

Annexure-V to Directors Report

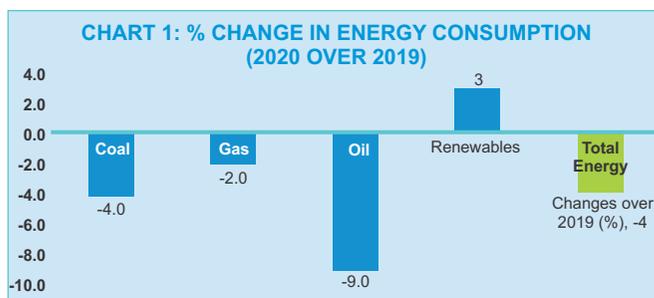
Management Discussion & Analysis

Review of Year 2020 – Impact of the COVID Pandemic

2020 was one of the most challenging years for the international community as the entire world faced diverse challenges and major disruptions to global political and economic order due to the impact of the COVID 19 pandemic. The major disruptions and changes brought on by this pandemic is expected to have a lasting impact on the world. The pandemic and the resulting lockdowns led to severe recessions caused by demand destruction. It also led to lower investment, loss of human capital and fragmentation of global trade and supply chains.

According to the International Energy Agency (IEA) global energy consumption was severely impacted during 2020, due to the global economy feeling the full impact of the COVID pandemic. In 2020, global energy demand fell by 4% (see **Chart 1** below), the largest decline since World War II and the largest ever absolute decline. The latest statistical data for energy demand in the first quarter of 2021, highlights the continued impact of the pandemic on global energy use. Before this, the most significant drop in energy consumption was due to the financial crisis which occurred during 2008. However, it is expected that the impact of Covid-19 on energy demand in 2020 would be more than seven times larger than the impact of the 2008 financial crisis on global energy demand.

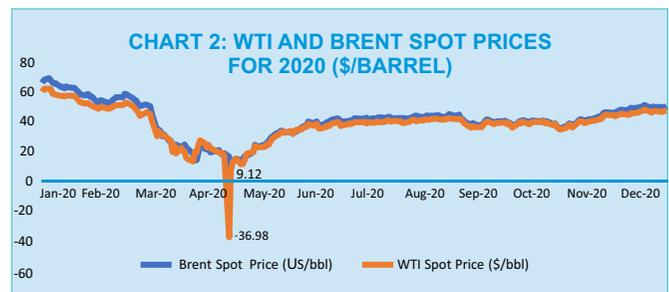
Chart 1: IEA projections of the impact of COVID on primary energy demand in 2020 over 2019 levels.



Source: IEA Global Energy Review July 2020

As COVID started to rapidly spread through the globe, various countries implemented containment measures (local & national) of varying magnitude as a preventive measure to break the chain of infection and to reduce the pressure on healthcare infrastructure. An indicator of the severe impact of COVID 19 had on the global energy market, was the two global crude oil markers, namely WTI and Brent. The price of these two crude oils, which were under pressure since March 2020, fell rapidly in a short span of time to historically low levels on 20th and 21st April 2020 respectively. WTI reached a record-breaking low of negative

\$36.98/bbl whereas Brent touched a record low of \$9.12/bbl (See **Chart 2** below).



Source: EIA

WTI reached negative values due to oversupply of oil, low demand and very limited storage capacity. There were oil producers and holders of oil delivery contract, who were willing to pay potential buyers to offtake oil from them, as it would be more economical rather than to stop oil production and store the oil. This is because oil storage capacity was running out in the United States (US). However, this negative price was unique to the US, while in other parts of the world, Brent crude fell to very low prices, but the Brent price remained positive.

LNG Pricing- A year of extremes

The year 2020 was the most volatile year when it came to price fluctuations in the LNG market for both spot as well as long term contracts. Year 2020 began with a mild winter in Asia and Europe which resulted in lower heating demand. LNG spot market also faced supply pressure from new LNG export projects which were ramping up supply in Australia and the US. Meanwhile, Europe was experiencing high gas inventory levels, which reduced the continent's demand for LNG spot volumes. All these developments at the start of 2020 led to the LNG spot market experiencing low spot prices. All these factors coupled with the overwhelming impact of COVID 19, caused LNG demand to slide sharply, thereby pushing LNG spot prices to historical lows.

Chart 3 below shows the change between monthly average of Platts Japanese Korea Marker (JKM) LNG spot price assessments (\$/mmbtu) during years 2021, 2020 and 2019. In 2020, the average monthly prices for spot LNG cargoes were significantly lower for all the months as compared to 2019, except for month of December 2020 when the trend got reversed. This was due to record breaking low temperatures during winter season in North East Asia, which led to a spike in demand for LNG cargoes and as a result, LNG spot prices were higher than the corresponding period of 2019.

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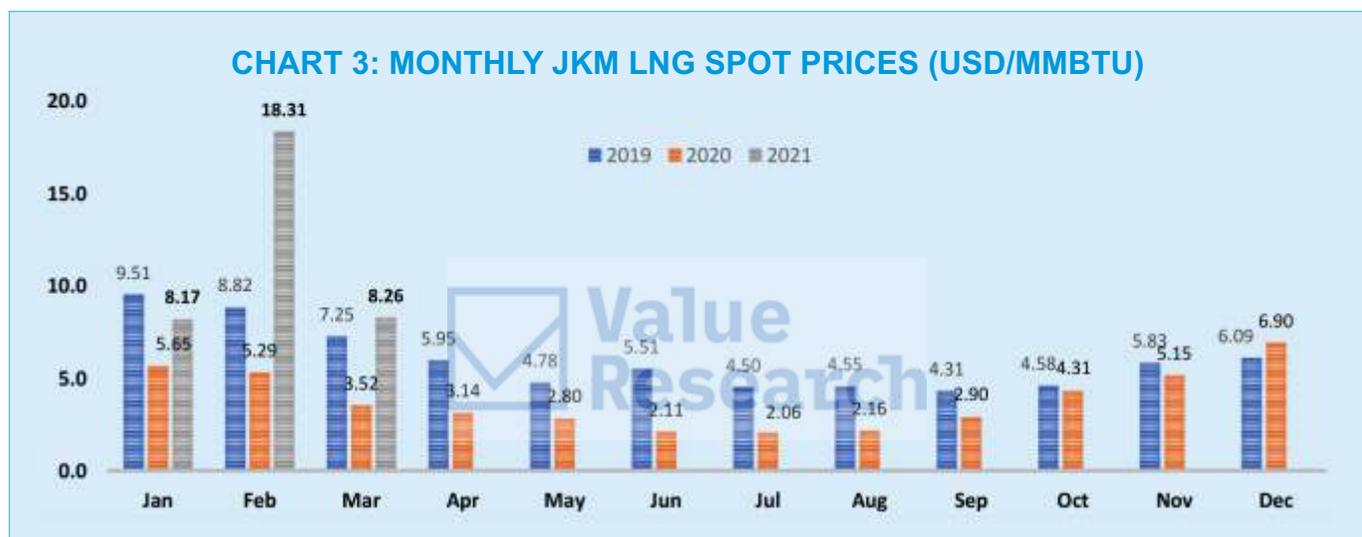
Table 1 below shows the JKM monthly average was at a discount ranging between 6% to 61% in 2020 as compared to 2019 prices. It started with 40.9% discount in January 2020 and in June it fell to a record discount of 61.7% and from there started showing recovery trend. In December

2020 it was at a premium to monthly December 2019 JKM assessment at 13.3%, due to fall in winter temperatures. Whereas 2021 started with LNG spot prices rising higher than what was witnessed in 2020 and 2019 on a month-on-month basis.

Table 1: 2019 vs 2020 LNG spot price differential (USD/mmbtu)

Months Change (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	-40.9	-40.1	-51.7	-47.6	-42.0	-61.7	-54.2	-52.4	-32.7	-6.0	-11.7	13.3

Source: Platts LNG JKM Assessment Data



Source: Platts LNG JKM Assessment Data

Table 2 below shows the lowest point in Platts JKM assessment starting from 2016 till 2020. In 2016, JKM had touched a low of \$4.00/mmbtu, for June delivery and in year 2020 it slid further to set a new low record of \$1.83 /mmbtu again for June delivery.

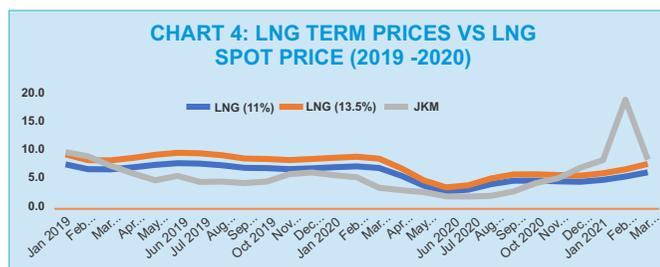
TABLE 2: LOWEST JKM PRICE POINT 2016 - 2020

Year	JKM	Delivery Month
2016	4.00	Jun-16
2017	5.35	May-17
2018	7.05	May-18
2019	4.11	Sep-19
2020	1.83	Jun-20

Source: Platts LNG JKM Assessment Data

Chart 4 below shows as an example, the monthly Platts JKM marker trend vis-a-vis long term LNG prices based on assumed oil linkage (slopes) of 11% and 13.5% respectively to a Brent oil price which is an average of the last three months prices prior to the month of delivery. A three-month

lag means that there is much faster transmission of oil market price volatility as compared to a six month or longer lag. As a result, the corresponding LNG prices will take time to adjust depending on the lag in calculation of the oil price to which the LNG price will be linked. This will reduce volatility and delay the transmission of any sudden oil price swing. It can be seen from Chart 4, that from November 2020, JKM prices rose sharply and in the following months went above the oil linked LNG price before declining sharply in March 2021, reaching near oil linked LNG price levels again.

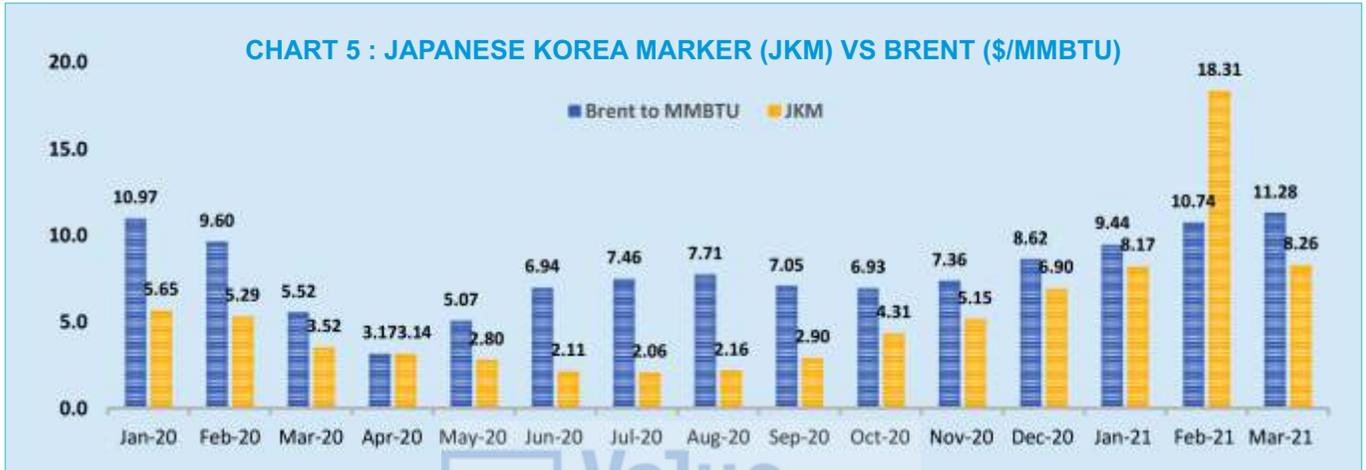


Source: EIA, PLL Analysis



In **Chart 5** below, the Brent and JKM prices are given in \$/mmbtu. As can be seen in April 2020, both Brent and JKM were at almost identical levels. Despite this, Brent linked LNG price would still remain more expensive than the April month average as shown in Chart 4 due to three months lag. After April 2020, oil prices started to recover, but JKM

continued to decline to a low of \$2.06/mmbtu in July 2020 widening the gap between the two. However, post August the JKM prices started rising till the end of the year narrowing the differential pricing only reversing the trend in month of Feb 2021.



Source: EIA, Platts LNG Daily

This scenario of a depressed LNG market with low spot prices in 2020, due to the impact of COVID 19, had put stress on long term LNG contracts, as cheaper spot LNG cargoes were freely available in the global market. However, as short term and spot LNG comprises only about 30% of the total global LNG trade, with the remaining LNG trade being carried out under Long Term contracts with take or pay obligations, low spot prices can only have a limited impact on increasing demand. Due to this, even after a price slump in spot LNG, there was no considerable rise in demand.

An additional challenge to the already precarious LNG market dynamics was in the 1st Quarter of 2020, when Saudi

Arabia and Russia engaged in an oil price that resulted in production cuts and corresponding sharp fall in oil prices.

As shown in Chart 2, when oil prices in 2020 were in decline, LNG spot prices were also below the \$5/mmbtu level between January to September 2020, and touched a record low of \$1.83/mmbtu and \$1.76/mmbtu for JKM and West India (WIM) respectively, at the end of April, 2020.

However, Spot LNG prices at the end of 2020 started to accelerate upwards and touched a record high price of \$32.50/mmbtu for February delivery in the first half of January, 2021, whereas West India Marker (WIM) touched a peak of \$23.00/mmbtu as shown in **Chart 6** below.



Source: Platts LNG Daily

It was reported that an individual spot LNG cargo was transacted for first half February, 2021 delivery at almost \$40/mmbtu on a delivered ex-ship basis. Japanese LNG importers were heard to have paid between \$30 to \$40/mmbtu, for small LNG cargoes with limited volumes. North East Asian countries like China witnessed winter temperatures of minus 20 degrees Celsius during 1st half of January 2021, which were record low temperatures not experienced in five decades. For North East Asian countries, the winter weather has been erratic since the start of winter season in 2020. At first it was warmer than usual in November, 2020, due to which most LNG importers thought that gas demand for heating purposes would not be high and did not buy sufficient LNG cargoes from the spot market to build up LNG inventory. However, in December 2020, winter temperatures fell sharply all over the North East Asia, which caused heating demand to rise suddenly, which resulted in North East Asian power and gas utilities to enter the spot market to purchase volumes meet gas demand requirement.

This event led to a wide spread between European and Asian LNG spot prices. As a result of this, US LNG cargoes were being diverted from Europe and sold into the Asian market. This caused heavy shipping traffic at the Panama Canal for LNG vessels, which was already struggling with manpower storages at the canal’s facilities due to COVID operating restriction. LNG vessels with no slot reservation had to wait as long as 9 days to transit, which was 3 times more than the normal wait times of 3 days in the past.

As a way to avoid the congestion at the canal, LNG vessels were either transiting through the Suez Canal or going around the Cape of Good Hope which only extended the voyage of LNG vessels. This resulted in more ships being tied down to the US –Asia trade route, leading to fewer ships being available and as a consequence, charter rates of LNG vessels touched record highs of \$300,000 per day in January 2021, as compared to \$32,000 per day during the summer of 2020. There was also an issue of LNG supply disruption at some LNG export projects, during this period, which put more pressure on LNG spot market prices. In the Atlantic Basin, LNG export projects in the US faced supply disruption during hurricane season in August, shutdown of Norway’s Hammerfest project in September, production issues in Nigeria in November, while Atlantic LNG in Trinidad, Equatorial Guinea LNG and Angola LNG had feed gas supply issues which impacted their LNG production.

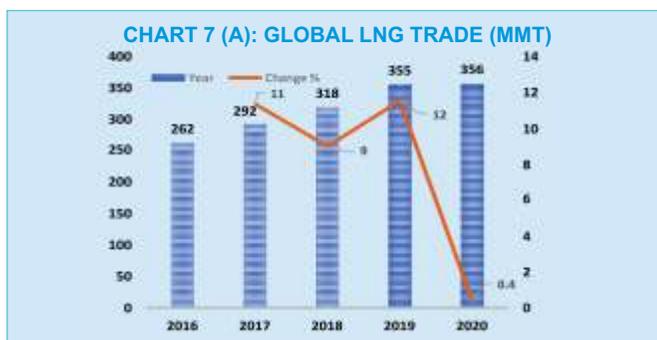
In the Middle East and Pacific Basin, there were production issues at Qatar and Malaysia. These weather and market related developments, constraints of shipping logistics for inter-basin trade and LNG supply disruptions during the winter of 2020/21, pushed up LNG spot prices to record highs.

Thus, the year 2020 for LNG prices for long term contracts and more so for LNG spot prices was a bad year. Low prices in LNG term and spot markets played havoc with supplier’s balance sheets, putting the oil linked indexation under greater pressure than it has been in the last few years due to surplus LNG. This resulted in investments in LNG projects getting on hold. However, at the start of 2021, record high LNG spot prices in January and February, showed to LNG buyers the high level of volatility in the LNG spot market. This poses a huge risk to buyers, who were beginning to consider LNG spot price assessment by reporting agencies as a viable alternative to oil linked pricing, with the expectation that since the LNG market is entering a period of surplus, spot prices will remain depressed as compared to oil linked prices. However, the LNG spot market is a very shallow market with limited liquidity, which poses a problem when it comes adjusting to sudden unexpected market events which lead to price volatility. Though the record-breaking prices seen during the winter of 2020-21, may not be seen again, this extreme movement in prices has cast doubts over the ability of LNG spot pricing to be able to be a reliable and cost competitive pricing benchmark for long term LNG supply contracts.

LNG Demand and Supply Dynamics

• Supply Side Scenario - LNG Exports

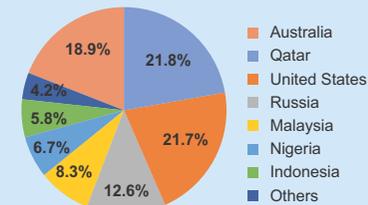
The current nameplate capacity of all the LNG production capacity is 454 MMTPA, while the amount of LNG that was traded globally was about 356.1 MMT in 2020. Despite the primary energy demand suffering significant global downturn due to COVID induced containment measures, which halted all, except the most essential economic activities, the LNG market was the only energy sector that witnessed positive demand growth. Chart 7 (A) below shows the growth in LNG trade over 5 years from 262 to 356.1 MMT. From 2016 to 2019 it witnessed high growth rate ranging from 9% to 12%, but in 2020 it witnessed the lowest growth of 0.4%, but it was still a positive growth, compared to the carnage the energy sector as a whole faced.



Source: GIIGNL



Chart 7 (B): LNG Exports (MMT) 2020



Source: GIIGNL

Chart 7 (B) above shows the world's biggest LNG exporters and their respective shares in global LNG trade. Australia overtook Qatar as the largest exporter in 2020, exporting 77.8 MT, an increase of 2.4 MT, while Qatar exported 77.1 MT, each capturing a 22% market share of exports. Australia's increase was likely the result of the ramp up in volumes from Ichthys, and high utilization across existing projects for a large part of the year. The other notable increase in exports was from the United

States, who remains in third place, and exported 11 MT more than in 2019, as a result of trains starting up at Freeport LNG, Cameron LNG and Elba Island. The US exported 44.8 MT in 2020, an increase of 33% compared to 2019. Russia remains at fourth place, exporting a total of 29.6MT in 2019, a small increase of 0.3 MT versus 2019. All of the liquefaction capacity added in 2020 was from the US, and no new markets started exporting. The liquefaction projects that came online in 2020 were Freeport LNG T2-T3 (10.2 MTPA), Cameron LNG T2-T3 (8.0 MTPA) and Elba Island T4-T10 (1.75 MTPA), all of which were located in the United States.

Chart 8 below shows month by month LNG exports of 2019 and 2020 for comparison. Even though LNG trade grew by 0.4% in 2020 year on year, on a monthly basis, starting from the June of 2020, a steady decline took place as compared to 2019, with the difference widening the most in August 2020 to 8 MMT. However, by December 2020 due to severe winter in North East Asia and Europe, demand recovery took place. In the 1st calendar quarter of 2020, significantly higher volumes of LNG were exported as compared to 2019.

CHART8: CHANGE IN LNG EXPORTS 2020 VS 2019

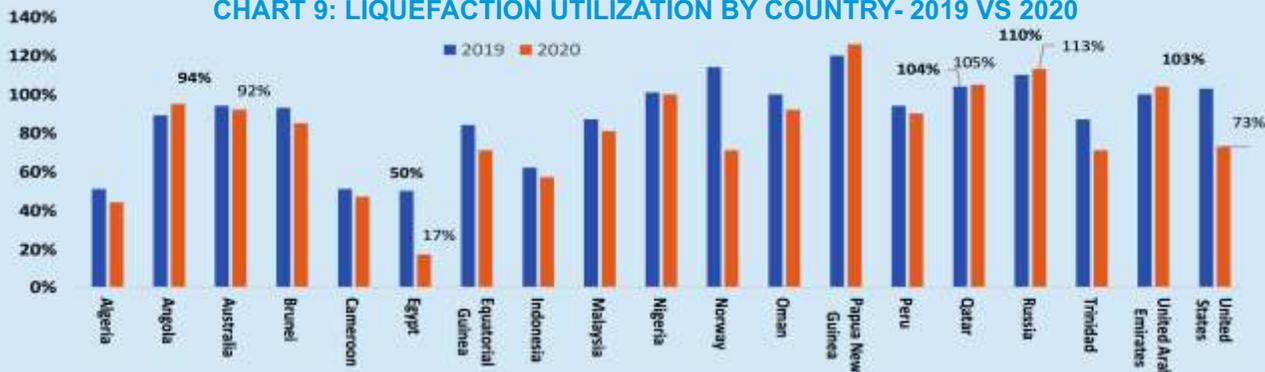


Source: IHS Markit LNG Data

One additional aspect of measuring the supply side performance is to see the utilization rates of various LNG supply projects globally. Even though the trade growth was positive, the utilization rate of LNG exporting nations paints a rather

interesting picture. Chart 9 below shows the countries that have LNG production facilities and their aggregate LNG export capacity utilization levels in 2020 vs 2019. The three major exporters in the world are Australia, Qatar and USA.

CHART 9: LIQUEFACTION UTILIZATION BY COUNTRY- 2019 VS 2020



Source: IHS Markit LNG Data

From the above chart it can be seen that out of 19 LNG exporting countries, five had increased utilization level. They were Qatar, Russia, Papua New Guinea, United Arab Emirates and Angola. Their increase in LNG Liquefaction capacity was marginal ranging from 1% to 6%. Papua New Guinea and Angola had an increase of 6%, while Qatar recorded an increase of 1%. Given the large size of Qatar's LNG production capacity, being the 2nd largest in the world after Australia, in an LNG market that grew at less than 2%, Qatar's high utilization rate of its LNG capacity was due to their low costs and reliance on long-term contracts with take or pay provisions, which made it difficult for their buyers to refuse supply even though the spot market was very attractive till winter season of 2020. Even though Australia faced a marginal decline of 2% in LNG capacity utilization from 2019 to 2020, they also experienced high utilization rate of 92% of their LNG nameplate capacity for the same contractual reasons as Qatar did, due to reliance on long term contracts and take or pay provisions in them.

Nine LNG producers had moderate levels of decline in utilization ranging between 1% to 8%. Some of the LNG producers had already very high utilization above 90%. Nigeria and Oman in 2019 were at 100% and declined by 1% and 8% respectively.

The remaining 5 LNG producers faced significant decline in utilization levels and included countries like USA, Egypt and Norway. USA LNG projects had inbuilt flexibility in the form of having a use or pay charge for buyers, if they failed to off-take LNG volumes under their term contracts. This use or pay charge was to compensate the LNG exporter for the LNG project, which was not being utilized and was in fact a liquefaction fee. Therefore, instead of paying for the full cargo value, which would be a significantly higher liability for failure to take LNG volumes, the buyers had to only pay a liquefaction fee.

• **LNG supply projections**

According to the IEA, due to the COVID pandemic and the

subsequent demand contraction in the gas market, the estimated demand recovery in LNG will be slower than the liquefaction capacity buildup as shown in Chart 10 below. Originally due to the LNG glut, it was expected that the LNG market would see LNG demand rise to absorb all the additional LNG supply and the market would become tight within the 1st half of this decade.

This original demand forecast has been revised downwards due to the impact of COVID, as the demand recovery would be more gradual and the expected LNG supply surplus would continue till middle of this decade – 2025. Further, Qatar Petroleum taking the final investment decision of nearly \$30 billion in February 2021 for the development on the North Field East (NFE) project, an additional 32 MMTPA of LNG liquification capacity will get added to global sanctioned liquefaction capacity. Additionally, Qatar is also planning a second, but smaller scale expansion of 16 MMTPA which will commence supply by 2027.

Chart 10 shows the projected LNG capacity expansion and LNG supply from 2020 to 2025 by IHS Markit. Currently the projection is that the surplus capacity will peak at above 18% in 2021 and then starts to decline and by 2025 it reaches 11.8%, as LNG demand starts to catch up. This projection includes the Qatari LNG expansion project.

At the beginning of 2020, 11 trains totaling 87.3 MTPA of capacity were expected to reach FID in 2020, and in practice only one project did so – the Energía Costa Azul LNG T1 terminal (3.25 MTPA) in Baja California, Mexico. This is also in stark contrast with 2019, when seven projects representing a collective capacity of 70.8 MTPA reached FID.

As the Qatari FID has been announced, the other LNG projects under planning (aspirational liquefaction capacity in the pre-FID stage) will find it hard to get long term contracts to recover its financing. There is hope for smaller scale LNG projects in 2021, like the Energia Costa Azul LNG project, to move forward as the volumes are not significant and can be marketed more easily.



Source: IHS Markit LNG Data

• **Challenges to LNG Supply**

In a rather bearish outlook for LNG market, Wood Mackenzie is of the view that in order to meet emissions target to keep global temperature rise less than 2 degrees Celsius above pre-industrial levels or even raise the target to 1.5 degrees Celsius, the amount of additional LNG supply needed in the global market will be about 25% of that actual forecasted supply increase by 2040.

Gas demand will face pressure due to carbon emissions and methane leakages in the LNG and gas supply chain and will promote investment in renewables. Green hydrogen, which is producing hydrogen by using electrolysis from renewable power will also emerge as a major competitor to gas by 2040 and is estimated to have a 10% share in total global primary energy consumption by 2050. If the global emissions target is to be met, then only 106.6 MMT of additional LNG will be required and if carbon emissions are not a constraint, then Wood Mackenzie estimated that about 330.8 MMT of LNG supply can be accommodated by 2040, but will lead to 3 degrees Celsius increase.

• **Challenges to LNG Demand**

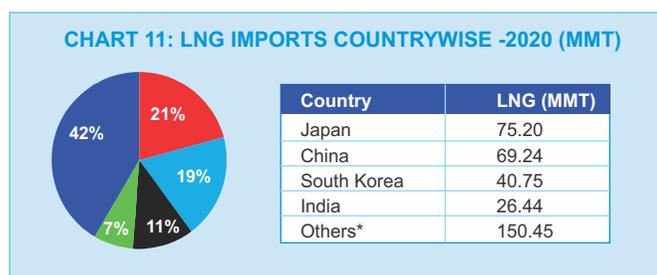
Due to the rapidly declining renewable energy costs and technological advances, hydrogen can be another source of transportation fuel. Hydrogen, is being used in various industrial production processes, like refining, petrochemicals, steel manufacturing, etc. and far more efficient than other fuels. Hydrogen demand as a fuel has been increasing over the last few decades. Further Green hydrogen production method, uses renewable energy to power the electrolysis that splits water molecules into hydrogen and oxygen. Since renewable energy is used and the only byproduct of the electrolysis of water is oxygen, this is the most environmentally sustainable way to produce hydrogen.

Eventually, as mentioned in the Challenges to LNG Supply section above, based on a Wood Mackenzie report, if climate emission goals have to be met, LNG demand will be impacted as other forms of energy like renewable power and hydrogen provide an alternative. However, LNG is still a greener fuel, compared to coal and other liquid fuels and will have to be used to bridge the gap during transition to more carbon neutral fuels in the coming future.

• **Demand Side Scenario – LNG Imports**

Chart 11 and **Table 3** shows the LNG imports in 2020 and the largest LNG importers globally. Japan still keeps the number one spot (21%), with China in second place for LNG imports (19%). Both these countries combined import about 40% of the global LNG traded. Myanmar was a new addition

to the list of global LNG net importers in 2020, importing 0.2 MT. Growth in net imports was dominated by long-standing importing giants China, India, Taiwan and South Korea – adding a total of 11.7 MMT of net imports in 2020 despite waves of COVID restrictions. Turkey also increased net imports by 1.35 MMT. The largest increases in net imports were seen in Asia, growing net imports by 10%, or 9.5 MMT, compared to 2019. The largest importing regions, consistent with 2018 and 2019, were Asia Pacific and Asia (147.1 MMT and 107.3 MMT respectively), although Asia Pacific’s market share of total net LNG imports declined by 1% compared to 2019



Source: IHS Markit LNG Data

As mentioned in the LNG Pricing section above, it was an unexpected shock to the gas and power utilities in Asia and Europe, when during winter season they experienced record-breaking low temperatures not seen in decades. This led to a sharp increase in imports at the end of 2020 and start of 2021.

Table 3: LNG Imports from 2018 to 2020 (MMT)

Year	Europe	Asia-Pacific	N. America	S. America	Middle East	Total
2018	49.93	240.78	9.84	7.80	9.72	318.07
2019	87.42	246.18	9.85	6.33	7.05	356.82
2020	84.61	256.66	6.75	6.97	7.09	362.07
Change 2018-2019	37.49	5.40	0.02	-1.48	-2.68	38.75
Change 2019-2020	-2.82	10.48	-3.10	0.65	0.04	5.25

Source: IHS Markit LNG Data

In 2020 (as seen in **Table 3** above), the increase in LNG import was marginal to the tune of 5.25 MMT, out of which Europe had recorded a decline in LNG imports from 2.82 MMT (vis a vis 2019), while Asia Pacific had doubled its imports to 10.48 MMT to offset the marginal decline in Europe, North America and Middle East.

It is forecast by IHS Market that LNG trade would start to expand again from 2023-24 onwards, as new LNG projects which achieved FID during 2018-19 begin to commence supply operations. In 2019, 70 MMT of LNG capacity achieved FID which was a historic high in LNG project investments.

Projections for 2021 and beyond

Return of normalcy will lead to renewed economic activity and hence recovery in energy demand. Though LNG spot market saw record breaking prices not seen since 2011, due to the Japanese earthquake that caused the nuclear disaster forcing shutdown of all nuclear plants in Japan, the LNG market is projected to remain in surplus for years to come and it will remain a buyer's market.

LNG demand growth has been revised downwards for the long term, due to the impact of COVID and more focus on carbon emissions will mean greater investment in renewables which are cost competitive and also the development of Hydrogen as an alternative, not only for gas, but for liquid fuels as well. However, for China there is some uncertainty on how the carbon emissions strategy will work and what impact will it have on gas demand. This will also be the case for other mature markets with declining LNG imports like Japan and South Korea. They also have carbon emissions plans and the impact of this on gas demand is too early to tell. In countries like India and the rest of South East Asia, owing to rapid economic growth the LNG imports will rise strongly in the future despite increase in domestic gas production from difficult fields and CBM production.

On the supply side, the Qatari expansion will add significant supply and push out other LNG projects from the market. Only smaller LNG projects may get FID in 2021. IHS Markit is of the view that the LNG market will experience a surplus market till the end of the decade due these factors. However, all these projections are not certain, as the growth of LNG will depend on energy policy of countries involved in LNG trade and cost economics of hydrogen will also influence its development as an alternative fuel, which right now it is at a nascent stage. Renewable energy faces the challenge of intermittency, which requires better quality and cost-effective battery power storage, which is still under development, and LNG is answer to this.

One thing is certain, that LNG prices will remain subdued barring yearly seasonal swings and buyers like India will be in an advantageous position to negotiate and procure new LNG supply at economic rates to feed the gas infrastructure build up taking place in the sector right now.

GAS IN INDIA

Introduction

According to the Indian Energy Outlook published in 2020 by IEA, India is slated to become the most populated country in the world this decade. The potential for growth in energy consumption in India is very high, making it an important market in the global energy industry after China. India, like all other nations was also severely impacted by COVID pandemic.

According to the Indian Economic Survey 2020-21 Report, India experienced a contraction of 23.9% of its GDP in first quarter (April-June) of FY 2020-21, while it experienced positive growth of 3.1 % in the fourth Quarter (Jan.-Mar.) of previous FY 2019-20. However, there was sharp recovery when in the second quarter of FY 2020-21, GDP declined only by 7.5%. Overall, for the FY 2020-21, India's GDP is forecast to decline by 7.7%. There is an expectation that India will experience a V shaped economic recovery, which means there will be a rapid increase in economic growth. Macro- economic indicators like the stock market have also reached all-time highs showing public confidence in the India's economic future. According to the IMF, in the next two years, India is also expected to emerge as the fastest-growing economy globally.

Energy demand in India, is forecast to rise substantially and oil demand is projected by IEA to overtake China's by the middle of this decade. Oil demand by IEA is forecast to reach from 4.4 million bpd in 2017 to 6 million barrels per day (bpd) by 2024 and 8.7 million bpd by 2040, an increase of 97.7% from 2017 levels. In the meanwhile, domestic oil production is not expected to rise much and will only see a marginal increase.

As far as gas is concerned, Hon'ble Prime Minister of India has announced that India plans to spend Rs. 7.5 Trillion in creating oil and gas infrastructure over next five years and increase share of natural gas from current 6.3% to 15% in India's Energy basket by year 2030. This would require fourfold increase in gas consumption to over 600 MMSCMD by year 2030 and over 500 MMSCMD by year 2025-26 from present consumption of around 155 MMSCMD. It is expected that share of LNG in natural gas consumption would increase from present around 55% to 70% in India due to limited domestic production i.e. presently around 75 MMSCMD, which may increase to around 180 MMSCMD in best case scenario, thereby implying that there will be LNG requirement of around 430 MMSCMD (about 120 MMTPA) for achieving 15% share of gas in India's Energy basket. In order to cater to such near four-fold increase in gas demand and limited increase in domestic gas supplies, LNG imports are going to play major role to cater to incremental gas demand. Such increase in LNG demand, would require enhancement of India's LNG re-gas infrastructure to around 150 MMTPA (considering 80 % utilization) against presently available capacity of 42.5 MMTPA which after including under construction capacity of 19 MMTPA, would take total regas capacity to 61.5 MMTPA.

India is focusing on renewable sources to generate energy. It is planning to achieve 40% of its energy from non-fossil sources by 2030, which is currently 30% and have plans to increase its renewable energy capacity from to 175 gigawatt



(GW) by 2022. India is expected to be the third largest consumer economy as its consumption may triple to US\$ 4 trillion by 2025, owing to shift in consumer behavior and expenditure pattern, according to a Boston Consulting Group (BCG) report. It is estimated to surpass USA to become the second largest economy in terms of purchasing power parity (PPP) by 2040 as per a report by PricewaterhouseCoopers.

Despite COVID's impact of the gas sector, 2020 was quite an eventful year for India's gas industry. There were some major developments in the gas sector and some of them will have a long-term impact on the gas industry. They were KG Basin D1/D3 gas field production ceasing finally after starting in 2009 and new domestic gas supply from the R-Cluster/Satellite fields of the Reliance BP Joint venture. Oil Natural Gas Corporation (ONGC) is also expected to commence supply from its own gas fields from the same KG Basin. The opening of the first gas trading hub by Indian Gas Exchange is expected to have a major impact on the gas market in India. The Petroleum & Natural Gas Regulatory Board (PNGRB) announced unified tariff for all interconnected natural gas pipelines, so as to enable more uniform development of the gas industry, which will be discussed below in detail in the Major Developments section.

Gas Market Scenario in 2020

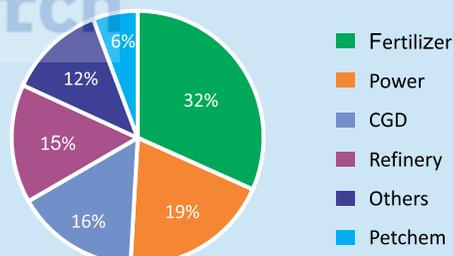
Gas Demand and Supply

Despite the severe impact of COVID, which led to significant gas demand destruction during the lockdown period, gas consumption in 2020 was 151.65 MMSCMD, while in 2019, it was marginally higher at 151.91 MMSCMD. **Table 4** and **Chart 12** below, shows the sector-wise consumption of R-LNG and domestic natural gas in 2020. Fertilizer is the most dominant user of gas. For RLNG consumption, fertilizer sector is the largest consumer, as gas is used as a feedstock for ammonia production. When it comes to domestic gas consumption, the power sector is the largest sector as it is extremely sensitive to gas prices. If we look at the total share of each consuming sector in 2020, fertilizer accounts for almost one third of the total gas consumed in the country at 31.67% and leads the power sector by a wide margin. Power accounts for about one fifth (19.25%) and third is City Gas Distribution (CGD) is 15.76%, almost the same as Refinery. Petro-chemicals and other industries like sponge iron, glass works etc. together consume about 18% of the total gas consumed.

TABLE 4: GAS CONSUMPTION SECTOR-WISE IN 2020 (MMSCMD)

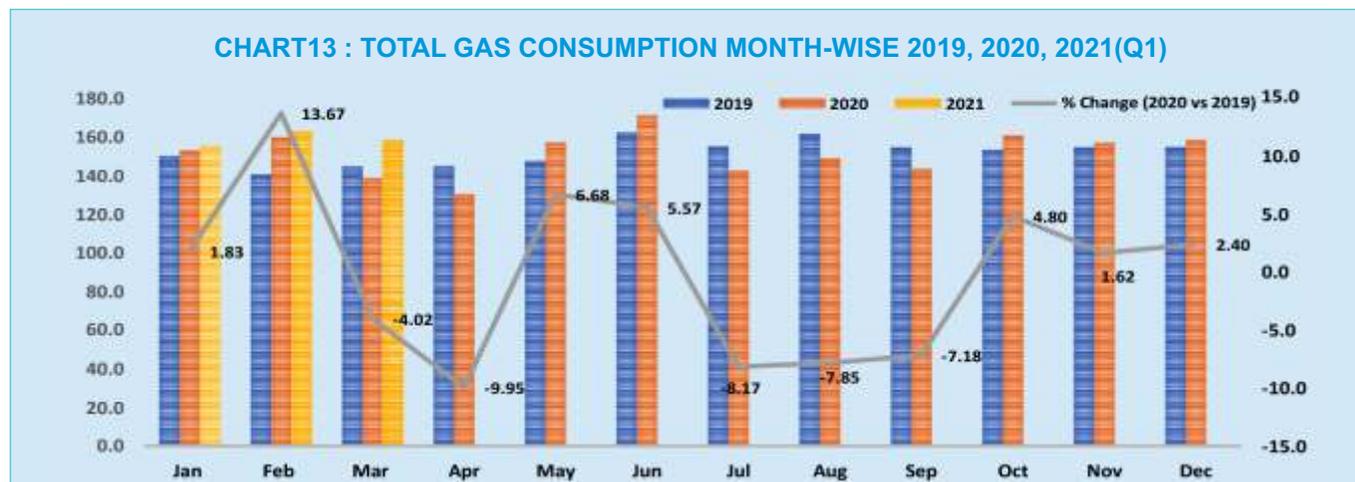
2020	RLNG	Domestic Gas	Total	% Share
Fertilizer	30.55	17.48	48.03	31.67
Power	8.92	20.27	29.19	19.25
CGD	11.30	12.60	23.91	15.76
Refinery	18.09	4.85	22.95	15.13
Others	10.12	8.76	18.88	12.45
Petchem	7.85	0.86	8.70	5.74
Total	86.84	64.82	151.65	100.00

CHART 12: SECTORWISE CONSUMPTION IN 2020 (MMSCMD)



SOURCE: PPAC Gas Report

Chart 13 shows the monthly total gas consumption in 2021 (Q1), 2020 vs 2019.



Source: PPAC Gas Monthly Report

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Table 5 below shows sector-wise change in total gas consumption between 2019 to 2020.

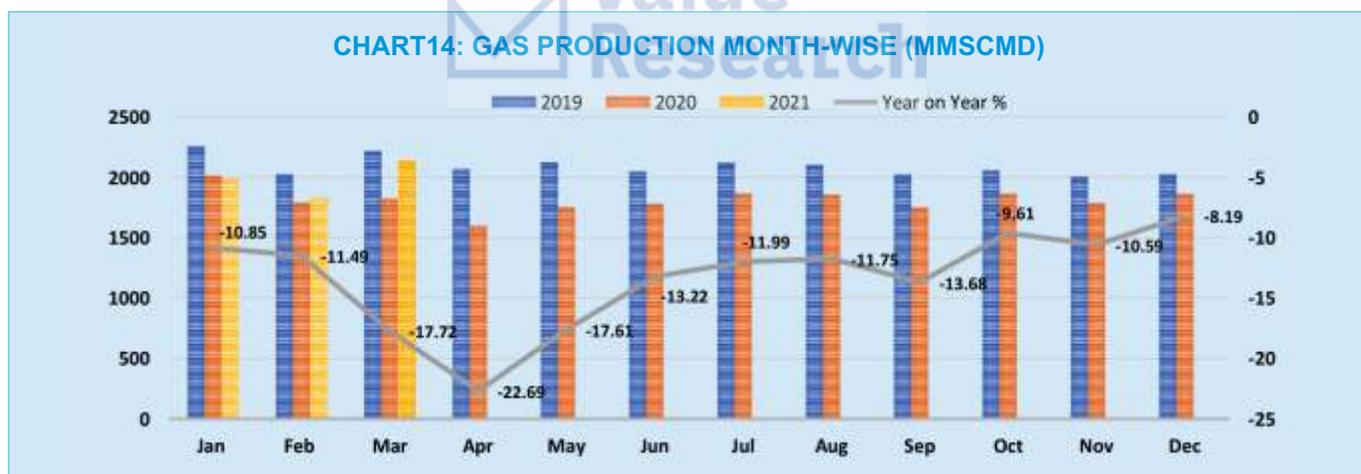
Sector	Fertilizer	Power	CGD	Refinery	Others	Pet-chem	Total
2019	43.34	31.28	27.94	20.21	18.43	10.71	151.91
2020	48.03	29.19	23.91	22.95	18.88	8.7	151.65
Year-on-Year	4.69	-2.09	-4.03	2.74	0.45	-2.01	-0.26
Year-on-Year (%)	10.8	-6.7	-14.4	13.6	2.4	-18.8	-0.2

Source: PPAC Gas Monthly Report

The year 2020 started with high gas consumption Year-on-Year (Y-o-Y) as shown in Chart 13 above, while the contrary was true for gas production and domestic gas supply suffered as shown below in **Chart 14** and **Table 6**, for 2020 as compared to 2019. Total yearly gas production in 2020 was approximately 13% lower than in 2019. During the same period, low LNG prices during January and February 2020, a trend which started in 2019, due to the LNG supply glut, was further pushed down. This encouraged Indian LNG importers to buy more LNG spot cargoes at low price rates.

The main drivers for RLNG consumption were refinery, fertilizer, and City Gas Distribution (CGD) sectors. During January 2020, the Mundra Regasification Terminal received its first LNG commissioning LNG cargo, adding additional regasification capacity.

For January and February 2020, the Platts WIM marker was assessed more than 40% lower Y-o-Y as show in **Chart 17** and **Table 9**. This caused LNG imports in 2020 as shown in Chart 16 and Table 8, for January and February to rise Y-o-Y by approximately 27% and 84% respectively as Indian buyers bought more spot cargoes. **Chart 16** and Table 8 show the Year-on-Year declines for all the months between 2019 vs 2021 (Q1). February was the 2nd highest month in terms of LNG imports of 2.75 Million MT. The record LNG imports of 2.81 Million MT in 2020 were reached in October because of resurgence in gas demand. According to S&P Platts, Indian LNG buyers due to the low spot prices issued many buy tenders for spot LNG cargo procurement by mid-February for delivery during the year and had bought 67 LNG cargoes amounting to 4.3 MMT under spot and short-term supply deals.



Source: PPAC Gas Monthly Report

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2019	2258	2027	2218	2067	2124	2050	2118	2103	2025	2060	2001	2026	25077
2020	2013	1794	1825	1598	1750	1779	1864	1856	1748	1862	1789	1860	21738
2021	1979	1822	2140										
2020 vs 2019 % Change	-10.85	-11.49	-17.72	-22.69	-17.61	-13.22	-11.99	-11.75	-13.68	-9.61	-10.59	-8.19	-13.31
Month on Month % (2020)	-	-10.88	1.73	-12.44	9.51	1.66	4.78	-0.43	-5.82	6.52	-3.92	3.97	-



Due to the impact of COVID, for March, gas consumption declined by 13% from February 2020, while LNG imports for March 2020, declined from February 2020 by about 23%. Platts WIM marker for March was \$3.29/mmbtu, more than 50% lower Y-O-Y, as the global impact of COVID lockdowns internationally was being felt by the LNG spot market, in terms of reduced LNG demand.

During COVID, though essential energy infrastructure would continue to operate like regasification terminals, it was the downstream demand slump that would lead to high LNG inventory levels at India's regasification facilities. Initially, India was supporting the Asian spot market with high imports. This meant some volumes of LNG destined for the Chinese market were landing in India. The decrease in gas demand in India will be much higher as unlike Japan and South Korea, which are one of the biggest buyers of LNG in the Asian region, where LNG is largely used for power generation, while in India only 9% of the LNG imported is used for power generation.

April month gas consumption continued the downward trend from March month of 2020 and on LNG imports. However, monthly average spot LNG prices represented by the Platts WIM marker for April fell to \$2.93/mmbtu and they would eventually bottom out in month of June/July as shown below in Chart 17 and Table 9. In April gas consumption fell by 6% as compared to March, mainly due to lower gas demand from the CGD sector as it declined by around 50%, from 25 to 12.5 MMSCMD. However, power sector demand rose in April by 12%, due to record low LNG prices, that made gas based power very competitive with coal and led to some coal to gas switching in the power sector. This was the only bright spot in the otherwise shrinking gas market in India. Chart 15 and Table 7 below shows gas consumption in the power sector went from 25.3 MMSCMD in April to 35.4 MMSCMD in June and after that started to decline again due to increasing WIM prices. In the meanwhile, LNG import fell sharply in April from March 2020 by around 39%.

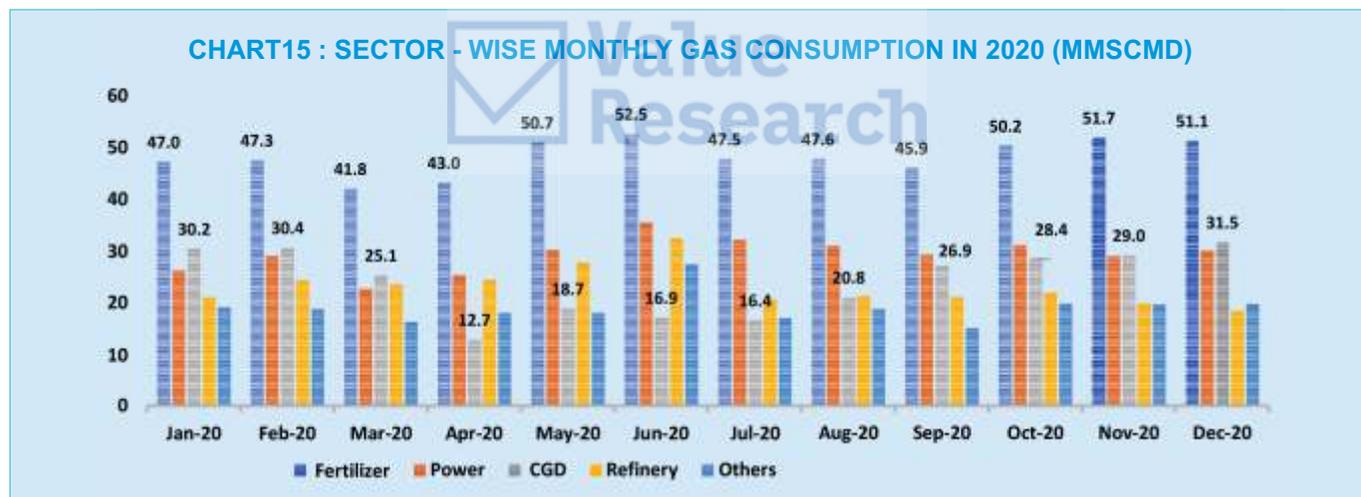


TABLE 7: SECTOR-WISE MONTHLY GAS CONSUMPTION FOR 2020 (MMSCMD)

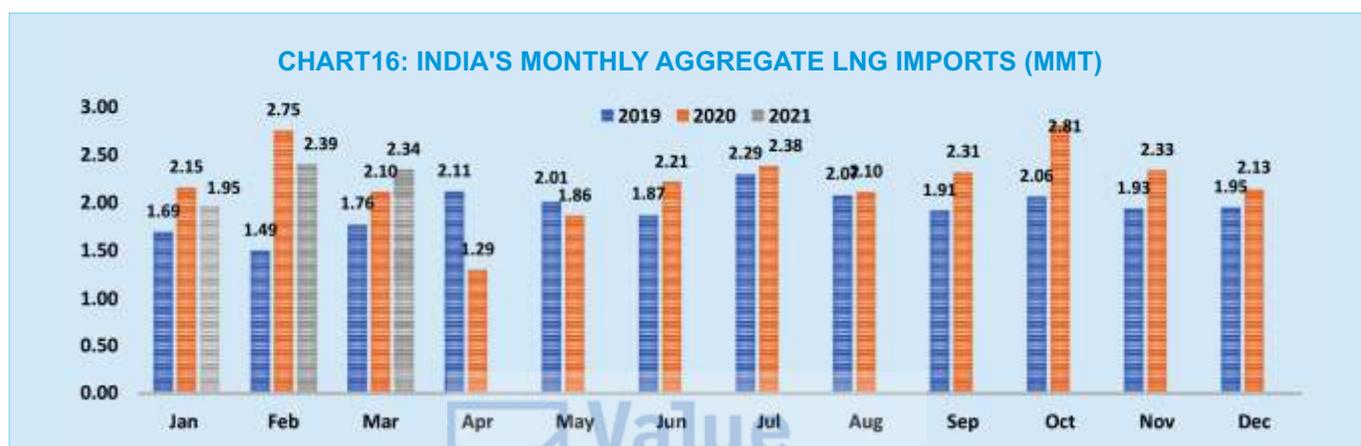
Sector	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Fertilizer	47.0	47.3	41.8	43.0	50.7	52.5	47.5	47.6	45.9	50.2	51.7	51.1
Power	26.1	29.0	22.6	25.3	30.1	35.4	32.0	30.9	29.2	31.1	28.9	29.9
CGD	30.2	30.4	25.1	12.7	18.7	16.9	16.4	20.8	26.9	28.4	29.0	31.5
Refinery	20.9	24.2	23.5	24.4	27.7	32.4	20.6	21.2	21.0	21.8	19.7	18.3
Others	19.0	18.7	16.2	18.0	18.0	27.3	16.9	18.6	15.1	19.7	19.5	19.7
Total (MMSCM)	152.8	159.7	138.6	130.3	157.1	171.2	142.4	148.8	143.4	160.5	156.9	158.3

Source: PPAC Monthly Gas Report

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In May, gas consumption did rise M-o-M by about 21% as all gas consuming sectors recorded a rise in gas consumption. The WIM marker was valued at a monthly average of \$2.57/mmbtu for May, down from \$2.93/mmbtu from April. In June M-o-M there was further increase in gas consumption by about 9%, with only CGD sector declining by about 10%. The WIM marker monthly average of June was assessed at

\$1.99/mmbtu. In July, however the rising gas consumption trend reversed and faced a sharp decline of about 17% and Y-o-Y had a 8% decline. The WIM market monthly average of July was assessed at \$1.98/mmbtu, which was the lowest for the year and was well below the then prevailing domestic gas price of \$2.39/mmbtu as notified by PPAC (MOPNG).



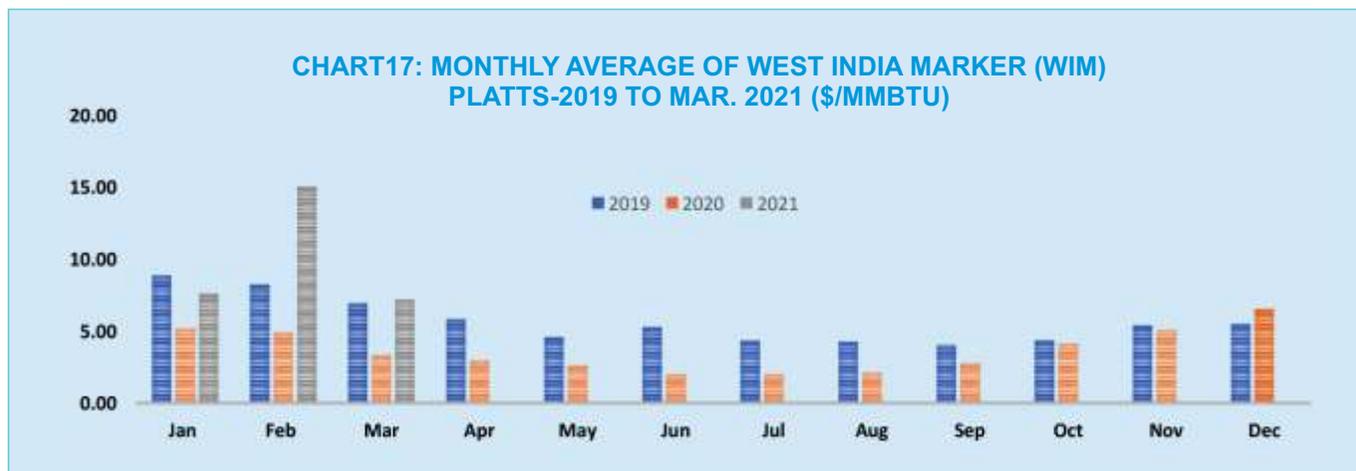
Source: IHS Markit

Year / Monthly	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	1.69	1.49	1.76	2.11	2.01	1.87	2.29	2.07	1.91	2.06	1.93	1.95
2020	2.15	2.75	2.10	1.29	1.86	2.21	2.38	2.10	2.31	2.81	2.33	2.13
2021	1.95	2.39	2.34									
Year on Year % (2020)	27.15	84.16	19.33	-38.76	-7.26	18.61	3.88	1.52	20.97	36.45	20.72	9.65
Month on Month % (2020)	-	27.87	-23.54	-38.57	43.99	18.95	7.42	-11.62	10.12	21.26	-16.79	-8.62

Source: IHS Markit

For August, September and October, gas consumption fluctuated as can be seen in Table 7, while LNG imports followed the increasing trend and reached a record high of 2.81 Million MT in October 2020. As can be seen in Table 9, the Platts WIM marker was assessed in August at \$2.11/mmbtu and the same kept rising from record lows seen in July of \$1.98/mmbtu to \$4.09/mmbtu in October and reaching \$6.53/mmbtu in the month of December 2020 before touching peak of \$15.04/mmbtu in February of 2021. This was because winter was severe in Asia and Europe,

causing LNG spot prices to reach record highs as explained in the first section, which revived the global LNG trade in 2020/2021. Also, for the first time due to record low prices of LNG spot cargoes in 2020, it was reported that during the year, industrial users of gas were substituting domestic gas supply with LNG as there were months in which LNG spot prices fell below the domestic gas price, resulting in cost savings for the industrial gas users. So we can say with certainty that for the gas industry in India, 2020 was a turbulent year with a lot of volatility and uncertainty.



Source: IHS Markit

TABLE 9: MONTHLY AVERAGE OF WEST INDIA MARKER (WIM) PLATTS - 2019 VS 2020 (\$/MMBTU)

Year / Monthly	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	8.88	8.23	6.95	5.85	4.58	5.27	4.33	4.26	4.03	4.35	5.41	5.47
2020	5.12	4.85	3.29	2.93	2.57	1.99	1.98	2.11	2.77	4.09	5.02	6.53
2021	7.64	15.04	7.18	-	-	-	-	-	-	-	-	-
Year on Year (2020 vs 2019)	-42.30	-41.08	-52.59	-49.98	-43.87	-62.14	-54.24	-50.54	-31.34	-5.89	-7.18	19.35

Source: IHS Markit

Major Developments in Gas Industry in 2020

Supply Side – Domestic Gas Production

The great hope for Indian self-sufficiency in gas production was the indigenous gas find in KG Basin by Reliance Industries, ONGC and GSPCL under New Exploration Hydrocarbon Policy (NELP) after Mumbai High discovery. The Reliance find was the first to be put into production in April 2009. The supply from this gas field reached a high of 61.43 MMSCMD in March 2010. However, the gas production started to decline from April 2010.

The Reliance & BP Joint Venture have had a second wave of discoveries in the KG Basin D6 Block. The three fields in the KG D6 Block are R Cluster/Series (D34), Satellite fields (D2, D22, D29 and D30) and MJ (D55). R-cluster was the first to start production. RIL-BP consortium had published two NIO namely Tender-I for 5 MMSCMD and the gas supply commenced from December 06th, 2020. Whereas, Tender-II for 7.5 MMSCMD, wherein gas supply commenced from February 10th, 2021.

The Satellites fields are expected to start from April 2021 / early May 2021 with peak production of 5.5 MMSCMD and the MJ fields will commence supply from end of 2022 with peak production capacity of 12 MMSCMD. The gas price in

Tender- I was linked to Brent crude oil and the gas was awarded to bidders between the slope of 8.5% to 8.6% to Dated Brent crude oil price. Whereas Tender-II was linked to JKM marker + V (Starting 'Bid against price basis').

Reliance has initiated the auction for 3rd tranche of gas from Satellite Gas Fields and for this auction we understand the pricing mechanism would be similar to previous Tender-II. Oil and Natural Gas Corporation (ONGC) is also going to commence gas supply from its gas field in the KG Basin Block. It is understood that ONGC will auction this gas through NIO and the probable pricing may be linked to Dated Brent oil price. The gas production plan of ONGC is to increase natural gas production from the KG basin block to 2.5-3 MMSCMD by May 2021, 8.5 MMSCMD in the following year and will reach peak production by 2023-24 of 15 MMSCMD.

Further, Vedanta has also done auctioning for 4.3 MMSCMD of gas, from the Gas field in RJ-ON-90/1 Block in Barmer, Rajasthan, where the gas price to successful bidders was linked to DES West India Marker.

Supply Side – Oil and Gas Auctions

The Government has implemented plethora of reforms in the past five years in the E&P sector.

- Notification on 'Reforms in Exploration and Licensing Policy for enhancing domestic exploration and production of oil and gas' on 28th February 2019 with the objective to intensify exploration activities, attract foreign and domestic investment and enhance domestic production.
- The new Hydrocarbon Exploration Licensing Policy (HELP) for award of Hydrocarbon Acreages in the Upstream Sector of India was notified on 30th March, 2016 and formally launched w.e.f 1st July, 2017. Open Acreage Licensing Policy (OALP) is one of the key features of HELP which has been notified on 30th June, 2017. Till Dec 2020, under HELP/Open Acreage Licensing Policy (OALP), five OALP bidding rounds have been concluded in which 105 exploration blocks have been awarded covering an area of approx. 156,580 sq. km.
- National Data Repository (NDR) set up at DGH and launched on 28th June, 2017 to make the entire Exploration and Production (E&P) data available for commercial exploration, research and development and academic purposes. Total data uploaded in NDR till 31st December 2020 is 2.582 Million Line Kilometres of 2D Seismic Data, 0.872 Million Square kilometers of 3D Seismic data.
- Discovered Small Field Policy (DSF) is aimed at monetizing hydrocarbon resources locked-in for years in a time bound manner to boost domestic production of Oil and Gas.

Currently, the natural gas pipeline tariff is levied based on the distance transported - the longer the distance, the higher is the charge. This resulted in consumers far away from the source of gas supply paying higher charges as compared to those who were near to source. Furthermore, if natural gas that is being transported to the end users, is passing through multiple natural gas pipelines, then the tariff payable by the end consumer is the sum of applicable zonal tariffs of all such gas pipelines used for transportation of the gas molecules. With a view to simplify the gas pipeline tariff structure, PNGRB has notified first tariff zone of 300 kms from the unified entry point on either side of the national gas grid system and second tariff zone, being the remaining length of the national gas grid system on either side of first tariff zone for unified tariff.

There is total 14 natural gas pipelines which are part of national gas grid system for calculation of Unified Tariff and these pipelines belongs GAIL (India) Limited, Indian Oil Corporation Limited, Pipeline Infrastructure Limited, Gujarat State Petronet Limited, Reliance Gas Pipelines Limited, GSPL India Gasnet Limited and GSPL India Transco Limited. The new tariff structure would facilitate the creation of a National Gas Grid and make it more easily accessible by end users.

Developing a gas hub for India

Indian Gas Exchange Ltd. (IGX) is an automated national level Gas Exchange to promote and sustain an efficient and robust Gas market and to foster gas trading in the country.

IGX started operations on 15th June 2020 as Gas Trading Platform and has been operating as the Gas Exchange since 10th December 2020. The Exchange operates under the regulatory framework of Petroleum and Natural Gas Regulatory Board (PNGRB) and IGX has received authorization to operate for 25 years from the PNGRB under the newly issued regulations, the Gas Exchange Regulations 2020. It has strategic investments by leading players in the gas value chain.

The exchange adds to flexibility in the market for gas purchase and sales and leads to a transparent market-based price discovery for gas. The market-based price discovery mechanism, is essential for the growth of the gas market in India.

The Indian Gas Exchange currently offers trade in five contracts, including Daily, Weekly, Weekday, Fortnightly and Monthly, at three physical hubs - Hazira and Dahej in Gujarat and KG Basin in Andhra Pradesh. Further more physical hubs are in the process of being added. The Exchange has over 500 registered clients and 15 members and has cumulatively traded 100,000 mmbtu volume of gas.

TABLE 10: COMPANY-WISE AWARD OF BLOCKS UNDER OALP

Company	Round 1	Round 2 & 3	Round 4	Round 5	Total
Vedanta Ltd	41	10	-	-	51
Oil India	9	12	-	4	25
ONGC	2	8	7	7	24
IOCL	-	1	-	-	1
BP & RIL	-	1	-	-	1
Hindustan Oil Exploration Co.	1	-	-	-	1
GAIL	1	-	-	-	1
Bharat Petro Resources Ltd.	1	-	-	-	1

Source: ONGC Corners all 7 blocks on offer in OALP Bid Round 4 – Business Line Dated 3 Jan. 2020/

Gas Pipeline Tariff Reforms – Unified Tariff

PNGRB has simplified the country’s gas pipeline tariff structure to make the natural gas more affordable for distant users. It has notified regulations (Determination of Natural Gas Pipeline Tariff) for calculation of ‘unified tariff’; however its implementation shall be notified separately.

IGX has recently introduced market-friendly features including improved auction methodology to enhance ease-of-trade for the market participants. It has introduced open auction trading, on its platform. The trading through new formats has commenced with effect from March 25, 2021. The Monthly, Fortnightly, Weekly and Weekday contracts will have Open Auction mechanism, while the Daily contracts will be traded through Continuous Trading mechanism. In Double-sided Open Auction, both sellers and buyers will have access to the information regarding price and quantity shared by the various sellers on the platform.

The Indian gas market is poised for big growth as PNGRB has auctioned a large number of Geographical Areas for CGD projects in the last few years. It is expected that in the next few years there will be more consumers getting connected to growing gas network.

LNG as Transportation Fuel:

Ministry of Petroleum and Natural Gas has recently published draft LNG policy on February 17th, 2021.

The key aims and objective of the policy is to (i) Frame an integrated approach towards procurement, storage, transportation and use of LNG, including its byproducts such as boil-offs (ii) ensure equitable distribution and adequate availability of LNG for all technologically feasible sectors (iii) promote increased use of LNG in various sectors including in transportation and in mining sector (iv) ensure stable, transparent and enabling framework for activities related to LNG, (v) promotion of new technologies related to LNG and (vi) promotion of adoption of LNG for usage in green field sectors i.e. where LNG is not being used in any manner currently.

Under Upstream sector, the policy aims to (i) create a regasification capacity of 70 MMTPA by 2030 and 100 MMTPA by the year 2040 (ii) support Virtual Pipelines and enabling Infrastructure for transporting LNG through rail and also through LNG truck loading. Whereas under Midstream, the policy aims to (i) develop dedicated Highways with extensive LNG infrastructure (ii) Use of LNG as transport fuel in high-volume closed-circuit loops to be developed in areas such as mining areas, refineries, etc (iii) to achieve the target of 10% Conversion of all long-haul heavy-duty trucks and other similar automotive to LNG and (iv) Mobile dispensing of LNG.

Under Downstream, the policy aims to (i) establishing 1000 LNG stations for ensuring availability of LNG for long haul, heavy duty trucks and other automotive covering all major highways, industrial and commercial centers, etc. (ii) Adoption of LNG in green field areas (iii) Marketing and sale of LNG as a vehicular fuel shall be a free activity and not

have any restriction as to the quantity, area or any other parameter except the safety and technical parameters.

It may be noted that the diesel consumption in India is about 83 MMT(2019-20), In recent years, M&HCV segment has shown tremendous growth potential, with the average number of incremental vehicles of around 2,50,000 per year. Similarly, bus segment has also shown a significant growth (on average around 90,000 incremental buses per year) making it a target segment for the introduction of LNG for intercity travels This poses a good opportunity for LNG to at least start converting a few % of new vehicles. (Around 40,000 trucks consume around 1.1 MMTPA of LNG assuming per truck per day running of 250 kms). Considering yearly average addition of new Medium & Heavy Commercial Vehicles (M& HCV) of around 2.5 Lakhs and with average life of 15 years, it is estimated that conversion of 10% of long-haul Heavy-duty trucks & similar automotive will translate into 3.75 Lakhs vehicles which will translate into prospect of 10.3 MMT per annum.

Taking a leaf from the above data, PLL has adopted a Three-Pronged Strategy prepared to set up 1000 LNG dispensing Stations on Delhi-Mumbai Corridor, Golden Quadrilateral, North-South & East-West Corridors and Development of LNG dispensing network on pan India basis for development of LNG as an automotive fuel.

Development of CGD network on Pan India basis:

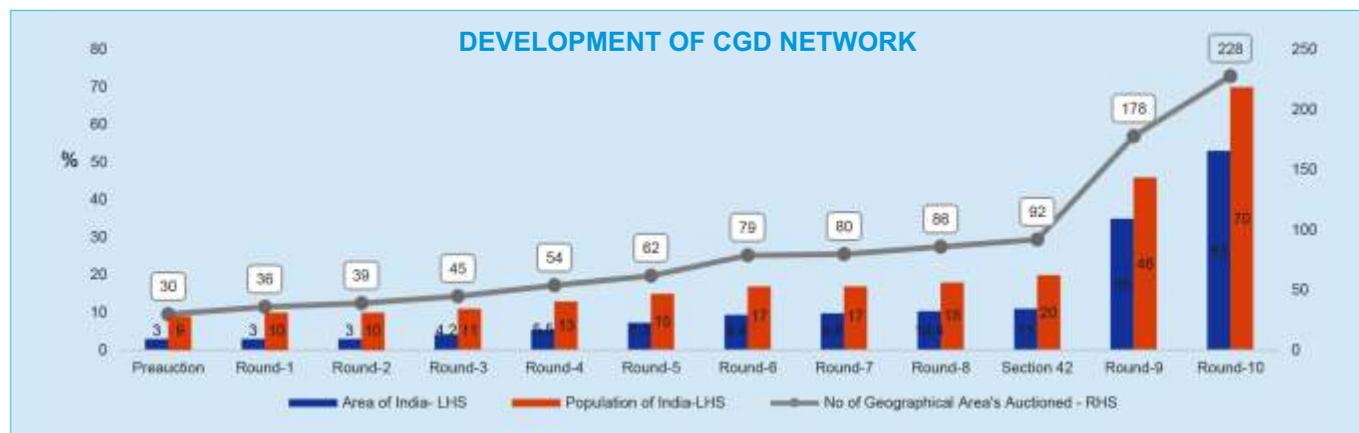
Fact Sheet of CGD sector as on March 2021. Currently the CGD network caters to about

- 76 lacs domestic house hold connections
- 2,837 CNG stations
- 32,282 commercials
- 11,172 Industrial connections.

The CGD sector consumes about 32 MMSCMD gas (the said gas consumption is for the month of March 2021, the total Indian gas consumption for the month of march is 157.6 MMSCMD as per PPAC report March 2021). Petroleum and Natural Gas Regulatory Board (PNGRB) had awarded CGD licensing to 136 Geographical Areas covering 298 districts under 9th and 10th round of CGD bidding, with the completion of award of the same, the City Gas Distribution network shall cover about 53% of India's geographical area and 70% of its population. It may be noted that with increased penetration level of CGD network the gas consumption shall increase many folds. Further, we now understand from media sources that the PNGRB may cover the entire country (covering over 300 districts in the eleventh round of CGD bidding) at one go in the upcoming round of city gas distribution (CGD) bidding (XIth) that may happen in coming times.

It is worth mentioning that, PNGRB has also supported the CGD players by granting extension in Exclusivity period and

shifting of year wise MWP targets of Cumulative Work Program on account of COVID-19 pandemic for the authorised GAs.



State governments have also been facilitating CGD network development and have introduced sector-specific policies/guidelines (like single window clearances etc) enabling overall growth of CGD sector in India. Public Utility Status has been granted to CGD Projects. Overall, India's CGD sector is well poised to grow leap and bounds backed by strong favorable regulatory environment and policy frameworks and guidelines. With inclusion of natural gas in GST, CGD sector shall see further heights.

Internal Control Systems and their Adequacy

The company has developed adequate internal control systems commensurate to its size and business. PLL has appointed PWC as Internal Auditors, who conduct regular audits for various activities. The reports of the Internal Auditors are submitted to the Management and the Board's Audit Committee. There is a thorough review of the adequacy of internal control system.

Financial Performance

The turnover during the financial year ended 31st March, 2021 was Rs. 26,411 Crore including other income as against Rs. 35,825 Crore in FY 2019-20. The net profit during the financial year ended 31st March, 2021, was Rs. 2,949 Crore as against Rs. 2,698 Crore in 2019-20.

Human Resources

The company maintained harmonious and cordial industrial relations. No man days were lost due to strike and lock-out. As on 31st March, 2021, there were 529 employees excluding 3 Whole-time Directors.

Disclosure by Senior Management Personnel, i.e. One Level below the Board including all HODs

None of the senior management personnel has financial and/ or commercial transactions with the company. They do not have any personal interest that would have a potential conflict with the interest of PLL at large.

Details of significant changes in key financial ratios

RATIOS			
Particulars	2020-21	2019-20	Changes (%)
Debtor Turnover Ratio	14.97	23.75	-36.98
Interest Coverage Ratio	12.81	8.71	46.99
Operating Profit Margin (%)	16.54	9.91	66.85
Net Profit Margin (%)	11.33	7.61	48.95

The change in the above ratios is mainly attributable to the decrease in LNG prices and change in demand. However this has not impacted on our net profit as our purchase costs are pass through to customers. The variation in (i) inventory turnover ratio (ii) current ratio and (iii) debt - equity ratio is not more than 25% as compared to the previous year. The Company's return on net worth is 25.3% in FY 2020-21 (24.6% in FY 2019-20). Change in the above ratio is on account of volumes processed and other factors including margins earned on trading volumes, efficiency in operations etc.

Conclusion and Outlook

As far as India is concerned, the question is how to navigate these energy challenges and balance the requirements of



increasing energy consumption per capita, while keeping an eye on the carbon emissions, which will increase with energy production and consumption. LNG is a lower carbon alternative to other more polluting fuels and allows for diversification in energy supply sources, especially in terms of less dependence on oil. Right now, the LNG market is in a structural surplus and this will benefit LNG importers like India, which have price sensitive markets. In this surplus market, LNG is likely to remain affordable and India in long run is likely to benefit as a major LNG importing economy.

There can be hybrid pricing formulas in a contract, which is a mix of varying weightages for oil, gas and LNG spot pricing, or alternatively, there can be a portfolio of individual LNG sale contracts with single fuel linkages to oil or a gas hub, which are then comingled and sold to downstream buyers, with price being a volume weighted average of different pricing formulas. Looking at the evolving varying contractual terms, there is need to strike a balance between affordable price and favorable contractual terms to meet the growing demand of LNG in the country.

With LNG price likely to remain affordable, accessibility by the end consumer plays an important role. In this direction of making gas available to end consumer, Hon'ble Prime Minister of India has announced that India plans to invest Rs. 7.5 Trillion in creating oil and gas infrastructure over next five years. Further, considering India's International commitments at UNFCCC of reducing carbon footprints and vision of Hon'ble Prime Minister of making India a gas based economy by increasing share of natural gas from current 6.3% to 15% in India's Energy basket by year 2030, Natural gas consumption is likely to increase to over 600 MMSCMD by year 2030 and over 500 MMSCMD by year 2025-26 from present consumption of around 155 MMSCMD. It is expected that share of LNG in natural gas consumption would increase from present around 55% to 70% in India due to limited domestic production i.e. presently around 75 MMSCMD, which may increase to around 180 MMSCMD in

best case scenario, thereby implying that there will be LNG requirement of around 430 MMSCMD (about 120 MMTPA) for achieving 15% share of gas in India's Energy basket. In order to cater to such near four-fold increase in gas demand and limited increase in domestic gas supplies, LNG imports are going to play major role to cater to incremental gas demand. Such increase in LNG demand, would require enhancement of India's LNG re-gas infrastructure to around 150 MMTPA (considering 80 % utilization) against presently available capacity of 42.5 MMTPA which after including under construction capacity of 19 MMTPA, would take total regas capacity to 61.5 MMTPA.

Apart from traditional sectors of fertilizers, refineries, petrochemicals and power, city gas distribution and use of LNG as an automotive fuel in long haul Medium & Heavy Commercial Vehicle is likely to emerge major gas consuming sector. Specifically, considering the economic and environmental benefits of LNG over liquid fuels may provide major impetus for conversion of long haul Medium & Heavy Commercial Vehicle on LNG as a fuel.

To make gas affordable to end consumer in every corner of India, unified pipeline tariff, inclusion of Natural Gas under GST and market determined prices will further augment efforts of making India a gas based economy.

Cautionary Statement

Statements in the Management's Discussion & Analysis describing the Company's objectives, expectations or anticipations may be forward looking within the meaning of applicable securities, laws and regulations. Actual results may differ materially from the expectations. Critical factors that could influence the Company's operations include global and domestic demand and supply conditions affecting selling prices of products, input availability and prices, changes in Government regulations/tax laws, economic developments within the country and factors such as litigation and industrial relations.