<u>FUTURE FOR LPG IMPORT TANKERS IN INDIA</u>

Author: P. Harsha Sivaji, Retd. Executive Director, Indian Oil

Ex-Advisor Sanmar Shipping Limited

IEI Member-F-1226262

Abstract

Petroleum Products play a vital role worldwide in driving a country's economy. In India it is a major contributor to the country's GDP. Among various Petroleum products in India, **LPG** (Liquefied Petroleum Gas – a mixture of Propane & Butane), is the most commonly widely preferred fuel by all sections of the society.

India meets country's LPG Demand 50% through Imports and balance through local Production. Import Demand is met mostly through state run Organizations deploying VLGC and MGC of Indian and Foreign Flag vessels.

The Paper deals with "Future of LPG Import Tankers requirement in India".

India LPG Consumption during last decade

India ranks 3rd in LPG consumption among Global countries, next to China-71MMT and USA 43 MMT, as of 2021, as per Global statistics.

LPG consumption in India increased from 18.0 MMT (Million Metric Tonne) in 2014-15 to 29.65 MMT in 2023-24 as per PPAC (Petroleum Product & Analysis Cell, Govt. of India (GoI) report given below Ref [1]:

Chart 16: Year wise LPG consumption volume (MMT) since 2014-15

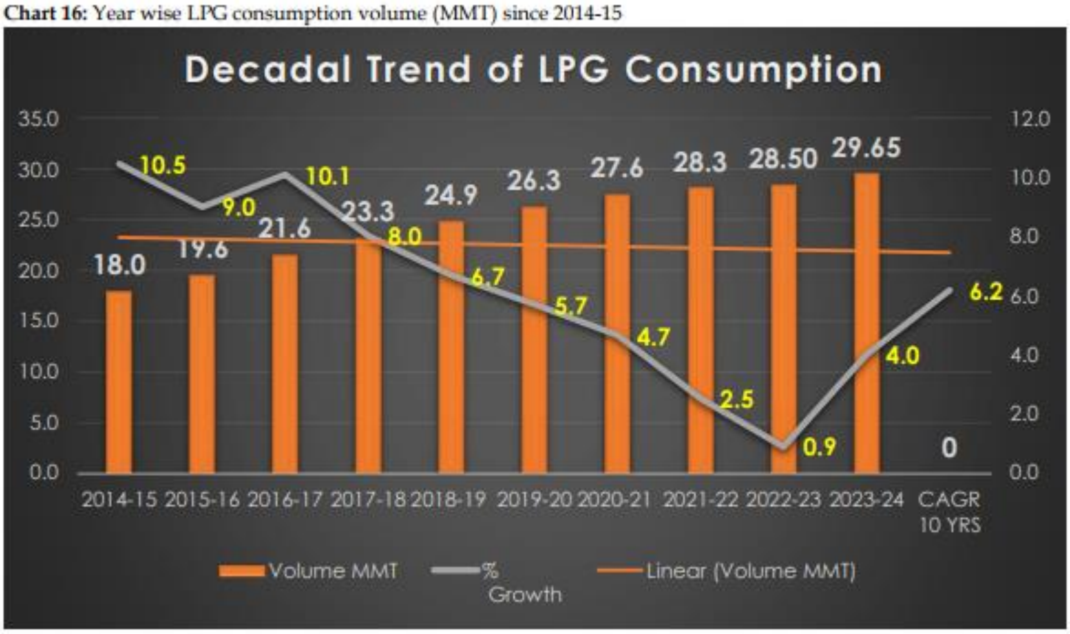

Fig.1

Inference: ***There has been steady increase of LPG Imports in India during the last decade.*** CAGR of LPG consumption in India is 4% Ref [1].

Indian LPG Domestic Consumers Coverage

Ref [2] PPAC report given below indicates 14.86 Cr domestic customers in 2014-15 increased to 32.42 domestic customers in 2023-24, a rise in coverage from 56.2% to almost 100% of Population by April 2024 .

16. LPG marketing at a glance

Particulars (As on 1st of April)	Unit	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	1.04.24 (P)
LPG Active Domestic Customers	(Lakh)				1486	1663	1988	2243	2654	2787	2895	3053	3140	3242
	Growth					11.9%	19.6%	12.8%	18.3%	5.0%	3.9%	5.5%	2.9%	3.2%
LPG Coverage (Estimated)	(Percent)				56.2	61.9	72.8	80.9	94.3	97.5	99.8	-	-	-
	Growth					10.1%	17.6%	11.1%	16.5%	3.4%	2.3%	-	-	-
PMUY Beneficiaries	(Lakh)						200.3	356	719	802	800	899.0	958.6	1032.7
	Growth							77.7%	101.9%	11.5%	-0.2%	12.2%	6.6%	7.7%

Fig.2

Reasons for increase in LPG consumption &coverage in India over the years

(a) Change of Kerosene (SKO) fuel users to LPG users

As per GoI policy of moving towards cleaner fuel, Kerosene was replaced by LPG as cooking fuel, for nearly 11 % of the population since 2001, thereby increasing LPG demand, PPAC report Ref[3].

Chart-15:LPG Vs SKO

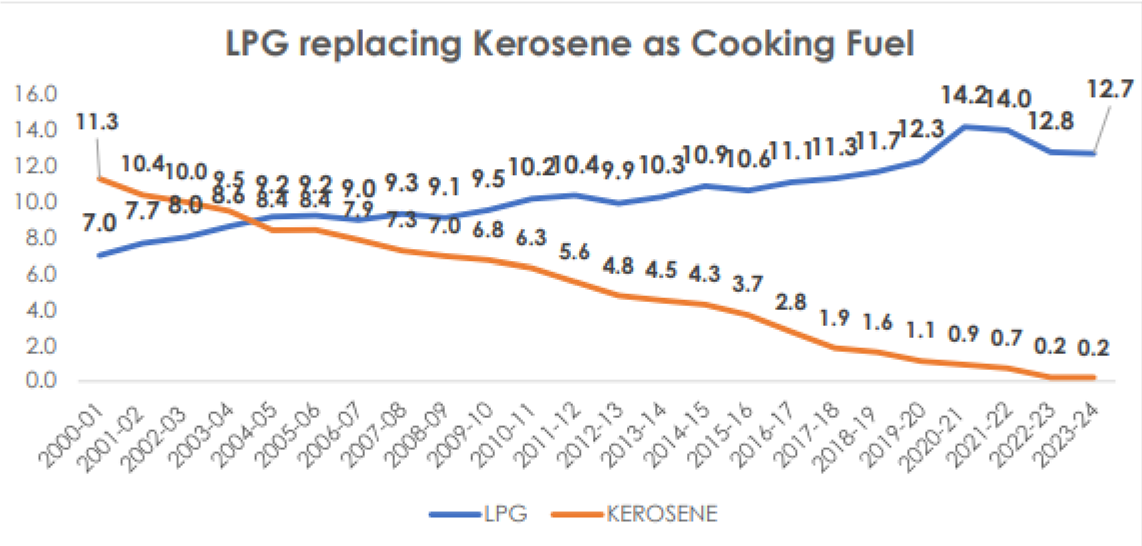

Fig.3

(b) *Introduction of PMUY scheme by GoI* @ Fig.2, releasing 10.32 Cr domestic connections since 2017 against existing total 32.42 Cr domestic connections thereby increasing the LPG Demand.

LPG Production by Indian Refiners & country's Consumption last decade – *source PPAC*

Table 1

INDIAN REFINERS LPG PRODUCTION vs COUNTRY'S LPG DEMAND				
				ALL FIGS. IN MMT
YEAR	TOTAL PETROLEUM PRODUCTION Ref [4]	LPG PRODUCTION Ref[4]	LPG CONSUMPTION Ref[1]	LPG SHORTFALL
2014-15	221	9.8	18.0	8.2
2015-16	231	10.5	19.6	9.1
2016-17	245	11.2	21.6	10.4
2017-18	254	12.3	23.3	11.0
2018-19	262	12.7	24.9	12.2
2019-20	262	12.8	26.3	13.5
2020=21	233	12.0	27.6	15.6
2021-22	254	12.2	28.3	16.1
2022-23	266	12.8	28.5	15.7
2023-24	276	12.7	29.65	17.0

Inference: *LPG demand increases steadily over the years. Indian Refiners total Petroleum Production is also increasing, However LPG Production increase is Marginal probably due to Refinery Economic considerations leading to increased LPG Production shortfall from internal sources.*

LPG Production shortfall vs. LPG Import of India

Table 2

LPG PRODUCTION SHORTFALL vs LPG IMPORT			
YEAR	LPG PRODUCTION SHORTFALL-TABLE1	LPG IMPORT Ref [5]	IMPORT % INC.
2014-15	8.2	8.3	
2015-16	9.1	8.9	**6.7**
2016-17	10.4	11.0	**19.1**
2017-18	11.0	11.3	**2.7**
2018-19	12.2	13.2	**14.4**
2019-20	13.5	14.8	**10.8**
2020=21	15.6	16.5	**10.3**
2021-22	16.1	17.0	**2.9**
2022-23	15.7	18.3	**7.1**
2023-24	17.0	18.4	**0.5**
figs in MMT			

Inference: *Because of continued LPG Production shortfall over the Demand, LPG Import continues.*

LPG Consumption vs. LPG IMPORT in India

Table -3

YEAR	LPG CONSUMPTION Ref(1)	LPG IMPORT Ref(5)	% OF CONSMPN
2014-15	18.0	8.3	46
2015-16	19.6	8.9	45
2016-17	21.6	11.0	51
2017-18	23.3	11.3	48
2018-19	24.9	13.2	53
2019-20	26.3	14.8	56
2020=21	27.6	16.5	60
2021-22	28.3	17.0	60
2022-23	28.5	18.3	64
2023-24	29.65	18.4	62
figs in MMT			

Inference: *LPG consumption is increasing, and LPG import is also increasing correspondingly constituting around 60% of the country's Demand. PPAC's estimated projection of consumption for 2024-25 is 30 MMT an increase of 0.35 MMT over 2023-24.*

LPG Import vessels Deployment in India

In India LPG import is mostly handled by state run Petroleum Organizations, viz. Indian Oil, Bharat Petroleum and Hindustan Petroleum, through VLGC and MGC at major ports-Kandla, Mangalore, Kochi, Chennai Ennore, Vizag, Paradeep & Haldia and also at Dahej - on Time Charter basis.

INDUSTRY LPG IMPORT TC VESSELS							
YEAR	MGC	VLGC	TOTAL	INDIAN FLAG	FOREIGN FLAG	TOTAL	VOLUME
	NOS.	NOS.	NOS.	NOS.	NOS.	NOS.	'000 MT
2019-20	6	13	19	10	9	19	640
2020-21	10	17	27	10	17	27	880
2021-22	10	19	29	12	17	29	960
2022-23	11	21	32	16	17	33	1060
2023-24	12	19	31	15	16	31	1000
MGC - 20000 MT							
VLGC -40-45000 MT							
Source - Industry							

In 2023-24, 31 LPG import Vessels (12 MGC & 19 VLGC) of nearly 1 MMT capacity was deployed by Industry while in 2019-20 it was only 0.64 MMT with 19 nos. (6 MGC & 13 VLGC) i.e. nearly 50 % increase in cumulative Vessels capacity in 5 years.

Inference: *Increased utilization of* ***Time Charter LPG import vessels by*** *Industry over the years with equal ratio of Indian and Foreign flag vessels is on the increase.*

SWOT Analysis of "Future LPG Import Tanker Requirement in India":

Strength:

LPG Demand is always increasing with incremental country's population growth being the most commonly preferred fuel by all sections of the Society.

Indian Refiners economics does not favor LPG production as reflected in Table-1 leading to Increased LPG imports.

Weakness: Port restriction to handle VLGC vessels, due to limitations in onshore storage and handling facilities, necessitating discharge at multiple ports.

Opportunity: GoI polices, like widening Smokeless village concept in rural areas, may enhance LPG demand further as it happened under Kerosene reduction and PMUY scheme increasing LPG import requirements.

Threat: Indian Refiners increasing LPG production, GoI policy to implement alternate domestic fuel supplies like Piped Natural Gas (PNG) to replace LPG.

CONCLUSION:

SWOT analysis indicates that Industry is likely to deploy additional VLGC vessel @ one VLGC vessel every year for LPG Imports in coming years based on the past History.

Conclusion is Future is Sustainable for LPG Import Tanker Industry in India.

P. HARSHA SIVAJI

Mob. No.+ 919920900581

Email:phs0305@rediffmail.com; harshasivaji1@gmail.com

REFERENCES

[1] PPAC - Industry PoL & NG report 23-24 pg.21

[2] PPAC - Snapshot of India's Oil & Gas data March 2024 pg.23

[3] PPAC - Industry PoL & NG report 23-24 pg.20

[4] PPAC - Report on Petroleum Products Production History till March 2024

[5] PPAC - Report on Petroleum Import/Export History till March 2024