

# State of the Regulated Petroleum Industry 2021-22



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







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# **Executive Summary**





### Executive Summary

Oil & Gas Regulatory Authority (OGRA) presents its “State of the Regulated Petroleum Industry” Report for fiscal year 2021-22 in pursuance of Section 20 (1) (b) of OGRA Ordinance, 2002.

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

#### Oil

Crude oil import increased by 7.27 percent during FY 2021-22 to 9.29 million tons from 8.66 million tons in FY 2020-21 whereas the import of finished petroleum products has increased by 28.74 percent to 12.90 million tons from 10.02 million tons during the same period. Product -wise import indicate that import of HSD has increased by 21 percent from 3.26 to 3.94 million tons, MS by 11 percent from 5.97 to 6.64 million tons and FO by more than 205 percent from 0.74 to 2.26 million tons during FY 2021-22 as compared to FY 2020-21. The import of Aviation Fuel also increased by 9 percent during the same period.

Refineries total production has been increased by 0.57 percent to 10.71 million tons during FY 2021-22 as compared to 10.65 million tons in FY 2020-21. PARCO has increased its production by almost 17 percent from 4.42 million tons to 5.17 million tons during the year, followed by PRL whose production has increased by 3.30 percent from 1.24 million tons to 1.28 million tons. Whereas Cnergyico's production has been declined by 38.46 percent from 1.70 million tons to 1.05 million tons, NRL by 2.55 percent from 1.45 million tons to 1.41 million tons, ARL by 2.23 percent from 1.84 million tons in FY 2020-21 to 1.80 million tons during FY 2021-22. PARCO was the major contributor in POL production with more than 48 percent market share followed by ARL with 17 percent and NRL, PRL and Cnergyico, with 13, 12 and 10 percent respectively during FY 2021-22.

Production of POL products such as HSD, Aviation Fuel and Naphtha have increased by 1 percent (0.03 million tons), 36 percent (0.17 million tons) and 20 percent (0.04 million tons) respectively during FY 2021-22 as compared to FY 2020-21. However, MS, FO, Kero and LDOs' production declined by 1 percent (0.02 million tons), 6 percent (0.15 million tons), 2 percent and 8 percent respectively during the same period.

The consumption of petroleum products increased by 17.87 percent to 23.48 million tons during FY 2021-22 as compared to previous year's consumption of 19.92 million tons. This increase was mainly due to increase of 47.64 percent (1.39 million tons) in FO, 14.94 percent (1.16 million tons) in HSD and 8.26 percent (0.7 million tons) in MS consumption during the year. Sector-wise consumption of petroleum products indicate that power and transport sectors were the main drivers of this increased consumption. POL consumption by power sector increased by 70.26 percent (1.52 million tons) and transport by 10.76 percent (1.70 million tons) during the year. Similarly, POL consumption by industry increased by 5.6 percent (0.08 million tons) and Government sector by 36.90 percent (0.11 million tons). The consumption of POL products in Agriculture decline by 12.45 percent during the same period. Exports of POL products jumped by 71.10 percent (0.13 million tons) during FY 2021-22 as compared to FY 2020-21.

PSO has increased its market share by 4 percent from 47 percent in FY 2020-21 to 51 percent in FY 2021-22. APL and Other (smaller OMCs) have increased their market share by 1 and 3 percent respectively during the year. HPL and Cnergyico have lost 3 percent each and TPPL and GO 1 percent each of their market share during current fiscal year as compared to previous year. SPL and BEE have maintained their market share at 8 and 3 percent respectively.

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Oil Marketing Companies have setup their infrastructure in the form of storage facilities and retail outlets for marketing of POL products. MS and HSD accounted for almost 80 percent of OMCs sale. OMCs have built storage capacity of 0.80 million tons for MS and 0.95 million tons for HSD at various depots spread over across the country by the end of FY 2021-22. Major contributors in OMC's MS storage infrastructure were PSO having 36.49 percent followed by GO having 10.34 percent, APL 10.04 percent, SPL 9.59 percent, TPPL 6.34 percent and Be Energy 5.99 of total MS storage capacity. As far as HSD storage infrastructure is concerned, PSO remained a top contributor having 37.43 percent of total HSD storage capacity whereas, Be Energy contributed 10.60 percent, APL 9.95 percent, GO 9.08 percent and SPL 7.52 percent.

OMCs' have 10,821 retail outlets spread across the country. PSO has largest number of retail outlets of 3,012 (27.83 percent), followed by GO 1,014 (9.37 percent), Askar Oil Services 975 (9.01 percent), Shell 799 (7.38 percent), Total Parco 794 (7.34 percent) and APL 714 (6.60 percent).

Region-wise, Punjab has 5,800 (53.60 percent), Sindh 2,443 (22.58 percent), KP 1,027 (9.49 percent) and Balochistan 191 (1.77 percent) retail outlets.

### Natural Gas

Natural gas is a major contributing fuel in country's energy mix. Pakistan has a well-established and huge network of gas pipelines for transportation and distribution of natural gas to the domestic, industrial, commercial, and transport sectors. Natural Gas is comparatively a clean source of energy; hence it contributes to controlling environmental degradation.

The indigenous gas production declined by 4 percent during the year to 3,031 MMCFD from 3,157 MMCFD last year whereas gas consumption has declined by 2 percent to 3,747 MMCFD from 3,680 MMCFD during the same period. The deficit between production and consumption was partially met through RLNG import, whose share in natural gas supplies has increased from 23 percent to 24 percent during current financial year.

The country has a huge network of 13,737 Km of transmission and 203,625 Km of distribution gas pipelines providing natural gas to domestic, industrial, commercial and transport sectors. The gas utility companies expanded their transmission and distribution network to cater to the demand of their new consumers. SNGPL has extended its transmission network by 178.6 Km during FY 2021-22. Similarly, SNGPL extended its distribution network by 3,298 Km and SSGCL by 869 Km during the same period.

SNGPL has connected 189,020 new consumers during FY 2021-22 reaching to 7.52 million total consumers on its network. Whereas, SSGCL has added 57,743 new connections making a total of 3.27 million consumers on its network. Overall, there were 10.79 million natural gas consumers in the country by the end of financial year 2021-22.

The main consumer of natural gas was power sector, consuming over 33 percent (1,208 MMCFD), followed by domestic (850 MMCFD) and fertilizer (834 MMCFD) each with share of 23 percent, General Industry 11 percent (406 MMCFD) and captive power 7 percent (243 MMCFD) of the total gas consumed during FY 2021-22. In Province-wise gas consumption, Punjab's share was 54 percent (1,378 MMCFD), Sindh 37 percent (945 MMCFD), KP 7 percent (185 MMCFD) and Baluchistan 2 percent (61 MMCFD) of total gas consumption during the year under review.

Natural gas supply declined by over 3 percent during the year from 4,126 MMCFD in FY 2020-21 to 3,982 MMCFD. Mari, Sui, Uch, Qadirpur, Kandhkot and Maramzai etc. were major gas fields. Out of total gas

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supplies 1,166 MMCFD as against 1,152 MMCFD last year, was supplied by the gas fields/producers directly to their consumers and the remaining through gas utility companies. Sindh's share in total gas supply has declined by 4 percent from 2,058 MMCFD in FY 2020-21 to 1,971 MMCFD in FY 2021-22, Punjab's share declined by over 13 percent from 82 MMCFD to 71 MMCFD and Balochistan by 1 percent from 619 MMCFD to 610 MMCFD and the share of KP by 5 percent from 398 MMCFD to 378 MMCFD during the same period. The share of RLNG has also declined by 2 percent from 969 MMCFD to 951 MMCFD.

In overall gas supplies, the share of Sindh, Balochistan and Punjab remained steady at 50, 15 and 2 percent respectively, whereas the share of KP has declined from 10 to 9 percent. The share of RLNG has increased from 23 to 24 percent during the same period.

The gap between demand and supply (indigenous + LNG) was with a deficit of 447 MMCFD during FY 2021-22. This gap is expected to increase to around 968 MMCFD by FY 2024-25 and 2,220 MMCFD by the end of FY 2029-23. The demand is expected to increase from 4,436 MMCFD in FY 2021-22 to 5,551 MMCFD in FY 2029-30, whereas supplies (indigenous + LNG) are forecasted to decline from 3,989 MMCFD to 3,331 MMCFD during the same period.

OGRA formulated Pakistan Gas Network Code (PGNC) which provides a uniform contractual framework for the third-party access arrangements in the country for use of gas pipeline transportation systems and it accommodates project specific arrangements. It also effectively and efficiently facilitates the transporter as well as shipper to introduce and agree upon such specific provisions that could enable execution of varying business models.

OGRA under Third Party Access Regime, in addition to grant of licences for construction of LNG terminal to Energas and Tabeer Energy has also issued licences for transmission and sale of natural gas/RLNG to a number of applicants including KE, Enegas, Tabeer Energy and Shell etc. OGRA under relevant provisions of TPA Rules 2018 and Pakistan Gas Network Code has been ensuring the allocation of pipeline capacity by transporters viz SNGPL and SSGCL for the interested shippers. OGRA has also approved access arrangements between SNGPL and PFL as well as MPCL and PFL for allocation of pipeline capacity to respective shippers.

### LNG

Liquefied Natural Gas (LNG) is natural gas that is cooled and converted into liquid at a temperature of -160°C (-256°F) and at atmospheric pressure. Liquefaction reduces the fuel volume by about 600 times and allows it to be stored and transported in specially designed vessels.

There are two operational LNG Terminals i.e. Engro Elengy Terminal Limited (EETL) with regasification capacity of 600-690 MMCFD has received and processed 4,530,234 MT or 235,699,754 MMBTU of LNG and the second LNG terminal i.e. Pakistan GasPort Consortium Limited (PGPCL) with regasification capacity of 600-750 MMCFD has received and processed 3,117,813 MT or 162,328,376 MMBTU of LNG during FY 2021-22.

OGRA has granted construction licences to two private sector companies i.e. Energas Terminal Private Limited (ETPL) and Tabeer Energy Private Limited (TEPL) for development of LNG import and regasification Terminals at Port Qasim, Karachi as an integrated projects, wherein the project developer shall construct the LNG receiving terminal, arrange LNG supplies and find its own buyers. These terminals after commencing full operations will add 1.5 to 2 BCFD of regasification capacity which shall contribute towards reducing the current gas demand-supply gap.

LNG virtual pipelines are substitute for physical pipeline whereby gas that would typically be

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transported through a conventional gas pipeline is instead transported as LNG (Liquefied Natural Gas) to the point of use by sea, road, rail or via a combination of one or more of these transport modes. In this regard five firms/companies have been granted provisional licence for virtual pipeline projects.

LNG imports has declined by 2 percent from 969 MMCFD to 951 MMCFD during FY 2021-22 whereas its share in overall natural gas supplies has increased from 23 percent last year to 24 percent currently.

### LPG

Pakistan meets around 49 percent of LPG demand through local production whereas the rest is imported. Refineries, gas producing fields and imports are three main sources of LPG supply in the Country. LPG share in country's primary energy supplies is 1.3 percent. This low share of LPG in the total energy mix may be attributed to supply constraints and comparatively higher price of LPG in relation to competing fuels like natural gas and wood etc. The current size of LPG market is around 1,291,873 MT/Annum which is 0.1 percent lower as compare to last year's 1,292,539 MT/Annum. LPG consumption by commercial sector has increased by over 10 percent (from 497,595 to 549,281 M. Tons) during current year whereas LPG consumption by industrial and domestic sectors declined by 12.62 percent (319,265 to 278,983 M. Tons) and 2.54 percent (from 475,678 to 463,609 M. Tons) respectively during FY 2021-22.

Refineries, gas producing fields and imports are three main sources of LPG supply in the Country whose share in total LPG supplies were 13, 36 and 51 percent respectively during FY 2021-22. Refineries and gas fields production accounted for 49 percent of LPG supplies as compared to 61 percent last year whereas the share of import has increased to 51 percent from 39 percent during FY 2021-22. LPG supplies during FY 2021-22 increased by 29.15 percent mainly on account of 71 percent increase in LPG imports (from 481,782 to 822,565 M. Tons). LPG supplies from gas producing fields and refineries increased by 3 percent (from 560,922 to 578,966 M. Tons) and 2 percent (from 200,019 to 203,408 M. Tons) during the same period.

There were 11 LPG producers, 252 LPG marketing companies, having more than 7,000 authorized distributors by the end of FY 2021-22. Further, there were 20 operational LPG auto refueling stations within the country. OGRA has also pre-qualified 56 LPG equipment manufacturing companies as authorized manufacturer of LPG equipment

### CNG

OGRA 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. Natural gas consumption in transport sector has gradually declined over the years due to dwindling indigenous gas production and consequently, more than 1,485 CNG stations had been closed down mostly in Punjab province during current fiscal year. Natural gas consumption in transport sector, has declined from 108 MMCFD to 68 MMCFD during FY2021-22 and its share in sectoral gas consumption has decline from 2.78 percent to 1.67 percent currently.

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.



**Oil Sector**



## 2. Oil Sector

### 2.1 Sectoral Consumption of Petroleum Products

The consumption of petroleum products (both energy and non-energy) increased by 17.87 percent to 23.48 million tons during FY 2021-22 as compared to previous year's consumption of 19.92 million tons (**Table 2.1**).

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

(Million Tons)										
Sr. No.	Sector	MS	HSD	Kero	Aviation Fuels	FO	LDO	Total Energy	Total Non-Energy	Grand Total
1	Transport	9.13	8.01	-	0.27	0.00	-	17.41	0.12	<b>17.53</b>
2	Power	-	0.25	-	-	3.44	-	3.68	0.00	<b>3.68</b>
3	Industry	0.01	0.49	0.01	-	0.82	0.00	1.33	0.17	<b>1.50</b>
4	Government	0.02	0.16	0.03	0.16	0.00	0.00	0.38	0.04	<b>0.42</b>
5	Domestic	-	-	0.03	-	0.00	-	0.03	0.00	<b>0.03</b>
6	Agriculture	-	-	-	-	-	0.01	0.01	-	<b>0.01</b>
7	Overseas/ Export	-	0.00	-	0.24	0.06	-	0.30	0.00	<b>0.30</b>
<b>Total FY 2021-22</b>		<b>9.16</b>	<b>8.92</b>	<b>0.07</b>	<b>0.67</b>	<b>4.31</b>	<b>0.02</b>	<b>23.14</b>	<b>0.34</b>	<b>23.48</b>
<b>Total FY 2020-21</b>		<b>8.46</b>	<b>7.76</b>	<b>0.07</b>	<b>0.36</b>	<b>2.92</b>	<b>0.02</b>	<b>19.60</b>	<b>0.32</b>	<b>19.92</b>
	%growth	8.26	14.94	(1.87)	85.73	47.64	(21.86)	18.07	5.26	17.87

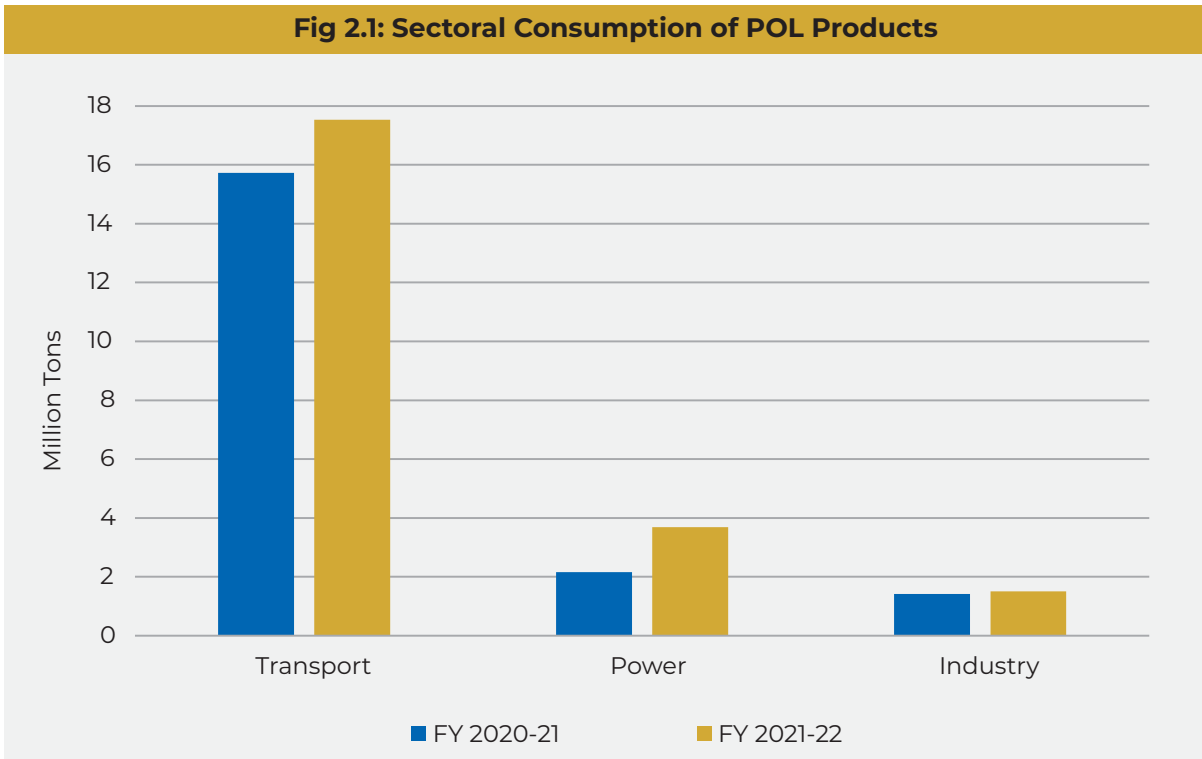
(Source: Oil Marketing Companies)

The consumption of petroleum products in domestic sector has witnessed Increase of 250% percent to 0.03 million tons during FY 2021-22 as compared to 0.01 million tons during FY 2020-21, followed by power sector where consumption increased by 70.26 percent, from 2.16 million tons in FY 2020-21 to 3.68 million tons in FY 2021-22, Overseas/Export by 71.10 percent. Consumption of POL products in Government sectors also increased by 36.90 percent during the current fiscal year as compared to last year. Consumption of POL products in Industry also increased by 5.6 percent.

However, the Agriculture sector observed a decrease of consumption of petroleum products by 12.45 percent as compared to the last year.

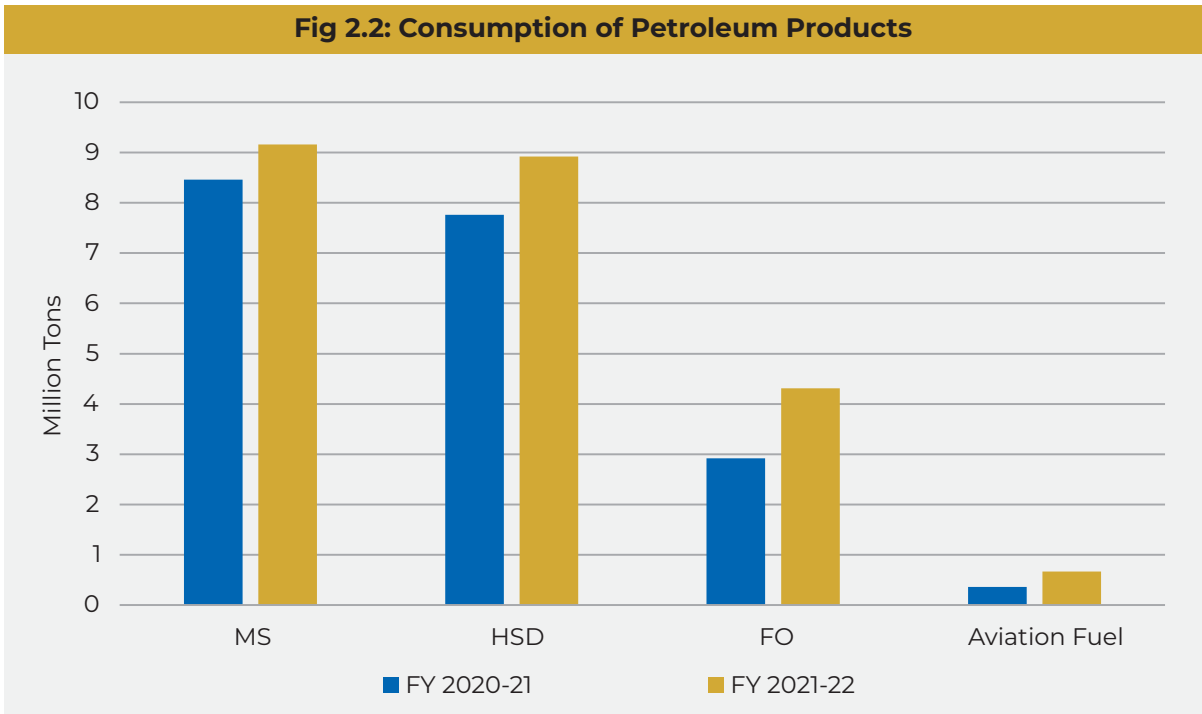
Product wise analysis reveals that consumption of Aviation Fuel increased by 85.73 percent, FO by 47.64 percent, HSD 14.94 percent, MS 8.26 percent in FY 2021-22 as compared to FY 2020-21. Whereas decline in the consumption of LDO and Kero were observed by 21.86 and 1.87 percent respectively during the same period. **Fig. 2.1** illustrates the sector-wise consumption of POL products.

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(Source: Oil Marketing Companies)

**Fig. 2.2** shows the consumption of major POL products i.e. MS, HSD, FO and Aviation Fuels. Consumption of MS across the country has increased to 9.16 from 8.46 million tons, HSD to 8.92 from 7.76 million tons, FO to 4.31 from 2.92 million tons and Aviation Fuels to 0.67 from 0.36 million tons during FY 2021-22.

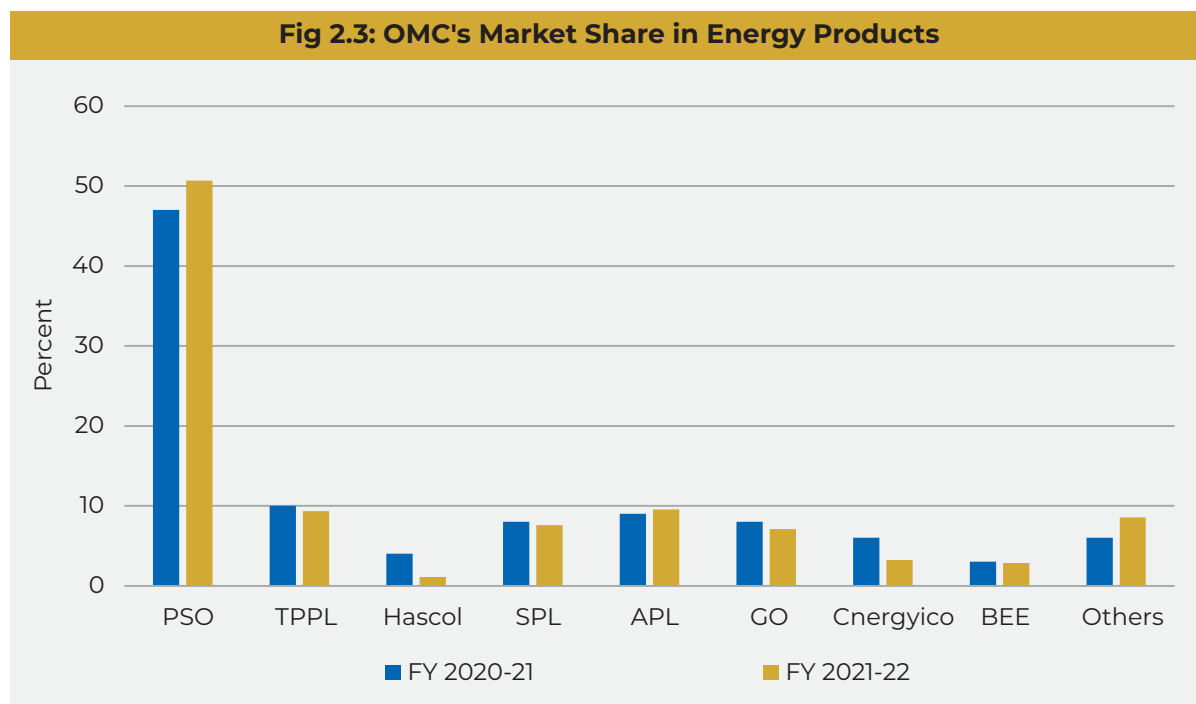


(Source: Oil Marketing Companies)



## 2.2 Market Share

PSO has increased its market share by 4 percent from 47 percent in FY 2020-21 to 51 percent in FY 2021-22. APL and Other (smaller OMCs) have increased their market share by 1 and 3 percent respectively during the year. HPL and Cnergyico have lost 3 percent each and TPPL and GO 1 percent each of their market share during current fiscal year as compared to previous year. SPL and BEE have maintained their market share at 8 and 3 percent respectively. **Fig. 2.3** shows the market share of OMCs in energy product.



(Source: Oil Marketing Companies)

**Table 2.2** gives details of product-wise sales by OMCs for energy products, wherein PSO remained at top for all products except 100 LL, followed by mixed leads by other major OMCs in various POL products.

**Table 2.2: Product-wise Sales by OMCs during FY 2021-22**

											(Million Tons)
Sr. No.	Product	PSO	TPPL	Hascol	SPL	APL	GO	Cnergyico	BEE	Others	Total
1	MS	3.98	1.10	0.16	0.95	0.75	0.84	0.21	0.26	0.76	9.01
2	HOBC (95/97 RON)	0.05	0.03	0.00	0.06	0.01	0.01	0.00	-	0.00	0.15
3	HSD	4.60	0.94	0.08	0.71	0.77	0.75	0.26	0.18	0.62	8.92
4	FO	2.54	0.05	0.01	-	0.61	0.01	0.26	0.21	0.56	4.26
5	JP-1	0.29	-	-	0.00	0.01	-	-	-	-	0.29
6	Kerosene	0.04	0.01	-	-	0.02	-	0.00	-	-	0.06
7	LDO	0.01	0.00	-	-	0.01	-	-	-	-	0.02
8	100 LL	-	-	-	-	-	-	-	-	0.00	0.00
Total		11.51	2.12	0.25	1.73	2.17	1.61	0.73	0.65	1.94	22.70

(Source: Oil Marketing Companies)

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### 2.3 Refineries' Production

Refineries total production (energy & non-energy) has increased by 0.57 percent to 10.71 million tons during FY 2021-22 as compared to 10.65 million tons in FY 2020-21 as given in **Table 2.3**.

**Table 2.3: Refineries' Production & Growth during FY 2021-22**

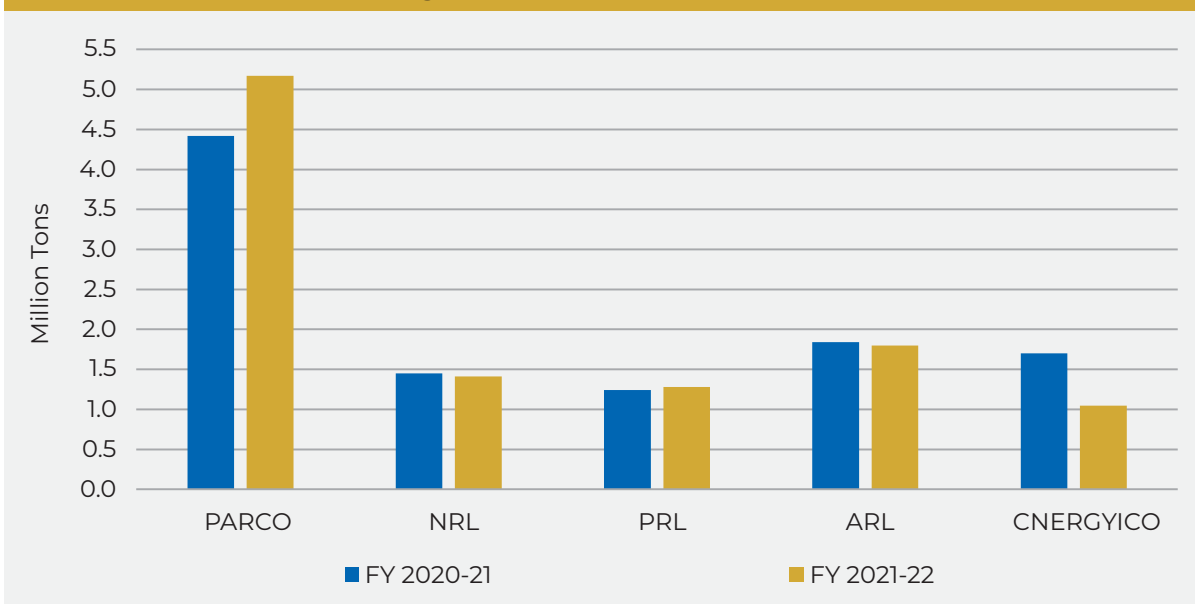
(Million Tons)

Sr. No.	Refinery	Energy Products	Non-Energy Products	Total 2021-22	Total 2020-21	% Growth/Decline
1	PARCO	5.11	0.06	5.17	4.42	17.00
2	NRL	1.41	0.00	1.41	1.45	(2.55)
3	PRL	1.28	0.00	1.28	1.24	3.30
4	ARL	1.74	0.05	1.80	1.84	(2.23)
5	CENERGYICO	1.05	0.00	1.05	1.70	(38.46)
<b>Total</b>		<b>10.60</b>	<b>0.11</b>	<b>10.71</b>	<b>10.65</b>	<b>0.57</b>

(Source: Refineries)

PARCO has increased its production by almost 17 percent from 4.42 million tons to 5.17 million tons during the year, followed by PRL whose production has increased by 3.30 percent from 1.24 million tons to 1.28 million tons. Whereas Cnergyico's production has been declined by 38.46 percent from 1.70 million tons to 1.05 million tons, NRL by 2.55 percent from 1.45 million tons to 1.41 million tons ARL by 2.23 percent from 1.84 million tons in FY 2020-21 to 1.80 million tons during FY 2021-22. **Fig 2.4** shows refineries production as compared to last year.

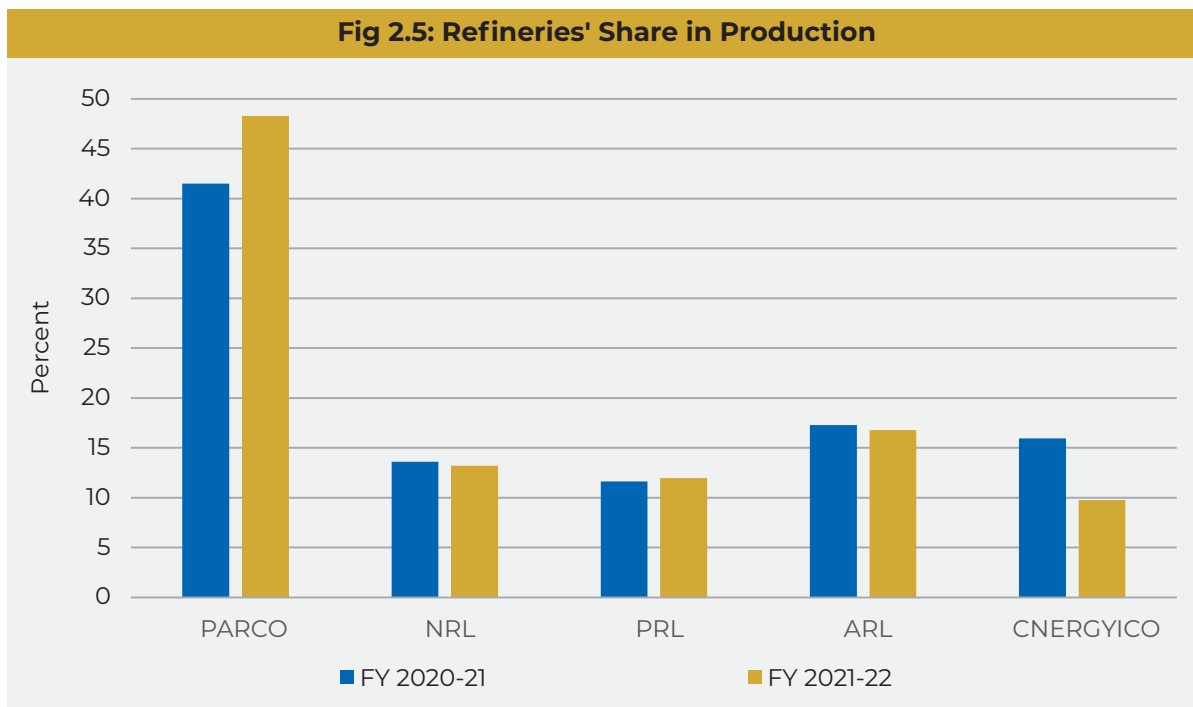
**Fig 2.4: Refineries' Production**



(Source: Refineries)

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PARCO was the major contributor in POL production with more than 48 percent share followed by ARL with 17 percent and NRL, PRL and Cnergyico, with 13, 12 and 10 percent respectively during FY 2021-22 as shown in **Fig 2.5**.



(Source: Refineries)

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

**Table 2.4: Product-wise Production during FY 2021-22**

(Million Tons)

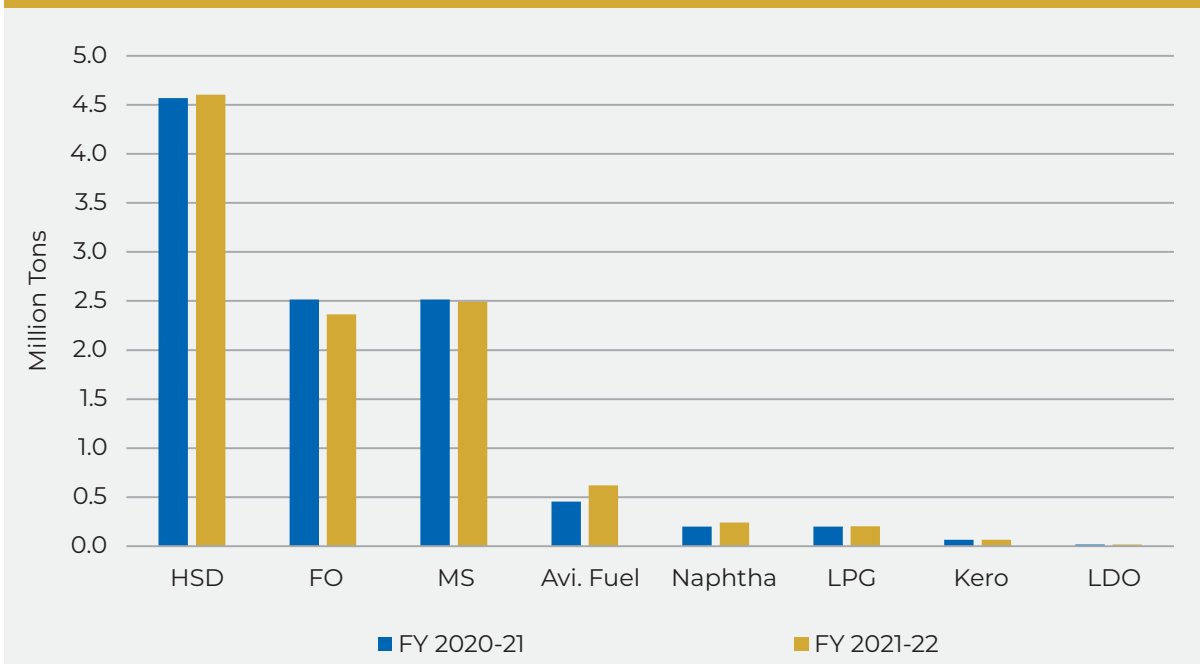
Sr. No.	Product	ARL	Cnergyico	NRL	PARCO	PRL	Total
1	Aviation Fuel	0.15	0.01	0.13	0.31	0.03	<b>0.62</b>
2	Furnace Oil	0.35	0.31	0.34	1.06	0.30	<b>2.36</b>
3	HSD	0.59	0.48	0.62	2.28	0.64	<b>4.60</b>
4	Kerosene	0.03	0.00	0.00	0.03	0.00	<b>0.06</b>
5	LDO	0.01	0.00	0.00	0.01	0.00	<b>0.02</b>
6	LPG	0.00	0.01	0.00	0.17	0.02	<b>0.20</b>
7	MS	0.61	0.23	0.16	1.25	0.24	<b>2.49</b>
8	Naphtha	0.00	0.01	0.16	0.00	0.06	<b>0.24</b>
<b>Total</b>		<b>1.74</b>	<b>1.05</b>	<b>1.41</b>	<b>5.11</b>	<b>1.28</b>	<b>10.60</b>

(Source: Refineries)

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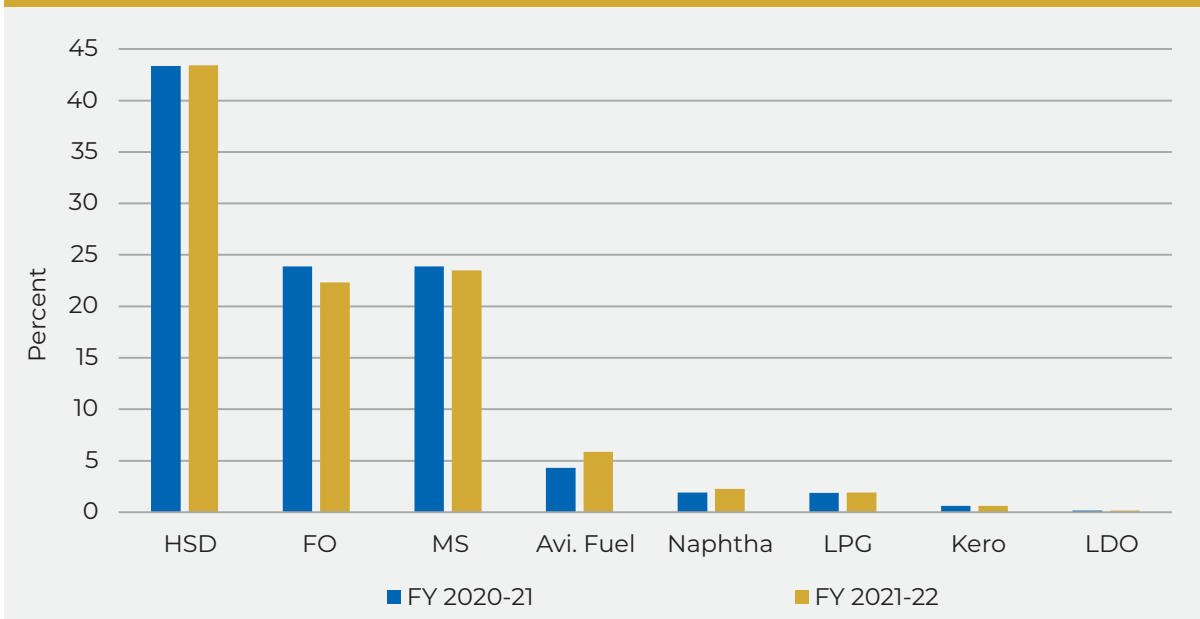
Production of POL products such as HSD, Aviation Fuel and Naphtha have increased by 1 percent (0.03 million tons), 36 percent (0.17 million tons) and 20 percent (0.04 million tons) respectively during FY 2021-22 as compared to FY 2020-21. However, MS, FO, Kero and LDOs' production declined by 1 percent (0.02 million tons), 6 percent (0.15 million tons), 2 percent and 8 percent respectively during the same period. **Fig 2.6** shows product-wise production by refineries.

**Fig 2.6: Product - wise Refineries's Production**



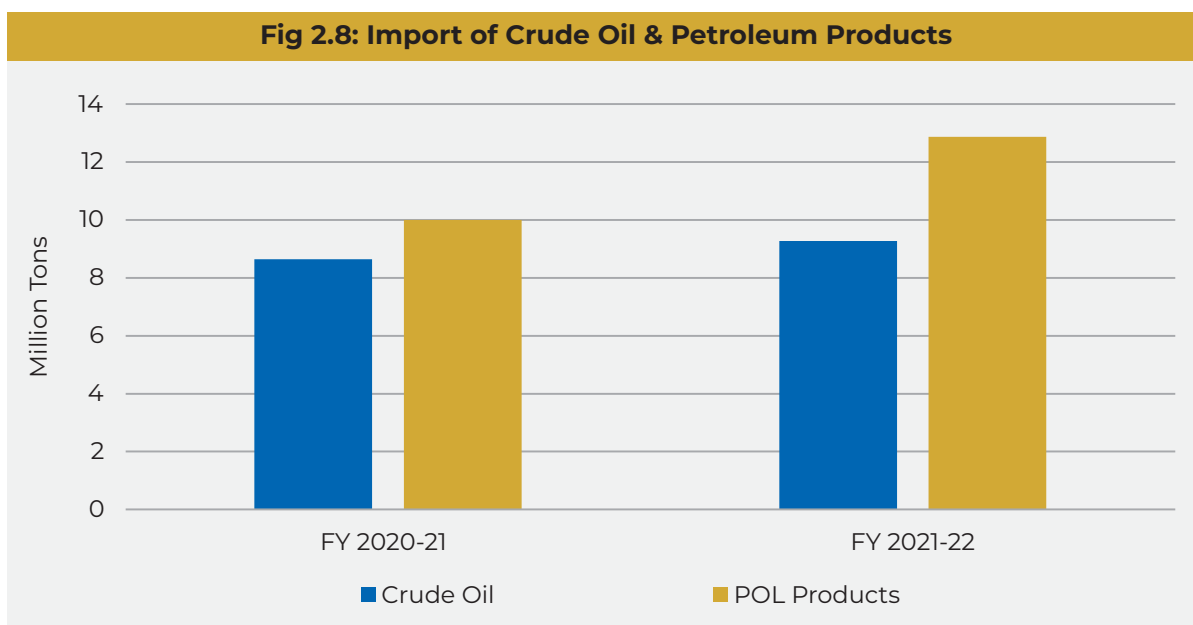
In product-wise share in refineries' total energy products' production, the share of Aviation Fuel has increased from 4 to 6 percent and share FO declined by 2 percent from 24 to 22 percent. On the other hand, the share of HSD, MS and Naphtha remained constant at 43, 24 and 2 percent respectively of total production during FY 2021-22. LPG, Kero and LDO sustained their last year position. MS, HSD and FO accounted for about 89 percent of total production as compared 91 percent last year (**Fig 2.7**).

**Fig 2.7: Product - wise Share in Refineries' Production**



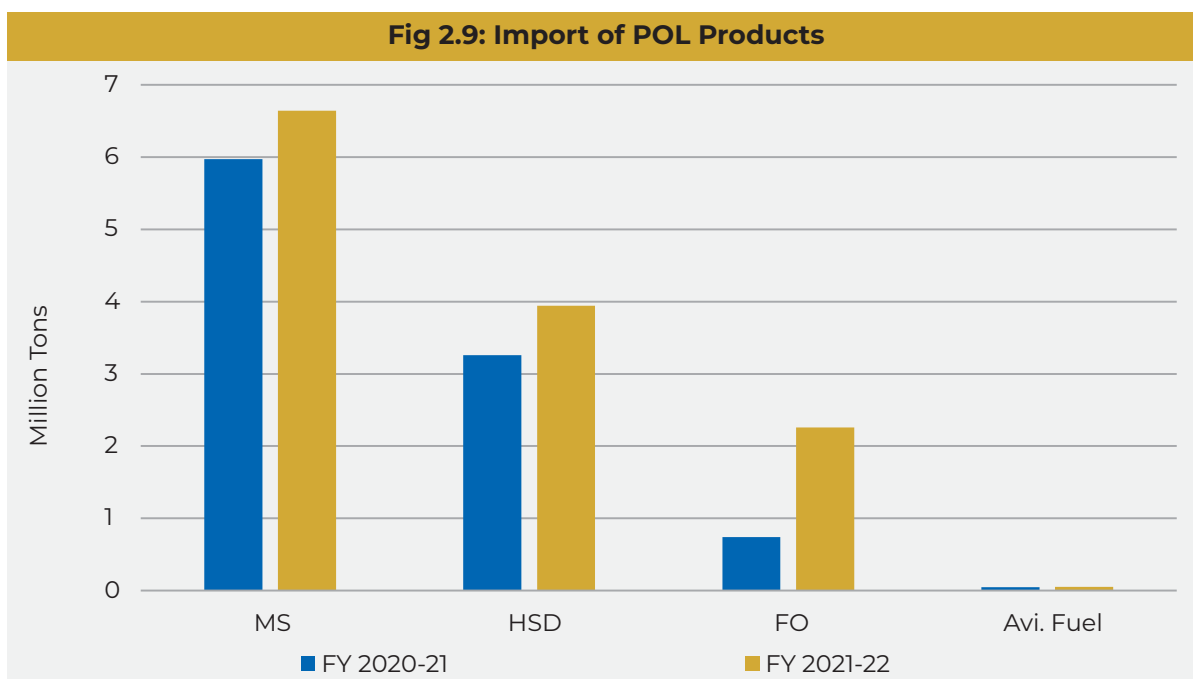
## 2.4 Import of Crude Oil/Petroleum Products

Import of crude oil increased by 7.27 percent during FY 2021-22 to 9.29 million tons from 8.66 million tons in FY 2020-21 whereas the import of finished petroleum products has increased by 28.74 percent to 12.90 million tons from 10.02 million tons during the same period. **Fig 2.8** shows the comparison of import of crude oil and POL products.



(Source: Refineries, Oil Marketing Companies)

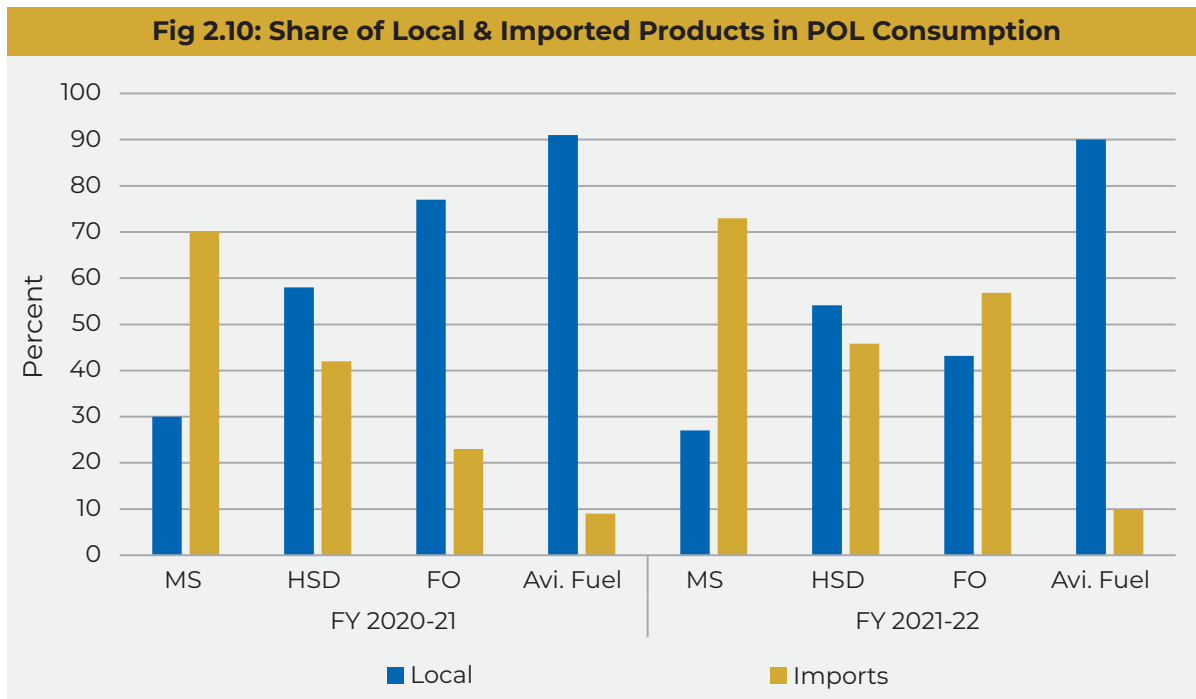
Product wise imports indicate that import of HSD has increased by 21 percent from 3.26 to 3.94 million tons, MS by 11 percent from 5.97 to 6.64 million tons and FO by more than 205 percent from 0.74 to 2.26 million tons during FY 2021-22 as compared to FY 2020-21. The import of Aviation Fuel also increased by 9 percent during the same period. **Fig 2.9** shows the comparison of import of main POL products.



(Source: Oil Marketing Companies)

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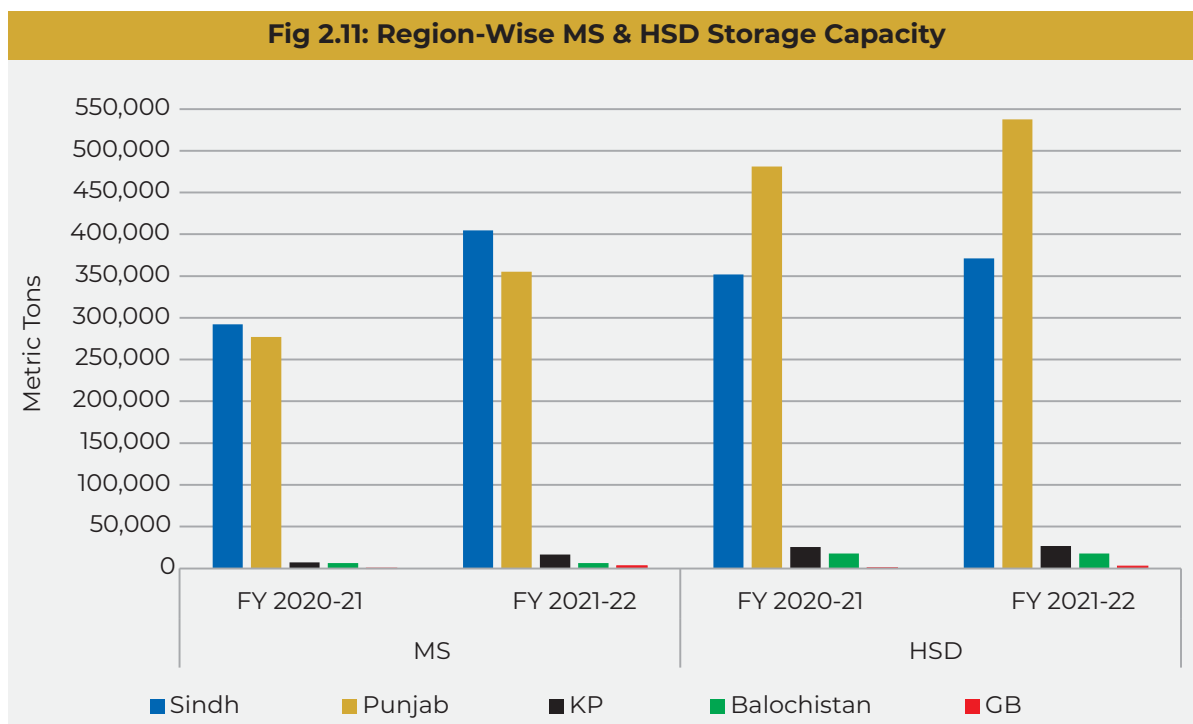
The share of imports in MS consumption has increased from 70 to 73 percent and Aviation Fuel from 9 to 10 percent during FY 2021-22. Meanwhile, the share of imports in HSD and FO consumption has also increased from 42 to 46 percent and 23 to 57 percent respectively during the same period. **Fig 2.10** shows the comparison of imports and local refineries production in main POL products consumption.



## 2.5 Oil Infrastructure

Oil Marketing Companies have set up their infrastructure in the form of storage facilities and retail outlets for marketing of POL products. MS and HSD accounted for more than 80 percent of OMCs sales. OMCs have built storage capacity of 0.80 million tons for MS and 0.95 million tons for HSD at various depots spread over across the country by the end of FY 2021-22. Major contributors in OMC's MS storage infrastructure are PSO having 36.49 percent followed by GO having 10.34 percent, APL 10.04 percent, SPL 9.59 percent, TPPL 6.34 percent and Be Energy 5.99 of total MS storage capacity. As far as HSD storage infrastructure is concerned, PSO remained a top contributor having 37.43 percent of total HSD storage capacity whereas, Be Energy contributed 10.60 percent, APL 9.95 percent, GO 9.08 percent and SPL 7.52 percent.

Regionally, MS storage infrastructure in the country resides in Sindh as 51.48 percent, Punjab 45.20 percent, KP 2.10 percent and Baluchistan 0.82 percent share of total MS storage capacity. While for HSD, Sindh has 38.82 percent, Punjab 56.24 percent, KP 2.79 percent and Baluchistan 1.86 percent share of total HSD storage capacity (**Fig 2.11**).



The details of OMC's infrastructure region-wise are given at **Appendix-I**.

## 2.6 OMC's Retail Network

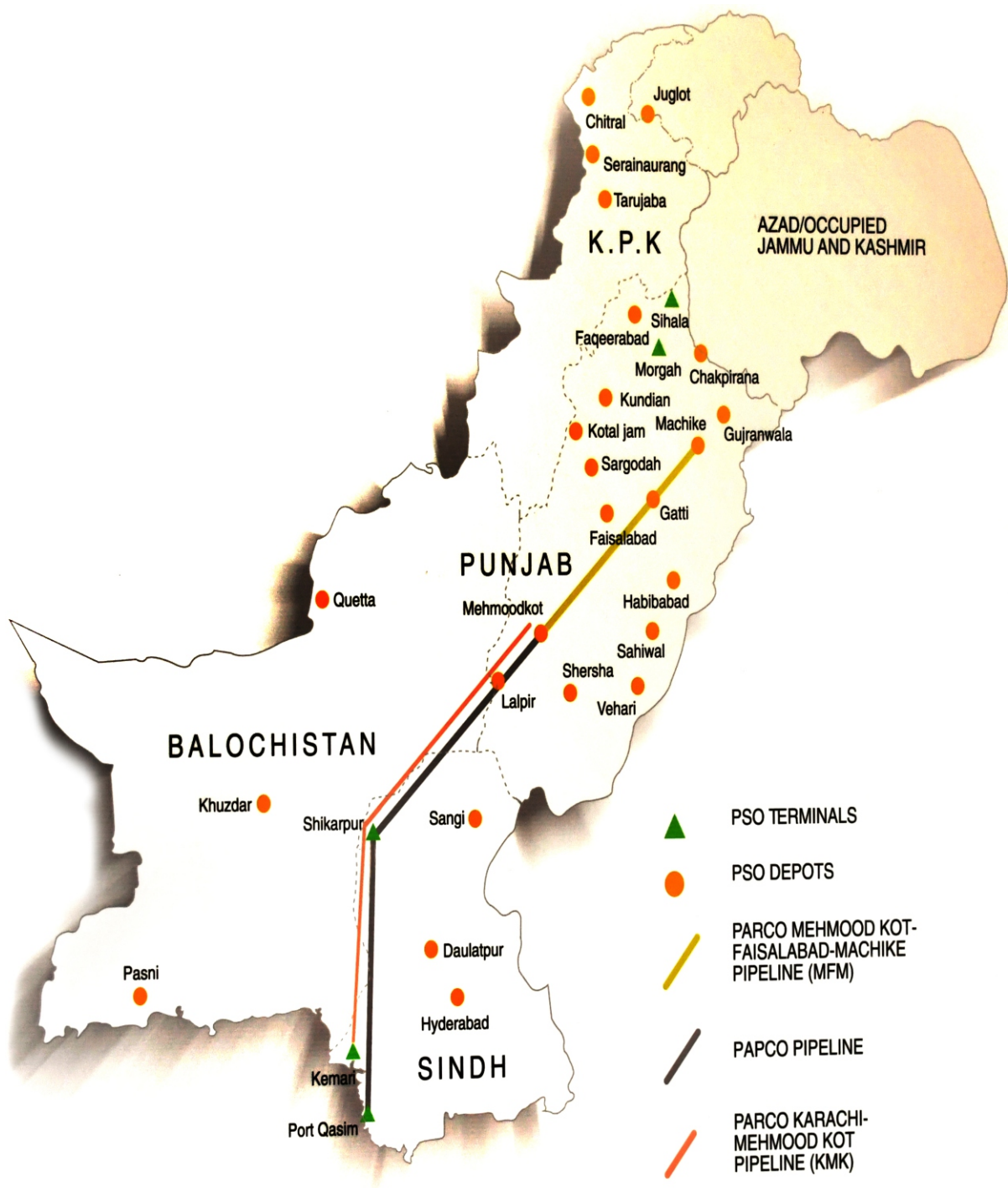
OMCs' market POL products through their respective retail outlets. OMCs' have 10,821 retail outlets (for which K Form has been issued by the Department of Explosives) spread across the country. OMC-wise, PSO has largest number of retail network across the country having 3,012 (27.83 percent), followed by GO 1,014 (9.37 percent), Askar Oil Services 975 (9.01 percent), Shell 799 (7.38 percent), Total Parco 794 (7.34 percent) and APL 714 (6.60 percent).

Region-wise, Punjab has 5,800 (53.60 percent), Sindh 2,443 (22.58 percent), KP 1,027 (9.49 percent) and Balochistan 191 (1.77 percent) retail outlets. The details are given at **Appendix-II**

## 2.7 Inland Freight Equalization Margin (IFEM) Depots

IFEM mechanism is used to equalize prices of fuel products at 22 depots spread throughout the country despite disparity in transportation cost. Secondary freight in special areas (Chitral, Gilgit Baltistan, AJK and some parts of Balochistan) is also picked up through IFEM mechanism to provide relief to the consumers of special areas. **Fig 2.12** shows the IFEM depots' locations.

Fig 2.12: IFEM Depots Location







**Natural Gas & LNG**



### 3. Natural Gas & LNG

#### 3.1 Natural Gas Sector

Natural Gas has been a major energy source for the economic growth of the country and still has a share of approximately 30% in commercial energy supplies/consumption. The second to it is Oil which has a share of 25% in the country's energy mix. Pakistan has a well-established and large network of gas pipelines for the transportation and distribution of natural gas to the domestic, industrial, commercial, and transport sectors. Natural Gas is a comparatively clean source of energy; hence it contributes in controlling environmental degradation. There is a significant rise in demand for gas by residential/domestic consumers owing to price differential and easy availability as compared to other competing fuels like LPG, firewood, and coal. Domestic consumers are continuously being added to the Gas Utility Network owing to the launch of new housing societies across the country. The growth in power, commercial, industrial and fertilizer sectors has resulted in natural gas availability constraint. The increase in demand for natural gas will amplify further in the coming years. The Government of Pakistan (GoP) has initiated various measures to bridge the gap between demand and supply which include incentivizing the local gas production, import of Liquefied Natural Gas (LNG), and development of cross-country pipelines from Iran and Turkmenistan. Construction and operation of two LNG Regasification Terminals at Karachi Port are major milestones achieved to mitigate gas shortage in the Country. The share of RLNG, in the overall gas supply during this year was around 24 percent. During the year, the total supply of natural gas in the country, including imported RLNG, has reached 3,982 MMCFD compared to 4,126 MMCFD last year.

##### 3.1.1 Regulatory Regime Overview

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

- Grant of licences for transmission, distribution, and sale of RLNG/ Natural Gas.
- Formulation of rules, regulations, and procedures for the conduct of licensees.
- Determination of Revenue Requirement of SNGPL & SSGCL.
- Monitoring and enforcement of rules, regulations, and applicable licence conditions.
- Approval of Access Arrangement for Pipeline capacity allocation.
- Approval of Gas Supply Contracts initiated between the Gas Producers/Consumers and Gas Companies.

#### 3.2 Profile of Licensees

##### 3.2.1 Sui Southern Gas Company Limited

Sui Southern Gas Company (SSGC) is Pakistan's leading integrated public-limited large-scale natural gas utility Company. GoP directly and indirectly owns the majority of the shareholdings of the Company. SSGC has been engaged in the business of transmission and distribution of natural gas besides installation of high-pressure transmission and low-pressure distribution systems in the franchise provinces of Sindh and Balochistan since 1954. Being a downstream company, the Company buys gas in bulk from more than twenty-four local and foreign Exploration and Production (E&P) companies, for supply across its franchise areas.

SSGC's transmission system comprises over 4,143 Km of high-pressure pipelines ranging from 12" to 42" in diameter. The distribution activities covering over 160 cities and 4,333 towns & villages in Sindh

## State of the Regulated Petroleum Industry

and Balochistan are managed through its regional offices. About 305,667 million cubic feet (MMCF) gas was sold in FY 2021-22 to around 3.27 million industrial, commercial and domestic consumers through a distribution network of 49,099 Km. SSGC operates its own meter manufacturing plant (MMP), the only one of its kind in the entire South East Asia, established under license from M/s. Itron, France. The Plant manufactures G-4 and G-1.6 meters for local consumption along with some exports to international buyers. SSGC ensures top class customer service through a right blend of technology and human touch and operates 24 Customer Facilitation Centers (CFCs) in Sindh and Balochistan to cater to customer's gas-related queries.

SSGC-LPG (Pvt.) Ltd. is SSGC's wholly-owned fully integrated subsidiary company engaged in the marketing and distribution of LPG across Pakistan. The subsidiary company has been in operation since 2012.

SSGC is managed by an autonomous Board of Directors comprising of 11 members. The Managing Director/ Chief Executive is appointed by the Government of Pakistan and has been delegated with such powers as vested by the Board of Directors necessary to effectively conduct the business of the company.

### 3.2.2 Sui Northern Gas Pipelines Limited

Sui Northern Gas Pipelines Limited (SNGPL) was incorporated as a private limited Company in 1963 and converted into a public limited company in January 1964 under the Companies Act 1913, now the Companies Act, 2017, and is listed on the Pakistan Stock Exchange (PSX). The Company falls under the category of Public Interest Company under the Third Schedule of the Companies Act, 2017.

SNGPL is the largest integrated gas company serving more than 7.52 million consumers in North Central Pakistan through an extensive network in Punjab, Khyber Pakhtunkhwa and Azad Jammu & Kashmir and is certified against ISO 14001:2015 & ISO 45001:2018 Standards. SNGPL's 11 sites have been registered under the "SMART2" Program by Pakistan Environmental Protection Agency (PAK-EPA). The Company has over 50 years of experience in operation and maintenance of high-pressure gas transmission and distribution system. It has also expanded its activities as Engineering, Procurement and Construction (EPC) Contractor to undertake the planning, designing and construction of pipelines, both for itself and other organizations.

SNGPL transmission system extends from Sui in Balochistan to Peshawar in Khyber Pakhtunkhwa comprising over 9,052 Km of Transmission System (Main lines & Loop lines). The distribution activities covering 5,284 main towns along with adjoining villages in Punjab & Khyber Pakhtunkhwa are organized through 16 regional offices. Distribution system consists of 146,326 Km of pipeline. SNGPL has over 7.52 million consumers comprising Commercial, Domestic, General Industry, Fertilizer, Power & Cement Sectors.

### 3.2.3 Mari Petroleum Company Limited

Mari Petroleum Company Limited (MPCL) is one of the leading integrated E&P Companies in Pakistan, with a net hydrocarbon production over 100,000 barrels of oil equivalent per day. With a 23% market share, MPCL is the second-largest gas producer in Pakistan and have a strong reserve base of around 642 million BOE. The Company plays a pivotal role in ensuring the food security of Pakistan as more than 90% of the urea production in the Country is based on MPCL supplied gas.

Company's national exploration and production portfolio is spread across all four provinces of Pakistan. As of 30th June 2022, MPCL has 29 exploration licences and 13 development and production leases (operated and non-operated) with a total concession acreage of about 52,028 Sq. Km in the Country.

## State of the Regulated Petroleum Industry

During FY 2021-22, the Company in pursuit of its strategy for international growth, succeeded in bidding round and was granted 25% equity in Offshore Block 5, in Abu Dhabi as part of a consortium led by Pakistan Petroleum Limited together with Oil and Gas Development Company Limited and Government Holding (Private) Limited. The Offshore Block 5 is located in shallow waters and has a concession area of 6,223 Sq. Km.

Along with in-house capability of gravity and magnetic surveys, 2D & 3D seismic acquisition, seismic data processing, drilling, and mud logging services, Mari Services Division (MSD) is also providing services to other Exploration & Production companies in Pakistan. MSU completed its maiden 2D Seismic data acquisition project of 45 Line Km in Kirthar Block of PGNiG (Polish Oil & Gas Company). With seismic acquisition units and drilling rigs, MSD is capable of operating in challenging and security-sensitive areas of Pakistan.

### Operational & Financial Highlights

The Company has achieved the highest ever energy, gas and oil production, 36.91 MMBOE, 283.17 BSCF & 458,509 BBLs respectively during FY 2021-22 with a Total Recordable Case Frequency (TRCF) of 0.12. The Company has achieved the highest ever gross sales of Rs. 92.30 billion with net profit of Rs. 33.06 billion. It has also generated highest ever earning per share of Rs. 247.84 and cash generated from Operations of Rs. 49.40 billion.

MPCL, during FY 2021-22 commenced its first gas from the Goru-B reservoir of Mari gas field. Initially (Phase-I), approx. 20 MMscfd of pipeline quality gas had been supplied to SNGPL after processing at MPCL's newly constructed Sachal Gas Processing Complex (SGPC) located in district Ghotki, Sindh using its own newly built 25 Km long cross country gas transmission pipeline. The construction and commissioning activities of the remaining phases of project are progressing to gradually increase the supply of processed gas volumes to up to 110 MMCFD gas. The segregation of the regulated gas sold by MPCL during FY 2021-22 is given in **Table 3.1**.

**Table 3.1: Regulated Gas sold by MPCL to its Customers during FY 2021-22**

Sr. No.	Name of Purchaser and Field		Province	Gas Volume	Heating Value	Gross Sale
	Customer	Field		MMCFD	BTU/SCF	(Rs. Million)
1	EFL	Mari	Sindh	191.09	725.70	22,132.60
2	FFC-I	Mari	Punjab	100.90	714.13	8,318.75
3	FFC-II	Mari	Punjab	75.18	719.70	6,215.21
4	FFC-III	Mari	Sindh	93.12	722.62	7,691.41
5	FFCL (Fatima)	Mari	Punjab	99.31	727.74	8,306.66
6	WAPDA (GENCO -II)	Mari	Sindh	37.88	715.66	7,065.97
7	SSGCL	Mari	Sindh	0.93	714.56	84.19
8	FPCDL	Mari	Sindh	51.63	531.73	3,439.58
9	PFL	Mari	Punjab	51.35	858.01	12,185.15
10	SNGPL	Mari	Punjab	37.00	735.41	16,861.48
<b>Total</b>				<b>738.39</b>		<b>92,301.00</b>

(Source: MPCL)

### 3.2.4 Pakistan Petroleum Limited

Pakistan Petroleum Limited (PPL) is a pioneer in natural gas industry in Pakistan and has been a frontline player in the fields of exploration, development and production of oil and natural gas

## State of the Regulated Petroleum Industry

resources since 1950. As a major supplier of natural gas, the Company supplies approximately twenty-two (22%) per cent 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's history can be traced back to the establishment of a public limited company in June 1950, with major shareholding by Burmah Oil Company (BOC) of United Kingdom (UK) for exploration, prospecting, development and production of oil and natural gas resources. In September 1997, BOC disinvested from the Exploration and Production (E&P) sector worldwide and sold its equity in PPL to GoP. Subsequently, the government reduced its holdings through an initial public offer in June 2004, which was further decreased with the initiation of the Benazir Employees Stock Option Scheme (BESOS) in August 2009 when PPL employees were allotted 12 percent shares from the government's equity. More recently, GoP further disinvested its 5 percent shares, around 3.55 percent of the total paid-up capital, in PPL through Secondary Public Offering in 2014. Currently, the company's shareholding is divided between the government, which owns about 68 percent, PPL Employees Empowerment Trust that has approximately 7 percent - being shares transferred to employees under BESOS - and other investors, who hold nearly 25 percent.

The company has established a wholly owned subsidiary, PPL Asia E&P B.V. with corporate seat in Amsterdam, Kingdom of Netherlands. PPL has assigned its interest in Block 8, Iraq, under the Exploration, Development and Production Service Contract with Midland Oil Company, Iraq to PPL Asia E&P B.V. PPL has another subsidiary 'PPL Europe E&P Limited', a company incorporated in England and Wales. Company currently operates oil and gas producing assets at Sui, Kandhkot, Adhi, Mazarani, Chachar, Hala, Gambat South, Dhok Sultan and Shah Bandar. In addition, the Company, along with PPLE, has working interest in 13 partner-operated producing assets.

As a major stakeholder in securing energy supply for future, PPL pursues an aggressive exploration strategy and campaign to explore indigenous hydrocarbon (HC) resources and replenish at least producing reserves. The Company together with its subsidiaries and associate has a portfolio of 41 exploration blocks including 25 operated blocks and 16 partner operated blocks. The operated blocks include 23 onshore blocks, one offshore block in Pakistan, and one international block i.e., offshore Block-5 in Abu Dhabi. The partner-operated portfolio includes Block-3 in Yemen. Furthermore, four new blocks have been provisionally granted; two in operated and two in partner-operated areas. The execution of a petroleum concession agreement is in process.

For over 60 years PPL has been carrying out projects for uplifting the quality of lives of deprived communities mainly focusing on initiatives in company's; producing and exploration areas. As per board's approval, the company is committed to spend a minimum of 1.5 percent of its annual pre-tax profit on CSR initiatives.

Areas of intervention focused on healthcare, education & vocational training, infrastructure development, skill development for livelihood generation and has benefitted the community at large and uplifted the quality of life of the community. During 2021-22, PPL spent highest ever Rs. 2 billion on CSR initiatives, a bulk of which was spent for projects in Balochistan and Sindh.

To acknowledge company's multi-sectoral CSR program, PPL is ranked as largest corporate givers by volume of donations for 15 consecutive years from 2004 to 2018 by Pakistan Centre for Philanthropy. PPL stands committed to UNGC principles of sustaining good governance practices through socio-economic development of underprivileged communities, environmental conservation, health and safety and human resource development in its areas of operation.

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### Operational Performance during the year 2021-22

#### Seismic Activities

754 Sq. Km 3D seismic data was primarily acquired in PPL-operated blocks and 45 Line Km 2D seismic data was acquired in partner-operated Kirthar block. Also Acquisition of 14,731 Line Km gravity and 14,620 Line Km magnetic data in PPL-operated Kharan and Punjab blocks were completed.

#### Drilling Activities

PPL drilled 4 exploration and 8 development wells in operated and partner-operated areas.

#### Production

Production of hydrocarbons during FY 2021-22 including the Company's share from joint operations is given below.

Product	Units	Production
Natural Gas	MM CF	263,481
Crude/Condensate/NGL	MBBLs	4,560
LPG	Tonnes	116,498

#### Discoveries

PPL during 2021-22, announced Two (02) discoveries Jugan-1 and Mohar-1 (Latif Block) in partner operated area.

#### Financial Overview

(Rs. million)

PPL Sales Net	202,199
Profit Before Tax	98,131
Profit After Tax	53,546

The segregation of the regulated gas sold by PPL during FY 2021-22 is given in **Table 3.2**.

**Table 3.2: Regulated Gas sold from PPL's Gas Fields during FY 2021-22**

Name of Purchaser	Province	Volume (MMcfd)
SSGCL	Balochistan	105.92
SNGPL	Balochistan	168.42
SSGCL	Sindh	78.51
SNGPL	Sindh	8.50
SNGPL	Punjab	16.08
GENCO	Sindh	88.52

(Source: PPL)

Note: Gross sales represent PPL share only

## State of the Regulated Petroleum Industry

### 3.2.5 Oil & Gas Development Company Limited

#### Company's Profile

Oil & Gas Development Company Limited (OGDCL) is the largest Exploration and Production Company in Pakistan and listed on Pakistan Stock Exchange as well as on London Stock Exchange. The Company was initially created under an Ordinance in 1961, as a public sector corporation and later converted into a public limited company with effect from October 23, 1997.

In November 2003, GoP through an IPO divested 4.98% of its shareholding in the Company. Later on, GoP divested 9.5% of its shareholdings through secondary offering in the form of GDS to international and local institutional investors in December 2006 and 0.5% to the general public in February 2007. Under BESOS, GoP on August 14, 2009 transferred 12% of its shareholding to OGDCL Employees Empowerment Trust (OEET). As on June 30, 2022, GoP's shareholding stands at 74.97% in the Company.

#### Operational Performance (Exploration and Development Activities)

The Company being the national flagship of Pakistan's E&P sector holds the largest exploration acreage, which as of 30 June 2022 stood at 87,290 Sq. Km representing 41% of Country's total area under exploration. The Company's exploration portfolio currently comprises 48 owned and operated joint venture exploration licences. Additionally, the Company possesses working interest in 9 exploration blocks operated by other E&P companies.

The Company during fiscal year 2021-22 acquired 2,003 Line Km of 2D and 601 Sq. Km of 3D seismic data. Acquired seismic data represents 80% and 31% of total 2D and 3D seismic data acquisition in the Country respectively. Moreover, the Company using in-house resources processed/reprocessed 3,541 Line Km of 2D and 905 Sq. Km of 3D seismic data. On the drilling front, the Company spud 13 wells including 7 exploratory/appraisal wells and 6 development wells. Total drilling recorded during the twelve months was 41,961 meters.

#### Discoveries

The Company's exploratory efforts to locate new reserves during FY 2021-22 yielded 7 oil and gas discoveries having an expected cumulative daily production potential of 4,250 barrels of oil and 47 MMCF of gas.

#### Production

OGDCL during FY 2021-22 injected 10 operated wells in the production gathering system. These injected wells cumulatively yielded gross crude oil and gas production of 436,588 barrels and 7,859 MMCF respectively. Overall, Company's production contributed around 47%, 29% and 37% towards Country's total oil, natural gas and LPG production respectively.

OGDCL's average daily net saleable crude oil, gas and LPG clocked in at 35,292 barrels, 820 MMCFD and 807 MTons respectively. In an effort to overcome natural decline and sustain production from mature wells, OGDCL carried out 89 work-over jobs. Moreover, to induce improvement in the current well flow parameters, pressure build-up survey jobs were completed at various wells of producing fields. Additionally, electrical submersible pumps were installed at Pasakhi-2 and Pasakhi North-3 resulting in incremental crude oil production of 1,080 barrels per day.

#### Wali Field Development

OGDCL has embarked upon the initiative for development of early production facilities at Wali-1 so as to bring Wali field into production. The Company holds 100% working interest in the Wali exploration block. The recoverable 2P reserves are estimated to be around 13 million barrels of oil and 219 billion cubic feet of gas, equivalent 55 million BOEs. The project is expected to be completed in FY 2022-23.



### Business Diversification

In pursuance to its business diversification plan, OGDCL has signed the definitive agreements with the Federal Government, Government of Balochistan, GHPL, PPL and Barrick Gold Corporation for extraction of copper and gold reserves from Reko Diq. The rights and obligations of the project participants are governed by the definitive agreements and relate to inter alia, management, reporting, funding and governance.

In line with its vision to expand its core business internationally, the Company along with consortium partners; PPL (operator), MPCL and GHPL participated in the second competitive exploration bid round held by ADNOC in December 2019 and offshore block-5 in Abu Dhabi was awarded to the consortium on 31 August 2021. Offshore block-5 is located in a highly prospective basin and planned exploration and evaluation activities are underway in the block.

### Financial Performance

OGDCL during the year ended 30<sup>th</sup> June 2022 recorded Sales Revenue of Rs 335.464 billion. The Company's profitability during the year was positively influenced by increase in the realized prices of crude oil, gas and LPG coupled with exchange rate and finance and other income. Overall, the Company recorded Profit after Tax of Rs 133.784 billion translating into an EPS of Rs 31.11. The Board of Directors has declared total cash dividend of Rs 7.25 per share during FY 2021-22. The Company also made an enormous contribution of Rs 206.794 billion to the national exchequer on account of corporate tax, dividend, royalty and government levies.

### Contribution towards Flood Relief Activities

Under its CSR program, OGDCL took concrete steps for extending relief to people affected by the recent floods/heavy rains across the Country. In this regard, Rs 205 million were earmarked for flood relief activities for provision of medicines, ration bags and tents to the flood victims.

### Future Outlook

Moving forward, OGDCL is committed to intensify E&P activities alongside utilizing advance technology and best reservoir management practices to maximize oil and gas output. The completion of ongoing development projects will serve to augment production output and cash flows in the future. Moreover, the Company will carry on investment in HR capital to improve work efficiency and output of employees. Pursuing suitable farm-in/farm-out opportunities, acquisition of concessions in domestic and international market, formation of value driven joint ventures and business diversification will be pivotal to create long term value for shareholders.

OGDCL will continue to engage with the relevant stakeholders to further strengthen business relationships as well as to devise strategies to increase investment and production output in the Country. Moving on, the Company will always be at the forefront to support the government and nation in the testing times along with exhibiting strict compliance with the best HSE standards and practices so as to carry out its E&P activities in safe and responsible manner. Details of regulated gas sold during the year 2021-22 are given in **Table 3.3**.

**Table 3.3: Regulated Gas Sold to Customers by OGDCL during FY 2021-22**

Name of Customers	Province	Volume (MMCFD)
M/s SNGPL	KP, Sindh, Punjab and Balochistan	304.45
M/s SSGCL	Sindh	192.90
M/s Engro Fertilizer Limited	Sindh	8.98
M/s Uch Power Limited	Balochistan	313.25
<b>Total</b>		<b>819.58</b>

(Source: OGDCL)

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### 3.2.6 Fauji Fertilizer Company Limited

In view of a national vision to acquire self-sufficiency in fertilizer production in the Country, Fauji Fertilizer Company Limited (FFC) was incorporated in 1978 as a joint venture with investment of US\$ 330 million, between Fauji Foundation (a charitable trust founded in 1954 and one of the Pakistan's largest conglomerates with a 44% shareholding in FFC), and Haldor Topsoe A/S of Denmark. The present share capital of the Company stands above Rs.12.72 billion.

FFC 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.

FFC is operating three large scale urea plants with an aggregate design capacity of over 2 million metric tons per annum. FFC operates the largest fertilizer marketing network for both FFC and Fauji Fertilizer Bin Qasim Limited (FFBL) products with around 50% market share under its brand "SONA" which means gold.

The Company holds diverse investment portfolio comprising Fertilizer, Renewable Energy, Cement, Food & Financial Services sectors. In the year 2021, FFC has successfully acquired profitable ventures FWEL I & II which are contributing towards clean energy for the Country besides further augmenting the Company's income streams.

FFC is listed on Pakistan Stock Exchange (PSX) and stands high amongst the largest corporate entities of the Country. Its securities are one of the lucrative scrips on the Stock Exchange and has figured prominently amongst the top 25 Companies at the Pakistan Stock Exchange being declared FIRST twelve times. Besides being one of the largest contributors to national exchequer through import substitution of over 67 million tons of urea (a contribution of US\$ 16.24 billion since inception), FFC plays a prominent role in the areas of education, health, disaster relief and environment as part of Corporate Social Responsibility (CSR) activities. Company is determined to incorporate United Nation Global Compact (UNGC) principles into its strategy and governance for business sustainability. Internationally FFC is well recognized as a member of International Fertilizer Association (IFA), Arab Fertilizer Association and UN Global Compact USA.

**Table 3.4: Detail of Regulated Gas Purchased by FFC from Suppliers during FY 2021-22**

Name of Supplier and Field	Province	Volume (MMCF)	Volume (Billion Btu)
Mari Petroleum Company Ltd. (Mari Gas Field)	Sindh	98,257	70,611

(Source: Fauji Fertilizer Company Limited)

### 3.2.7 Fatima Fertilizer Company Limited

Fatima Fertilizer Company Limited (Fatima) is a joint venture between two major business groups in Pakistan namely, Fatima Group and Arif Habib Group, with its head office located in Lahore. Three units of the Company are situated across the province of Punjab at three different strategic locations namely Mukhtar Garh, Sadiqabad (Sadiqabad Plant), Khanewal Road, Multan (Multan Plant), and 28-Km Shekhupura Road, Chichoki Mallian (Shekhupura Plant).

#### Sadiqabad Plant

The fertilizer complex, producing mixed fertilizer products, is a fully integrated production facility, located at Sadiqabad, District Rahim Yar Khan. The foundation stone was laid on April 26, 2006. The Complex has a dedicated gas allocation of 110 MMCFD from Mari Gas Field and has 56 MW captive

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power plants in addition to off-sites and utilities. Commercial production commenced on July 01, 2011. The Complex, at its construction peak, engaged over 4,000 engineers and technicians from Pakistan, China, USA, Japan, and Europe.

### Sheikhupura Plant

The Sheikhupura Plant was acquired by the Company in 2015. It is capable of producing 445,500 metric tons per annum of Urea and is located at 28-Km Sheikhupura Road, Chichoki Mallian.

### Multan Plant

The Company acquired the production and operating Plants (Ammonia, Urea, Nitric Acid, Nitro Phosphate, Calcium Ammonium Nitrate, and Clean Development Mechanism) having total nameplate capacity of 846,900 metric tons per annum of mixed fertilizer products, from its associated company namely Pakarab Fertilizers Limited with effect from September 01, 2020, located at Khanewal Road, Multan.

**Table 3.5: Detail of Regulated Gas Purchased by Fatima during FY 2021-22**

Name of Supplier and Field	Province	Volume (MMCF)
Mari Petroleum Company Limited (MPCL)	Punjab	36,249
Fatima Fertilizer Company Limited : Fatimafert - Sheikhupura Plant (Formerly DH Fertilizer)		
Sui Northern Gas Pipeline Limited (SNGPL)	Punjab	11,681

(Source: Fatima Fertilizer Company Limited)

### 3.2.8 Foundation Power Company (Daharki) Limited

Foundation Power Company Daharki Limited (FPCDL) was established on November 05, 2007 while the Foundation Stone of its Plant was laid down on November 24, 2007. The Plant is located at Daharki, District Ghotki, Sindh. The project was financed by a consortium of 12 local banks, led by Askari Bank Limited while FPCDL is owned by Daharki Power Holding Limited, British Virgina Island (BVI), the first offshore venture of Fauji Foundation.

The installed Combined Cycle Power Plant (Gas Turbine of General Electric, USA & Steam Turbine of Fuji, Japan) has a gross output of 180 MW. It employs modern technology which is also environment friendly. It functions on the low BTU gas, supplied from Mari Petroleum Company's well located at 15-Km from the Plant Site. Low BTU gas, otherwise unsuitable for domestic purpose, for the first-time, is being used for power generation in Pakistan. The Plant bears Certification of ISO 9001, 14001 & BSOHSAS 18001. The Plant was commissioned on May 16, 2011 and ever since then Plant is providing electricity in the National Grid at 90% availability throughout the year, with an energy efficiency index of 49%. The Plant is ranked amongst very high in the Economic Despatch Order List of Government, amongst the IPPs. The production of the cheap electricity by Plant is sufficient to illuminate 250,000 urban homes or meet the needs of 70 medium sized industrial units or 1,500 small to medium size villages. FPCDL Power Plant, since its commissioning was operationally managed by a reputed international Organization M/s KEPCO KPS Plant Services since its commissioning. FPCDL terminated O&M Agreement on 24 Nov 22 and is currently being carried out by company itself.

### Company's-Operation Performance FY 2021-22

Foundation Power Company Daharki Ltd is an IPP established under 2002 power policy. The net output of the complex is 180.97 MW (@MSC) without degradation. COD of the project was achieved on 16 May, 2011 and Net energy exported 1,269,669 MWh during the FY 2021-22.

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**Table 3.6: Detail of Regulated Gas Purchased during FY 2021-22**

Name of Supplier and Field	Province	Volume (MMCF)
Mari Petroleum Company Ltd.	Sindh	18,844.42

(Source: FPCDL)

### 3.2.9 Central Power Generation Company Limited

Central Power Generation Company Limited (CPGCL) was incorporated on 26th October, 1998 and started functioning on 1st March, 1999. It generates electric power through a mix of steam, gas and combined cycle at Thermal power Station located at Guddu & Quetta. Total installed Capacity of both stations is 2,427 MW. The Electric Power is mostly generated by using Natural Gas from Mari and Kandhkot gas fields. Facility for partial generation on Furnace Oil & HSD Oil is also available. Its highest decision-making body is "Board of Directors" & Management is headed by Chief Executive Officer. Company being needful of arduous location of the plant, provide a number of facilities to its employees for helping them work with peace of mind.

**Table 3.7: Detail of Regulated Gas Purchased during FY 2021-22**

Name of Supplier and Field	Province	Volume (MMCFD)
PPL (Kandhkot-I & III Gas Field)	Sindh	88.52
SNGPL (Kandhkot-II Gas Field)	Sindh	8.15
MPCL (Mari Shallow Field)	Sindh	37.88
<b>Total</b>		<b>134.55</b>

(Source: CPGCL, PLL, MPCL)

## 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 in their gas network which enables them to provide gas facility to its consumers.

### 3.3.1 SNGPL Transmission Infrastructure

During FY 2021-22 SNGPL has undertaken an extension of 178.6 Km in its transmission network. The total transmission network of SNGPL (as of June 30, 2022) is given in **Table 3.8**.

**Table 3.8: Details of SNGPL Transmission Network as of June 30, 2022**

Particulars	Diameter (inch)													Grand Total (Km)
	3"	4"	6"	8"	10"	12"	16"	18"	20"	24"	30"	36"	42"	
	Total length (Km) as of June 30, 2022													
Punjab	0.24	4.43	140.70	1,330.93	531.23	322.48	1,307.33	473.57	59.35	1,108.20	789.09	837.58	17.13	6,922.25
KP			57.79	690.59	133.00	209.06	168.36			167.85				1,426.65
Others		2.41		17.35	5.50	4.50	55.79	11.25	37.80	239.76	86.73	54.95	186.64	702.68
Total	0.24	6.84	198.49	2,038.87	669.73	536.04	1,531.47	484.82	97.15	1,515.81	875.82	92.53	203.77	9,051.57

## State of the Regulated Petroleum Industry

The major segments of the SNGPL transmission network and pipeline capacity in MMCFD at transmission system entry points, transmission system exit points and transmission system segment wise exit points are given in **Table 3.9**.

**Table 3.9: Declaration of Capacity of SNGPL Transmission System (Entry Points)**

Description (Entry Points)	Contracted	Available	Status of Extra Capacity Available	Used by Transporter	Allocated to Shippers
	MMCFD				
Interconnection point with SSGC at Sawan	1320	114	Available	1265	PFL = 55
Interconnection point with SSGC at Sui	22	163	Available	22	NIL
KANDKOT + CHACHAR (Dedicated)	50	0	N/A	50	NIL
QADIRPUR (Permeate) (Dedicated)	30	0	N/A	30	NIL
QV2 Muhammadpur	105	5	Available	50	55
SUI	155	0	N/A	155	NIL
SUL	3	0	N/A	3	NIL
PIRKOH + LOTI	12	0	N/A	12	NIL
DHODAK	1	0	N/A	1	NIL
SALSABIL	3	0	N/A	3	NIL
SAWAN PLANT	15	0	N/A	15	NIL
QADIRPUR (Processed)	125	0	N/A	125	NIL
BADAR	7	0	N/A	7	NIL
MEYAL PLANT OUTLET	10	0	N/A	10	NIL
DAKHNI PLANT	23	0	N/A	23	NIL
ADHI	40	0	N/A	40	NIL
SADKAL	1	0	N/A	1	NIL
CHANDA	10	0	N/A	10	NIL
MOL (CPF + GPF)	235	0	N/A	235	NIL
NASHPA PLANT	95	0	N/A	95	NIL
KALABAGH	2	0	N/A	2	NIL
TOLANJ	10	0	N/A	10	NIL
DHOK HUSSAIN	10	0	N/A	10	NIL
TOGH - 01	20	0	N/A	20	NIL

## State of the Regulated Petroleum Industry

**Table 3.10: Declaration of Capacity of SNGPL Transmission System (Exit Points)**

Description (Exit points)	Contracted	Available	Status of Extra Capacity Available	Used by Transporter	Allocated to each Shipper
	MMCFD				
GUDDU (Dedicated)	50	0	N/A	50	NIL
ENGRO ENERGY (Dedicated)	75	0	N/A	75	NIL
ROUSCH	85	0	N/A	85	NIL
FKPCL	30	0	N/A	30	NIL
KAPCO	250	0	N/A	250	NIL
MUZAFFAR GARH	150	0	N/A	150	NIL
MULTAN WAPDA	20	0	N/A	20	NIL
SAIF POWER	38	0	N/A	38	NIL
ORIENT POWER	38	0	N/A	38	NIL
HALMORE POWER	38	0	N/A	38	NIL
SAPPHIRE POWER	38	0	N/A	38	NIL
PUNJAB THERMAL POWER	185	0	N/A	185	NIL
HBS	181	0	N/A	181	NIL
BALLOKI	182	0	N/A	182	NIL
QATPL	177	0	N/A	177	NIL
NANDIPUR	100	0	N/A	100	NIL
ENGRO CHEMICALS	100	0	N/A	100	NIL
PAK ARAB	55	5	Available	0	PFL = 55
FATIMA FERT	45	0	N/A	45	NIL
BULLEH SHAH (PACKAGES)	20	0	N/A	20	NIL

**Table 3.11: Declaration of Capacity of SNGPL Transmission System (Segment Wise Exit Points)**

Description	Available Capacity
	(MMCFD)
From Sawan Interconnection Point up to Bhong (AC1X Compressor Station)	114
From Sui Interconnection Point up to to Bhong (AC1X Compressor Station)	163
From Bhong (AC1X Compressor Station) up to Uch Sharif (AC4 Compressor Station)	325
From Uch Sharif (AC4 Compressor Station) up to Qasba Maral (AV22 Valve Assembly)	216

Description	Available Capacity
	(MMCFD)
From Qasba Maral (AV22 Valve Assembly) up to Multan (AC6 Compressor Station)	159
Downstream of Multan (AC6 Compressor Station) on Main Transmission Trunk Pipelines at Entire Network	250

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

SNGPL's compression system details are given in **Table 3.12**.

**Table 3.12: Compressor Stations in the SNGPL Transmission System as of 30 June, 2022**

Sr. No.	Compressor Station Location		ISO Horse Power
			30.06.2022
1	AC -0 (Sui)	Distt. Dera Bugti	11,000
2	AC -1X (S) (Bhong)	Distt. R.Y. Khan	35,040
3	AC -1X (Q) (Bhong)	Distt. R.Y. Khan	20,220
4	AC -1X (LNG) (Bhong)	Distt. R.Y. Khan	17,400
5	AC -4 (Uch Sharif)	Distt. Bahawalpur	47,020
6	AC -6 (Multan)	Distt. Multan	45,320
7	AC -8 (Faisalabad)	Distt. Faisalabad	18,200
8	BC-1 (Manawala)	Distt. Shaikhupura	7,000
9	CC -1 (HaranPur)	Distt. Jehlum	7,000
10	CC -3 (Gali Jagir)	Distt. Attock	12,000
11	FC-1 (Dhulian)	Distt. Attock	6,000
<b>TOTAL</b>			<b>226,200</b>

(Source: SNGPL)

### 3.3.3 SSGCL Transmission infrastructure

The details of SSGCL transmission network and its compressor stations are given in **Table 3.13**.

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**Table 3.13: Details of SSGCL Transmission Network in Km as of June 30, 2022**

Particulars	Diameter (inch)													Grand Total (Km)
	3"	4"	6"	8"	10"	12"	16"	18"	20"	24"	30"	36"	42"	
Sindh	-	-	36	26	-	220	536	669	762	721	26	-	371	<b>3,367</b>
Balochistan	-	-	-	-	-	371	22	271	82	30	-	-	-	<b>776</b>
<b>Total</b>	<b>-</b>	<b>-</b>	<b>36</b>	<b>26</b>	<b>-</b>	<b>591</b>	<b>558</b>	<b>940</b>	<b>844</b>	<b>751</b>	<b>26</b>	<b>-</b>	<b>371</b>	<b>4,143</b>

(Source: SSGCL)

**Table 3.14: SSGCL's Capacity Utilization of Transmission Network (MMcfd)**

Transmission Network Segment	Segment Wise Capacity as of June 30, 2022
16" Dia. Indus Left Bank Pipeline (ILBP) Nawabshah - Karachi Terminal	80
24"/20" Dia. Kadanwari Pipeline Kadanwari - Malir - Karachi	180
20"/18" Dia. Indus Right Bank Pipeline (IRBP) Dadu - Malir - Karachi	400
12"/18"/20" Dia. Quetta Pipeline Jacobabad Quetta	90
18 Km x 18" Dia Abbe - Gum to Mach Loopline	7
31 Km x 18" Dingra - Sibi, 15 Km x 18" Mach - Kolpur Loopline	10
30 Km x 24" Loopline from Gokart to Abbe - Gum	6
18" Dia. Badin Pipeline Badin - Hyderabad	200
116 Km x 24" Dia. Loopline from Sind University to FJFC offtake	60
15 Km x 24" Dia. Masu - HQ3	40
24" dia. x 84 Km HQ2 - TandoAdam	85
34 Km x 24" Dia. Loopline from TandoAdam to Masu	23
200 Km x 24" Dia. Bajara - Karachi Loopline	240
18 Km x 18" Loopline (Dhadar to Gokart)	36
23 Km x 12" Re - Routing 34 Km x 24" Shikarpur to Jacobabad Loopline	32
60 Km x 12" HQ - Quetta - Zargun Line	25
<b>Total Capacities for SSGC (A)</b>	<b>1,514</b>
<b>Transmission Network Contracted for Transporting Third Party Gas</b>	
18" Dia. Pirkoh Pipeline (OGDC) Pesh Bogi - Pirkoh.	35
16" Dia. ILBP (SNGPL) Hassan - Sui	30
20" Dia. IRBP (Reverse Flow to SNGPL) Dadu - Sui	170
16" ILBP Reverse Flow Providing Regulation Between 20" Dia. IRBP & 16" Dia. ILBP at RSI	10
<b>Total Contracted Network (B)</b>	<b>245</b>
RLNG - 2 Pipeline (C)	1,200
<b>SSGC Total Available Transmission Network Capacity (A+C)</b>	<b>2,714</b>

(Source: SSGCL)



## 3.3.4 Compression Facilities in SSGCL Transmission System

SSGCL's compression system details are given in **Table 3.15**.

**Table 3.15: Compressor Stations in the SSGCL Transmission System as of June 30, 2022**

Compressor Station	Total Installed Power
Location	Brake Horse Power (bhp)
	30.06.2022
Shikarpur DR Units	11,600
Shikarpur Solar Unit	7,800
Hyderabad DR Unit	17,400
HQ-2 DR Units	11,600
HQ-2 Solar Units	46,800
Sibi Solar Units	9,400
<b>Total</b>	<b>104,600</b>

(Source: SSGCL)

## 3.3.5 Independent System Infrastructure

A number of natural gas customers (fertilizer and 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 3.16**.

**Table 3.16: 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 Chemical	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 Gas 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 (Dharki)	20	15
ETPL	ETPL Jetty to SSGCL's Tie in Point at SMS Pakland.	24 & 42	6 & 18

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Pipeline Operator	Segment	Diameter (Inch)	Length (Km)
Engro Fertilizer Ltd. (EFL)	Reti Maru (OGDCL) Field to Engro's Battery Limits at Dharki	10	26
Fauji Oil Terminal and Distribution Company Ltd. (FOTCO)	Pakistan Gas Port Consortium Ltd. (PG PCL) Terminal to SSGC's Tie in Point Located at Port Qasim, Karachi.	30	13.3
Pakarab Fertilizers Limited	Mari Gas Fields to PFL by using SNGPL System (SNGPL's Muhammadpur Valve Assembly)	16	24
K-Electric	SSGC's Custody Transfer Station at Port Qasim to KE's Bin Qasim Power Complex	14	2.4

(Source: SSGCL)

### 3.3.6 SNGPL & SSGCL Distribution Network

Gas Companies are involved in supplying of gas to distant localities / customers, wherever it is economically viable and technically feasible. Region-wise and diameter-wise breakdown of SNGPL and SSGCL distribution networks, as of June 30, 2022, are given in following Tables.

**Table 3.17: SNGPL's Cumulative Length (Km) of major Distribution network as of June 30, 2022**

Punjab														
Region	¾"	1"	1-1/4"	1-1/2"	2"	4"	6"	8"	10"	12"	16"	18"	24"	Total
Islamabad	2,266	2,741	2,288	8	2,379	1,411	495	143	45	13	45	2	20	11,856
Rawalpindi	2,263	1,910	1,725	-	2,433	1,148	472	198	66	58	34	-	-	10,307
Bahawalpur	1,188	1,441	1,058	-	1,268	674	255	144	120	39	-	-	-	6,187
Gujrat	1,074	809	1,606	-	1,322	865	296	225	8	6	-	-	-	6,211
Sahiwal	1,096	1,043	1,924	-	1,215	630	327	179	48	-	-	-	-	6,462
Sheikhupura	1,504	650	1,262	-	1,065	897	309	273	49	18	13	5	-	6,045
Sargodha	1,533	432	2,029	-	1,335	1,072	249	85	20	29	2	-	-	6,786
Faisalabad	3,169	2,712	4,188	-	2,930	1,616	865	498	104	44	27	-	-	16,153
Lahore	4,117	7,540	1,960	12	3,859	1,340	583	177	48	154	177	28	31	20,026
Multan	2,565	986	2,794	-	3,907	2,712	688	276	67	69	12	-	-	14,076
Gujranwala	1,992	1,973	2,238	-	2,596	1,686	439	255	13	-	42	6	-	11,240
Sialkot	1,005	961	1,358	-	1,362	806	229	123	52	3	-	-	-	5,899
<b>Sub-Total, Punjab</b>	<b>23,772</b>	<b>23,198</b>	<b>24,430</b>	<b>20</b>	<b>25,671</b>	<b>14,857</b>	<b>5,207</b>	<b>2,576</b>	<b>640</b>	<b>433</b>	<b>352</b>	<b>41</b>	<b>51</b>	<b>121,248</b>
Khyber Pakhtunkhwa (KP)														
Peshawar	2,365	2,580	798	-	2,938	1,769	816	287	199	105	60	8	-	11,925
Mardan	1,163	1,408	1,650	-	1,754	1,078	419	292	24	32	-	-	-	7,820
Abbottabad	810	1,168	1,053	-	1,199	535	262	141	129	32	4	-	-	5,333
<b>Sub-Total, KP</b>	<b>4,338</b>	<b>5,156</b>	<b>3,501</b>	<b>-</b>	<b>5,891</b>	<b>3,382</b>	<b>1,497</b>	<b>720</b>	<b>352</b>	<b>169</b>	<b>64</b>	<b>8</b>	<b>-</b>	<b>25,078</b>
<b>Total-SNGPL</b>	<b>28,110</b>	<b>28,354</b>	<b>27,931</b>	<b>20</b>	<b>31,562</b>	<b>18,239</b>	<b>6,704</b>	<b>3,296</b>	<b>992</b>	<b>602</b>	<b>416</b>	<b>49</b>	<b>51</b>	<b>146,326</b>

(Source: SNGPL)

**Table 3.18: SSGCL – Cumulative Length (Km) of Distribution Network as of June 30, 2022**

Region	Sindh									
	1"-2"	3"	4"	6"	8"	10"	12"	16"	Others	Total
Sindh (Interior)	9,559	15	3,836	1,935	562	33	67	17	7,536	<b>23,560</b>
Karachi	5,179	0	845	497	657	15	202	102	9,678	<b>17,175</b>
<b>Sub -Total Sindh</b>	<b>14,738</b>	<b>15</b>	<b>4,681</b>	<b>2,432</b>	<b>1,219</b>	<b>48</b>	<b>269</b>	<b>119</b>	<b>17,214</b>	<b>40,735</b>
	Balochistan									
	1"-2"	3"	4"	6"	8"	10"	12"	16"	Others	Total
Balochistan	3,489	0	1,282	428	525	6	58	121	2,455	<b>8,364</b>
<b>Total - SSGCL</b>	<b>18,227</b>	<b>15</b>	<b>5,963</b>	<b>2,860</b>	<b>1,744</b>	<b>54</b>	<b>327</b>	<b>240</b>	<b>19,669</b>	<b>49,099</b>

(Source: SSGCL)

**Table 3.19: SSGCL - Distribution Network (Km) - Polythene Pipe**

Region	Sindh					
	20mm	40mm	63mm	125mm	180mm	Total
Sindh (Interior)	649	887	980	294	30	<b>2,840</b>
Karachi	835	1,031	1,948	552	305	<b>4,671</b>
<b>Sub -Total, Sindh</b>	<b>1,484</b>	<b>1,918</b>	<b>2,928</b>	<b>846</b>	<b>335</b>	<b>7,511</b>
	Balochistan					
	20mm	40mm	63mm	125mm	180mm	Total
Balochistan	164	33	391	95	6	<b>689</b>
<b>Grand Total</b>	<b>1,648</b>	<b>1,951</b>	<b>3,319</b>	<b>941</b>	<b>341</b>	<b>8,200</b>

(Source: SSGCL)

### 3.3.7 Customer Addition to Gas Network

The total number of new gas consumers added during FY 2021-22 is given in **Table 3.20** and cumulative number of consumers (country-wide) as of June 30, 2022 in **Table 3.21**.

**Table 3.20: Number of Consumers added / (disconnected) during FY 2021-22**

Sector	SNGPL				SSGCL				Total (SNGPL+ SSGCL)
	Punjab	KP	AJK	Total-SNGPL	Sindh (Interior)	Karachi	Balochistan	Total SSGCL	
Domestic	149,996	37,134	-	<b>187,130</b>	22,833	29,864	5,039	<b>57,736</b>	<b>244,866</b>
Commercial	1,629	182	2	<b>1,813</b>	(149)	(47)	(11)	<b>(207)</b>	<b>1,606</b>
Industrial	70	7	-	<b>77</b>	(3)	209	8	<b>214</b>	<b>291</b>
<b>Total</b>	<b>151,695</b>	<b>37,323</b>	<b>2</b>	<b>189,020</b>	<b>22,681</b>	<b>30,026</b>	<b>5,036</b>	<b>57,743</b>	<b>246,763</b>

(Source: SNGPL & SSGCL)

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**Table 3.21: Number of Consumers (cumulative) as of June 30, 2022**

Sector	SNGPL			SSGCL				Total (SNGPL + SSGCL)
	Punjab & AJK	KP	Total - SNGPL	Sindh Interior	Karachi	Balochistan	Total - SSGCL	
Domestic	6,445,183	1,005,369	<b>7,450,552</b>	924,941	2,009,535	305,407	<b>3,239,883</b>	<b>10,690,435</b>
Commercial	53,224	9,923	<b>63,147</b>	3,710	16,399	2,825	<b>22,934</b>	<b>86,081</b>
Industrial	5,320	881	<b>6,201</b>	647	3,691	213	<b>4,551</b>	<b>10,752</b>
<b>Total</b>	<b>6,503,727</b>	<b>1,016,173</b>	<b>7,519,900</b>	<b>929,298</b>	<b>2,029,625</b>	<b>308,445</b>	<b>3,267,368</b>	<b>10,787,268</b>

(Source: SNGPL & SSGCL)

### 3.4 Natural Gas Consumption and Production

#### 3.4.1 Gas Consumption

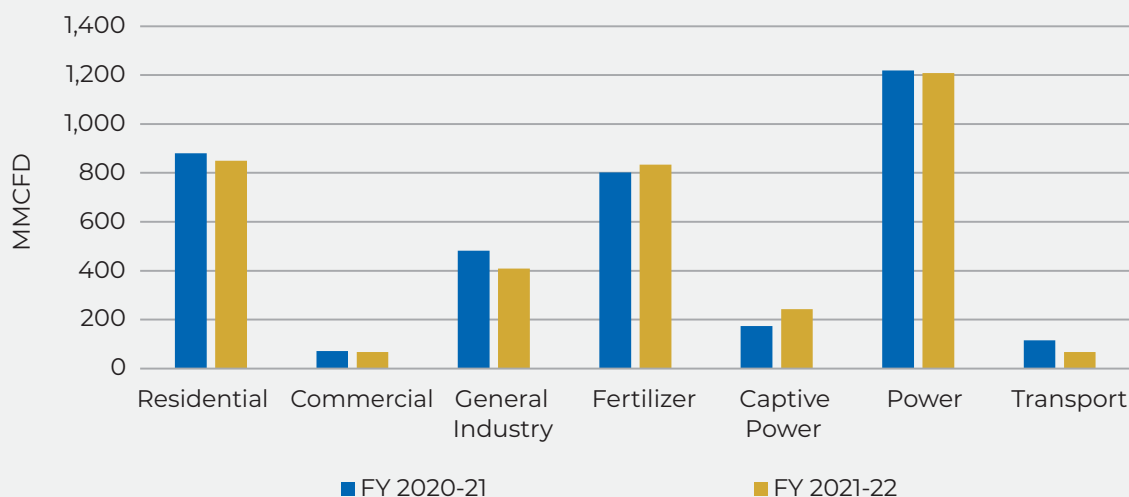
Natural gas consumers are categorized into three basic categories namely, residential, commercial and industrial sectors. The industrial sector includes the power, cement, general industry, fertilizer and transport sectors. The demand for gas increases considerably during the winter season, consequently, 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 3.22: Sector-wise Gas Consumption during FY 2021-22**

						(MMCFD)
Sector	SNGPL System	SSGCL System	Independent System	Total Country	Percentage Share (Net of own use & losses)	
Residential	589	261	-	850	20.87	
Commercial	45	23	-	68	1.67	
General Industry	245	161	-	406	9.97	
Fertilizer	160	54	620	834	20.48	
Cement	0	3	-	3	0.08	
Captive Power	51	192	-	243	5.97	
Power	584	133	491	1,208	29.67	
Transport	58	10	-	68	1.67	
<b>Sub Total</b>	<b>1,732</b>	<b>837</b>	<b>1,111</b>	<b>3,680</b>	<b>90.37</b>	
Own use	14		-	14	0.34	
Gas Carried for PPL, POL and Pak Arab	44			44	1.08	
JJVL + RLNG SWAP + Others + IC		43		43	1.06	
T&D Losses	106	186	-	292	7.17	
<b>Grand Total</b>	<b>1,895</b>	<b>1,066</b>	<b>1,111</b>	<b>4,072</b>	<b>100.00</b>	

(Source: SNGPL, SSGCL and Independent Systems.)

**Fig 3.1: Sectoral Consumption of Natural Gas**

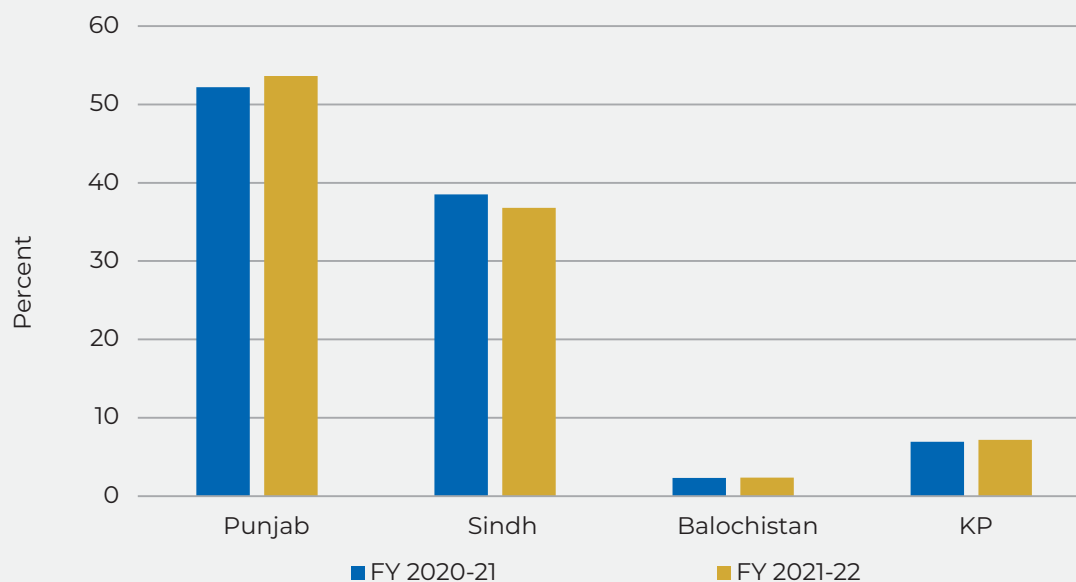


**Table 3.23: Province-wise Gas Consumption (SNGPL & SSGCL Systems only)**

Province	Consumption (MMCFD)		Percentage Share (%)	
	FY 2020-21	FY 2021-22	FY 2020-21	FY 2021-22
Punjab	1,426	1,378	52.19	53.63
Sindh	1,052	945	38.50	36.78
Balochistan	64	61	2.34	2.37
KP	190	185	6.95	7.20
<b>Total</b>	<b>2,732</b>	<b>2,569</b>	<b>100</b>	<b>100</b>

(Source: SNGPL & SSGCL)

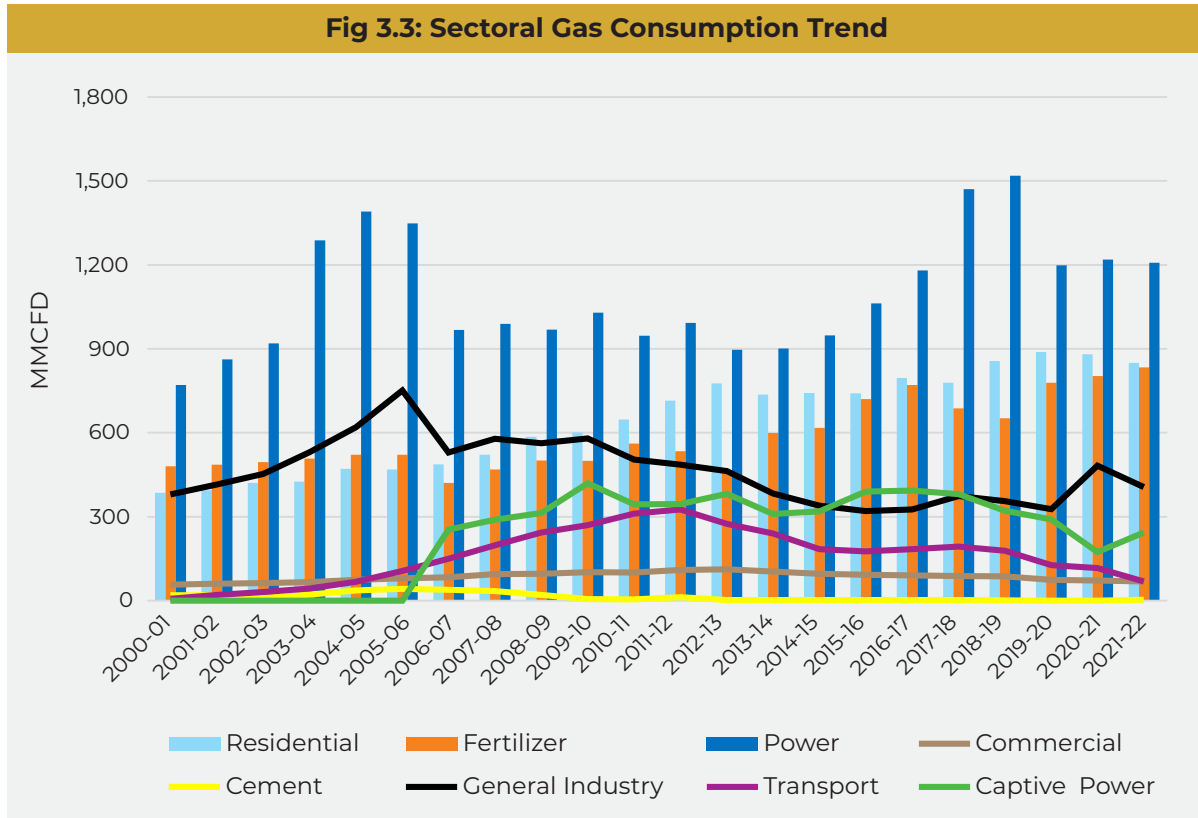
**Fig 3.2: Province-Wise Share in Gas Consumption**



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### 3.4.2 Sectoral Gas Consumption – Over the Years

Natural gas demand in the country has been increasing day by day. In 1999-2000, overall consumption of natural gas in the country was around 1,951 MMCFD whereas the same has increased to 3,680 MMCFD in FY 2021-22. Natural gas consumption consolidated sectoral growth and sector-wise growth from 1999-00 to 2021-22 is shown in **Fig 3.3**.



Source: For FY 2000-01 TO 2004-05 Pakistan Economic Survey. For FY 2005-06 onwards OGRA's Annual Report

### 3.4.3 Gas Supplies

The natural gas is produced from the gas fields located in all provinces of Pakistan. The natural gas supply in the Country has reached to 3,982 MMCFD during FY 2021-22. 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 RLNG has contributed significantly in mitigating the natural gas shortage in the Country. In the year 2021-22, around 24 percent of the country's gas supplies were met through the imported RLNG. In this regard, the data related to imported and province-wise natural gas supplies to the Gas Utility Companies, including RLNG share, is tabulated at **Table 3.24**. The field-wise natural gas and RLNG supplies to SNGPL, SSGCL and Independent systems are given in **Table 3.25**.

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**Table 3.24: Gas Supplies to SNGPL and SSGCL during 2021-22**

Province / RLNG	MMCFD
Punjab	72
Balochistan	298
Sindh	1,118
KP	378
RLNG	951
<b>Total</b>	<b>2,817</b>

**Table 3.25: Sources-Wise Gas Supplies of the Country**

### SNGPL

Gas Field	2020-21	2021-22
	(MMCFD)	(MMCFD)
<b>BALUCHISTAN</b>		
SUI	191	168
PIRKOH	0	0
LOTI	13	12
<b>Sub Total, Balochistan</b>	<b>204</b>	<b>180</b>
<b>KHYBER PAKHTUNKHWA</b>		
CHANDA	10	10
MAKORI	0	-
MAKORI EAST	70	68
MANZALAI	18	16
MELA	10	13
MAMIKHEL	12	10
MARAMZAI	121	107
NASHPA	80	79
MARDANKHEL	41	39
TOLANJ	3	2
TOLANJ WEST	6	5
MAKORI DEEP	6	5
DHOK HUSSAIN	9	7
TOGH	12	17
<b>Sub Total, KP</b>	<b>398</b>	<b>378</b>
<b>PUNJAB</b>		
ADHI	49	40
DAKHNI	11	10
DHODAK	1	1

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Gas Field	2020-21	2021-22
	(MMCFD)	(MMCFD)
DHULLIAN	1	1
MEYAL	0	1
PARIWALI	3	2
PINDORI	1	1
RATANA	1	1
RATANA MEYAL	-	-
SADKAL	0	0
SALSABEEL	3	4
SALSABEEL CHILTAN	0	-
SOGHRI	7	6
KALABAGH	3	2
JHANDIAL	2	2
<b>Sub Total, Punjab</b>	<b>82</b>	<b>71</b>
<b>SINDH</b>		
BADAR	15	7
CHACHAR	0	0
HASAN.B -22	3	3
KANDHKOT	7	8
QADIRPUR(PROC)	120	94
QADIRPUR(RAW)	28	29
QADIRPUR(PERM)	25	26
SAWAN	12	9
TAJJAL	0	-
ZAMZAMA	7	5
KOONJ	0	-
MARI ENGRO	98	90
MARI HRL	3	34
MARI GTH		3
LATIF	9	6
<b>Sub- Total, Sindh</b>	<b>327</b>	<b>314</b>
<b>Total SNGPL Province - Wise</b>	<b>1,011</b>	<b>943</b>
RLNG	969	951
<b>TOTAL - SNGPL (A)</b>	<b>1,980</b>	<b>1,894</b>



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### SSGCL

Gas Field	2020-21	2021-22
	(MM CFD)	(MM CFD)
<b>BALUCHISTAN</b>		
SUI	106	105.9
ZARGOON	23	11.2
<b>Sub-Total, Baluchistan</b>	<b>129</b>	<b>117.1</b>
<b>SINDH</b>		
KANDHKOT	2	1.5
MAZARANI	3	2.5
BADIN	29	21.2
BHIT	94	72.4
KADANWARI	16	19.2
MIANO	16	14.3
SAWAN	9	9.2
ZAMZAMA	8	5.5
KHIPRO/MIRPUR KHAS	259	232.9
KPD - TAY / DARS	167	134.7
HUNDI SARI / DARU	1	1.4
MARI	1	0.9
BOBI	4	3.5
HASSAN /SNGPL TOWNS (GHOTKI,RUSTAM, SHER ALI, UBARO, CHOUNIKO)	6	4.2
BADIN - IV SOUTH (AYESHA, AYESHA NORTH & AMINAH)	14	17.7
ADAM - X	18	16.5
PAKHRO(SOFIA/CHUTTO/JAKHRO/DACHRAPUR/NOORAI JAGIR/AQEEQ/BITRISM)	16	27.8
LATIF	9	19.8
SUJAWAL/SUJJAL	13	14.5
SINJHORO	22	23.1
NUR BAGLA FIELD	2	2
KIRTHEER (REHMAN) EWT+RIZQ	55	53.1
MAHER/MUBARAK BLOCK	9	12
GAMBAT	81	91.8
KOTRI	1	0.3
THAL/BITRO/MITHA	10	2.3
<b>Sub Total, SINDH</b>	<b>865</b>	<b>804.3</b>
<b>TOTAL SSGCL (B)</b>	<b>994</b>	<b>921.4</b>

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### Independent System

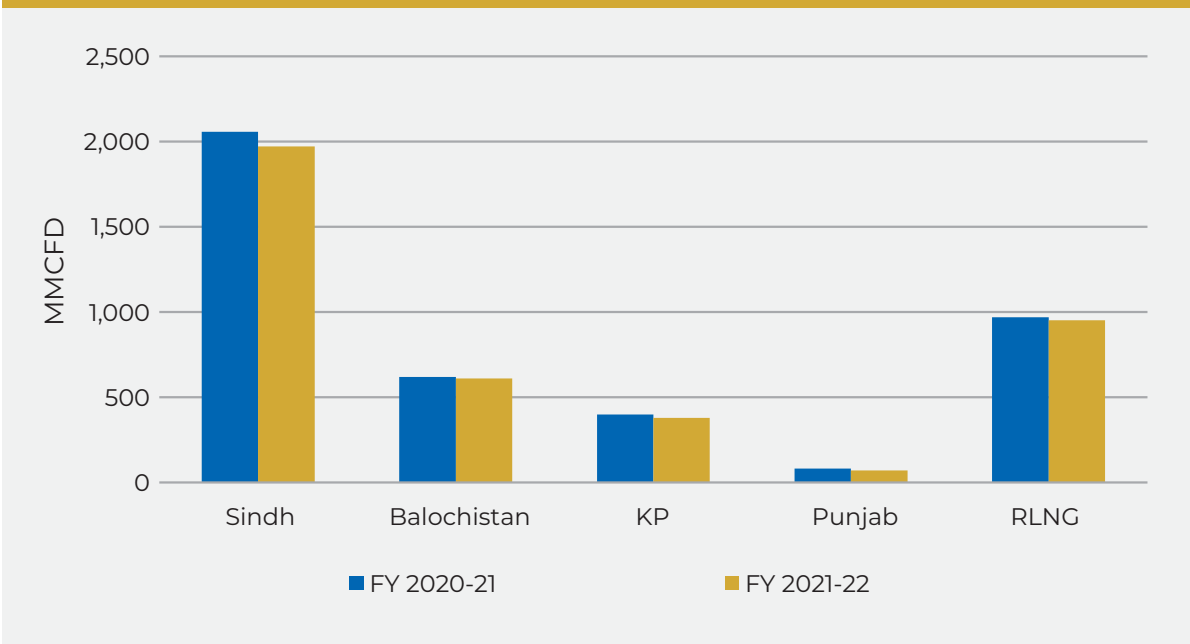
(MMCFD)

Producer / Field	2020-21	2021-22
Mari Petroleum Ltd. (Mari Gas Field, Sindh)	699.67	700.4
OGDCL (Uch Gas Field, Balochistan)	286.48	313.3
OGDCL Qadirpur (LPL)	27.7	28.8
OGDCL Qadirpur (EPQL)	24.5	26.1
OGDCL (Guddu Block, Sindh)	10.23	9
PPL (Kandhkot, Sindh)	103.57	88.52
<b>Total (Independent System) (C)</b>	<b>1,152.15</b>	<b>1,166.12</b>
<b>Total Country Wide Supplies (A+B+C)</b>	<b>4,126.15</b>	<b>3,981.52</b>

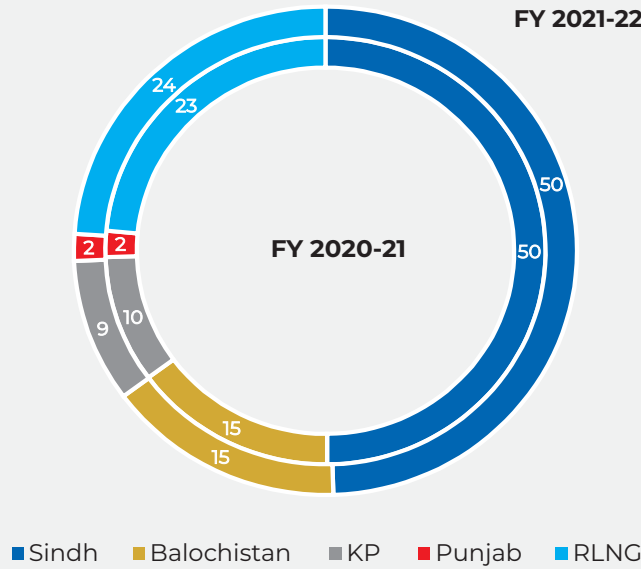
(Source: SNGPL, SSGCL, Mari Petroleum Company Ltd, OGDCL, PPL)

Province wise gas production / supplies and imported RLNG is shown in **Fig 3.4** and their respective share is shown in **Fig 3.5**. Sindh stood as the major supplier with a contribution in gas supply of around 50 percent while KP, Balochistan and Punjab followed with shares of 15 percent, 9 percent and 2 percent respectively. During the year, the share of KP in gas supplies has declined from 10 percent to 9 percent. While the share of RLNG, in the overall gas supply has increased by 1 percent during the same period from 23 to 24 percent.

**Fig 3.4: Pakistan Gas Supply Sources**



**Fig 3.5: Share in Gas Supplies**

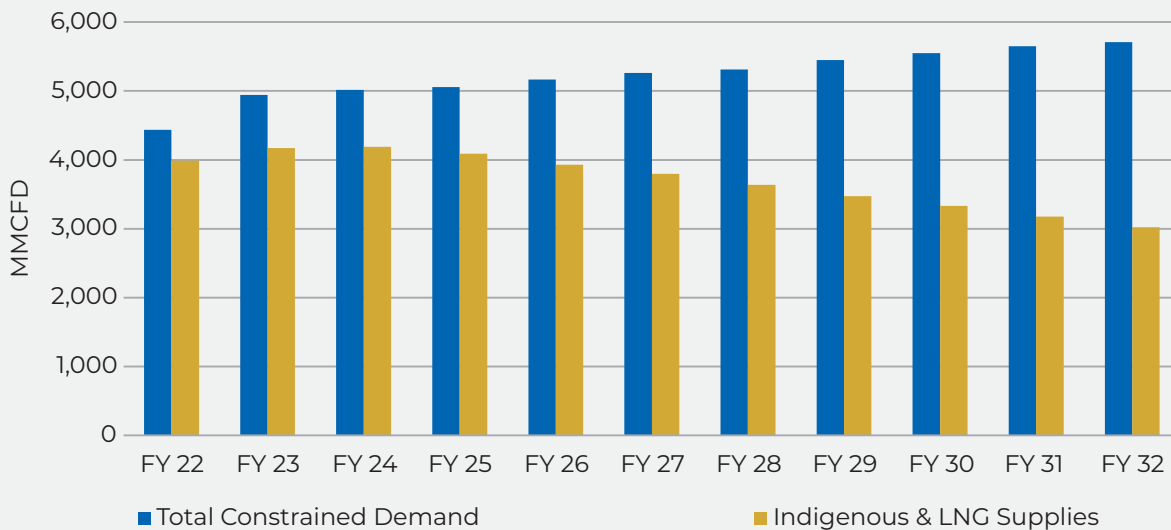


### 3.5 Future Outlook for the Natural Gas Sector

#### 3.5.1 Demand Forecast

Gas Utility Companies have added 246,763 domestic, commercial and industrial consumers, in their respective systems, during FY 2021-22. Consumer addition is increasing the gap between demand and supplies, day by day. Especially in winter, the gas demand further increases and as a result the GoP is being forced to curtail supplies to various sectors. Demand - Supply scenario of natural gas (indigenous sources) for the next ten (10) Years is given the **Appendix-III**. The demand and supply (indigenous and imported LNG) is shown in **Fig 3.6**.

**Fig 3.6: Natural Gas Demand - Supply Forecast**



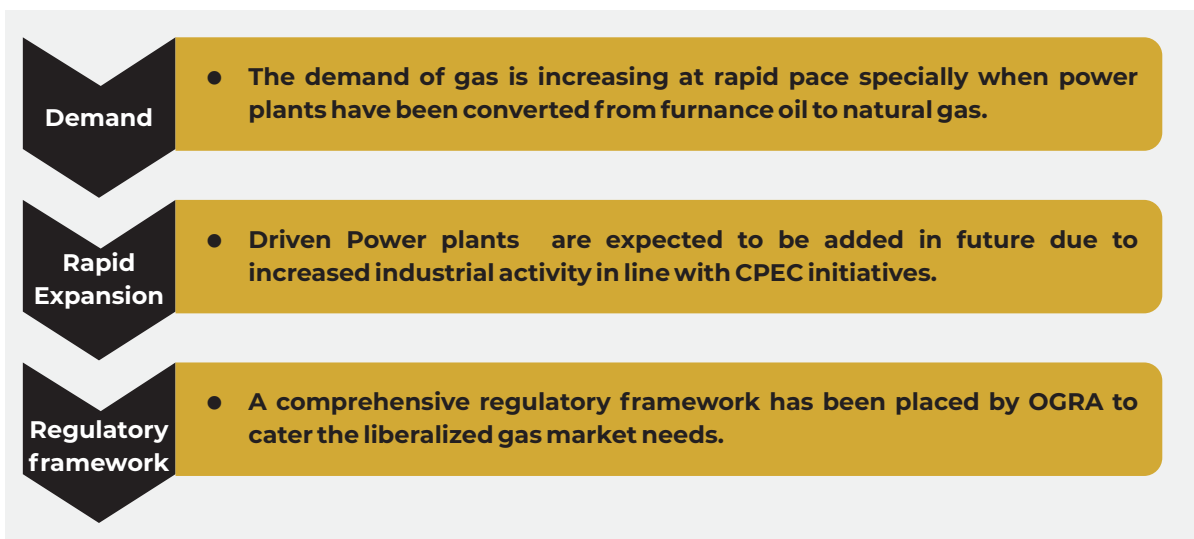
## State of the Regulated Petroleum Industry

### 3.6 Achievements in Gas Sector

Oil and gas sector encompasses major industries in Pakistan and has direct impact on the economic and commercial decision making for all the other important sections of the economy.

Energy demand is driven by Pakistan's economic growth, therefore, the need for all energy sources particularly oil and gas are projected to grow sharply, thereby making the sector quite conducive for investment.

The Government has adopted several policies to fulfil the increasing demand. It has allowed Foreign Direct Investment (FDI) in many segments of the sector, including natural gas. Today, it attracts both domestic and foreign investment as manifested by the presence/ license of Shell Energy Pakistan Pvt Limited and Tabeer Energy Pakistan Limited, a subsidiary of Mitsubishi Company. In order to achieve gas liberalized market target following regulatory frame work has been introduced by OGRA.



Pakistan had oligopolistic gas market and the monopolistic approach had been neutralized by regulatory measures. However, competition is inevitable in the global economic system. In this regard, OGRA has drafted Gas Third Party Access Rules under section 41 (3) of OGRA Ordinance, 2002 and after detailed scrutiny and seeking input from the stakeholders, the Government of Pakistan notified these Rules in 2018, thus opening legal route for new entrants on the path of open gas market. OGRA also issued Gas Network Code which forms a uniform contractual framework for TPA Arrangements between the Transporters and Shippers and addresses various issues i.e. operational, commercial, measurement and safety etc, involved in third party access regime.

With the dwindling limited Natural Gas Resources, the country is experiencing widening demand supply gap, therefore on one hand local Oil and Gas Exploration is being encouraged and incentivized by the Government to increase the indigenous gas supplies. On the other hand, not only efforts are being made to import piped gas from the neighbouring countries i.e., Turkmenistan Afghanistan Pakistan and India (TAPI) and Iran Pakistan India (IPI) gas pipelines, the project of TAPI is in advance stage, arrangements have also been made to import LNG from Qatar etc.

### 3.6.1 New Licences

OGRA while fully cognizant of the situation, granted two (02) licenses to private LNG terminal operators i.e M/s Engro Terminal & M/s Pakistan Gasport for LNG Terminal operations to supply up to 1,200 MMCFD volume of RLNG under the Third-Party Access Regime. The LNG import capacity will reach to around 2.4 BCFD and for its transportation, GoP has planned to lay 1,100 Km, 56 diameter, Pakistan Stream Gas Pipeline (PSGP) and in this regard, Inter Government Agreement with Russia has been signed.

In line with Federal Government's efforts to open up gas sector to ensure sustainable gas supplies under TPA Regime, OGRA granted licenses to M/s Energas Terminal (Private) Limited (ETPL) and M/s Tabeer Energy (Private) Limited (TEPL) under the relevant Rules, Policy Guidelines of the Federal Government. OGRA also granted four (04) Transmission and Sales Licenses to the subsidiaries of the said LNG Terminal Developers to cover the complete supply chain of RLNG, the Cabinet Committee on Energy (CCOE), took a decision on February 08, 2021 in respect of the above two new Project Proponents to allocate pipeline capacities around 250-300 MMCFD each to enable them to reach Final Investment Decision (FID) for the period prior to commission of proposed Pakistan Gas Stream Pipeline from Pakland to Distt. Kasur, Punjab. Realizing the national importance of the projects, OGRA took the initiative and held two facilitation sessions on April 26 and May 5, 2021 with the stakeholders to get first-hand information and get to the bottom of the impediments being faced in this regard. To facilitate the LNG Terminal developers to achieve their FID, OGRA after due deliberations, directed the concerned gas utilities companies (GUCs) to allocate 250-300 MMCFD to each LNG Terminal developer after commissioning of their respective LNG Terminals.

### 3.6.2 Exclusive Rights of the Sui Companies to Operate in Their Franchise Areas

Since the exclusivity of gas companies to operate and develop gas development schemes in their franchised areas has ended in 2010. The Authority vide its decision on RERR 2020-21 took the holistic approach and referred the matter to Federal Government to formulate policy for award of new gas distribution network projects in new towns and villages through some competitive mechanism which shall facilitate the new entrants and promote competitive market, bring efficiency and accelerate economic activity with the help of private participation in gas sector.

### 3.6.3 Pakistan Gas Network Code

In order to facilitate the interested parties, OGRA formulated Pakistan Gas Network Code (PGNC) whereby the operational modalities are dealt. PGNC on one hand provides a uniform contractual framework for the third-party access arrangements in the country for use of gas pipeline transportation systems while on the other it accommodates project specific arrangements as well to effectively and efficiently facilitate the transporter as well as shipper to introduce and agree upon such specific provisions that could enable execution of varying business models.

Universal Gas Distribution Company (UGDCL) requested the Authority for 16 Nos modifications in Pakistan Gas Network Code (PGNC). Accordingly, in pursuance of relevant provisions of OGRA Gas (Third Party) Access Rules, 2018 and relevant provisions of PGNC, the UGDCL's initial proposals were placed on OGRA's website as well as shared with Code Modification Panel (CMP) (required under Article 21 of PGNC, which comprises of SNGPL, SSGCL, PLL & UGDCL). In this respect, OGRA conducted two meetings with the modification panel to understand view point of each member. However, the CMP was unable to reach a consensus and submit the requisite report within the stipulated time. OGRA observes that Federal Government is pursuing to liberalize the gas market by providing opportunity to new market entrants and provide enabling regulatory environment for sustainable gas supplies. Based on level playing field, OGRA has approved some amendments in the PGNC for an

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interim period of initial six months, following which the relevant transporter shall submit a report on frequency of overruns of allocated capacities, daily discipline, invoicing and payment of such charges for analysis.

SNGPL, Tabeer Energy and Energas has also proposed some modifications in PGNC, which are being processed in accordance with the procedure prescribed in OGRA TPA Rules, 2018 and PGNC.

### 3.6.4 Road Ahead

Gas demand is anticipated to grow faster on the back of continuous robust economic growth. Currently the demand is set as constrained demand due to limited indigenous availability and infrastructure constrains for import of LNG and political situations for IPI and TAPI completion. There is enormous scope for investment in gas infrastructure and marketing of gas in Pakistan.

## 3.7 Natural Gas Pricing

OGRA is mandated to determine the revenue requirements of the gas companies (licensees) viz; SNGPL & SSGCL pursuant to Section 8(1) and 8(2) of the OGRA Ordinance, 2002 to enable licensees to meet: (1) cost of gas, (2) operating costs and (3) return on assets. Currently, SNGPL and SSGCL are supplying gas to consumers in their operational areas, however, the exclusivity of right of both sui companies to operate in their respective franchise area had already ended on June 30, 2010.

OGRA determines the 'prescribed price' of the gas utilities after carrying out an in-depth & thorough analysis of the petitions submitted by both Sui companies. Public hearings are also being held in all four provinces so as to consider the viewpoint of all stakeholders including general consumers.

The prescribed price includes the following elements:

- Well-head gas prices, a major cost component & pass through item, is linked with the international prices of crude oil and HSFO as per contracts signed between the gas producers and Federal Government.
- Transmission and Distribution costs including depreciation expense.
- Market based rate of return on regulated net assets base. Currently, 16.60% return is allowed to both sui companies in the light of new tariff regime for natural gas sector of Pakistan implemented FY 2018-19 onwards. Rate of return on regulated asset subject to the change and review in the light of parameters as defined therein.

OGRA, determines the average prescribed price i.e. average cost of service against each licensee in the light of its annual operations and the revenues generated thereof and refers the same to the Federal Government for advice of consumer sale prices against each category of consumers. The Federal Government, under Section 8(3) of the OGRA Ordinance, 2002, within forty days of OGRA's determination is required to advise the sale prices for each category of consumers while considering its socio-economic agenda and sectoral policies and the same are notified by OGRA in the official gazette. As a matter of policy, Federal Government maintains uniform natural gas tariff within the same categories of consumers throughout the country, regardless of the difference in cost due to location or otherwise. OGRA, through its effective regulation, has been able to keep the natural gas prices at an affordable level for all sectors of economy. Gas tariffs for various categories of consumers including minimum charges as advised by Federal Government and applicable since September 01, 2020 are given in **Appendix-IV**.

### 3.8 Liquefied Natural Gas (LNG)

#### 3.8.1 What is LNG

Liquefied Natural Gas or LNG is Natural Gas that has been converted to liquid form by cooling it to -260° F or -159 °C, at that point it becomes a liquid. This process reduces its volume by a factor of more than 600 times. LNG is an extremely cold, non-toxic, non-corrosive substance that is transferred and stored at atmospheric pressure. It is refrigerated, rather than pressurized, which enables LNG to be an effective economical method of transporting large volumes of natural gas over long distances.

LNG poses little danger as long as it is contained within storage tanks, piping, and equipment designed for use at LNG cryogenic conditions. However, vapors resulting from LNG as a result of an uncontrolled release can be hazardous, within the constraints of the key properties of LNG.

#### 3.8.2 Need for LNG

Natural Gas has been a major energy source for the economic growth of Pakistan which constitutes around 44% of country's primary energy mix with present unconstrained demand of around 6 BCFD against supply of approximately 4 BCFD. Natural Gas is a comparatively clean source of energy; hence it contributes to controlling environmental degradation.

There is a significant rise in demand for gas by residential/domestic consumers owing the positive growth of sectors, such as power, commercial and fertilizers which has resulted in natural gas availability constraint, further due to higher per unit production cost of power plants using Furnace Oil, Government has switched power plants mainly on Gas. Due to declining indigenous natural gas reserves and anticipating the energy requirements in the country, LNG is considered to be one of the preferred alternatives to bridge the supply-demand gap.

#### 3.8.3 LNG Sector Overview

Government of Pakistan (GoP) introduced LNG Policy in year 2006 for potential investors to facilitate the successful implementation of LNG import projects which was later modified to attract more investment which is still in field in the form of LNG Policy 2011. In pursuance of the LNG Policy 2011, OGRA developed LNG Rules, 2007 which define the procedure for application for a licence for establishing LNG business in the country.

For LNG licensing, OGRA performs its functions under the OGRA Ordinance 2002, keeping in view LNG policy 2011 and OGRA (LNG) Rules 2007. Further, modification, extension, revocation, renewal of the licenses, inspections/audit of LNG Terminals is also dealt under the said Rules.

The GoP has initiated various measures to bridge the gap between demand and supply which include the incentivizing of local gas production and import of natural gas in the form of LNG. In 2014, Engro Elengy Terminal Limited (EETL) was selected by GoP as the technically and financially qualified bidder for construction of LNG regasification terminal at Port Qasim Karachi which was made operational in 2015. The second terminal Pakistan Gasport Consortium Limited (PGPCL) was made operational in 2017. OGRA issued the required licenses after fulfillment of the formalities as per rules and both of these LNG re-gasification terminals are presently operational.

#### 3.8.4 Operational LNG Terminals

Construction and operation of two LNG Receiving Terminals i.e. EETL and PGPCL (having peak re-gasification capacity of around 690 and 750 MMCFD respectively) at Karachi Port are major milestones

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achieved to mitigate gas shortage in the Country.

These terminals have been developed by the private sector and regasification capacity of 1.2 BCFD has been hired by GoP through SSGCL and PLL. SNGPL and SSGC transport RLNG to the consumers as per allocation by the GoP, whereas LNG is procured by PSO and PLL. The details of these terminals are given below.

Sr. No.	Project Developer	Project Details
1.	Engro Elengy Terminal Limited (EETL)	Unbundled Project Structure Maximum regasification Capacity: 690 MMCFD Operation License granted on March 18, 2016
2.	PGP Consortium Limited (PGPCL)	Unbundled Project Structure Maximum regasification Capacity: 750 MMCFD Operation License granted on April 03, 2018

Month-wise LNG data with respect to net LNG received in terms of Metric Tons and MMBTU for FY 2021-22 at PGPCL Terminal is given in **Table 3.26**.

**Table 3.26: LNG Received and Processed at PGPCL during FY 2021-22**

Month	Unit	
	Net (MT)	Net (MMBTU)
Jul - 21	365,719	19,082,240
Aug - 21	371,207	19,370,150
Sep - 21	371,565	19,382,080
Oct - 21	351,647	18,376,920
Nov - 21	187,608	9,762,469
Dec - 21	166,693	8,668,271
Jan - 22	126,562	6,550,953
Feb - 22	188,596	9,775,297
Mar - 22	122,496	6,338,611
Apr - 22	123,759	6,428,855
May - 22	368,289	19,176,722
Jun - 22	373,671	19,415,808
<b>Total</b>	<b>3,117,813</b>	<b>162,328,376</b>

(Source: PGPCL)



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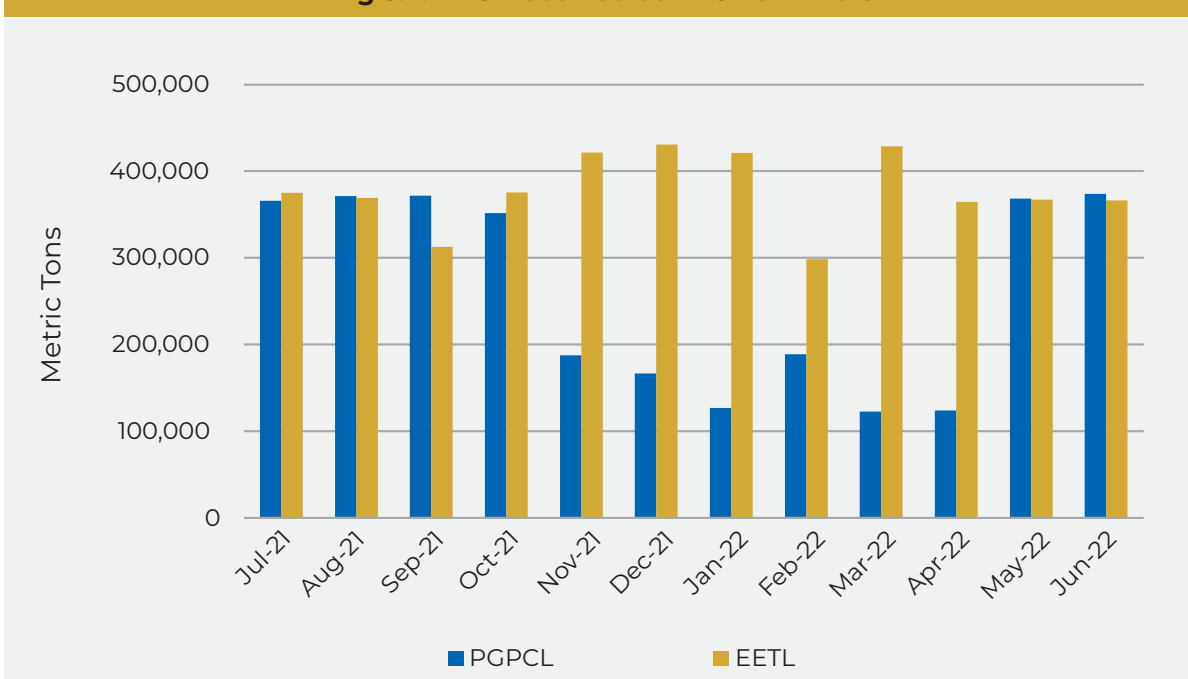
Month-wise LNG data with respect to net LNG received in terms of Metric Tons and MMBTU for FY 2021-22 at EETL Terminal is given in **Table 3.27**.

**Table 3.27: LNG Received and Processed at EETL during FY 2021-22**

Month	Unit	
	Net (MT)	Net (MMBTU)
Jul-21	375,145	19,529,249
Aug-21	368,983	19,212,157
Sep-21	312,726	16,285,130
Oct-21	375,415	19,535,981
Nov-21	421,317	21,912,526
Dec-21	430,545	22,397,041
Jan-22	421,039	21,898,597
Feb-22	298,523	15,530,316
Mar-22	428,502	22,282,741
Apr-22	364,472	18,960,289
May-22	367,123	19,089,451
Jun-22	366,444	19,066,276
<b>Total</b>	<b>4,530,234</b>	<b>235,699,754</b>

(Source: EETL)

**Fig 3.7: LNG Received at LNG Terminals**



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### 3.8.5 Upcoming LNG Terminals

OGRA has granted construction licences in April 2021 to two private sector companies i.e. Energas Terminal Private Limited (ETPL) and Tabeer Energy Private Limited (TEPL) for development of LNG import and re-gasification Terminals at Port Qasim, Karachi as an integrated projects, wherein the project developer shall construct the LNG receiving terminal, arrange LNG supplies and find its own buyers. The details of licences granted are given in below.

Sr. No	Project Developer	Project Details	Licensing Status
1.	<b>Tabeer Energy Private Limited (TEPL)</b>	Integrated Project Structure Construction Licence granted on April 28, 2021 Anticipated regasification Capacity: 750-1000 MMCFD	Licence granted for two years to complete Terminal Construction.
2.	<b>Energas Terminal Private Limited (ETPL)</b>	Integrated Project Structure Construction Licence granted on April 28, 2021 Anticipated regasification Capacity: 750-1000 MMCFD	Licence granted for two years to complete Terminal Construction.

These terminals after commencing full operations have the potential to add 1.5 to 2 BCFD of regasification capacity which shall contribute towards reducing the current gas demand-supply gap. The project developers are yet to take Final Investment Decision (FID) due to the reasons as highlighted by the companies such as inadequate pipeline capacity allocation, ambiguous status of North South Gas Pipeline (NSGP) and the present international LNG availability scenario.

### 3.8.6 LNG Virtual Pipeline Projects

LNG virtual pipelines are substitute for physical pipeline whereby gas that would typically be transported through a conventional gas pipeline is instead transported as LNG to the point of use by sea, road, rail or via a combination of one or more of these transport modes.

OGRA has granted provisional licence to five companies for a period of twelve (12) months to complete the requisite formalities under the prevalent rules, to undertake the LNG regulated activities. Moreover, two (02) new applicants for the virtual pipeline projects have submitted applications to OGRA, however the project developers are yet to complete the requisite formalities under the rules. Once operational, these projects shall contribute in addressing the gas demand through virtual gas pipelines across the country. The details of licences granted are given below.

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Sr. No.	Project Developer	Project Details	Licence Status
1.	Daewoo Gas Private Limited	Provisional Licence granted on 13 <sup>th</sup> Jan, 2021	Licence granted for 12 months to apply for construction / operation Licence and extended for further one year.
2.	LNG Easy Private Limited	Provisional Licence granted on 08 <sup>th</sup> Jan, 2021	Licence granted for 12 months to apply for construction / operation Licence and extended for further one year.
3.	LNGFlex Limited	Provisional Licence granted on 18 <sup>th</sup> March, 2022	Licence granted for 12 months to apply for construction / operation Licence.
4.	Cygnus Energy Private Limited	Provisional Licence granted on 28 <sup>th</sup> March 2022	Licence granted for 12 months to apply for construction / operation Licence.
5.	Gwadar GasPort Private Limited	Provisional Licence granted on 16 <sup>th</sup> May 2022	Licence granted for 12 months to apply for construction / operation Licence.

### 3.8.7 Engro's Onshore LNG Storage and Regasification Facility

OGRA has received an application from Elengy Terminal Pakistan Limited (a subsidiary of Engro corporation) for the grant of provisional licence for the development of open access onshore LNG storage and regasification facility at Port Qasim Karachi. The applicant is yet to complete requisite formalities under the law, OGRA shall proceed for the grant of licence once the same have been addressed.

For energy security, peak shaving and operational flexibility, the planning for a Land based LNG storage facility, FSU's or underground gas storages in depleted field or salt caverns is of utmost importance. The construction of anyone of the options may take considerable time.

### 3.8.8 Third-Party Access to LNG Terminals

LNG market is now diversifying in Pakistan and the concept of multiple users on LNG terminals is being introduced through LNG Terminal and Storage Access Rules and Code which have been drafted by OGRA. The said rules shall play a pivotal role in liberalization of LNG/ RLNG market and promote uniform principles of transparency, fair and non-discriminatory practices in all transactions concerning use of LNG terminals and ensuring safe and reliable supply of gas, thus contributing in the country's economic growth.

The said rules are pending notification due to some legal observations pointed out by Law and Justice Division which are under discussion at the relevant forum. Once finalized, the rules are to be notified by the Cabinet Division as per procedure.





**LPG & CNG**



### 4. Liquefied Petroleum Gas and Compressed Natural Gas

#### 4.1 Overview of LPG Sector

Pakistan meets around 49 percent of LPG demand through local production whereas the rest is imported. Refineries, Gas Producing Fields and Imports are three main sources of LPG supply in the Country. LPG is gradually becoming popular domestic fuel among people who live in far-flung areas and where the natural gas infrastructure does not exist. In current energy scenario, LPG is the most viable alternative in the winters to cater for the demand supply gap of natural gas network. LPG is rapidly becoming significant component of energy mix since the same provides a cleaner alternative in comparison to biomass and dung especially in those locations where natural gas network is not available.

Currently, LPG accounts for about 1.3 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 1,291,873 MT/Annum. It is primarily meant to supply for the domestic fuel requirement especially in natural gas starved areas and in peak shaving times in the urban territories. The use of LPG as domestic fuel shall deter deforestation in hilly areas and shall provide a comparatively healthier and hygienically safe alternative to the common citizens. GoP has taken a policy decision to allow use of LPG in the automotive sector to share the burden with conventional auto fuels. Subsequently, OGRA has laid down an elaborated regulatory framework for supply of LPG to the vehicles.



View of LPG Plant

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### 4.2 LPG Consumption

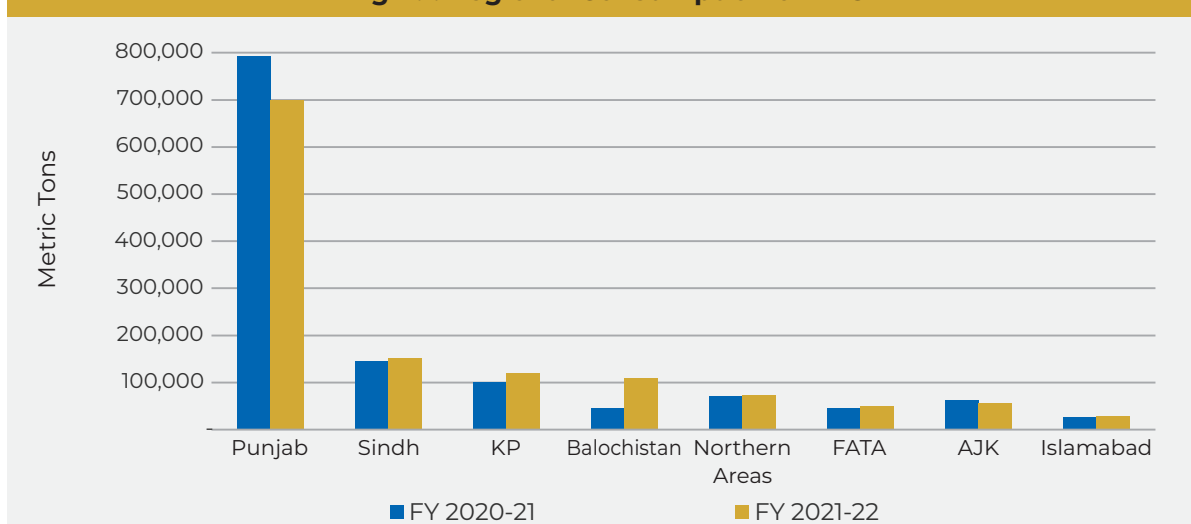
LPG Consumption during FY 2021-22 was around 3,539 tons per day. **Table 4.1** gives a Regional/Sectoral consumption summary of LPG for FY 2021-22 in the country. LPG consumption has declined by less than a percent compared to last fiscal year.

**Table 4.1: LPG Regional/Sectoral Consumption, FY 2021-22**

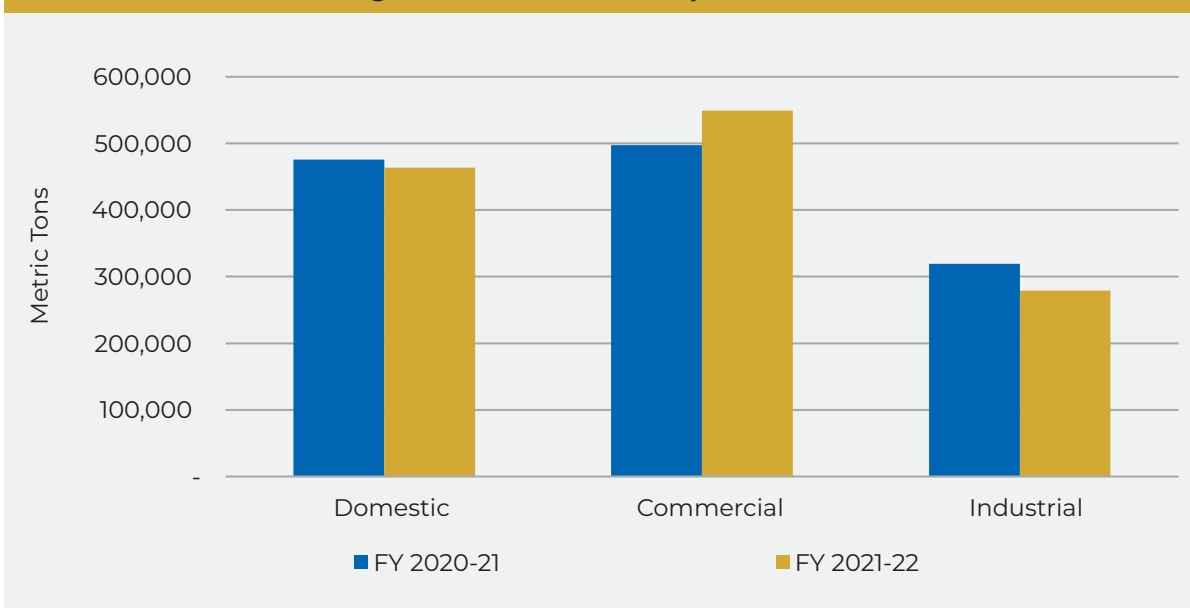
Sectors / Regions	Major Consumption Sectors			Total Consumption
	Domestic	Commercial	Industrial	
Islamabad Federal Capital Area	7,587	11,695	10,039	<b>29,321</b>
Punjab	213,734	349,176	136,821	<b>699,731</b>
Sindh	21,823	55,343	75,702	<b>152,868</b>
KP	70,203	43,105	7,047	<b>120,355</b>
Balochistan	29,304	33,567	46,495	<b>109,366</b>
Northern Area	52,679	19,489	197	<b>72,365</b>
FATA	32,205	18,603	48	<b>50,856</b>
AJK	36,074	18,303	2,634	<b>57,011</b>
<b>Total (M.T)</b>	<b>463,609</b>	<b>549,281</b>	<b>278,983</b>	<b>1,291,873</b>
Daily Tones	1,270	1,505	764	<b>3,539</b>

(Source: LPG Marketing Companies Reports)

**Fig 4.1: Regional Consumption of LPG**





**Fig 4.2: Sectoral Consumption of LPG**


### 4.3 LPG Supplies

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 countrywide supply is shown in **Fig 4.3**. During FY 2021-22, LPG supplies increased by 29 percent from 1,242,723 M Tons in FY 2020-21 to 1,604,939 M Tons, mostly on account of increased imports which increased by 71 percent during the year.

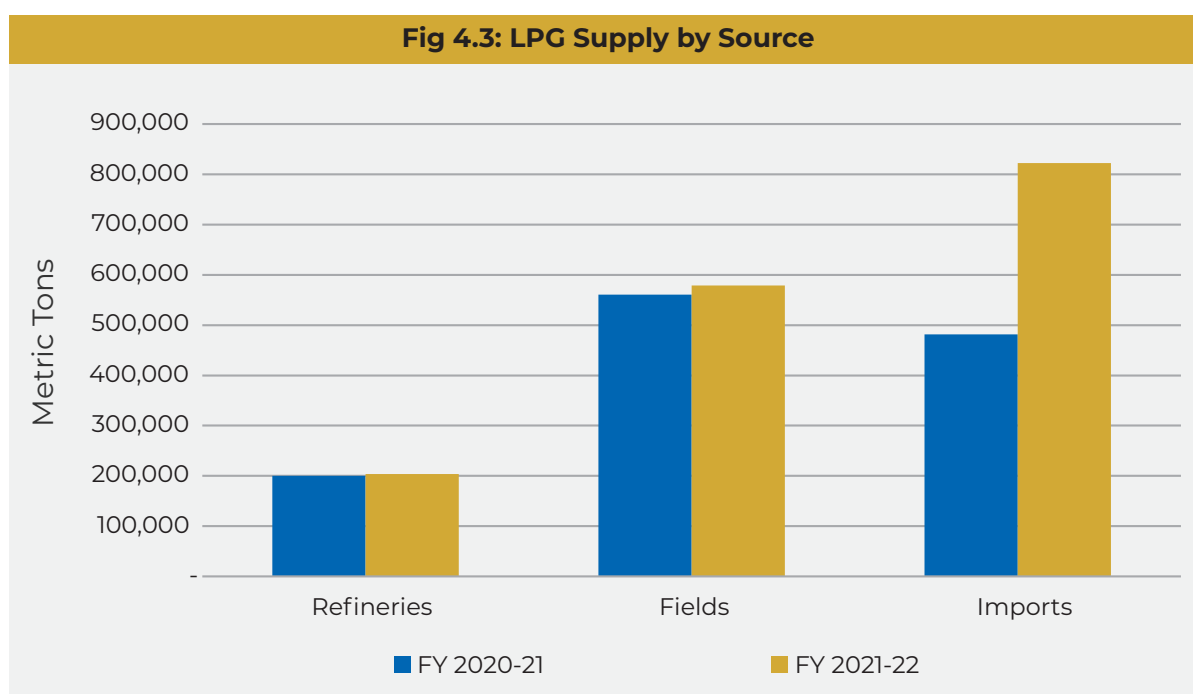
**Table 4.2: LPG Supply during FY 2021-2**

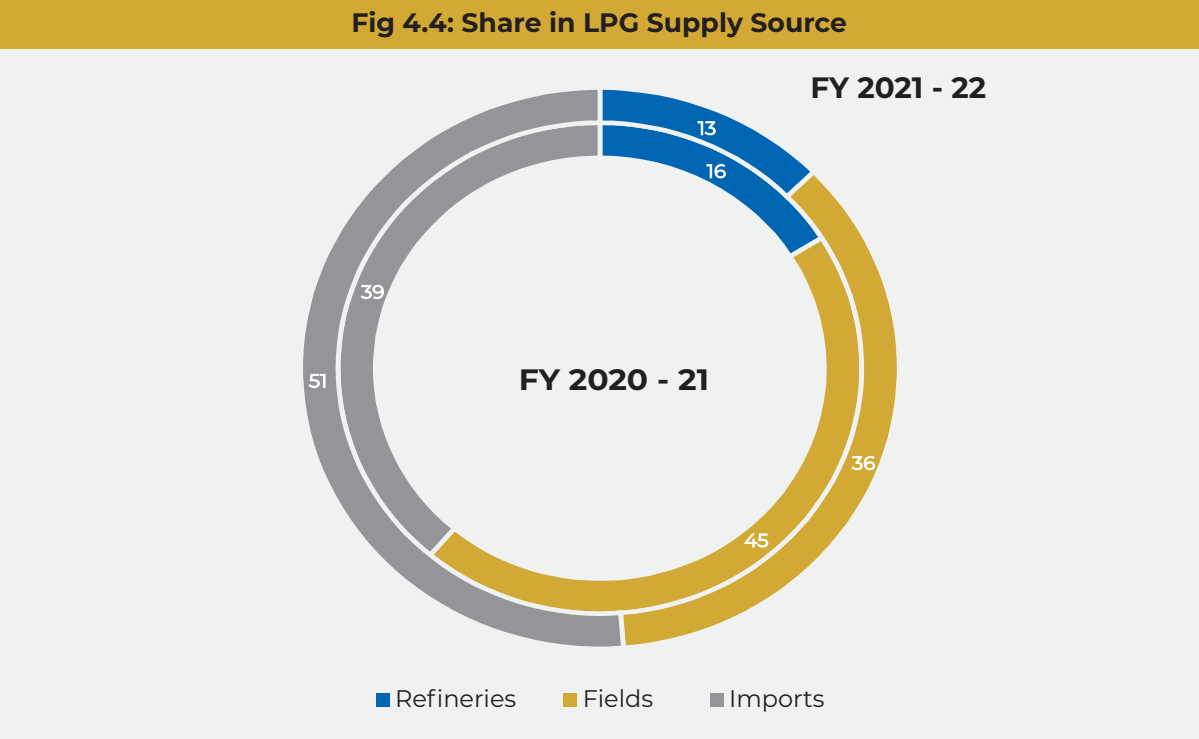
Sectors	Annual (Tons)	Daily (Tons)
<b>Refineries</b>		
Attock Refinery Limited	1,692	4.64
Pakistan Refinery Limited	15,648	42.87
National Refinery Limited	2,106	5.77
Pak Arab Refinery Company	172,437	472.43
Byco Petroleum Pakistan Limited	11,525	31.57
<b>Refineries Sub - Total</b>	<b>203,408</b>	<b>557.28</b>
<b>Fields</b>		
OGDCL	292,085	800.23
UEPL (Naimat Basal)	20,482	56.12
POL (Maya-I-Pindhori)	14,579	39.94
PPL	81,430	223.1

## State of the Regulated Petroleum Industry

Sectors	Annual (Tons)	Daily (Tons)
MOL Pakistan	170,390	466.82
<b>Fields Sub-Total</b>	578,966	1,586.21
<b>Total Production (Refineries + Fields)</b>	<b>782,374</b>	<b>2,143.49</b>
<b>Imports</b>		
LPG Import	822,565	2,253.60
<b>Total LPG Supply (Production + Import)</b>	<b>1,604,939</b>	<b>4,397.09</b>

(Source: LPG monthly production reports of producers)

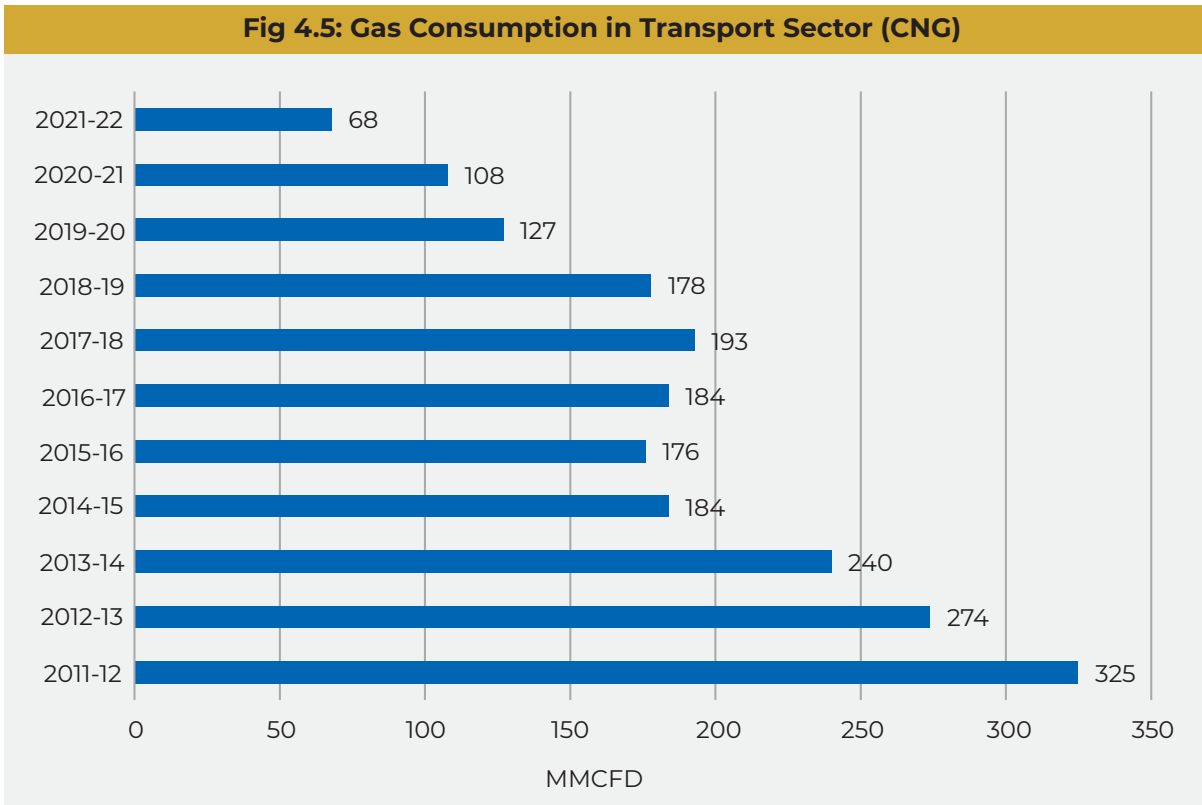




4.4 Compressed Natural Gas (CNG)

in 1992 the Government of Pakistan introduced CNG as an alternate fuel for automobiles to reduce environmental degradation and save foreign exchange. The CNG (Production & Marketing) Rules, 1992 were framed to regulate construction as well as operational phases of CNG refuelling stations. GoP imposed ban on issuance of new CNG Provisional licenses across the country in 2008. Government of Pakistan, vide ECC decision dated October 23, 2020 allowed grant of new CNG licence on RLNG basis.

Gas consumption in CNG sector during last few years is shown in Fig 4.5.





# Appendices



### OMCs' Infrastructure in Pakistan

(Metric Tons)

Sr. No.	Company	Sindh		Punjab		KP		Balochistan		GB		Total	
		MS	HSD	MS	HSD	MS	HSD	MS	HSD	MS	HSD	MS	HSD
1	PSO	214,119	183,491	64,845	149,350	3,376	19,397	1,391	2,770	3,156	2,764	286,887	357,772
2	SPL	46,396	26,220	26,600	40,972	1,914	2,913	464	1,755	-	-	75,374	71,860
3	APL	47,748	13,725	31,187	81,371	-	-	-	-	-	-	78,935	95,096
4	TPPL	22,748	20,409	26,884	14,973	206	425	-	-	-	-	49,838	35,807
5	PUMA	282	1,188	2,450	6,070	-	-	-	-	-	-	2,732	7,258
6	GO	11,600	2,360	57,312	72,398	9,650	2,360	2,724	9,702	-	-	81,286	86,820
7	HASCOL	4,250	18,000	26,500	27,000	-	-	-	-	-	-	30,750	45,000
8	BPPL	10,000	-	1,446	3,654	-	-	-	-	-	-	11,446	3,654
9	BEE	27,125	77,000	19,962	24,300	-	-	-	-	-	-	47,087	101,300
10	OTO	-	-	600	800	-	-	-	-	-	-	600	800
11	AOSPL	-	-	1,572	4,535	-	-	-	-	-	-	1,572	4,535
12	ZOOM	-	-	800	500	-	-	-	-	-	-	800	500
13	ZMOPL	-	-	17,693	11,703	-	-	-	-	-	-	17,693	11,703
14	ANPPL	6,200	7,790	6,311	8,950	-	-	-	-	-	-	12,511	16,740
15	Kepler	450	1,205	-	-	-	-	-	-	-	-	450	1,205
16	Fuelers	-	-	1,000	5,000	-	-	-	-	-	-	1,000	5,000
17	Quality 1	-	-	1,500	1,500	-	-	-	-	-	-	1,500	1,500
18	OILCO	-	-	3,238	10,666	-	-	-	-	-	-	3,238	10,666
19	LAGUARDIA	4,000	1,500	1,200	600	-	-	-	-	-	-	5,200	2,100
20	HORIZON	-	-	1,638	2,380	-	-	-	-	-	-	1,638	2,380
21	TAJ	3,300	10,000	-	-	-	-	-	-	-	-	3,300	10,000
22	OIL INDUSTRIES	-	-	3,118	1,200	-	-	-	-	-	-	3,118	1,200
23	HI-TECH	-	-	2,045	1,860	1,400	1,550	-	-	-	-	3,445	3,410
24	EURO OIL	-	-	7,500	5,000	-	-	-	-	-	-	7,500	5,000
25	MY PETROLEUM	-	-	3,612	388	-	-	-	-	-	-	3,612	388
26	JINN	-	-	600	900	-	-	1,180	2,500	-	-	1,780	3,400
27	FLOW	-	-	3,550	800	-	-	-	-	-	-	3,550	800
28	FOSSIL	-	-	23,100	37,300	-	-	-	-	-	-	23,100	37,300
29	MAX	-	-	-	-	-	-	664	1,062	-	-	664	1,062
30	BEST	-	-	770	1,470	-	-	-	-	-	-	770	1,470
31	ALLIED	-	-	11,077	15,852	-	-	-	-	-	-	11,077	15,852
32	VITAL	-	-	6,200	4,500	-	-	-	-	-	-	6,200	4,500
33	EXCEED	-	-	140	260	-	-	-	-	-	-	140	260
34	FAST	6,466	8,175	882	1,260	-	-	-	-	-	-	7,348	9,435
Total		404,684	371,063	355,332	537,512	16,546	26,645	6,423	17,789	3,156	2,764	786,141	955,773

(Source: Oil Marketing Companies)

## OMC's Retail Network

Sr. No.	Name of OMC	Punjab	Sindh	KP	Balochistan	ICT	Total
1	Pakistan State Oil Company Limited	1,547	663	390	65	347	<b>3,012</b>
2	Shell Pakistan Limited	318	217	78	12	174	<b>799</b>
3	Attock Petroleum Limited	358	110	81	5	160	<b>714</b>
4	Cnergyico Pk Limited	125	201	37	27	38	<b>428</b>
5	Puma Energy Pakistan (Pvt) Limited	375	103	59	7	55	<b>599</b>
6	Total PARCO Pakistan Limited	403	221	66	-	104	<b>794</b>
7	Be Energy Pakistan Limited	246	116	26	2	28	<b>418</b>
8	Hascol Petroleum Limited	302	193	61	15	113	<b>684</b>
9	Askar Oil Services Pakistan Limited	556	154	140	16	109	<b>975</b>
10	Zoom Petroleum (Pvt) Limited	35	-	-	-	9	<b>44</b>
11	Gas & Oil Pakistan (Pvt) Limited	694	136	89	19	76	<b>1,014</b>
12	Exceed Petroleum (Pvt) Limited	40	-	-	-	15	<b>55</b>
13	Horizon Oil Company (Pvt) Limited	156	-	-	-	19	<b>175</b>
14	Quality 1 Petroleum (Pvt) Limited	72	25	-	-	24	<b>121</b>
15	Kepler Petroleum (Pvt) Limited	-	37	-	2	-	<b>39</b>
16	OTO Pakistan (Pvt) Limited	8	-	-	-	3	<b>11</b>
17	Zoom Marketing Oils (Pvt) Limited	52	-	-	-	3	<b>55</b>
18	Fast Oil (Pvt) Limited	3	145	-	-	-	<b>148</b>
19	Oilco Petroleum (Pvt) Limited	55	-	-	-	9	<b>64</b>
20	The Fuelers (Pvt) Limited	21	-	-	-	2	<b>23</b>
21	Al Noor Petroleum (Pvt) Limited	-	38	-	1	-	<b>39</b>
22	My Petroleum (Pvt) Limited	61	2	-	-	11	<b>74</b>
23	JINN Petroleum (Pvt) Limited	60	-	-	12	1	<b>73</b>
24	LaGuardia Petroleum (Pvt) Limited	-	41	-	-	-	<b>41</b>
25	Oil Industries Pakistan (Pvt) Limited	26	-	-	-	2	<b>28</b>



## State of the Regulated Petroleum Industry

Sr. No.	Name of OMC	Punjab	Sindh	KP	Balochistan	ICT	Total
26	Euro Oil (Pvt) Limited	78	-	-	-	22	<b>100</b>
27	Flow Petroleum (Pvt) Limited	34	-	-	-	7	<b>41</b>
28	Taj Gasoline	-	41	-	-	-	<b>41</b>
29	Hi-Tech Lubricants Limited	24	-	-	-	4	<b>28</b>
30	Allied Petroleum (Pvt) Limited	63	-	-	-	5	<b>68</b>
31	Max Fuels (Pvt) Limited	-	-	-	8	-	<b>8</b>
32	Fossil Energy (Pvt) Limited	20	-	-	-	2	<b>22</b>
33	Vital Petroleum (Pvt) Limited	68	-	-	-	18	<b>86</b>
<b>Total</b>		<b>5,800</b>	<b>2,443</b>	<b>1,027</b>	<b>191</b>	<b>1,360</b>	<b>10,821</b>

(Source: Department of Explosives)

### Sui Northern Gas Pipelines Limited

Projected Sector-wise Committed Gas Demand Projections

PROJECTED DEMAND (MMCFD)-SNGPL											
Sector	FY 22 (Actual)	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32
Residential	589	618	649	682	716	752	789	829	870	914	959
Commercial	45	45	46	46	47	47	48	48	49	49	50
Industrial + Captive Power	295	325	328	332	335	338	342	345	348	352	355
Fertilizer	160	92	92	92	92	92	92	92	92	92	92
Cement	0	15	15	15	15	15	15	15	15	15	15
Power	584	641	609	579	550	522	496	471	448	425	404
Transport	58	90	91	92	93	94	95	96	96	97	98
Internal Consumption	14	15	15	15	15	15	15	15	15	15	15
UFG	107	107	107	107	107	107	107	107	107	107	107
<b>Total</b>	<b>1,852</b>	<b>1,948</b>	<b>1,952</b>	<b>1,960</b>	<b>1,970</b>	<b>1,982</b>	<b>1,999</b>	<b>2,018</b>	<b>2,040</b>	<b>2,066</b>	<b>2,095</b>

(Source: SNGPL)

### Sui Southern Gas Company Limited

Projected Sector-wise Gas Demand & Indigenous Gas Supply and RLNG Requirement

PROJECTED DEMAND (MMCFD)-SSGCL											
Sector	FY 22 (Actual)	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32
Residential	261	323	331	340	349	359	368	378	389	372	382
Commercial	23	38	39	41	43	44	46	48	50	36	38
Industrial + Captive Power	353	413	425	438	451	465	479	493	508	569	586
Fertilizer	54	54	54	55	55	56	56	57	57	56	57
Cement	3	-	-	-	-	-	-	-	-	-	-
Power	133	126	126	126	126	126	126	126	126	229	231
Transport	10	38	39	39	39	40	40	41	41	32	32
JJVL + RLNG SWAP	43	-	-	-	-	-	-	-	-	-	-
UFG	186	268	276	284	291	300	308	316	325	238	245
<b>Total</b>	<b>1,066</b>	<b>1,260</b>	<b>1,290</b>	<b>1,323</b>	<b>1,354</b>	<b>1,390</b>	<b>1,423</b>	<b>1,459</b>	<b>1,496</b>	<b>1,532</b>	<b>1,571</b>

(Source: SSGCL)

## State of the Regulated Petroleum Industry

### Independent System

PROJECTED DEMAND INDEPENDENT SYSTEM (MMCFD)											
Independent System	FY 22 (Actual)	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32
UCH Power Plant	313	300	333	333	333	333	333	320	308	297	286
CPGCL	181	380	380	380	380	380	380	380	380	380	380
Foundation Power Co. Ltd	52	51	56	56	56	56	56	51	56	56	56
Fatima Fertilizer (Sadiqabad Plant)	72	76	77	77	78	78	78	78	78	78	78
Fatima Fertilizer (Sheikhupura Plant)	35	39	39	39	39	39	39	39	39	39	39
Fatima Fertilizer (Captive Power Sadiqabad Plant)	10	11	11	11	11	11	11	11	11	11	11
Fatima Fertilizer (Captive Power Sheikhupura Plant)	8	6	6	6	6	6	6	6	6	6	6
Pakarab Fertilizer Limited	51	58	58	58	58	58	58	58	58	58	58
Fauji Fertilizer	273	280	280	280	280	280	280	280	280	280	280
Engro Fertilizer	224	235	235	235	250	250	250	250	250	250	250
<b>Total</b>	<b>1,218</b>	<b>1,435</b>	<b>1,475</b>	<b>1,474</b>	<b>1,490</b>	<b>1,490</b>	<b>1,490</b>	<b>1,472</b>	<b>1,465</b>	<b>1,454</b>	<b>1,444</b>

(Source: 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)

Total Country Demand (MMCFD)											
Year	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32
SNGPL	1,852	1,948	1,952	1,960	1,970	1,982	1,999	2,018	2,040	2,066	2,095
SSGCL	1,066	1,260	1,290	1,323	1,354	1,390	1,423	1,459	1,496	1,532	1,571
Independent System	1,218	1,435	1,475	1,474	1,490	1,490	1,490	1,472	1,465	1,454	1,444
UFG, RLNG Req, Internal Consumption & Shrinkage	300	300	300	300	350	400	400	500	550	600	600
<b>Total Constrained Demand</b>	<b>4,436</b>	<b>4,943</b>	<b>5,017</b>	<b>5,057</b>	<b>5,164</b>	<b>5,262</b>	<b>5,312</b>	<b>5,449</b>	<b>5,551</b>	<b>5,652</b>	<b>5,710</b>

Total Committed and Anticipated Supplies (MMCFD)											
Year	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32
SNGPL	951	1,098	1,038	991	953	955	931	860	796	712	606
SSGCL	921	866	837	815	765	696	610	555	526	493	450
<b>Independent System</b>											
MPCL	700	655	663	632	585	529	481	450	410	373	341
PPL	89	138	138	143	124	105	81	64	48	38	25
OGDCL	377	366	414	408	403	363	358	342	326	313	300
<b>Total Indigenous Supplies</b>	<b>3,038</b>	<b>3,123</b>	<b>3,090</b>	<b>2,989</b>	<b>2,830</b>	<b>2,648</b>	<b>2,461</b>	<b>2,271</b>	<b>2,106</b>	<b>1,929</b>	<b>1,722</b>

## State of the Regulated Petroleum Industry

Demand Supply Scenario with Indigenous and Imported Natural Gas (MMCFD)											
Year	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32
Committed & Anticipated Supply (Indigenous)	3,038	3,123	3,090	2,989	2,830	2,648	2,462	2,271	2,106	1,928	1,722
LNG Supply	951	1,050	1,100	1,100	1,100	1,150	1,175	1,200	1,225	1,250	1,300
TAPI Pipeline	-	-	-	-	-	-	-	971	1,342	1,342	1,342
IP Pipeline	-	-	-	-	-	-	-	-	263	750	750
PSGP (NSP)/ RLNG Phase-3	-	-	-	-	-	700	700	1,700	1,700	1,700	1,700
<b>Total Supply (Indigenous + Imported)</b>	<b>3,989</b>	<b>4,173</b>	<b>4,190</b>	<b>4,089</b>	<b>3,930</b>	<b>4,498</b>	<b>4,337</b>	<b>6,142</b>	<b>6,636</b>	<b>6,970</b>	<b>6,814</b>
<b>Total Constrained Demand</b>	<b>4,436</b>	<b>4,943</b>	<b>5,017</b>	<b>5,057</b>	<b>5,164</b>	<b>5,262</b>	<b>5,312</b>	<b>5,449</b>	<b>5,551</b>	<b>5,652</b>	<b>5,710</b>
Gap with TAPI, IP, PSGP, LNG	(447)	(770)	(827)	(968)	(1,234)	(764)	(975)	693	1,085	1,318	1,104
Gap without TAPI, IP, PSGP, LNG	(1,398)	(1,820)	(1,927)	(2,068)	(2,334)	(2,614)	(2,850)	(3,178)	(3,445)	(3,724)	(3,988)
Gap ((Indigenous Supply + LNG)-Demand)	(447)	(770)	(827)	(968)	(1,234)	(1,464)	(1,675)	(1,978)	(2,220)	(2,474)	(2,688)

## Consumer Gas Tariff Schedule FY 2021-22

Consumer Gas Tariff Schedule, FY 2021-22	
Particulars	Rs./MMBTU) w.e.f 01.09.2020
<b>I. Domestic Sector:</b>	
a) Standalone meters	
b) Mosques, churches, temples, madrassas, other Religious Places and Hostels attached thereto;	
Upto 50 M <sup>3</sup> per month	
All off-takes at flat rate of	121.00
Upto 100 M <sup>3</sup> per month	
All off-takes at flat rate of	300.00
Upto 200 M <sup>3</sup> per month	
All off-takes at flat rate of	553.00
Upto 300 M <sup>3</sup> per month	
All off-takes at flat rate of	738.00
Upto 400 M <sup>3</sup> per month	
All off-takes at flat rate of	1,107.00
Above 400 M <sup>3</sup> per month	
All off-takes at flat rate of	1,460.00
<b>Minimum Charges (Rs.) per month</b>	172.58
c) Government and Semi-Government Offices, Hospitals, Clinics, Maternity Homes, Government Guest Houses, Armed Forces Messes, Langars, Universities, Colleges, Schools and Private Educational Institutions, Orphanages and other Charitable Institutions along-with Hostels and Residential Colonies to whom gas is supplied through bulk meters including Captive Power.	
Sale price:	
All off-takes at flat rate of	780.00
<b>Minimum Charges (Rs.) per month</b>	3,900.00
<b>II. Commercial:</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.	
Sale price:	
All off-takes at flat rate of	1,283.00
<b>Minimum charges (Rs.) per month</b>	6,415.00
<b>III. Special Commercial (Roti Tandoors)</b>	
Sale price:	
Upto 50 M <sup>3</sup> per month	

## State of the Regulated Petroleum Industry

Consumer Gas Tariff Schedule, FY 2021-22	
	Rs./MMBTU)
Particulars	w.e.f 01.09.2020
All off-takes at flat rate of	110.00
Upto 100 M <sup>3</sup> per month	
All off-takes at flat rate of	110.00
Upto 200 M <sup>3</sup> per month	
All off-takes at flat rate of	220.00
Upto 300 M <sup>3</sup> per month	
All off-takes at flat rate of	220.00
Above 300 M <sup>3</sup> per month	
All off-takes at flat rate of	700.00
Minimum charges (Rs.) per month	148.50
<b>IV. Ice Factories:</b>	
<b>Sale price:</b>	
All off-takes at flat rate of	1,283.00
Minimum charges per month	6,415.00
<b>V. General Industrial:</b>	
All consumers engaged in the processing of industrial raw material into value added finished products irrespective of the volume of gas consumed including hotel industry but excluding such industries for which a separate rate has been prescribed.	
<b>Sale price:</b>	
All off-takes at flat rate of	1,054.00
Minimum charges (Rs.) per month	35,540.00
<b>VI. Export Oriented (General Industry)</b>	
<b>Sale price:</b>	
All off-takes at flat rate of	819.00
Minimum charges (Rs.) per month	27,616.00
<b>VII. Export Oriented (Captive)</b>	
<b>Sale price:</b>	
All off-takes at flat rate of	852.00
Minimum charges (Rs.) per month	28,729.00
<b>VIII. Compressed Natural Gas (CNG Region-I):</b>	
<b>Sale price:</b>	
All off-takes at flat rate of	1,371.00
Minimum charges (Rs.)	46,229.00
<b>IX. Compressed Natural Gas (CNG Region-II):</b>	
<b>Sale price:</b>	
All off-takes at flat rate of	1,350.00
Minimum charges (Rs.)	45,521.00
<b>X. Cement:</b>	

## State of the Regulated Petroleum Industry

Consumer Gas Tariff Schedule, FY 2021-22	
	Rs./MMBTU)
Particulars	w.e.f 01.09.2020
<b>Sale price:</b>	
All off-takes at flat rate of	1,277.00
<b>Minimum charges (Rs.)</b>	45,588.90
<b>XI. Fertilizer Companies:</b>	
<b>a) ON SNGPL SYSTEM</b>	
(i) Pak-American Fertilizer Company Limited:	
<b>Sale price:</b>	
All off-takes at the flat rate of	
(a) as feed-stock	302.00
(b) for gas used as fuel for generation of electricity, steam and for usage of housing colonies.	1,023.00
(ii) Dawood Hercules Chemicals Limited, Chichoki Mallian, Sheikhpura District:	
<b>Sale price:</b>	
All off-takes at the flat rate of	
(a) for gas used as feed stock	302.00
(b) for gas used as fuel for generation of electricity, steam and for usage of housing colonies.	1,023.00
(iii) Pak-Arab Fertilizer Limited, Multan:	
<b>Sale price:</b>	
All off-takes at the flat rate of	
(a) for gas used as feed stock	302.00
(b) for gas used as fuel for generation of electricity, steam and for usage of housing colonies.	1,023.00
(iv) Pak-China Fertilizer Limited, Haripur:	
<b>Sale price:</b>	
All off-takes at the flat rate of	
(a) for gas used as feed stock	302.00
(b) for gas used as fuel for generation of electricity, steam and for usage of housing colonies.	1,023.00
(v) Hazara Phosphate Fertilizer Plant Limited, Haripur:	
<b>Sale price:</b>	
All off-takes at the flat rate of	
(a) for gas used as feed stock	302.00
(b) for gas used as fuel for generation of electricity, steam and for usage of housing colonies.	1,023.00
(vi) ENGRO Fertilizer Company Limited:	
<b>Sale price:</b>	
All off-takes at the flat rate of	
(a) for gas used as feed stock	US \$ 0.70
(b) for gas used as fuel for generation of electricity, steam and for usage of housing colonies.	1,023.00

## State of the Regulated Petroleum Industry

Consumer Gas Tariff Schedule, FY 2021-22	
	Rs./MMBTU)
Particulars	w.e.f 01.09.2020
<b>b) ON SSGCL SYSTEM</b>	
Fauji Fertilizer Bin Qasim Limited:	
Sale price:	
All off-takes at the flat rate of	
(a) for gas used as feed stock	302.00
(b) for gas used as fuel for generation of electricity, steam and for usage of housing colonies.	1,023.00
<b>XII Power Stations (WAPDA's and KESC's Power Stations):</b>	
(i) WAPDA's and KESC's Power Stations and other electricity utility companies	
Sale price:	
All off-takes at flat rate of	857.00
<b>Minimum charges (Rs.)</b>	28,898.00
(ii) WAPDA's Gas Turbine Power Station, Nishatabad, Faisalabad	
All off-takes at flat rate of	857.00
<b>Fixed charges</b>	975,000.00
(iii) Liberty Power Limited's Gas Turbine Power Plant (Phase 1) at Daharki	
Sale price:	
All off-takes at flat rate of w.e.f July 01, 2021	1,181.46
From January 01, 2022	1,623.34
<b>Minimum charges (Rs.)</b>	28,898.00
<b>XIII. Independent Power Producers:</b>	
<b>Sale price:</b>	
All off-takes at flat rate of	857.00
<b>Minimum charges (Rs.)</b>	28,898.00
<b>XIV. Captive Power (General Industry):</b>	
<b>Sale price:</b>	
All off-takes at flat rate of:	1,087.00
<b>Minimum charges (Rs.)</b>	36,653.00
(3) Mari Petroleum Company Limited	
(i) ENGRO Fertilizer Company Limited:	
Sale price:	
All off-takes at flat rate of	
(a) for gas used as feed stock	302.00
(b) for gas used as fuel for generation of electricity, steam and for usage of housing colonies.	1,023.00
<b>Minimum charges (Rs.) As per Gas Sale Purchase Agreement between ENGRO Fertilizer Company Limited and Mari Petroleum Company Limited.</b>	
(ii) Fauji Fertilizer Company Limited- Goth Machhi, District Rahim Yar Khan and Mirpur Mathelo District Ghotki (ex-PSFL):	



## State of the Regulated Petroleum Industry

Consumer Gas Tariff Schedule, FY 2021-22	
	Rs./MMBTU)
Particulars	w.e.f 01.09.2020
Sale price:	
All off-takes at flat rate of	
(a) for gas used as feed stock	302.00
(b) for gas used as fuel for generation of electricity, steam and for usage of housing colonies.	1,023.00
<b>Minimum charges (Rs.)As per Gas Sale Purchase Agreement between Fauji Fertilizer Company Limited and Mari Petroleum Company Limited.</b>	
(iii) Fatima Fertilizer Company Limited:	
Sale price:	
All off-takes at flat rate of	
(a) for gas used as feed stock w.e.f July 01, 2021	302.00
(b) for gas used as fuel for generation of electricity, steam and for usage of housing colonies.	1,023.00
<b>Minimum charges (Rs.)As per Gas Sale Purchase Agreement between Fatima Fertilizer Company Limited and Mari Petroleum Company Limited.</b>	
(iv) Foundation Power Company (Daharki) Limited:	
Sale price:	
All off-takes at flat rate of	
(a)	857.00
<b>Minimum charges (Rs.) As per Gas Sales Purchase Agreement between Foundation Power Company (Daharki) Limited and Mari Petroleum Company Limited in addition to Rs. 15,510.78 per month.</b>	

**Note:** There was no change in tariff, approved by the Federal Government and the prices effective September 2022, remained unchanged in Fiscal Year 2021-22.





# **Abbreviations and Acronyms**



### Abbreviations and Acronyms

ADNOC	Abu Dhabi National Oil Company
AJK	Azad Jammu and Kashmir
APL	Attock Petroleum Limited
ARL	Attock Refinery Limited
BBL	Barrel
BTU	British Thermal Unit
BCFD	Billion Cubic Feet per Day
BEE	Be Energy Limited
BESOS	Benazir Employee Stock Option Scheme
Bhp	Brake horsepower
BOC	Burmah Oil Company
BOD	Board of Directors
BOE	Barrels of Oil Equivalent
BPD	Barrel Per Day
BTU/Scf	British Thermal Unit/Standard Cubic Feet
BVI	British Virgin Island
CAN	Calcium Ammonia Nitrate
CCOE	Cabinet Committee on Energy
CFC	Customer Facilitation Center
CMP	Code Modification Panel
CNG	Compressed Natural Gas
COD	Commercial Operation Date
CPGCL	Central Power Generation Company Limited
CSR	Corporate Social Responsibility
D&P	Development and Production
DGPL	Daewoo Gas Private Limited
E&P	Exploration and Production
ECPL	Engro Chemicals Pakistan Limited
EETL	Engro Elengy Terminal Limited
EFL	Engro Fertilizer Limited
EPC	Engineering, Procurement and Construction
EPS	Earning Per Share
ETPL	Energas Terminal Private Limited
EWI	Extended Well Test
FATA	Federally Administered Tribal Areas
FDI	Foreign Direct Investment
FFBL	Fauji Fertilizer Bin Qasim Limited
FFCL	Fatima Fertilizer Company Limited
FFC	Fauji Fertilizer Company Limited
FFF	Fauji Fresh n Freeze Limited
FID	Final Investment Decision
FKPCL	Fauji Kabirwala Power Company Limited
FO	Fuel Oil/Furnace Oil
FOTCO	Fauji Oil Terminal & Distribution Company
FPCDL	Foundation Power Company Dharki Limited
FSU	Floating Storage Unit.
FWEL	Foundation Wind Energy Limited
FY	Fiscal Year/Financial Year
GB	Gilgit Baltistan
GDS	Gas Development Surcharge /Global Depository Shares

## State of the Regulated Petroleum Industry

GHPL	Government Holdings (Private) Limited
GIS	Geographical Information System
GoP	Government of Pakistan
GOPL	Gas & Oil Pakistan Limited
GUCs	Gas Utilities Companies
HC	Hydrocarbon
HOBC	High Octane Blending Component
HPL	Hascol Petroleum Limited
HR	Human Resource
HSD	High Speed Diesel
HSE	Health, Safety and Environment
HSFO	High Sulphur Furnace Oil
IFA I	International Fertilizer Association
ILBP	Indus Left Bank Pipeline
IPO	Initial Public Offering
IPP	Independent Power Producer
IRBP	Indus Right Bank Pipeline
ISO	International Organization for Standardization
JJVL	Jamshoro Joint Venture Limited
JP	Jet Propellant
JVJ	Joint Venture
KEPCO	Korea Electric Power Corporation
KERO	Kerosene Oil
Km	Kilometer
KP	Khyber Pakhtunkhwa
KPS	Korea Plant Service & Engineering
LDO	Light Diesel Oil
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MMBOE	Million Barrels of Oil Equivalent
MMCFD	Million Cubic Feet per Day
MMP	Meter Manufacturing Plant
MPCL	Mari Petroleum Company Limited
MS	Motor Spirit
MSD	Mari Services Division
MSU	Mari Seismic Services Unit
MT/M.Ton	Metric Ton
MW	Megawatt
NBFIs	Non-Bank Financial Institutions
NGL	Natural Gas Liquids
NRL	National Refinery Limited
NSGP	North South Gas Pipeline
OEET	OGDCL Employees Empowerment Trust
OGDCL	Oil and Gas Development Company Limited
OGRA	Oil and Gas Regulatory Authority
OMC	Oil Marketing Company
PAK-EPA	Pakistan Environmental Protection Agency
PARCO	Pak-Arab Refinery Company Limited
PCA	Petroleum Concession Agreement
PGCPL	Pakistan Gas Port Consortium Limited
PGNC	Pakistan Gas Network Code
PLL	Pakistan LNG Limited
POL	Pakistan Oilfields Limited/Petroleum Oil Lubricant

## State of the Regulated Petroleum Industry

PPL	Pakistan Petroleum Limited
PQA	Port Qasim Authority
PRL	Pakistan Refinery Limited
PSGP	Pakistan Stream Gas Pipeline
PSO	Pakistan State Oil
PSX	Pakistan Stock Exchange
RLNG	Re-gasified Liquid Natural Gas
Rs.	Rupees
SGPC	Sachal Gas Processing Complex
SNGPL	Sui Northern Gas Pipelines Limited
SPL	Shell Petroleum Limited
SPM	Single Point Mooring/Suspended Particulate Matter
Sq. Km	Square Kilometer
SSGCL	Sui Southern Gas Company Limited
T&D	Transmission and Distribution
TAPI	Turkmanistan - Afghanistan - Pakistan - India Gas Pipeline
TEPL	Tabeer Energy Private Limited
TPA	Third Party Access/Tons Per Annum
TPPL	Total-PARCO Pakistan Limited
TPS	Thermal Power Station
TRCF	Total Recordable Case Frequency
UEPL	United Energy Pakistan Limited
UFG	Unaccounted for Gas
UGDCL	Universal Gaseous Distribution Company Limited
UNGC	United Nation Global Compact
UK	United Kingdom
USA	United States of America
WAPDA	Water and Power Development Authority









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