural gas industry in Pakistan and has been a front-line player in the fields of exploration, development and production of oil and natural gas resources since 1950. As major supplier of natural gas, the Company supplies approximately 19% of the country's total natural gas in addition to producing

substantial quantities of crude oil, natural gas liquids, liquefied petroleum gas and barytes.

The Company currently operates producing fields at Sui, Kandhkot, Adhi, Mazarani, Chachar, Adam, Adam West, Shahdadpur, Shahdadpur East, Shahdadpur West and Kabir. In addition, the Company has working interests in 21 partner-operated producing fields/EWT.



## **Operational Performance of PPL during FY 2018-19**

### **Seismic Activities**

During the year, the Company acquired 381 Line Km 2D & 175 Sq.Km 3D seismic data in operated blocks (Khipro East, Kalat and Dhok Sultan) and 4,378 stations of Gravity / Magnetic data in Kalat and Margand blocks. In-house processing of 920 Line Km 2D and 1,364 Sq.Km 3D seismic data also completed.

### **Drilling Activities**

The company drilled 30 wells in FY 2018-19, in which 14 wells were drilled in PPL operated fields during the year. The Company is continuously improving drilling efficiency by setting new record of fastest well drilled at Adhi in 49.7 days (Adhi-32) and at Gambat South in 9.5 days (Hadaf X-1).

### **Production**

Production of hydrocarbons during FY 2018-19, including the Company's share from joint operations, averaged at about 870 MMSCFD of Gas, 16,077 BBL per day of Oil/NGL/Condensate and 320 Metric Tonnes of LPG per day.



## Production of Hydrocarbon by PPL during FY 2018-19

Product	Unit	Production
Natural Gas	MMscfd	870
Crude/Condensate/NGL	BBLs	5,868,105
LPG	Tonnes	116,723

## Discoveries

During FY 2018-19, PPL announced eleven (11) discoveries, six (6) in operated areas and five (5) in partner operated areas:

## New Discoveries by PPL during FY 2018-19

Operated Areas	Partner Operated Areas
Hab X-1 (Hab)	Mela-5 Samanasuk formation (Nashpa)
Yasar X-1 (Kotri)	Bolan East 1 (Ziarat)
Badeel X-1 (Gambat South)	Gulsher (Digri)
Talagang X-1 (Karsal)	Dharian (Ghauri)
Hadaf X-1 (Gambat South)	Unarapur-1 (Kotri North)
Benari X-1 (Shah Bandar)	-----

**Table 3.5: Pattern of Shareholding in PPL as of June 30, 2019**

Sr. No.	Categories of Shareholders	Percentage Shareholding
1.	Government of Pakistan	67.51
2.	PPL Employees Empowerment Trust	7.35
3.	Others	25.14
<b>Total</b>		<b>100.00</b>

(Source: Pakistan Petroleum Limited)

**Table 3.6: Regulated Gas Sold from PPL's Gas Fields during FY 2018-19**

Name of Purchaser and Field	Province	Volume (MMCFD)
SSGCL - Sui	Balochistan	105.0
SNGPL - Sui	Balochistan	215.0
GENCO - Kandhkot	Sindh	136.0
SSGCL - Kandhkot	Sindh	2.0
SNGPL - Kandhkot	Sindh	62.0
SNGPL - Adhi (PPL 39%)	Punjab	23.0
SNGPL - Adam West (Hala) (PPL 65%)	Sindh	10.0
SNGPL - Chachar (PPL 75%)	Sindh	2.0
SSGCL - Adam (Hala) (PPL 65%)	Sindh	2.0
SSGCL - Mazarani (PPL 87.50%)	Sindh	3.0
SSGCL - Gambat South (PPL 65%)	Sindh	35.0
EGAS - Gambat South (PPL 65%)	Sindh	0.8
<b>Total</b>		<b>596.0</b>

(Source: PPL)

*Note: Volumes and Gross sales represent PPL share in Operated Fields only, gas are being supplied to all the Govt designated buyers except for M/S E GAS in Gambat South Kabir EWT Phase.*

### 3.2.5 Oil & Gas Development Company Limited (OGDCL)

Oil & Gas Development Company Limited is the largest Exploration & Production (E&P) Company in Pakistan, listed on Pakistan Stock Exchange as well as 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, the Government of Pakistan is holding 74.98% of the 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

OGDCL holds the largest share of exploration acreage in the Country with 77,571.68 Sq.Km. OGDCL portfolio consisted of 43 own and operated joint venture (JV) exploration blocks, out of which 18 blocks have 100% working

interest while 25 blocks are in a joint venture. Also, OGDCL has considerable interests in 05 non-operated blocks with other companies.

### **Seismic**

OGDCL during FY 2018-19 acquired 1,324 L (Length). Km of 2D and 620 Sq.Km. of 3D seismic data. During the same period Company processed/reprocessed 7403.52 L. Km 2D seismic data and 320 Sq.Km. of 3D seismic data of various blocks.

### **Wells**

OGDCL during FY 2018-19 spudded a total of 16 wells which consisted of 08 exploratory wells, 01 appraisal well, and 07 development wells.

### **Discoveries**

OGDCL made 3 discoveries namely Chanda-1 (Hangu), Mela -5 and Mangrio-1.

### **Production**

OGDCL is making out all efforts to maintain and enhance production level by following best industry practices and applying the latest techniques with efforts to keep production loss time at a minimum. The on-going projects are also being undertaken/ completed on a seamless track to meet the growing energy demand of the country. OGDCL contributes 29% of Pakistan's total natural gas production and 45% of oil production (Source: PPIS). It has above 50 producing fields all over Pakistan. Its average net production for the FY 2018-19 is at around 40,810 barrels of oil per day (BOPD) of oil and 1,014 MMCFD of gas, 802 metric ton per day (MTD) of LPG and 55 MTD of Sulphur.



## Financials

OGDCL continues to deliver robust financial results for the nine months ended March 31, 2019 as its Sales Revenue and Profit before Tax climbed to Rs.192.047 billion and Rs.127.994 billion showing growth of 30% and 60% respectively. During the 9 months of 2018-19, the Company recorded Profit after Tax of Rs. 85.312 billion translating into Earnings per Share of Rs. 19.84.

## Future Outlook

OGDCL, although operating on a level playing field, still enjoys an edge over other oil companies operating in Pakistan due to its largest technical skill base in the industry, and a strong equipment base, coupled with knowledge and experience of exploring in varied terrains of all four provinces of Pakistan. However, its greatest challenge to date, has been to provide impetus to the Government's efforts to attain self-reliance in energy.

OGDCL's pattern of shareholding (as of June, 2019) is shown in **Table 3.7** and details of regulated gas sold during FY 2018-19 are shown in **Table 3.8**.

**Table 3.7: Pattern of Shareholding in OGDCL as of June 30, 2019**

Sr. No.	Categories of Shareholders	Percentage Shareholding
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	0.56
5.	Banks, Financial Institutions, etc.	2.31
6.	Mutual Funds	2.69
7.	Foreign Investors	6.03
8.	General Public (Local)	1.76
9.	Others	1.62
Total		100.00

(Source: OGDCL)

**Table 3.8: Regulated Gas Sold to Customers by OGDCL during FY 2018-19**

Name of Customers	Province	Volume (MMCFD)
SNGPL	KP, Sindh, Punjab and Balochistan	384.42
SSGCL	Sindh	247.91
Engro Fertilizer Ltd.	Sindh	11.02
Uch Power Ltd.	Balochistan	306.95
Fauji Kabirwala Power Company Ltd.	Punjab	4.15
<b>Total</b>		<b>954.45</b>

(Source: OGDCL)

### 3.2.6 Fauji Fertilizer Company Limited (FFCL)

Fauji Fertilizer Company Limited, in view of national vision to acquire self-sufficiency in fertilizer production in the Country was incorporated in 1978. This was a joint venture between Fauji Foundation and Haldor Topsoe A/S. The initial share capital of the Company was 813.9 million rupees. The present share capital of the Company stands above 12.72 billion rupees. FFCL is the largest urea manufacturer in Pakistan and a leading national enterprise with global outlook, effectively pursuing multiple growth opportunities, maximizing returns to the stakeholders, remaining socially and ethically responsible.

FFCL is now operating three world scale urea plants with an aggregate design capacity of over 2.0 million metric tonnes per annum. FFCL operates the largest marketing network in the Country, with more than 50% market share (nearly 3.5 million metric tonnes of fertilizer per annum for both FFCL and Fauji Fertilizer Bin Qasim Limited (FFBL) under its brand “SONA” which means gold.

The Company holds diversified stakes of 49.88% in FFBL, 43.15% in Askari Bank Limited, 6.79% in Fauji Cement Company Limited, 30% in Thar Energy Limited and 12.5% in Pakistan Maroc Phosphore SA (PMP). In line with the strategy of diversification, FFC Energy Limited; the pioneer among the Wind Power Plants in Pakistan, is contributing 50 MW to the national grid and further committed to address shortage of energy in the Country. FFC has setup another business venture as Fauji Fresh n Freeze Limited (FFF) which is a state of the art (individually quick-frozen fruits and vegetables) plant; the first of its kind in Pakistan.



The Company is listed on Pakistan Stock Exchange (PSX) and stands high amongst the largest corporate entities of the Country. FFC's securities are one of the lucrative scrips on the Stock Exchange. It has figured prominently amongst the top 25 Companies at the Pakistan Stock Exchange and has been declared FIRST nine times.

**Table 3.9: Pattern of Shareholding in FFCL as of June 30, 2019**

Sr. No.	Categories of Shareholders	Percentage Shareholding
1.	President of the Islamic Republic of Pakistan	0.70
2.	Farhad Shaikh Mohammad	0.16
3.	Fauji Foundation	10.18
4.	Committee of Admin. Fauji Foundation	34.17
5.	Executives	0.05
6.	Public Sector Companies and Corporations	10.58
7.	Banks, Development Finance Institutions, Non-Banking Finance Companies, Insurance Companies, Takaful, Modarabas and Pension Funds	7.33
8.	Mutual Funds	5.18
9.	General Public (Local + Foreign)	20.91
10.	Foreign Companies	7.62
11.	Others	3.12
<b>Total</b>		<b>100.00</b>

(Source: FFCL)

**Table 3.10: Regulated Gas Purchased by FFCL from Suppliers during FY 2018-19**

Name of Supplier and Field	Province	Volume (MMCFD)
Mari Petroleum Company Ltd. (Mari Gas Field)	Sindh	259.3
<b>Total</b>		<b>259.3</b>

(Source: FFCL)

### 3.2.7 Fatima Fertilizer Company Limited (FFCL)

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, Rahim Yar Khan.

During FY 2018-19, Company achieved highest ever sales revenue of Rs. 45,964 million (2017: Rs. 37,612 million). During the same period Company also achieved highest ever production volume of 1,405,073 MT (2017: 1,291,723 MT). Breakup of production is Urea: 500,855 MT (2017: 474,094 MT), CAN: 474,968 MT (2017: 444,753 MT) and NP: 429,250 MT (2017: 372,876). Profit after tax achieved is the highest ever the Company's history clocking in at Rs. 13.27 billion increasing 25.5% over previous best of Rs. 10.57 billion achieved last year.

**Table 3.11: Pattern of Shareholding in FFCL as of June 30, 2019**

Sr. No.	Categories of Shareholders	Percentage Shareholding
1.	Directors and Family Members	43.17
2.	Associated Companies	44.12
3.	Public Sector Companies and Corporations	0.09
4.	Foreign Companies	0.19
5.	General Public (local)	2.62
6.	General Public (foreign)	0.03
7.	Banks/Mutual Funds/DFI/NBFI/Insurance Companies/Modarabas/Pension Funds	5.29
8.	Others	4.48
<b>Total</b>		<b>100.00</b>

(Source: Fatima Fertilizer Company Limited)



**Table 3.12: Regulated Gas Purchased by FFCL from Suppliers during FY 2018-19**

Name of Supplier and Field	Province	Volume (MMCFD)
Mari Petroleum Company Limited (MPCL)	Punjab	100.34

(Source: Fatima Fertilizer Company Limited)

### 3.2.8 Foundation Power Company (Daharki) Limited (FPCDL)

The Fauji Foundation got registered with Private Power Infrastructure Board (PPIB), for setting up a 185 Mega Watt (MW) Gas based Power Plant in Daharki in April, 2004. Foundation Power Company Daharki Limited (FPCDL) was formally incorporated in November, 2005. The installed Combined Cycle Power Plant (Gas Turbine of General Electric, USA & Steam Turbine of Fuji, Japan) has a gross output of 185 MW. It employs modern technology, compliant to contemporary international as well as environment friendly standards. It functions on the low BTU gas, supplied from Mari Petroleum Company's Deep Well No. 6, located at 15 Km from the Plant Site. The low BTU gas, which is otherwise unsuitable for domestic use, is thus optimally used as well as affords economical production of electricity.

The Plant was commissioned on May 16, 2011 and ever since providing electricity in the National Grid at 90% availability, throughout the year, with an energy efficiency index of 49% and ranked amongst First Ten Independent Power Producer in Economic Dispatch Order List of National Transmission & Dispatch Company. FPCDL Power Plant is operationally managed by a reputed International Organization M/s KEPCO KPS Plant Services since its commissioning. The Plant bears certification of ISO 9001, 14001 & BS OHSAS 18001.

Company's Operational Performance:

- Foundation Power Company Daharki Ltd is an IPP established under Power Policy, 2002.
- The net output of the complex is 180.097 MW (@MSC) without degradation.
- COD of the project was achieved on May 16, 2011.
- Net energy exported 1,328,946 MWh during FY 2018-19.

**Table 3.13: Pattern of Shareholding in FPCDL as of June 30, 2019**

Sr. No.	Categories of Shareholders	Percentage Shareholding
1.	Daharki Power Holdings Limited	99.99

**Table 3.14: Regulated Gas Purchased from Suppliers during FY 2018-19**

Name of Supplier and Field	Province	Volume (MMCFD)
Mari Gas Field (MPCL)	Sindh	54.20

(Source: FPCDL)



### 3.2.9 Central Power Generation Company Limited (CPGCL)

Central Power Generation Company Limited (CPGCL) is a Public Limited Company with its registered office at WAPDA House, Lahore. The Company was incorporated in 1998, got certificate of commencement of business in 1998 and started commercial operations in March, 1999.

The Company owns, operates and maintains three Thermal Generation Power Houses with its total installed capacity of 2,502.94 MW. These three (03) Thermal Power Stations/Plants (TPS) are located at Guddu, Quetta and Sukkur. The installed capacities of these individual Power Plants are as follow;

- TPS (Guddu): 2402 MW
- TPS (Quetta): 50.94 MW
- TPS (Sukkur): 50 MW

**Table 3.15: Pattern of Shareholding in CPGCL as of June 30, 2019**

Sr. No.	Categories of Shareholders	Percentage Shareholding
1.	Individuals	0.01
2.	President of Pakistan	99.99
Total		100.00

**Table 3.16: Regulated Gas Purchased from Suppliers during FY 2018-19**

Name of Supplier and Field	Province	Volume (MMCFD)
PPL (Kandhkot Gas Field)	Sindh	134.87
SNGPL (Kandhkot Gas Field)	Sindh	64.58
MPCL (Mari Shallow Field)	Sindh	94.00
Total		293.45

(Source: CPGCL)

## 3.3 Gas Transmission & Distribution Infrastructure

The licenced 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.

### 3.3.1 SNGPL Transmission Infrastructure

SNGPL during FY 2018-19 undertook an extension of 81 Km in its transmission network. The major segments of

the SNGPL transmission network along with their current capacity utilization are listed in **Table 3.17**. The total transmission network of SNGPL (as of June 30, 2019) is shown in **Table 3.18**.

**Table 3.17: SNGPL's Capacity Utilization of Transmission System (MMCFD)**

Transmission Network Segment	Available Capacity as of June 30, 2018	% age of <sup>(1)</sup> Capacity Utilization	Available Capacity as of June 30, 2019	% age of <sup>(1)</sup> Capacity Utilization
Sui - Bhong <sup>(2)</sup>	480	70	400	110
Sawan - Qadirpur	1510	75	1510	70
Qadirpur - Bhong	1860	75	1860	68
Bhong - AC4 <sup>(5)</sup>	2070	80	2070	79
AC4 - AV22 <sup>(5)</sup>	2000	81	2000	81
AV22 - Kot Addu	400	81	400	76
Dhodak - Kot Addu	70	19	70	16
AV22 - Multan <sup>(5)</sup>	1800	75	1800	86
Multan - AV29	1750	81	1750	89
AV29 - Sahiwal - Lahore	950	76	950	97
AV29 - Faisalabad	770	89	770 <sup>(4)</sup>	91
Faisalabad - Lahore	500	64	500	92
Faisalabad - Galli Jagir	350	33	350	31 <sup>(3)</sup>
Wah - Nowshera	110	178	110	155 <sup>(3)</sup>
Wah - Abbottabad	94	77	94	84
Gurguri - Kohat - Ismailkot	315	108	315	98
FC1 (Dhullian) - C6 (Galli Jagir)	314	26	314	30
Nowshera - Mardan	75	109	75	112
Mardan - Mangora	30	140	45	98

(1) Percentage of capacity utilization is computed w.r.t. available capacity.

(2) Capacities of this segment is dependent on gas delivery pressure from sources.

The available capacity of this segment has reduced due to reduction of gas delivery pressure from Sui gas field on account of its depleting trend.

- (3) With start / increase in gas supply from MOL's CPF, gas is flowing in reverse direction from Ismailkot / Nowshera towards Wah.
  - (4) Capacity of the segment reduced due to relocation of compressor units from AC-7 compressor station.
  - (5) Available capacities of Bhong - AC4, AC4 - AV22 & AV22 - Multan are less than design capacities of these segment due to isolation / operation of 18"dia pipeline at low pressures on account of integrity of this pipeline.
- Capacity of Mardan - Mangora pipeline increased after complete commissioning of 12"dia loop pipeline.

(Source: SNGPL)

**Table 3.18: Details of SNGPL Transmission Network as of June 30, 2019**

Diameter (inch)	3"	4"	6"	8"	10"	12"	16"	18"	20"	24"	30"	36"	42"	Grand Total (Km)
Punjab	0.24	4.43	140.7	1,752.03	469.03	322.47	1,208.56	725.94	59.35	947.46	789.09	837.58	17.13	7,314
KP	0	0	57.79	694.09	133	209.06	139.65	0	0	148.01	0	0	0	1,382
Others	0	2.41	0	17.35	5.5	4.5	55.79	11.25	37.8	239.76	86.73	54.95	186.64	703
<b>Total (Km)</b>	<b>0.24</b>	<b>6.84</b>	<b>198.5</b>	<b>2,463.47</b>	<b>607.53</b>	<b>536.03</b>	<b>1,404.00</b>	<b>737.19</b>	<b>97.15</b>	<b>1,335.23</b>	<b>875.82</b>	<b>892.53</b>	<b>203.77</b>	<b>9,398</b>

(Source: SNGPL)

### 3.3.2 Compression Facilities in SNGPL's Transmission System

SNGPL has 69 compression units with a total capacity of 226,200 brake horse power (bhp). SNGPL's compression system details are represented in **Table 3.19**.

**Table 3.19: Compressor Stations in SNGPL Transmission System as of June 30, 2019**

Compressor Station/ Location	Number of Units		Total Installed Power (BHP)	
	30-06-2018	30-06-2019	30-06-2018	30-06-2019
AC-0 (Sui)	4	4	11,000	11,000
AC-IX (S) (Bhong) Distt R.Y.Khan	7	7	35,040	35,040
AC-IX (Q) (Bhong) Distt R.Y.Khan	5	5	24,920	24,920 *
AC-IX (LNG) (Bhong) Distt R.Y.Khan	4	4	17,400	17,400
AC-4 (Uch Sharif) Distt Bahawalpur	8	10	39,020	47,020
AC-6 (Multan)	9	9	40,620	40,620

Continued on next page

AC-8 (Faisalabad)	6	6	20,200	20,200
BC-1 (Manawala)	7	7	7,000	7,000
CC-1 (HaranPur) Distt Jehlum	6	4	12,000	4,000
CC-3 (Gali Jagir) Distt Attock	6	6	12,000	12,000
FC-1 (Dhulian)	7	7	7,000	7,000
<b>Total</b>	<b>69</b>	<b>69</b>	<b>226,200</b>	<b>226,200</b>

\*1 Nos. Centaur T-4700 is being relocated from AC1-X (Qpr) to AC-6 A and under installation.

(Source: SNGPL)

### 3.3.3 SSGCL's Transmission Infrastructure

The details of SSGCL's transmission network and its compressor stations are given in **Table 3.20** and **Table 3.21** respectively.

**Table 3.20: SSGCL's Transmission Network Commissioned during FY 2018-19**

Sr. No.	Segment	Dia	Length
		(Inch)	(Km)
1.	<b>Sindh</b>		
	Left over work of RLNG-II Pipeline Project (from MVA Tando Adam)	42"	24
	<b>Total (A)</b>		<b>24</b>
2.	<b>Balochistan/ Any other</b>		
	---		---
	<b>Total (B)</b>		---
	<b>Total (A+B)</b>		<b>24</b>

(Source: SSGCL)

**Table 3.21: SSGCL's Capacity Utilization of Transmission Network**

(MMCFD)

Transmission Network Segment	Available Capacity as of June 30, 2018	Utilization % age	Available Capacity as of June 30, 2019	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"x31 Km Dingra-Sibi,18"x15 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.x116 Km loopline from Sind University to FJFC offtake	60	---	60	---
24"dia.15 Km Masu-HQ3	40	---	40	---
24"dia.x84 Km HQ2-Tando Adam	85	---	85	---
24"dia.x34 Km Loopline from Tando Adam to Masu	23	---	23	---
24"dia.x200 Km Bajara-Karachi Loopline	240	---	240	---
18" x 18 Km loopline (Dhadar to Gokart)	36	---	36	---
12" x 23 Km re-routing 24" X 34 Km Shikarpur to Jacobabad Loop line	---	---	32	---
12"x60 Km HQ-Quetta - Zargun Line	25	---	25	---
<b>Total Capacities for SSGC (A)</b>	<b>1,482</b>	<b>91</b>	<b>1,514</b>	<b>81</b>
Transmission Network Contracted for Transporting 3 <sup>rd</sup> 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	---

Continued on next page

<b>Total Contracted Network (B)</b>	<b>245</b>	<b>100*</b>	<b>245</b>	<b>100*</b>
<b>RLNG-2 Pipeline (C)</b>	<b>1,200</b>	<b>---</b>	<b>1,200</b>	<b>49</b>
<b>SSGC Total Available Transmission Network Capacity (A+B+C)</b>	<b>2,927</b>	<b>---</b>	<b>2,959</b>	<b>---</b>

Note: Capacities are subject to changes based on input/output pressures of the segment/transmission pipeline network.

\*Utilization % age of each pipeline segments could not be calculated due to integrated transmission network and connection of more than one gas fields and gas sales meter station at a single line. Transported gas volumes are being utilized between SSGCL and SNGPL.

(Source: SSGCL)

**Table 3.22: Compressor Stations in SSGCL Transmission System as of June 30, 2019**

Compressor Station/ Location	Size and Number of Units		Total Installed Power (bhp)	
	30.06.2018	30.06.2019	30.06.2018	30.06.2019
Shikarpur	120 MMCFD per unit	120 MMCFD per unit	11,600	11,600
	2 Units installed	2 Units installed	---	---
Hyderabad	120 MMCFD per unit	120 MMCFD per unit	17,400	17,400
	3 Units installed	3 Units installed	---	---
Sibi	60 MMCFD per unit	60 MMCFD per unit	9,400	9,400
	2 Units installed	2 Units installed	---	---
HQ-2	120 MMCFD per unit	120 MMCFD per unit	11,600	11,600
	2 Units installed	2 Units installed	---	---
	200 MMCFD per unit	200 MMCFD per unit	46,200	46,200
	6 Units installed	6 Units installed	---	---
<b>Total</b>			<b>96,200</b>	<b>96,200</b>

(Source: SSGCL)

**Table 3.23: Details of SSGCL's Transmission Network as of June 30, 2019**

Diameter (inch)	6"	12"	16"	18"	20"	24"	30"	42"	Grand Total (Km)
Length (Km)	36	545	558	970	844	721	9	371	4,054

(Source: SSGCL)

**3.3.4 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 3.24**.

**Table 3.24: Independent System Infrastructure**

Pipeline Operator	Segment	Diameter (Inch)	Length (Km)
FFCL	Mari to Fauji Fertilizer 1	16	48
FFCL	Mari to Fauji Fertilizer 2	14	48
FFCL	Mari to Fauji Fertilizer 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 Compression Station at Sui Field to Guddu Thermal Power station	16	56
OGDCL	Uch field to Uch Power Plant	26	47
OGDCL	Nandpur Pinjpir to FKPCCL	12	16
Tullow	Sara/Suri Field to CPGCL Pipeline near Mari Well No.6	8	33
FFCL	Mari to Fatima Fertilizer	20	47
FPCDL	Mari to Foundation Power Company Ltd (Daharki)	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 Daharki	10	26
Fauji Oil Terminal and Distribution Company Ltd. (FOTCO)	For Transmission of RLNG from Pakistan Gas Port Consortium Ltd. (PGPCL) Terminal to SSGC's tie in point located at Port Qasim, Karachi.	30	13.3

### 3.3.5 SNGPL and SSGCL Distribution Mains and Service Lines

The Gas Companies are involved in supplying gas to distant localities / customers, wherever it is economically viable and technically feasible. In FY 2018-19, an addition of 7,782 Km was made by the SNGPL in its distribution network, while SSGCL has added 660 Km in its distribution network. Region-wise and diameter-wise breakdown of SNGPL and SSGCL distribution networks, as of June 30, 2019, are shown in **Tables 3.25, 3.26 and 3.27.**

**Table 3.25: SNGPL's Cumulative Length of its Distribution Network as of June 30, 2019**

(Km)

Punjab														
Region	3/4"	1"	1-1/4"	1-1/2"	2"	4"	6"	8"	10"	12"	16"	18"	24"	Total
Islamabad	2,069	2,630	2,011	8	2,153	1,305	458	136	43	10	24	2	20	10,870
Rawalpindi	2,129	1,851	1,588	0	2,316	1,077	402	181	63	58	34	0	0	9,698
Bahawalpur	1,011	1,375	931	0	1,171	645	210	125	60	39	0	0	0	5,568
Gujrat	930	742	1,329	0	1,140	710	277	211	8	6	0	0	0	5,354
Sahiwal	1,013	1,041	1,804	0	1,170	590	321	178	48	0	0	0	0	6,165
Sheikhupura	1,348	576	1,008	0	859	742	291	258	40	18	11	5	0	5,156
Sargodha	1,373	431	1,367	0	992	934	201	55	0	27	0	0	0	5,379
Faisalabad	2,728	2,671	3,588	0	2,545	1,364	780	486	102	41	27	0	0	14,332
Lahore	3,837	7,534	1,727	12	3,716	1,217	542	162	48	145	175	28	31	19,172
Multan	2,361	966	2,686	0	3,813	2,665	648	253	65	69	12	0	0	13,538
Gujranwala	1,815	1,865	1,821	0	2,327	1,423	421	220	11	0	42	6	0	9,949
Sialkot	904	807	1,088	0	1,175	722	167	110	52	3	0	0	0	5,028
<b>Sub-Total, Punjab</b>	<b>21,518</b>	<b>22,488</b>	<b>20,947</b>	<b>20</b>	<b>23,377</b>	<b>13,395</b>	<b>4,718</b>	<b>2,374</b>	<b>540</b>	<b>416</b>	<b>324</b>	<b>41</b>	<b>51</b>	<b>110,209</b>
KP														
Peshawar	2,100	2,167	562	0	2,367	1,532	746	248	190	64	54	8	0	10,038
Mardan	967	1,100	1,311	0	1,283	717	206	136	14	0	0	0	0	5,734
Abbottabad	726	1,141	660	0	925	420	154	82	39	26	4	0	0	4,176
<b>Sub-Total, KP</b>	<b>3,793</b>	<b>4,408</b>	<b>2,532</b>	<b>0</b>	<b>4,574</b>	<b>2,669</b>	<b>1,106</b>	<b>466</b>	<b>243</b>	<b>90</b>	<b>58</b>	<b>8</b>	<b>0</b>	<b>19,948</b>
<b>Total</b>	<b>25,311</b>	<b>26,896</b>	<b>23,480</b>	<b>20</b>	<b>27,952</b>	<b>16,064</b>	<b>5,824</b>	<b>2,840</b>	<b>783</b>	<b>506</b>	<b>382</b>	<b>49</b>	<b>51</b>	<b>130,157</b>

(Source: SNGPL)



**Table 3.26: SSGCL - Cumulative Length of Distribution Network as of June 30, 2019**

Region	Cumulative Distribution Network (Km)									
	Sindh									
	1"-2"	3"	4"	6"	8"	10"	12"	16"	Others	Total
Sindh (Interior)	9,297	15	3,701	1,857	511	33	62	17	6,867	<b>22,360</b>
Karachi	5,162	-	825	488	631	15	184	100	8,960	<b>16,365</b>
<b>Sub-Total</b>	<b>14,459</b>	<b>15</b>	<b>4,526</b>	<b>2,345</b>	<b>1,142</b>	<b>48</b>	<b>246</b>	<b>117</b>	<b>15,827</b>	<b>38,725</b>
Region	Balochistan									
	1"-2"	3"	4"	6"	8"	10"	12"	16"	Others	Total
Balochistan	3,435	76	1,239	405	488	6	48	94	2,356	<b>8,147</b>
<b>Total</b>	<b>17,894</b>	<b>91</b>	<b>5,765</b>	<b>2,750</b>	<b>1,630</b>	<b>54</b>	<b>294</b>	<b>211</b>	<b>18,183</b>	<b>46,872</b>

(Source: SSGCL)

**Table 3.27: Distribution Network (Km) - Polythene Pipe**

Region	Sindh					
	20mm	40mm	63mm	125mm	180mm	Total (Km)
Sindh (Interior)	581	885	829	246	15	<b>2,556</b>
Karachi	696	1,031	1,710	446	254	<b>4,137</b>
<b>Sub-Total</b>	<b>1,277</b>	<b>1,916</b>	<b>2,539</b>	<b>692</b>	<b>269</b>	<b>6,693</b>
Balochistan						
Balochistan	156	33	389	95	6	<b>679</b>
<b>Total</b>	<b>1,433</b>	<b>1,949</b>	<b>2,928</b>	<b>787</b>	<b>275</b>	<b>7,372</b>

(Source: SSGCL)

### 3.3.6 Customers Addition to Gas Network

The total number of new gas consumers added during FY 2018-19 is shown in **Table 3.28** and cumulative number of consumers (country-wide), as of June 30, 2019, is given in **Table 3.29**.

**Table 3.28: Number of Consumers Added / (Disconnected) during FY 2018-19**

Sector	SNGPL			SSGCL				Total Country
	Punjab, Islamabad & AJK	KP	Total SNGPL	Sindh Interior	Karachi	Balochistan	Total SSGCL	
Domestic	363,445	64,323	<b>427,768</b>	34,100	60,403	9,586	<b>104,089</b>	<b>531,857</b>
Commercial	2,209	314	<b>2,523</b>	126	1,710	66	<b>1,902</b>	<b>4,425</b>
Industrial	108	12	<b>120</b>	(1)	63	1	<b>63</b>	<b>183</b>
<b>Total</b>	<b>365,762</b>	<b>64,649</b>	<b>430,411</b>	<b>34,225</b>	<b>62,176</b>	<b>9,653</b>	<b>106,054</b>	<b>536,465</b>

(Source: SNGPL &amp; SSGCL)

**Table 3.29: Number of Consumers (Cumulative) as of June 30, 2019**

Sector	SNGPL			SSGCL				Total Country
	Punjab	KP	Total SNGPL	Sindh Interior	Karachi	Balochistan	Total SSGCL	
Domestic	5,823,979	877,161	<b>6,701,140</b>	847,207	1,867,962	275,142	<b>2,990,311</b>	<b>9,691,451</b>
Commercial	53,933	9,921	<b>63,854</b>	4,297	17,520	2,780	<b>24,597</b>	<b>88,451</b>
Industrial	6,086	839	<b>6,925</b>	645	3,566	59	<b>4,270</b>	<b>11,195</b>
<b>Total</b>	<b>5,883,998</b>	<b>887,921</b>	<b>6,771,919</b>	<b>852,149</b>	<b>1,889,048</b>	<b>277,981</b>	<b>3,019,178</b>	<b>9,791,097</b>

(Source: SNGPL &amp; SSGCL)

## 3.4 Natural Gas Consumption and Production

### 3.4.1 Gas Consumption

The consumers of natural gas are categorized into three basic categories namely, residential, commercial and industrial consumers. The industrial sector includes power, cement, general industry, fertilizer and transport sectors. The demand of gas increases considerably during the winter season. Consequently, the gas utility companies, in accordance with the priorities set by 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.

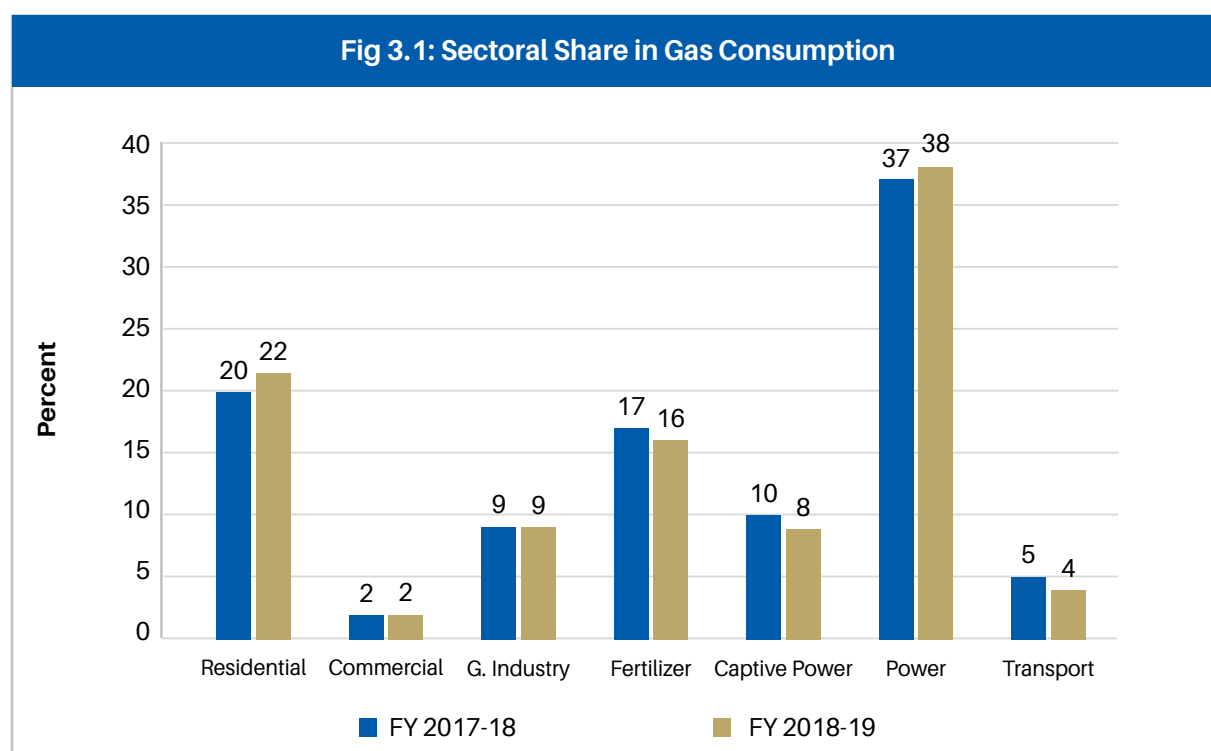
**Table 3.30: Sector-wise Gas Consumption during FY 2018-19**

(MMSCFD)

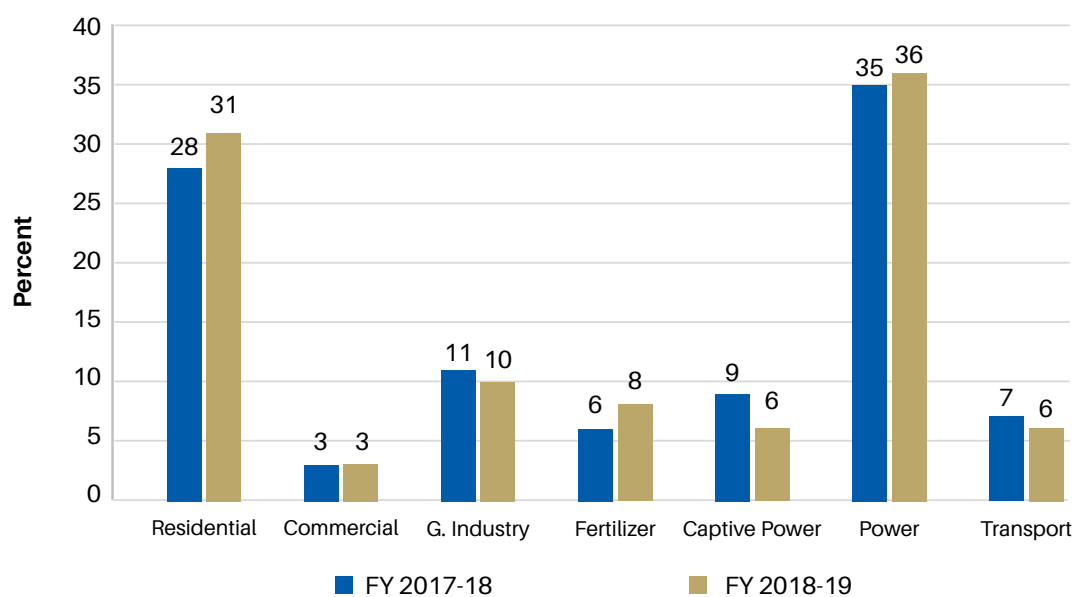
Sector	SNGPL System	SSGCL System	Independent System	Total Country	Percentage Share (%) (Net of own use & losses)
Residential	593	263	0	856	22
Commercial	58	29	0	87	2
General Industry	190	165	0	355	9
Fertilizer	156	51	445	652	16
Cement	0	1	0	1	0
Captive Power	117	204	0	321	8
Power	704	220	595	1519	38
Transport	116	62	0	178	4
<b>Sub-Total</b>	<b>1,934</b>	<b>995</b>	<b>1,040</b>	<b>3,969</b>	<b>100</b>
Own use	17	7	0	24	-
UFG, T&D and Other Losses	164	194	0	358	-
<b>Grand Total</b>	<b>2,115</b>	<b>1,165*</b>	<b>1,040</b>	<b>4,351</b>	<b>-</b>

\* Total SSGCL volume excludes 31 MMCFD due to JJVL shrinkage and RLNG Swap

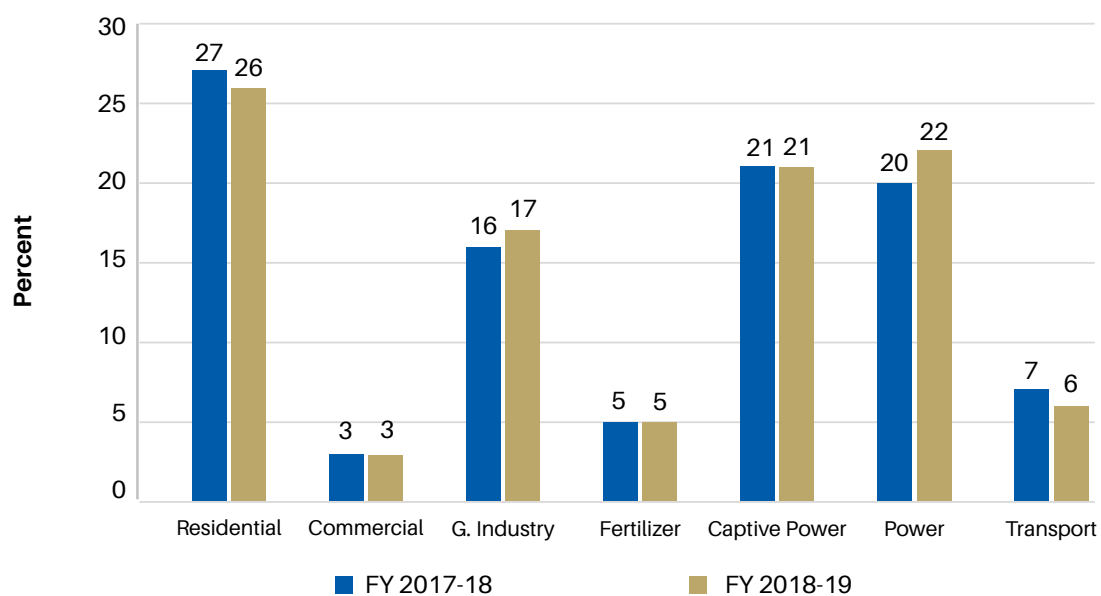
(Source: SNGPL, SSGCL and Independent Systems)



**Fig 3.2: Sectoral Share in Gas Consumption on SNGPL's System**



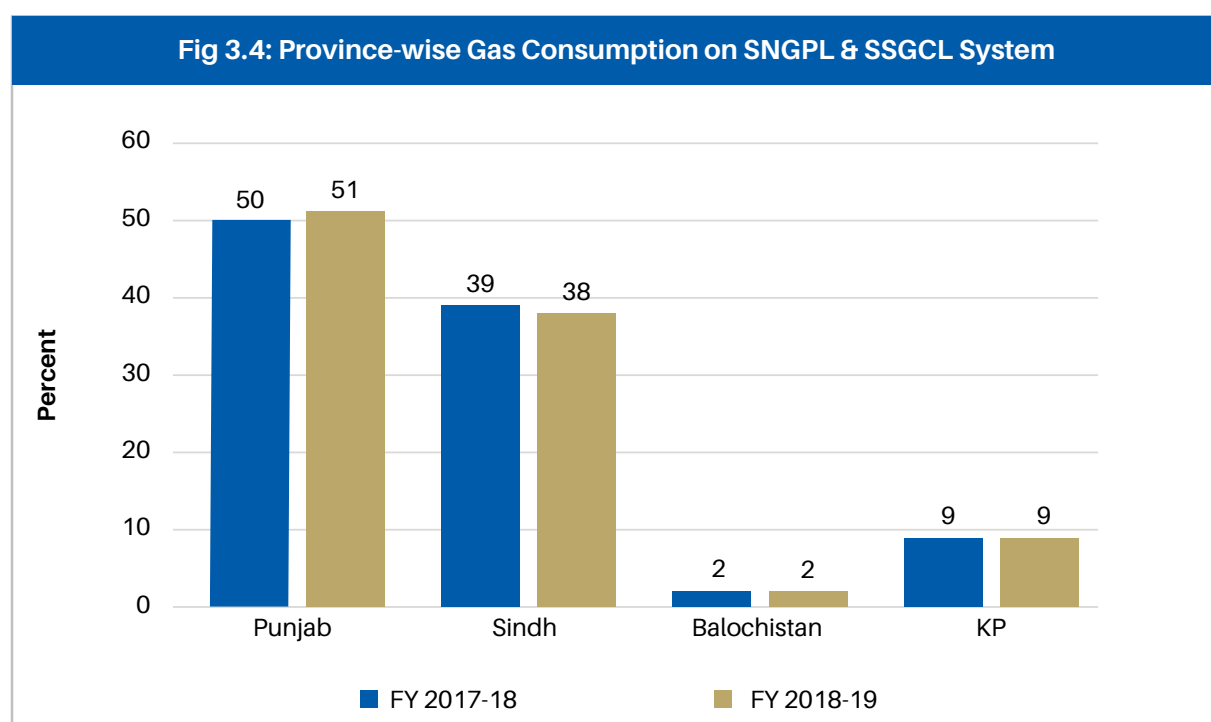
**Fig 3.3: Sectoral Share in Gas Consumption on SSGCL's System**



**Table 3.31: Province-wise Gas Consumption during FY 2018-19 (SNGPL & SSGCL Systems only)**

Province	Consumption (MMCFD)		Percentage Share	
	FY 2017-18	FY 2018-19	FY 2017-18	FY 2018-19
Punjab	1,515	1,591	50	51
Sindh	1,163	1,180	39	38
Balochistan	64	65	2	2
KP	265	273	9	9
<b>Total</b>	<b>3,007</b>	<b>3,109</b>	<b>100</b>	<b>100</b>

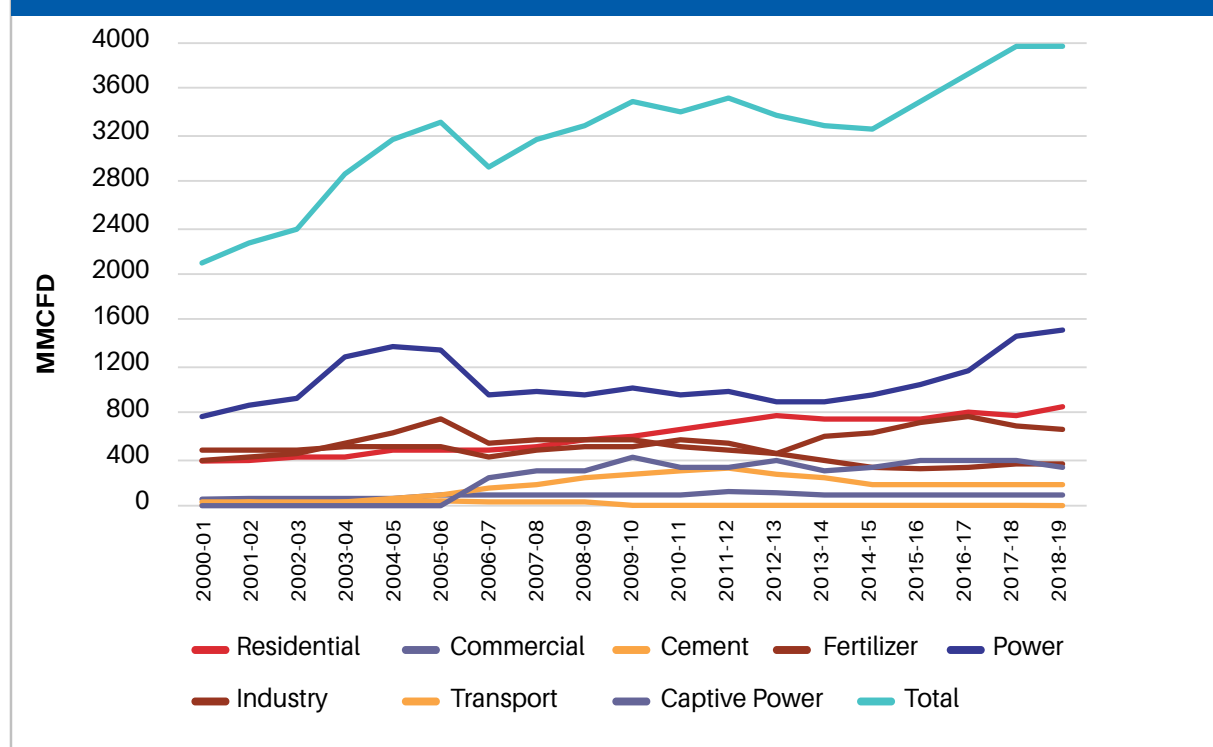
(Source: SNGPL & SSGCL)



### 3.4.2 Sectoral Gas Consumption Trend

Natural gas demand in the country has been increasing day by day. Some 20 years back, in 1997-1998, overall consumption of natural gas in the country was around 1,700 MMCFD whereas the same has increased to 3,969 MMCFD in FY 2018-19. Natural gas consumption consolidated sectoral growth and sector-wise growth over the years has been shown in **Fig 3.5** below.

Fig 3.5: Sectoral Gas Consumption Trend



(Source: Pakistan Economic Survey and OGRA Annual Reports)

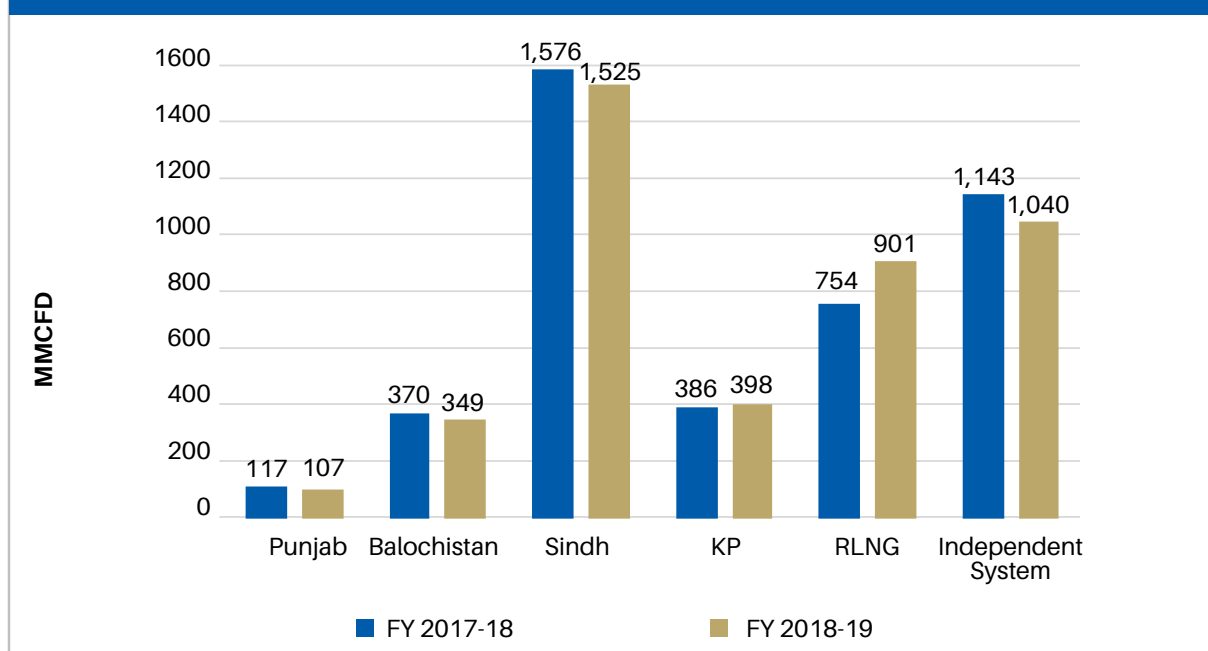
### 3.4.3 Gas Supplies

Natural gas is produced from the gas fields located across Pakistan. Natural gas supply in the Country has reached to 4,319 MMCFD. The major gas fields of the country include Sui, Uch, Qadirpur, Sawan, Zamzama, Badin, Bhit, Kandhkot, Mari and Manzalai. In addition, Pakistan is importing the LNG since 2015, whereby the RLNG has contributed significantly in mitigating the natural gas shortage in the Country. In FY 2018-19, around 21% of the country's gas supplies was met through the imported RLNG. In this regard, the data related to imported and province-wise natural gas supplied to the Gas Utility Companies is given in **Table 3.32**.

Table 3.32: Province-wise Gas and Imported RLNG Supplies to SNGPL and SSGCL

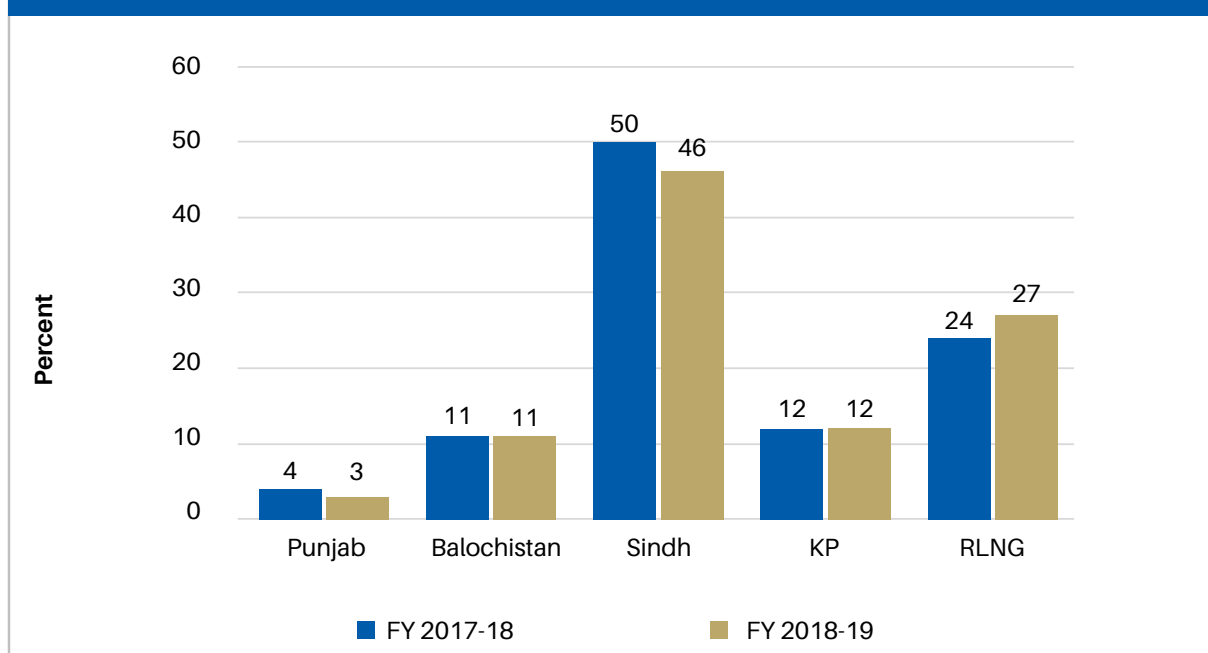
Gas Supply Source	Volume (MMCFD)
Punjab	107
Balochistan	349
Sindh	1,525
KP	398
RLNG	901
<b>Total</b>	<b>3,280</b>

**Fig 3.6: Gas Supplies (SSGCL, SNGPL, RLNG & Independent System)**

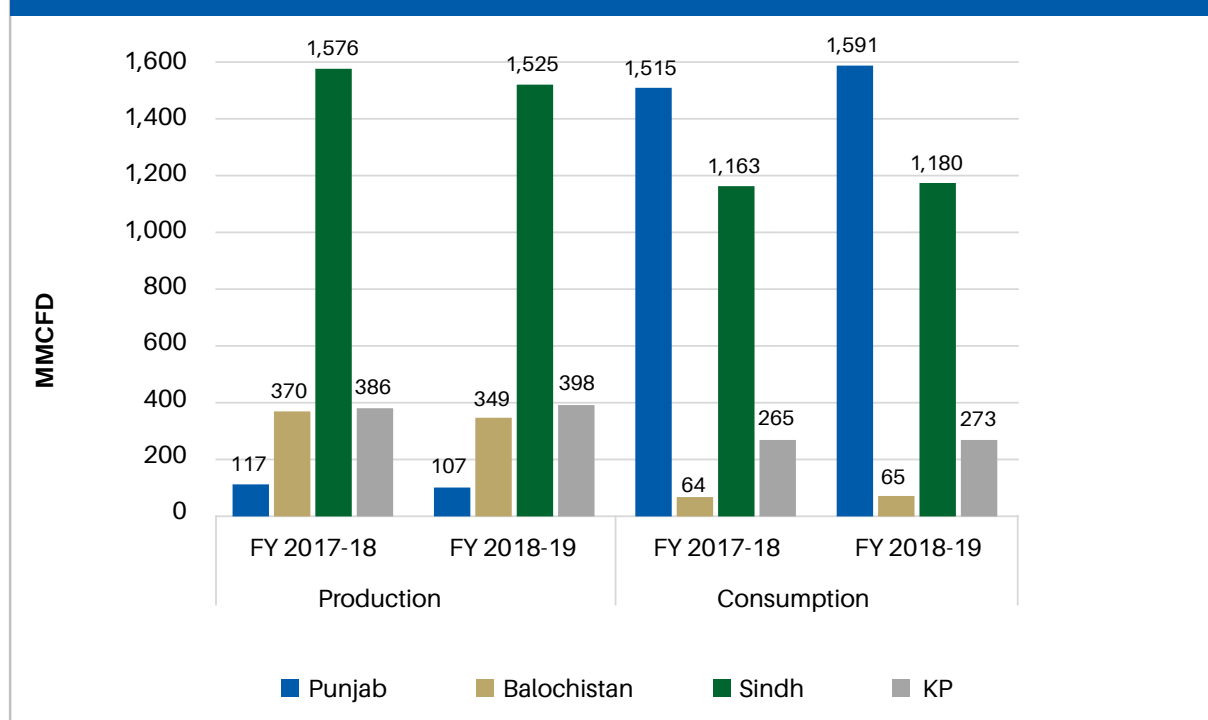


Field wise production / supplies to the gas utility companies and imported RLNG are graphically shown in **Fig 3.7**. Sindh stood as the major supplier with a contribution in gas supply of around 46% while Balochistan, KP and Punjab followed with shares of 11%, 12% and 3% respectively. While the share of RLNG, in the overall gas supply, has increased to 27% during FY 2018-19.

**Fig 3.7: Province-wise and RLNG Share in Gas Supplies**



**Fig 3.8: Province-wise Production and Consumption of Natural Gas**



**Table 3.33: Field-wise Natural Gas and Imported RLNG Supplies to SNGPL, SSGCL and Independent System**

**SNGPL**

Gas Field	FY 2017-18			FY 2018-19		
	Calorific Value (Btu/Scf)	(BBtu/d)	(MMCFD)	Calorific Value (Btu/Scf)	(BBtu/d)	(MMCFD)
<b>Balochistan</b>						
Loti	842	13	16	838	12	15
Pirkoh	842	1	1	840	0	0
Sui	959	222	231	957	205	215
<b>Sub-Total, Balochistan</b>	--	<b>236</b>	<b>248</b>	--	<b>218</b>	<b>230</b>
<b>KP</b>						
Chanda	1,159	3	3	1,149	6	6
Makori	1,035	1	1	1,033	0	0

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Makori East	1,035	71	68	1,033	69	66
Makori Deep	1,035	5	5	1,033	4	4
Manzalai CPF	1,059	30	28	1,058	23	22
Mela	1,165	7	6	1,146	9	8
Mamikhel	1,059	23	22	1,058	21	20
Maramazai	1,048	134	128	1,046	136	130
Nashpa	1,122	88	78	1,051	89	85
Tolanj	1,006	5	5	1,009	6	6
Tolanj West	1,006	6	6	1,009	9	9
Mardankhel	1,059	38	36	1,058	45	42
<b>Sub-Total, KP</b>		<b>411</b>	<b>386</b>	---	<b>418</b>	<b>398</b>
<b>Punjab</b>						
Adhi	1,077	68	63	1,077	65	60
Dakhni	1,060	20	19	1,064	17	16
Dhodak	1,143	1	1	1,144	1	1
Dhullian	1,065	2	2	1,073	1	1
Meyal	999	0	0	1,073	1	1
Pariwali	1,065	3	3	1,068	3	3
Pindori	1,137	0	0	1,138	0	0
Ratana	1,123	0	0	1,123	0	0
Ratana Meyal	1,065	5	4	1,067	3	3
Sadkal	1,177	1	1	1,171	1	1
Salsabeel	992	6	7	999	5	5
Salsabeel Chiltan	867	0	0	867	0	0
Soghari	1,060	7	7	1,064	6	6
Jhandial	1,063	6	5	1,067	7	6

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Kalabagh	1,112	6	5	1,112	4	4
<b>Sub-Total, Punjab</b>	--	<b>124</b>	<b>117</b>	--	<b>114</b>	<b>107</b>
<b>Sindh</b>						
Badar	575	10	17	574	10	17
Chachar	771	2	3	809	2	3
Hasan.B-22	683	6	9	697	4	6
Kandhkot	826	42	51	819	51	62
Qadirpur(Proc)	878	174	198	876	146	167
Qadirpur(Raw)	838	24	29	837	30	36
Qadirpur(Perm)	685	36	53	692	31	45
Sawan	1,001	10	10	1,006	18	18
Tajjal	1,001	2	2	1,006	1	1
Zamzama(SNGPL)	797	23	29	797	14	18
Koonj	863	1	1	864	0	0
Mari Engro	724	61	84	724	65	89
Latif	1,002	15	15	1,006	19	18
<b>Sub-Total, Sindh</b>	---	<b>406</b>	<b>500</b>	---	<b>391</b>	<b>480</b>
LNG	---	759	754	---	934	901
Net Line Pack - System	---	4	5	---	(0)	(0)
Net Line Pack - RLNG	---	7	6	---	(1)	(1)
<b>Grand Total (A)</b>	---	<b>1,947</b>	<b>2,016</b>	---	<b>2,073</b>	<b>2,115</b>

## SSGCL

Gas Field	FY 2017-18			FY 2018-19		
	Calorific Value (Btu/scf)	(MMCFD)	(BBtu/d)	Calorific Value (Btu/scf)	(MMCFD)	(BBtu/d)
<b>Balochistan</b>						
Sui	959	106.2	101.8	954	105.1	100.3
Zargoan	952	15.5	14.8	950	14.1	13.4
<b>Sub-Total, Balochistan</b>	---	<b>121.7</b>	<b>116.6</b>	---	<b>119.2</b>	<b>113.7</b>
<b>Sindh</b>						
Kandhkot	822	1.5	1.2	800	1.5	1.2
Mazarani	1,017	4.3	4.4	1,027	3.7	3.8
Badin	1,105	40.4	44.6	1,138	25.3	28.8
Bhit	944	168.1	158.7	949	140.4	133.3
Kadanwari	998	21.6	21.6	1,002	43.5	43.6
Miano	997	39.4	39.3	1,000	35.6	35.6
Sawan	1,001	32.5	32.5	1,006	15.6	15.7
Zamzama	797	29.3	23.3	799	13.4	10.7
Khipro/Mirpur Khas	1,003	366.3	367.5	990	360.7	357.0
TAY / Dars	1,029	67.3	69.2	1,034	59.5	61.5
Hundi Sari	985	2.5	2.5	917	1.2	1.1
Mari	732	1.0	0.7	700	1.0	0.7
Bobi	1,109	3.9	4.3	1,100	4.0	4.4
Hassan /SNGPL Towns (Ghotki, Rustam, Sher Ali, Ubaro, Chouniko)	1,000	13.0	13.0	872	4.7	4.1
Adam-X	1,042	15.6	16.3	1,046	15.2	15.9
Pakhro/Noorai Jagir	1,068	0.4	0.4	1,000	0.2	0.2
Latif	1,002	14.8	14.8	1,000	12.0	12.0

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Pashaki deep & Kunnar deep	50	116.0	5.8	1,025	137.9	141.4
Sujawal/Sujjal	1,059	19.4	20.6	1,051	15.6	16.4
Sinjhero	1,016	31.0	31.5	1,013	30.2	30.6
Nur Bagla Field	2	1.8	1.9	1,083	4.8	5.2
Kirther (Rehman) EWT	846	17.6	14.9	836	16.5	13.8
Maher/Mubarak Block	1,084	9.4	10.2	1,074	8.1	8.7
Rizq - EWT	925	12.6	11.7	934	15.2	14.2
Jakhro-Dachrapur/ Gopang	1,071	4.6	4.9	1,083	2.4	2.6
Gambat	946	42.2	39.9	953	53.7	51.2
Sofiya/Chutto/Aqeeq/ Britism/Mitha	---	--	---	1,094	23.3	25.5
<b>Sub-Total, Sindh</b>	<b>888</b>	<b>1,076.5</b>	<b>955.8</b>	<b>994</b>	<b>1,045.2</b>	<b>1,039.2</b>
<b>Total Sindh &amp; Balochistan (B)</b>	<b>895</b>	<b>1,198.2</b>	<b>1,072.4</b>	<b>990</b>	<b>1,164.40</b>	<b>1,152.90</b>

## Independent System

(MMCFD)

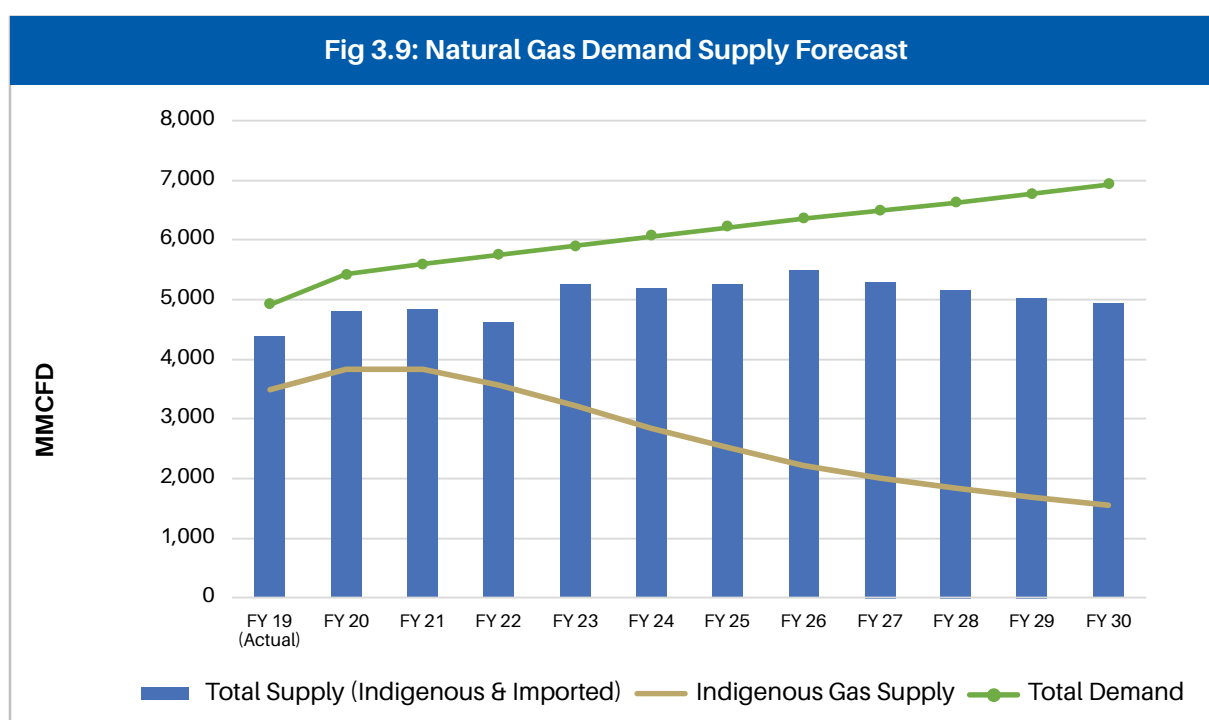
Producer / Field	FY 2017-18	FY 2018-19
Mari Petroleum Ltd. (Mari Gas Field, Sindh)	665	582
OGDCL (Uch Gas Field, Balochistan)	309	307
OGDCL (Nandpur Gas Field, Punjab)	8	4
OGDCL (Guddu Block, Sindh)	10	11
PPL (Kandhkot, Sindh)	151	136
<b>Total (Independent System) (C)</b>	<b>1,143</b>	<b>1,040</b>
<b>Total Country-wide Supplies (A+B+C)</b>	<b>4,357</b>	<b>4,319</b>

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

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

### 3.5.1 Demand Forecast

Both the gas utility companies have added more than 0.5 million domestic, commercial and industrial consumers, in their respective systems, during fiscal year 2018-19. Consumers addition is increasing the gap between demand and supplies, day by day. Especially in winter, the gas demand further increases and as a result the GoP is being forced to curtail supplies to various sectors. Demand - Supply scenario of natural gas (indigenous sources) for the next eleven (11) years is given in **Appendix-II**. The gap between demand of natural gas and supplies (indigenous imported natural gas / LNG) is given in **Appendix-III** and shown in **Fig 3.9** below.



### 3.5.2 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 future. The gap between demand and supply is expected to increase to 2, 679 MMCFD in FY 2022-23 and 4,796 MMCFD by FY 2027-28 without the imported gas. The possible gap can be bridged through enhancement in indigenous gas exploration & production through incentivizing this sector, import of interstate natural gas (through development of cross-country gas pipelines) and increased import of LNG.

## 3.6 Consumer Gas Pricing

Based on the Revenue Requirement of the Gas Companies, OGRA determines the prescribed price (i.e. price to be retained by the companies) for each category of consumers. The two gas utilities, SNGPL and SSGCL, supplying gas to consumers in their operational areas. The Government fixes consumer gas prices and as a matter of policy,

maintains them at a uniform level throughout the country. Therefore, the cost of supplying gas to customers at various locations is not accounted for and, regardless of the difference in cost due to location, all consumers within the same category pay a uniform price. The two utilities, SNGPL and SSGCL, are supplying gas to consumers in their operational areas and all consumers within the same category pay a uniform price. Gas tariffs for various consumer segments for FY 2018-19 are given in **Appendix-IV**.

The consumer price of natural gas in Pakistan comprises of:

- (a) the prescribed price for the gas companies and
- (b) Gas Development Surcharge (GDS). OGRA fixes the 'prescribed price' for the gas utilities after conducting public hearings where stakeholders express their views. Also, a thorough analysis is carried out in terms of prudence and rationale for revenue and capital expenditures.

The prescribed price includes the following elements:

- Producer gas prices, which are linked with international prices of crude oil and HSFO
- Transmission and distribution costs
- Depreciation
- Return to SNGPL and SSGCL (17.43% on net operating fixed assets)

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









**LPG, LNG & CNG**



## 4. Liquefied Petroleum Gas (LPG)

### 4.1 Overview

Local production meets around 76 percent of the LPG demand, 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 natural gas infrastructure does not exist. In the current energy scenario, LPG is the most viable alternative in winters to cater for the demand supply gap of natural gas network. LPG is rapidly becoming a significant component of energy mix since the same provides a cleaner alternative in comparison to biomass and dung especially in those locations where natural gas network is not available.

Currently, LPG accounts for about 1.2 percent of the total primary energy supply in the country. This low share of LPG in the total energy mix is mainly due to supply constraints and the higher price of LPG in relation to competing fuels like natural gas, wood etc.

The current size of LPG market is around 1,061,447 MT/Annum. It is primarily meant to supply for the domestic fuel requirement especially in natural gas starved areas and in peak shaving times in the urban territories. The use of LPG as domestic fuel shall deter deforestation in hilly areas and shall provide a comparatively healthier and hygienically safe alternative to the common citizens. GoP has taken a policy decision to allow use of LPG in the automotive sector to share the burden with conventional auto fuels. Subsequently, OGRA has laid down an elaborated regulatory framework for supply of LPG to the vehicles.



View of a LPG Plant

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

Around 252,467 M.Tons of LPG has been imported during FY 2018-19. Enhanced supply of LPG through additional local production as well as import of LPG is a key to bridge the gap between demand and supply and to stabilize the LPG consumer prices especially during the winter season.

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

The regulatory issue confronting OGRA is to prevent illegal business of LPG which includes illegal decanting of LPG, cross filing and shifting of LPG from one vessel/ bowser to another without adequate safety measures. OGRA on regular basis directs LPG companies to exercise adequate control to ensure complete and comprehensive safe practices throughout the LPG supply chain i.e. from LPG producers to the LPG marketing companies and authorized distributors to the end consumers. Appropriate stern action against defaulting companies is also initiated by OGRA wherever non-conformance is observed.

As of June 30, 2019, there were 12 LPG producers, 190 LPG marketing companies operating in the country, having more than 5,500 authorized distributors. Further, there are 20 operational LPG auto refueling stations within the country.

Moreover, from 2008 onwards, OGRA started registration of LPG equipment manufacturing companies for the purpose to eradicate substandard manufacturing, sale and use of LPG equipment. So far, OGRA has pre-qualified 52 LPG equipment manufacturing companies as authorized manufacturer of LPG equipment.

#### 4.1.2 LPG Consumption

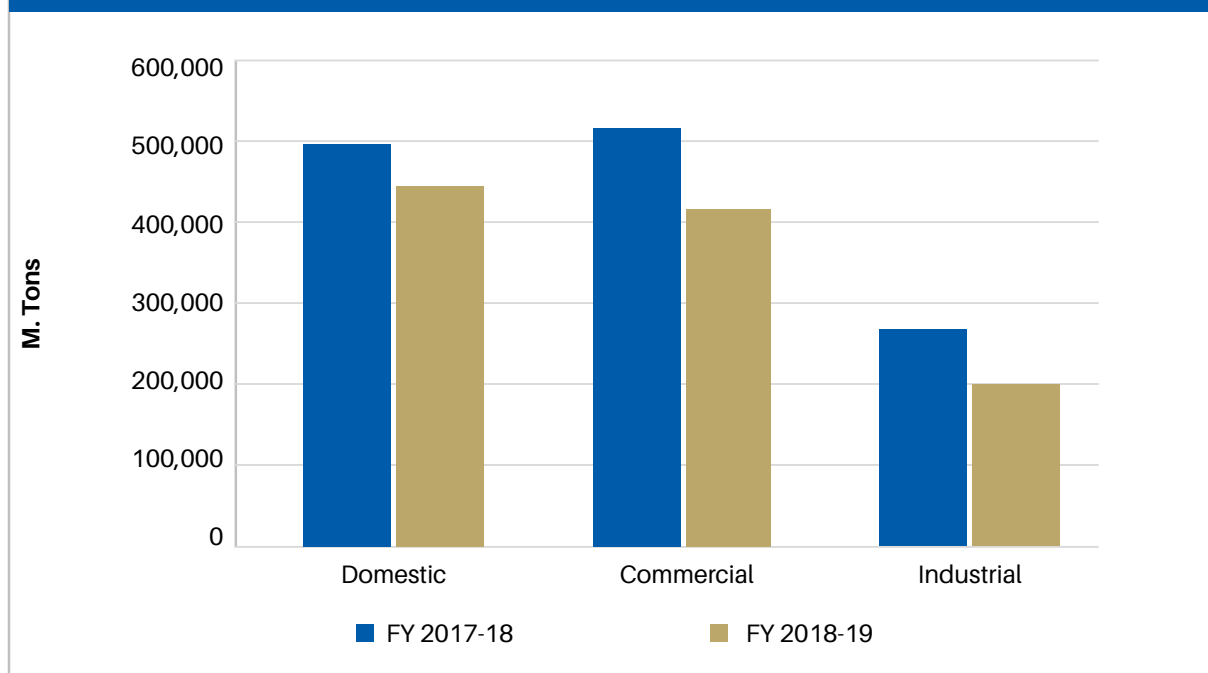
LPG consumption during FY 2018-19 was around 2,908 M.tons per day. Table 4.1 gives a Regional/Sectoral consumption summary of LPG for FY 2018-19 in the country.

**Table 4.1: LPG Regional/Sectoral Consumption during FY 2018-19**

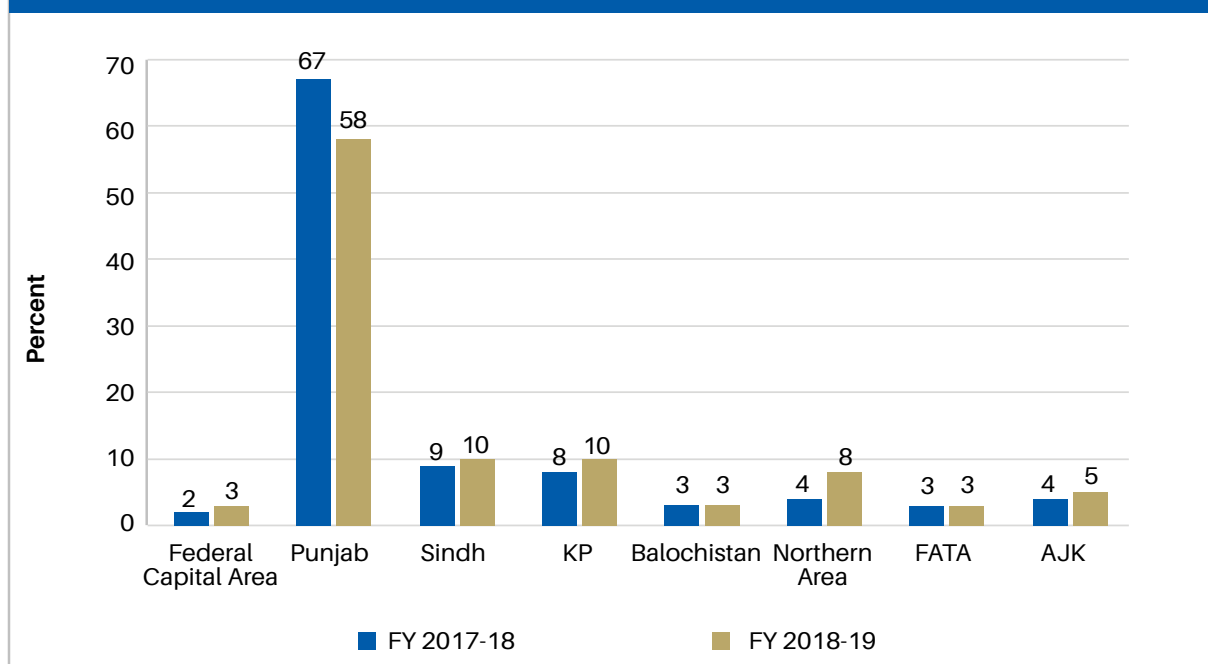
Sectors/ Regions	Domestic	Commercial	Industrial	Total
Federal Capital Area	10,712	9,469	8,533	<b>28,714</b>
Punjab	212,360	257,090	149,502	<b>618,952</b>
Sindh	25,607	47,148	30,117	<b>102,872</b>
KP	72,874	24,220	7,127	<b>104,221</b>
Balochistan	12,047	13,200	4,434	<b>29,681</b>
Northern Area	45,449	37,798	0	<b>83,247</b>
FATA	26,195	9,690	0	<b>35,885</b>
AJK	40,253	16,753	870	<b>57,876</b>
<b>Annual (Metric Tonnes)</b>	<b>445,496</b>	<b>415,368</b>	<b>200,583</b>	<b>1,061,447</b>
<b>Daily (Metric Tonnes)</b>	<b>1,221</b>	<b>1,138</b>	<b>550</b>	<b>2,908</b>

(Source: LPG Marketing Companies Reports)

**Fig 4.1: Sectoral Consumption of LPG**



**Fig 4.2: Regional Share in LPG Consumption**



#### 4.1.3 LPG Supplies

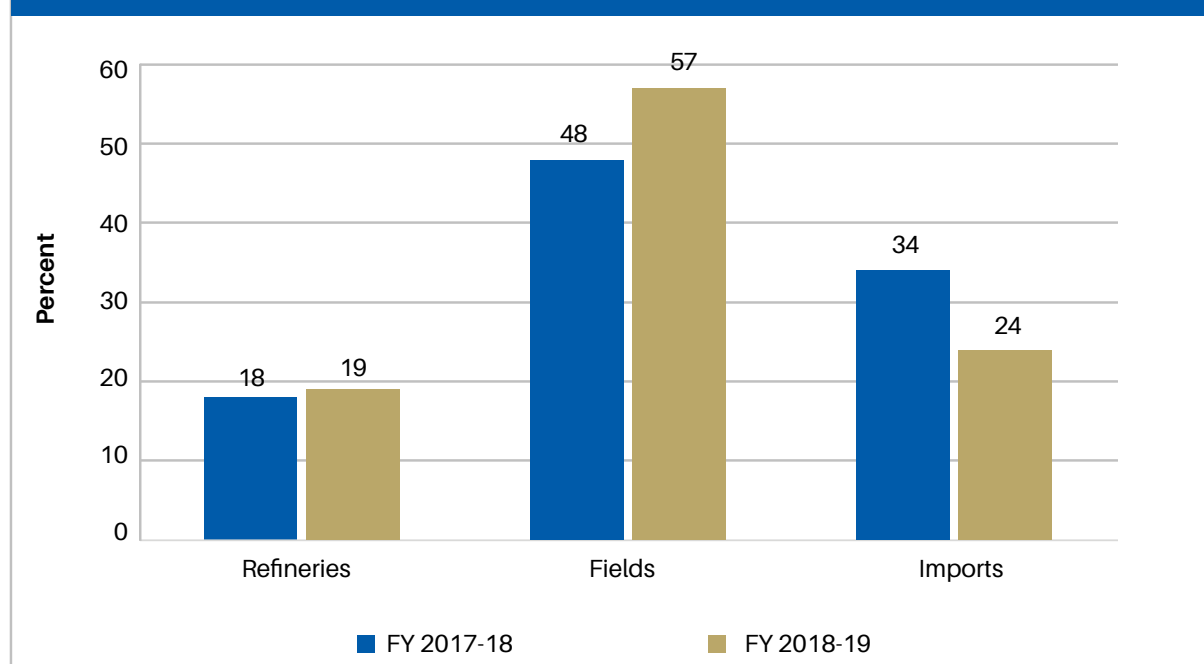
Currently, LPG supplies are being met through three sources: refineries, gas producing fields and imports. The actual supply from refineries/producing fields is presented in **Table 4.2** and the respective share of each supply source in the total country-wide supply is shown in **Fig 4.3**.

**Table 4.2: LPG Supply during FY 2018-19**

Sectors	Annual (Metric Tonnes)	Daily (Metric Tonnes)
<b>Refineries</b>		
Attock Refinery Limited	2,846	8
Pakistan Refinery Limited	16,065	44
National Refinery Limited	8,613	24
Pak Arab Refinery Company	120,773	331
Byco Petroleum	53,025	145
<b>Refineries sub-total</b>	<b>201,322</b>	<b>552</b>
<b>Fields</b>		
OGDCL	267,181	732
UEPL (Naimat Basal) formerly BP	24,400	67
OPI (Ratna, Ex-Meyal)	2,168	6
JJVL	26,609	73
POL (Mayal-Pindhori)	15,920	44
PPL	94,324	258
MOL Pakistan	176,507	484
<b>Fields sub-total</b>	<b>607,108</b>	<b>1,663</b>
<b>Total Production (M.T)</b>	<b>808,431</b>	<b>2,215</b>
<b>LPG Import (M.T)</b>	<b>252,467</b>	<b>692</b>
<b>Total Production + Import (M.T)</b>	<b>1,060,897</b>	<b>2,907</b>

(Source: LPG monthly production reports of producers)

**Fig 4.3: Share of LPG in Supply Sources**





## 5. Liquefied Natural Gas (LNG)

Pakistan is the sixth most populous country in the world with an estimated population of over 200 million. It is among the developing countries having high population growth rate of around 2% which is higher than average growth rate of other South Asian countries. Energy availability is the key factor for economic growth. Pakistan's economic growth demands higher energy inputs whereas indigenous oil and gas production are not sufficient for sustainable growth of the country's economy.

To meet the growing energy demand, sustain economic growth and control power load shedding, the GoP considered the following options:

- Increase in indigenous oil and gas exploration / production.
- Import of natural gas through interstate pipelines.
- Import of LNG.

In the absence of any promising prospects of increasing indigenous oil and gas production, the possibility of natural gas import through interstate pipelines have been in discussion since a long time. Pakistan is strategically placed in proximity of world's gas rich countries like Iran, Turkmenistan, Qatar and Russia. It is placed as a regional energy corridor and well placed for both pipelines and LNG. Options like Iran-Pakistan-India (IPI) pipeline, Qatar-Pakistan pipeline and Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline have been uncertain due to geostrategic/geopolitical reasons and resolution of the same may take considerable time.

Natural gas is presently contributing nearly 45% in Pakistan's Primary Energy Supply mix. In view of the natural gas demand supply gap, GoP introduced LNG Policy in the year 2006 for potential investors to facilitate the successful implementation of LNG import projects. The said policy in the year 2011 was modified to attract more investment



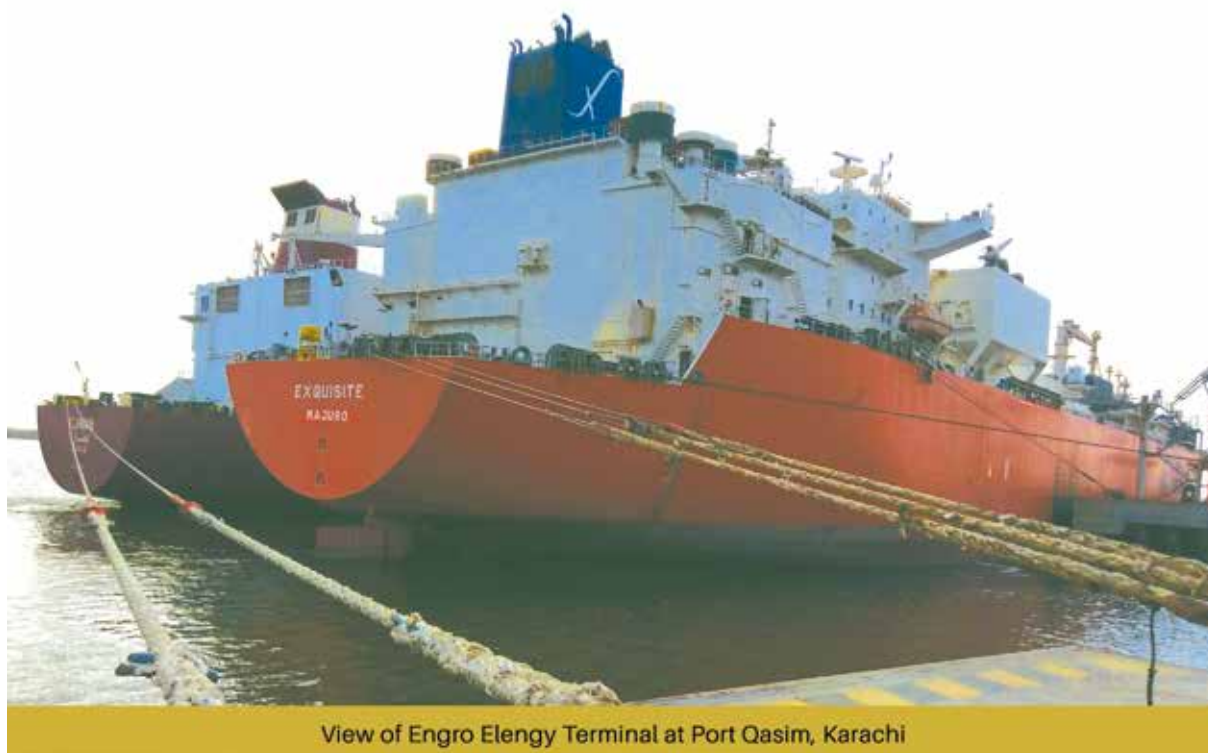
which is still in field. As per the said Policy, the project structures can be (i) INTEGRATED; in which the terminal developer arranges LNG imports as well as arrange its own buyers and (ii) UNBUNDLED; in which the terminal developer, LNG importer and LNG buyers are different.

Import of LNG has been mandated by the GoP to the state-owned companies i.e. Pakistan State Oil (PSO) and Pakistan LNG Limited (PLL) on behalf of the Government of Pakistan. PSO has signed a Government to Government contract with Qatar Gas for a period of 15 years whereas PLL has shorter-term LNG contracts with Gunvor and Shell. In future the task may be novated to one company instead of two.

With the sharp increase in the energy demand and to sustain development in the country, the Government of Pakistan is determined to optimize the primary energy mix, based on economic and strategic considerations. Moreover, with the anticipated shortfall in natural gas indigenous reserves as compared to fast growing demand, LNG is one of the preferred short to mid-term alternatives to bridge the supply-demand gap. The LNG industry is capital-intensive and requires a multi-million-dollar investment across the LNG supply chain. It is critical, therefore, that LNG import projects are planned such that they are able to attract quality project developers, with the technical expertise and the financial resources required for their successful implementation.

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

Engro Elengy Terminal Limited (EETL) established its LNG Re-gasification Terminal at Port Qasim Karachi. The LNG is being imported by the GoP through Pakistan State Oil Company Limited and EETL is providing the re-gasification services at a tolling tariff. The licence for operation of LNG Terminal was granted on 18<sup>th</sup> March, 2016. SSGC has hired the re-gasification capacity of EETL's LNG Terminal for which both Parties have signed the LNG Services Agreement. The terminal utilizes a Floating Storage and Re-gasification Unit (FSRU) provided by U.S based Excelebrate Energy, and has the peak capacity for re-gasification of up to 690 MMCFD.







PGP Consortium Limited (PGPCL) established Pakistan's second and its first LNG re-gasification terminal at Port Qasim, Karachi. The LNG is being imported by the GoP through Pakistan LNG Limited and PGPCL is providing the re-gasification services at a tolling tariff. The licence for operation of LNG Terminal was granted on April 03, 2018. PLTL has hired the capacity of PGPCL's LNG Terminal and both parties have signed the Operations and Services Agreement. The project, served by BW's FSRU BW Integrity with a storage capacity in excess of 170,000 cubic meters and a peak re-gasification capacity of 750 MMCFD.





GEIP/GEIL was granted licence for construction of LNG Terminal on 03<sup>rd</sup> October, 2011 for an integrated project. The Licensee couldn't complete construction within the given time period. Later, upon the request of the Licensee and on completion of all requisite formalities, the time-line for project completion and Financial Close achievement was extended vide Authority's Decision dated 23<sup>rd</sup> September, 2016. The Authority vide it's another decision on 02<sup>nd</sup> May, 2019 has allowed the project developer to achieve Financial Close by 30<sup>th</sup> March, 2020 and complete LNG Terminal Construction till March, 2022.

In a strategy to liberalize the existing gas market of the country, Third-Party Access Rules for pipelines have been developed and notified. On the similar analogy, Third-Party Access Rules for LNG Terminals are being developed by OGRA which shall play a pivotal role in liberalization of LNG/ RLNG market of the country. The rules and procedures are in place by OGRA to welcome and facilitate the potential investors.

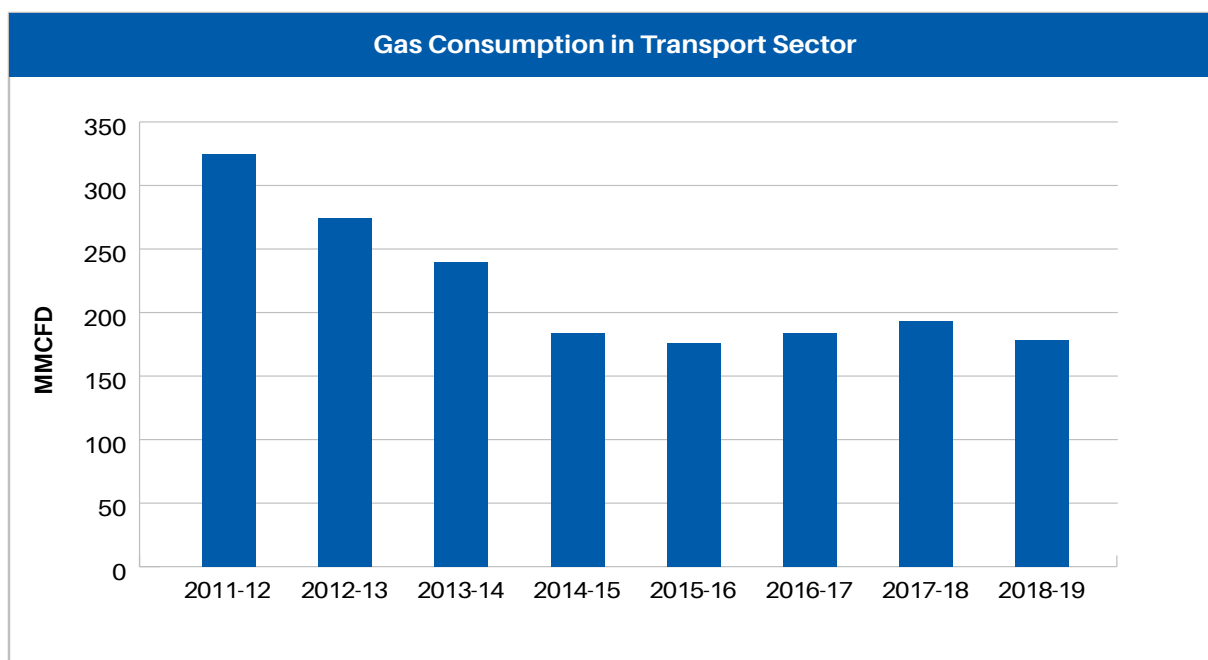
## 6. Compressed Natural Gas (CNG)

CNG was introduced by the Government in the year 1992, as alternative fuel for automobiles to reduce environmental degradation and save foreign exchange. The CNG (Production & Marketing) Rules, 1992 along with the Standard Code of Practice were framed to regulate construction as well as operational phases of CNG refueling stations. OGRA since its inception has played a vital role in the promotion of CNG in transport sector and setting of higher 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 includes excessive suspended particulate matter (SPM) emitted from the public transport as well as private vehicles. The middle-class commuters opted for CNG, as an alternate fuel as they had the option of comparatively cheaper fuel, besides huge investment was made by entrepreneur for establishment of CNG Stations, which resulted in employment of skilled / semi-skilled manpower.

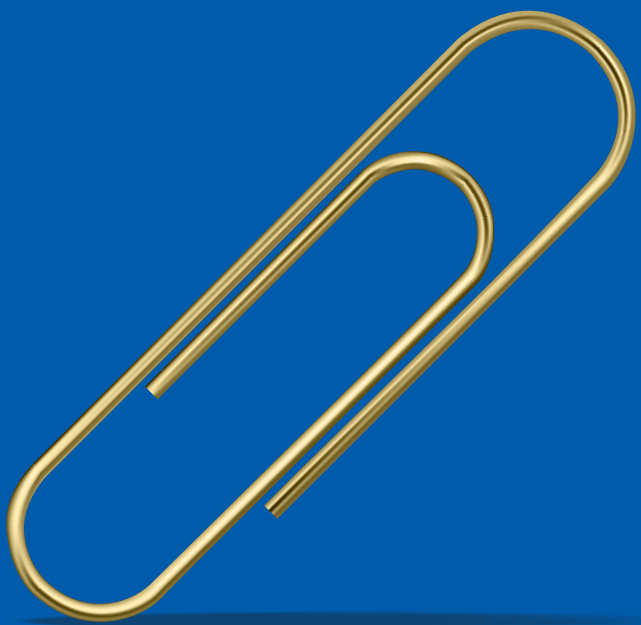
## 6.1 Gas Consumption in CNG Sector

Gas Consumption in CNG Sector during last few years is shown as follow:



## 6.2 Manufacturing of CNG Equipment

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





## APPENDICS



## Licences Issued by OGRA for Regulated Gas Sector as of June 30, 2019.

Sr. No.	Company	Type of Licence	Date of Issue	No of Licences
1.	Sui Northern Gas Pipelines Limited (SNGPL)	1. Transmission, Distribution, and Sale of Natural Gas in the Punjab, KP, AJK, FATA and some parts of Sindh 2. Gas Storage Facility at Lilla Town, Punjab	September 3, 2003  April 30, 2008	02
2.	Sui Southern Gas Company Limited (SSGCL)	Transmission, Distribution, and Sale of Natural Gas in Sindh and Balochistan	September 3, 2003	01
3.	Mari Petroleum Company Limited (MPCL)	Sale of Natural Gas to <ul style="list-style-type: none"> <li>Fauji Fertilizer Company Limited (FFCL),</li> <li>Engro Chemicals Pakistan Limited (ECPL)</li> <li>Central Power Generation Company Limited (CPGCL)</li> <li>Any other retail consumer with prior approval of the Authority</li> </ul>	August 11, 2004	01
4.	Pakistan Petroleum Limited (PPL)	Sale of Natural Gas to Central Power Generation Company Limited (CPGCL)	November 23, 2004	01
5.	Oil and Gas Development Company Limited (OGDCL)	1. Transmission and Sale of Natural Gas to Uch Power Plant 2. Sale of Natural Gas to Fauji Kabirwala Power Company Limited 3. Sale of Natural Gas to Altern Energy	December 30, 2004	03
6.	Fauji Fertilizer Company Limited (FFCL)	Transmission of Natural Gas	April 7, 2005	01
7.	Engro Chemicals Pakistan Limited (ECPL)	Transmission of Natural Gas	April 7, 2005	01
8.	Central Power Generation Company Limited (CGPCL)	Transmission of Natural Gas	April 14, 2005	01
9.	Fatima Fertilizer Company Limited (FFCL)	Transmission of Natural Gas	April 16, 2007	01
10.	Foundation Power Company Limited (FPCL)	Transmission of Natural Gas	August 27, 2007	01
11.	Star Power Generation Limited (SPGL)	Transmission of Natural Gas	January 30, 2008	01

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12.	Engro Fertilizer Ltd. (EFL)	Transmission of Natural Gas	June 13, 2014	01
13.	OGDCL	Sale of Natural Gas from Reti Meru Gas Field	June 26, 2014	01
14.	OGDCL	Sale and Transmission of Natural Gas from UCH.	June 26, 2014	01
15.	ETPL	Transmission of Natural Gas from LNG receiving Terminal at Port Qasim (Karachi) to SSGC's Transmission Line injection point.	July 02, 2014	01
16.	Universal Gas Distribution Company Pvt. Ltd. (UGDCL)	Sale of Natural Gas (RLNG) to OGRA's Licenced CNG Stations.	February 22, 2016	01
17.	Gaseous Distribution Company Pvt. Ltd. (GDCL)	Licence to undertake Sale of Natural Gas (RLNG) to OGRA's licenced CNG Stations, whereby RLNG will be transported from T&D network of SSGCL and M/s GDCL will sell the RLNG to CNG Stations at their respective CMSs.	December 21, 2016	01
18.	Fauji Oil Terminal and Distribution Company Ltd. (FOTCO)	Licence to undertake Transmission of Natural Gas, which incorporates Construction and Operation of natural gas pipeline (30" X 13.3 Km long) along with ancillary / connected facilities for the purpose of transmission of natural gas from proposed Pakistan Gas Port Consortium Ltd. (PGPCL) Terminal to SSGC's tie in point located at Port Qasim, Karachi.	December 21, 2016	01
19.	Hitech Pipe and Engineering Industries (Pvt) Ltd.	Licence (w.r.t. OGDCL's Daru Central Facility in Sindh) for construction and operation of Compression Facility of Low-Pressure Flare Gas as well as Storage, Transportation and Marketing of CNG and Sale of Natural Gas to Industrial Clients and OGRA's Licenced CNG Stations.	August 25, 2017	01
20.	E-GAS (Pvt) Ltd.	Licence (w.r.t. OGDCL's Rajian Field in Chakwal, Punjab) for construction and operation of Compression Facility of Low-Pressure Flare Gas as well as Storage, Transportation and Marketing of CNG and Sale of Natural Gas to Industrial Clients and OGRA's Licenced CNG Stations.	October 4, 2017	01
21.	Pakistan LNG Ltd.	Licence to undertake the regulated activity of Sale of Natural Gas / RLNG.	October 31, 2017	01
22.	Inter State Gas Systems Limited (ISGSL)	Licence to undertake the construction and operation of Natural Gas Pipeline Projects, i.e. Iran-Pakistan (IP), Turkmenistan-Afghanistan-Pakistan-India (TAPI) and North South Gas Pipeline Projects (NSGP).	January 28, 2019	01
23.	Trafigura Pakistan (Pvt) Ltd.	Licence for the sale of natural gas / RLNG to various consumers in the Country.	May 28, 2019	01



## Demand-Supply Scenario with Indigenous Natural Gas

(MMCFD)

Projected Demand												
SNGPL	FY-19 (Actual)	FY-20	FY-21	FY-22	FY-23	FY-24	FY-25	FY-26	FY-27	FY-28	FY-29	FY-30
Residential	598	650	702	754	806	858	910	962	1,014	1,066	1,118	1,170
Commercial	58	65	72	78	85	92	99	105	112	119	126	132
General Industries	185	242	298	355	412	469	525	582	639	695	752	809
Fertilizer	156	149	154	154	154	154	154	154	154	154	154	154
Cement	0	15	15	15	15	15	15	15	15	15	15	15
Captive Power	117	119	122	124	127	129	132	134	137	140	143	145
Power	704	850	850	850	850	850	850	850	850	850	850	850
Transport	116	133	133	133	133	133	133	133	133	133	133	133
<b>Total</b>	<b>1,934</b>	<b>2,232</b>	<b>2,346</b>	<b>2,464</b>	<b>2,581</b>	<b>2,699</b>	<b>2,817</b>	<b>2,936</b>	<b>3,054</b>	<b>3,172</b>	<b>3,290</b>	<b>3,408</b>
Projected Demand												
SSGCL	FY-19 (Actual)	FY-20	FY-21	FY-22	FY-23	FY-24	FY-25	FY-26	FY-27	FY-28	FY-29	FY-30
Power	246	246	246	246	246	246	246	246	246	246	246	246
Residential	262	269	276	284	291	299	307	315	324	333	341	351
Commercial	29	31	32	33	34	36	37	39	40	42	44	45
Transport	62	63	63	64	65	65	66	67	67	68	69	69
General Industry	366	377	388	399	411	424	436	450	463	477	491	506
Fertilizer	51	51	52	53	53	54	54	55	55	56	56	57
<b>Total</b>	<b>1,016</b>	<b>1,036</b>	<b>1,057</b>	<b>1,079</b>	<b>1,101</b>	<b>1,123</b>	<b>1,147</b>	<b>1,171</b>	<b>1,195</b>	<b>1,221</b>	<b>1,247</b>	<b>1,274</b>

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## Projected Demand

Independent System	FY-19 (Actual)	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	307	335	350	350	350	350	350	350	350	350	350	350
Fauji Kabirwala PCL	4	4	3	2.4	1.9	1.9	1	1	0	0	0	0
CPGCL	285	390	390	390	390	390	390	390	390	390	390	390
Foundation Power Co. Ltd	54	65	65	65	65	65	65	65	65	65	65	65
Fauji Fertilizer	217	229	229	229	229	229	229	229	229	229	229	229
Fauji Fertilizer (Captive Power)	46	50	50	50	50	50	50	50	50	50	50	50
Fatima Fertilizer	70	73	76	77	77	77	77	77	77	77	77	77
Fatima Fertilizer (Captive Power)	12	11	11	11	11	11	11	11	11	11	11	11
Engro Fertilizer	266	293	314	314	315	335	335	335	315	315	315	315
<b>Total</b>	<b>1,261</b>	<b>1,450</b>	<b>1,488</b>	<b>1,488</b>	<b>1,489</b>	<b>1,509</b>	<b>1,508</b>	<b>1,508</b>	<b>1,487</b>	<b>1,487</b>	<b>1,487</b>	<b>1,487</b>
<b>Total Country Demand</b>	<b>4,211</b>	<b>4,709</b>	<b>4,891</b>	<b>5,030</b>	<b>5,171</b>	<b>5,332</b>	<b>5,472</b>	<b>5,614</b>	<b>5,736</b>	<b>5,880</b>	<b>6,024</b>	<b>6,169</b>
UFG, Gas Supply for LNG Plant, Internal Combustion, Shrinkage etc.	715	714	718	723	727	732	737	742	748	754	761	768
<b>Total Demand (Inclusive of UFG, GIC etc.)</b>	<b>4,926</b>	<b>5,423</b>	<b>5,609</b>	<b>5,753</b>	<b>5,898</b>	<b>6,064</b>	<b>6,209</b>	<b>6,356</b>	<b>6,484</b>	<b>6,634</b>	<b>6,785</b>	<b>6,937</b>

## Sector wise Total Demand of the Country

Sector	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	860	919	978	1,038	1,097	1,157	1,217	1,277	1,338	1,399	1,459	1,521
Commercial	87	95	103	111	119	128	136	144	152	161	169	178
General Industries	551	618	686	755	823	892	962	1,031	1,102	1,172	1,243	1,315
Fertilizer	760	795	825	827	828	849	849	850	830	831	831	832
Cement	-	15	15	15	15	15	15	15	15	15	15	15
Captive Power	117	119	122	124	127	129	132	134	137	140	143	145
Power	1,658	1,951	1,965	1,964	1,964	1,964	1,963	1,963	1,962	1,962	1,962	1,962
Transport	178	196	196	197	198	198	199	200	200	201	202	202
<b>Total Demand</b>	<b>4,211</b>	<b>4,709</b>	<b>4,891</b>	<b>5,030</b>	<b>5,171</b>	<b>5,332</b>	<b>5,472</b>	<b>5,614</b>	<b>5,736</b>	<b>5,880</b>	<b>6,024</b>	<b>6,169</b>
UFG, Gas Supply for LNG Plant, internal combustion, shrinkage etc	715	714	718	723	727	732	737	742	748	754	761	768
<b>Total Demand</b>	<b>4,926</b>	<b>5,423</b>	<b>5,609</b>	<b>5,753</b>	<b>5,898</b>	<b>6,064</b>	<b>6,209</b>	<b>6,356</b>	<b>6,484</b>	<b>6,634</b>	<b>6,785</b>	<b>6,937</b>

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Committed and Anticipated Supplies												
SNGPL	FY-19	FY-20	FY-21	FY-22	FY-23	FY-24	FY-25	FY-26	FY-27	FY-28	FY-29	FY-30
Indegenous	1,282	1,201	1,133	1,041	874	684	599	525	464	413	345	297
Committed and Anticipated Supplies												
SSGCL	1,164	1,339	1,389	1,218	1,001	814	658	541	442	373	329	300
Committed and Anticipated Supplies												
Independent System	1,040	1,300	1,317	1,315	1,344	1,345	1,268	1,161	1,102	1,052	1,007	951
Total Committed and Anticipated Supplies												
Total Country Supply	3,486	3,840	3,839	3,574	3,219	2,843	2,525	2,227	2,008	1,838	1,681	1,548
Committed & Anticipated Supply	3,486	3,840	3,839	3,574	3,219	2,843	2,525	2,227	2,008	1,838	1,681	1,548
Total Demand	4,926	5,423	5,609	5,753	5,898	6,064	6,209	6,356	6,484	6,634	6,785	6,937
Gap	1,440	1,583	1,770	2,179	2,679	3,221	3,684	4,129	4,476	4,796	5,104	5,389

(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))

## Demand-Supply Scenario with Indigenous and Imported Natural Gas

(MMCFD)

Description	FY-19 (Actual)	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)	3,486	3,840	3,839	3,574	3,219	2,843	2,525	2,227	2,008	1,838	1,681	1,548
LNG Supply	901	969	1,002	1,035	1,067	1,100	1,133	1,166	1,199	1,232	1,265	1,299
Iran - Pakistan Pipeline	0	0	0	0	0	0	263	750	750	750	750	750
TAPI	0	0	0	0	971	1,236	1,342	1,342	1,342	1,342	1,342	1,342
<b>Total Supply (Indigenous &amp; Imported)</b>	<b>4,387</b>	<b>4,809</b>	<b>4,841</b>	<b>4,609</b>	<b>5,257</b>	<b>5,179</b>	<b>5,263</b>	<b>5,485</b>	<b>5,299</b>	<b>5,162</b>	<b>5,038</b>	<b>4,939</b>
<b>Total Demand</b>	<b>4,926</b>	<b>5,423</b>	<b>5,609</b>	<b>5,753</b>	<b>5,898</b>	<b>6,064</b>	<b>6,209</b>	<b>6,356</b>	<b>6,484</b>	<b>6,634</b>	<b>6,785</b>	<b>6,937</b>
<b>Gap without IP, TAPI, LNG</b>	<b>1,440</b>	<b>1,583</b>	<b>1,770</b>	<b>2,179</b>	<b>2,679</b>	<b>3,221</b>	<b>3,684</b>	<b>4,129</b>	<b>4,476</b>	<b>4,796</b>	<b>5,104</b>	<b>5,389</b>
<b>Gap with IP, TAPI, LNG</b>	<b>539</b>	<b>614</b>	<b>768</b>	<b>1,144</b>	<b>641</b>	<b>885</b>	<b>946</b>	<b>871</b>	<b>1,185</b>	<b>1,472</b>	<b>1,747</b>	<b>1,998</b>

## Consumer Gas Tariff Schedule during FY 2018-19

Category		(Rs./MMBTU)		
		w.e.f 01-07-2018	w.e.f 27-09-2018	w.e.f 29.11.2018
(i)	<b>A. Domestic Consumers</b>			
	a)	Standalone Meters		
	b)	Mosques, churches, temples, madrassas, other Religious Places and Hostels attached thereto;		
	(i)	Upto 50 M <sup>3</sup> per month	110.00	121.00
		All off-takes at flat rate of		
	(ii)	Upto 100 M <sup>3</sup> per month	110.00	127.00
		All off-takes at flat rate of		
	(iii)	Upto 200 M <sup>3</sup> per month	220.00	264.00
		All off-takes at flat rate of		
	(iv)	Upto 300 M <sup>3</sup> per month	220.00	275.00
		All off-takes at flat rate of		
	(v)	Upto 400 M <sup>3</sup> per month	600.00	780.00
		All off-takes at flat rate of		
	(vi)	Over 400 M <sup>3</sup> per month	600.00	1,460.00
		All off-takes at flat rate of		
		<b>Minimum Monthly Charges (Rs)</b>	<b>148.50</b>	<b>163.35</b>
	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"	600.00	780.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>3,600.07</b>	<b>4,680.09</b>
(ii)	<b>B. Commercial Consumers</b>			
		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.		

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		"Sale Price: All off-takes at flat rate of"	700.00	980.00	980.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>4,200.07</b>	<b>5,880.10</b>	<b>5,880.10</b>
<b>(iii)</b>		<b>C. Special Commercial (Roti Tandoors)</b>			
	(i)	Upto 50 M <sup>3</sup> per month	110.00	121.00	110.00
		All off-takes at flat rate of			
	(ii)	Upto 100 M <sup>3</sup> per month	110.00	127.00	110.00
		All off-takes at flat rate of			
	(iii)	Upto 200 M <sup>3</sup> per month	220.00	264.00	220.00
		All off-takes at flat rate of			
	(iv)	Upto 300 M <sup>3</sup> per month	220.00	275.00	220.00
		All off-takes at flat rate of			
	(v)	Upto 400 M <sup>3</sup> per month	700.00	780.00	700.00
		All off-takes at flat rate of			
	(vi)	Over 400 M <sup>3</sup> per month	700.00	980.00	700.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>148.50</b>	<b>163.35</b>	<b>148.50</b>
<b>(iv)</b>		<b>D. Ice Factories</b>			
		Sale Price	700.00	980.00	980.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>4,200.07</b>	<b>5,880.10</b>	<b>5,880.10</b>
<b>(v)</b>		<b>E. General Industrial Consumers</b>			
		Sale Price	600.00	780.00	780.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>20,232.00</b>	<b>26,301.60</b>	<b>26,301.60</b>
	(i)	<b>Registered Exporters of Five-Zero Rated Industrial Consumers</b>			
		Sale Price	600.00	600.00	600.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>20,232.00</b>	<b>20,232.00</b>	<b>20,232.00</b>
<b>(vi)</b>		<b>F. Captive Power</b>			
		Sale Price	600.00	780.00	780.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>20,232.00</b>	<b>26,301.60</b>	<b>26,301.60</b>
<b>(vii)</b>		<b>G. CNG Stations</b>			

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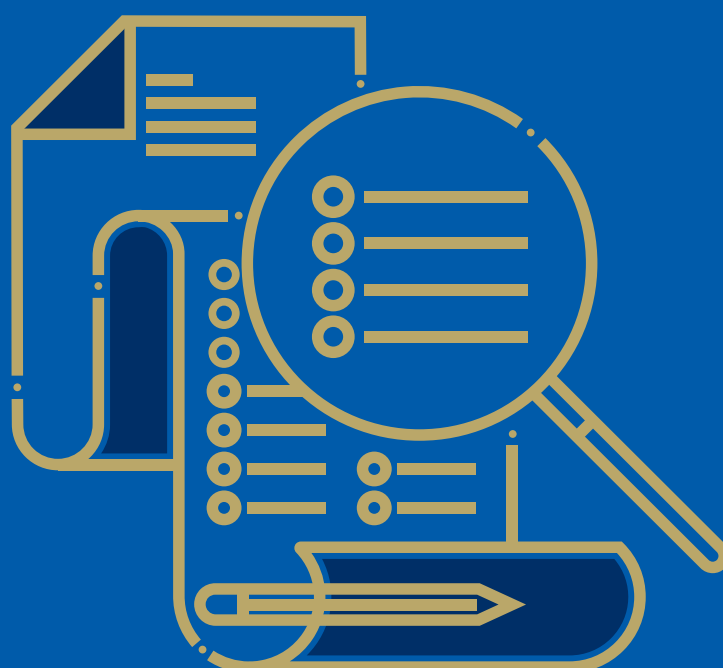
		Sale Price	700.00	980.00	980.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>23,604.00</b>	<b>33,045.60</b>	<b>33,045.60</b>
<b>(viii)</b>		<b>H. Cement Factories</b>			
		Sale Price	750.00	975.00	975.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>25,290.00</b>	<b>32,877.00</b>	<b>32,877.00</b>
<b>(ix)</b>		<b>I. Fertilizer Factories</b>			
<b>(1)</b>		<b>Pak American Fertilizer Limited, Daudkhel.</b>			
	(a)	Feed Stock	123.00	185.00	185.00
	(b)	Fuel	600.00	780.00	780.00
<b>(2)</b>		<b>Pak Arab Fertilizer Limited, Multan.</b>			
	(a)	Feed Stock	123.00	185.00	185.00
	(b)	Fuel	600.00	780.00	780.00
<b>(3)</b>		<b>Dawood Hercules Chemicals Limited, Chichoki Malian, Sheikhpura District:</b>			
	(a)	Feed Stock	123.00	185.00	185.00
	(b)	Fuel	600.00	780.00	780.00
<b>(4)</b>		<b>Pak-China Fertilizer Limited / Hazara Phosphate Plant Limited, Haripur.</b>			
	(a)	Feed Stock	123.00	185.00	185.00
	(b)	Fuel	600.00	780.00	780.00
<b>(5)</b>		<b>ENGRO Fertilizer Company Limited</b>			
	(a)	Feed Stock -NEW	\$0.70	\$0.70	\$0.70
	(b)	Fuel	600.00	780.00	780.00
<b>(6)</b>		<b>Fauji Fertilizer Bin Qasim Ltd.</b>			
	i)	Feed Stock	123.00	185.00	185.00
	ii)	Fuel	600.00	780.00	780.00
<b>(x)</b>		<b>J. Power Stations</b>			
	(a)	WAPDA/KESC	---	---	---
	(a)	Sale Price	400.00	629.00	629.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>13,488.00</b>	<b>21,209.88</b>	<b>21,209.88</b>

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	(b)	WAPDA's Natural Gas Turbine Power Station, Nishatabad, Faisalabad.			
		Sale Price	400.00	629.00	629.00
		Fixed Monthly Charges (Rs)	975,000	975,000	975,000
	(c)	Liberty Power Limited, Dharki.			
		Sale Price	1,005.19	1,005.19	1,283.47
		<b>Minimum Monthly Charges (Rs)</b>	<b>14,957.52</b>	<b>33,895.01</b>	<b>43,278.61</b>
(xi)		<b>K. Independent Power Producers</b>			
		Sale Price	400.00	629.00	629.00
		<b>Minimum Monthly Charges (Rs)</b>	<b>13,488.00</b>	<b>21,209.88</b>	<b>21,209.88</b>









## **ABBREVIATIONS & ACRONYMS**



## Abbreviations & Acronyms

<b>AJK</b>	Azad Jammu and Kashmir
<b>APL</b>	Attock Petroleum Limited
<b>ARL</b>	Attock Refinery Limited
<b>BBcfd</b>	Billion Cubic Feet Per Day
<b>BBL</b>	Barrel
<b>BBTU</b>	British Thermal Unit
<b>BEPL</b>	Bakri Energy Private Limited
<b>Bhp</b>	Brake horsepower
<b>BOPD</b>	Barrels of Oil Per Day
<b>BPPL</b>	Byco Petroleum Pakistan Limited
<b>BTU/Scf</b>	British Thermal Unit/Standard Cubic Feet
<b>CAN</b>	Calcium Ammonia Nitrate
<b>CNG</b>	Compressed Natural Gas
<b>COD</b>	Commercial Operation Date
<b>CPGCL</b>	Central Power Generation Company Limited
<b>DFIs</b>	Development Finance Institutions
<b>E&amp;P</b>	Exploration and Production
<b>ECPL</b>	Engro Chemicals Pakistan Limited
<b>EETL</b>	Engro Elengy Terminal Limited
<b>EFL</b>	Engro Fertilizer Limited
<b>EPC</b>	Engineering, Procurement and Construction
<b>ETPL</b>	Engro Terminal Pakistan Limited
<b>EWI</b>	Extended Well Test
<b>FATA</b>	Federally Administered Tribal Areas
<b>FFBL</b>	Fauji Fertilizer Bin Qasim Limited
<b>FFCL</b>	Fauji Fertilizer Company Limited
<b>FFCL</b>	Fatima Fertilizer Company Limited
<b>FFF</b>	Fauji Fresh n Freeze Limited
<b>FKPCL</b>	Fauji Kabirwala Power Company Limited
<b>FO</b>	Fuel Oil/Furnance Oil
<b>FOTCO</b>	Fauji Oil Terminal & Distribution Company
<b>FPCDL</b>	Foundation Power Company Daharki Limited
<b>FSRU</b>	Floating Storage & Re-gasification Unit
<b>FY</b>	Fiscal Year/Financial Year

<b>GDCL</b>	Gaseous Distribution Company Private Limited
<b>GDS</b>	Gas Development Surcharge
<b>GIS</b>	Geographical Information System
<b>GoP</b>	Government of Pakistan
<b>GSA</b>	Gas Sale Agreement
<b>HOBC</b>	High Octane Blending Component
<b>HSD</b>	High Speed Diesel
<b>ILBP</b>	Indus Left Bank Pipeline
<b>IPI</b>	Iran-Pakistan-India Gas Pipeline
<b>IRBP</b>	Indus Right Bank Pipeline
<b>ISGSL</b>	Inter State Gas Systems Limited
<b>ISO</b>	International Organization for Standardization
<b>IT</b>	Information Technology
<b>JJVL</b>	Jamshoro Joint Venture Limited
<b>JV</b>	Joint Venture
<b>KEPCO</b>	Korea Electric Power Corporation
<b>KERO</b>	Kerosene Oil
<b>KM</b>	Kilometer
<b>KP</b>	Khyber Pakhtunkhwa
<b>LDO</b>	Light Diesel Oil
<b>LNG</b>	Liquefied Natural Gas
<b>LPG</b>	Liquefied Petroleum Gas
<b>MMCFD</b>	Million Cubic Feet Per Day
<b>MPCL</b>	Mari Petroleum Company Limited
<b>MS</b>	Motor Spirit
<b>MT/M.Ton</b>	Metric Ton
<b>MTD</b>	Metric Ton Per Day
<b>MW</b>	Megawatt
<b>MWh</b>	Megawatt Hour
<b>NBFIs</b>	Non-Bank Financial Institutions
<b>NGL</b>	Natural Gas Liquids
<b>NP</b>	Nitrogen Phosphate
<b>NRL</b>	National Refinery Limited
<b>NSGP</b>	North South Gas Pipeline Project
<b>OCAC</b>	Oil Companies Advisory Council
<b>OGDCL</b>	Oil and Gas Development Company Limited

<b>OGRA</b>	Oil and Gas Regulatory Authority
<b>OHSAS</b>	Occupational Health Safety Assessment Series
<b>OMC</b>	Oil Marketing Company
<b>PARCO</b>	Pak-Arab Refinery Company Limited
<b>PGPCL</b>	PGP Consortium Limited
<b>PLL</b>	Pakistan LNG Limited
<b>PLTL</b>	Pakistan LNG Terminal Limited
<b>PMP</b>	Pakistan Maroc Phosphore
<b>POL</b>	Pakistan Oilfields Limited/Petroleum Oil Lubricant
<b>PPIB</b>	Private Power Infrastructure Board
<b>PPIS</b>	Pakistan Petroleum Information Services
<b>PPL</b>	Pakistan Petroleum Limited
<b>PRL</b>	Pakistan Refinery Limited
<b>PSO</b>	Pakistan State Oil
<b>PSX</b>	Pakistan Stock Exchange
<b>RLNG</b>	Re-gasified Liquid Natural Gas
<b>Rs.</b>	Rupees
<b>SNGPL</b>	Sui Northern Gas Pipelines Limited
<b>SPGL</b>	Star Power Generation Limited
<b>SPL</b>	Shell Pakistan Limited
<b>SPM</b>	Suspended Particulate Matter
<b>Sq.Km</b>	Square Kilometer
<b>SSGCL</b>	Sui Southern Gas Company Limited
<b>T&amp;D</b>	Transmission and Distribution
<b>TAPI</b>	Turkmenistan - Afghanistan - Pakistan - India Gas Pipeline
<b>TPPL</b>	Total-PARCO Pakistan Limited
<b>TPS</b>	Thermal Power Station
<b>UEPL</b>	United Energy Pakistan Limited
<b>UFG</b>	Unaccounted for Gas
<b>UGDCL</b>	Universal Gaseous Distribution Company Limited
<b>USA</b>	United States of America
<b>WAPDA</b>	Water and Power Development Authority

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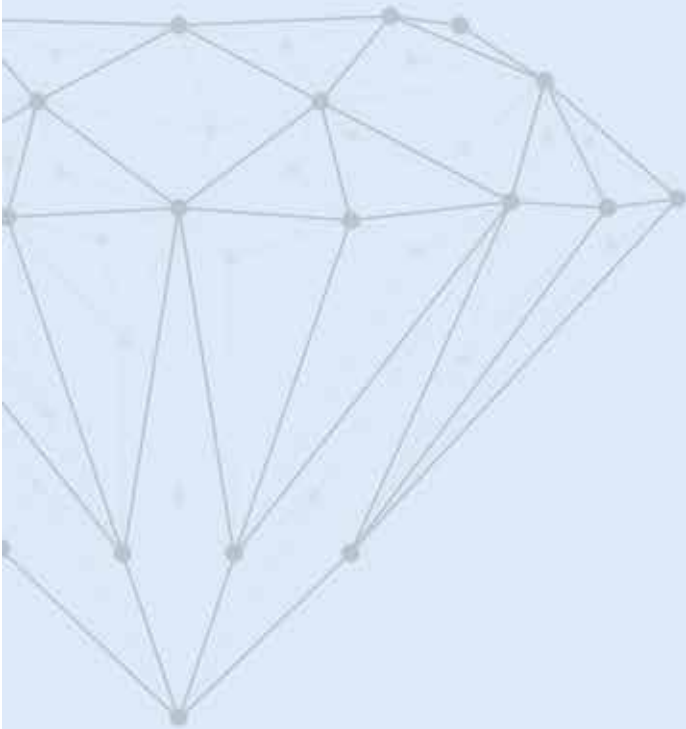
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