MONTHLY REPORT ON INDIGENOUS CRUDE OIL PRODUCTION, IMPORT AND PROCESSING & PRODUCTION, IMPORT AND EXPORT OF PETROLEUM PRODUCTS

March 2017

Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas)

1. In this report, indigenous crude oil production, imports and processing as well as production and imports/exports of petroleum products by oil companies are analyzed on a monthly basis to assess the domestic availability of petroleum products in the country for consumption.

Highlights

- Indigenous crude oil production during March, 2017 was marginally higher by 0.9% than that of March, 2016 and higher by 10.5% over February, 2017. On cumulative basis, it was lower by 2.5% than that of April-March, 2015-16. There was a reduction of crude oil production by 0.4 MMT in BH, 0.4 MMT in Mangala and 0.2 MMT in Ravva fields.
- Import of crude oil decreased by 5.2% during March 2017 as compared to March 2016. During the period April 2016 - March 2017, import of crude oil increased by 5.2% over the corresponding period of the previous year.
- Total crude oil processed during March, 2017 was 21.3 MMT, a marginal decrease of 0.3% over March, 2016 and an increase of 11.9% over last month of February, 2017. Crude oil processing during March, 2017 is the second highest in 2016-17 on monthly basis. On cumulative basis it was 245.4 MMT, an increase of 5.4% over the period April-March, 2015-16. Around 6.4 MMT of 12.5 MMT increase on cumulative basis was contributed by Paradip refinery and 1.8 MMT by Essar oil Limited. An increase of around 1.0 MMT each was recorded in HPCL-Mumbai, CPCL- Manali and BPCL-Kochi refineries.
- Highest ever POL production of 21.7 MMT in a month till date from refineries and fractionators was achieved during March, 2017. Similarly during 2016-17 highest ever POL production of 242.7 MMT in a year till date was achieved. Production of petroleum products during March, 2017 saw a growth of 2.0% over March, 2016. On cumulative basis a growth of 5.0% was recorded in production over April- March, 2015-16.
- Product imports increased by 17.0% during March, 2017 over the corresponding period of 2016 and by 9.6% over February, 2017. LPG, Lubes and Pet-coke imports contributed to 81.1 % share of total POL imports during March, 2017. On cumulative basis an increase of 21.7% was recorded in product imports over the period April- March, 2015-16 which was mainly due to increase in petcoke import by private sector.
- Export of POL products increased by 13.1% during March, 2017 as compared to March,

2016 primarily due to higher production as well as higher surplus availability of POL products like MS, ATF and HSD, which constituted around 76.9% of total POL exports. Further, export of POL increased by 33.0% over February, 2017 due to increase in export quantity of MS, Naphtha and HSD. The foreign exchange earnings of US$ 2775 m were the highest during any month of financial year 2016-17. On cumulative an increase of 7.3% was recorded in product exports over the period April- March, 2015-16. Exports of 64.99 MMT during 2016-17(P) are the second highest till date during any financial year after 2013-14.The percentage share in export by PSU/JV sector was 19.3% while in private sector, it was 80.7% during the financial year 2016-17(P).

2. Indigenous crude oil and condensate production

2.1 Indigenous crude oil and condensate production increased by 0.9% during March 2017 as compared to March 2016. Cumulative indigenous crude oil and condensate production decreased by 2.5% during April 2016 - March 2017 at 36009 TMT as compared to 36942 TMT produced during the same period in the previous year.

i. OIL's crude oil production in March 2017 was higher by 9.1% as compared to March 2016. On overall basis crude oil production was higher by 1.0% during April 2016 - March 2017 as compared to the previous year.

ii. In case of ONGC, crude oil and condensate production in March 2017 was higher by 3.3% as compared to March 2016. ONGC's overall crude oil and condensate production was lower by 0.6% during April 2016 - March 2017 as compared to the previous year, due to natural decline in matured fields of Western offshore basin. The delay in deployment of Sagar Samrat rig to mobile offshore production unit (MOPU) as well as development of western periphery of Mumbai High (MH) South field has also affected the crude production for ONGC.

iii. Indigenous crude oil and condensate production under PSC fields decreased by 6.2% during March 2017 as compared to March 2016. Crude oil and condensate production under PSC fields was lower by 7.3% during April 2016 - March 2017 in comparison to the previous year. The major decline was observed in Rajasthan's fields due to closure of a few high water cut wells in Mangala field and poor reservoir performance of Bhagyam wells.

2.2 Indigenous crude oil and condensate production in the country is given in Table-1 and Figure -1.

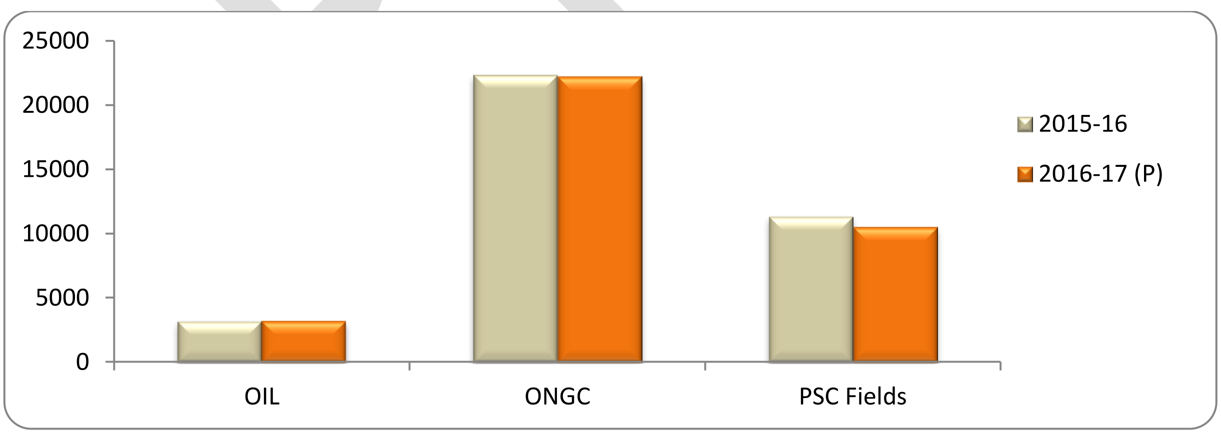
Table-1: Indigenous Crude oil and Condensate production

(Thousand Metric Tonnes)

Oil Company	Product	March			April- March		
		2015-16	2016-17 (P)	Change (%)	2015-16	2016-17 (P)	Change (%)
OIL	**Crude oil**	**269**	**293**	**9.1**	**3226**	**3258**	**1.0**
ONGC	Crude oil	1559	**1556**	**-0.2**	18538	**18263**	**-1.5**
	Condensate	310	375	**21.0**	3822	3955	**3.5**
	Total	**1869**	**1931**	**3.3**	**22360**	**22219**	**-0.6**
PSC FIELDS	Crude oil	922.6	865.5	**-6.2**	11335	10527	**-7.1**
	Condensate	0.9	0.4	**-51.2**	21	5	**-75.8**
	Total	**923**	**866**	**-6.2**	**11356**	**10532**	**-7.3**
Total	Crude oil	2751	2715	**-1.3**	33099	32049	**-3.2**
	Condensate	311	375	**20.8**	3843	3960	**3.1**
Grand Total	**Crude oil + Condensate**	**3061**	**3090**	**0.9**	**36942**	**36009**	**-2.5**

Note: All figures are provisional. *Source : Oil Companies & DGH*

Figure-1: Crude oil production including condensate in the country (in '000MT) (2016 –2017)

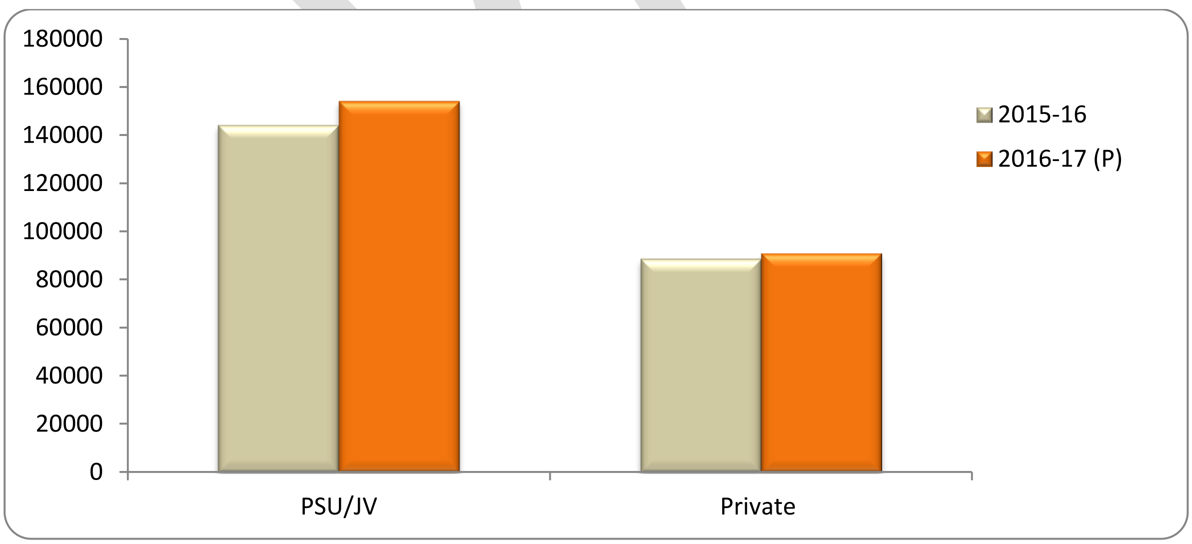


3. Crude Oil processing by Oil Companies

3.1 Crude oil processed (indigenous/ imported) in the country by PSU/JV/Private sector refining companies is given in Table-2 and Figure -2.

Table-2: Crude Oil Processed						
(Thousand Metric Tonnes)						
	March			April-March		
Oil Company	2015-16	2016-17 (P)	Change (%)	2015-16	2016-17 (P)	Change (%)
PSU / JV						
Indigenous	2378	2443	**2.7**	27462	27830	**1.3**
Imported	11148	11059	**-0.8**	116742	126474	**8.3**
PSU/JV	**13527**	**13502**	**-0.18**	**144204**	**154303**	**7.0**
Private						
Indigenous	563	466	**-17.2**	6637	5693	**-14.2**
Imported	7293	7359	**0.9**	82025	85399	**4.1**
Private	**7856**	**7825**	**-0.4**	**88662**	**91093**	**2.7**
Total of which	**21383**	**21328**	**-0.3**	**232866**	**245396**	**5.4**
Indigenous	**2941**	**2910**	**-1.1**	**34099**	**33523**	**-1.7**
Imported	**18442**	**18418**	**-0.1**	**198767**	**211873**	**6.6**
Note: All figures are provisional. Source : Oil Companies						

Figure-2: Crude oil processed (in 000MT) (2016 –2017)



Based on processing of indigenous crude oil/condensate and the country's domestic POL consumption, self-sufficiency of petroleum products was 17.3% in March 2017 as against 17.2% during March 2016.On cumulative basis self-sufficiency during 2016-17 was 17.9% as compared to 19.1% due to reduction in indigenous crude oil production and increased domestic consumption.

Indian refineries processed 71.9% of high sulphur crudes during March 2017 as compared to 72.2% in March 2016. On cumulative basis 72.4% HS crudes were processed during April 2016 - March 2017 as against 71.3% during the same period of the previous year (2015-16).

3.2 **Significant variations in crude oil processing by refineries are analysed below:**

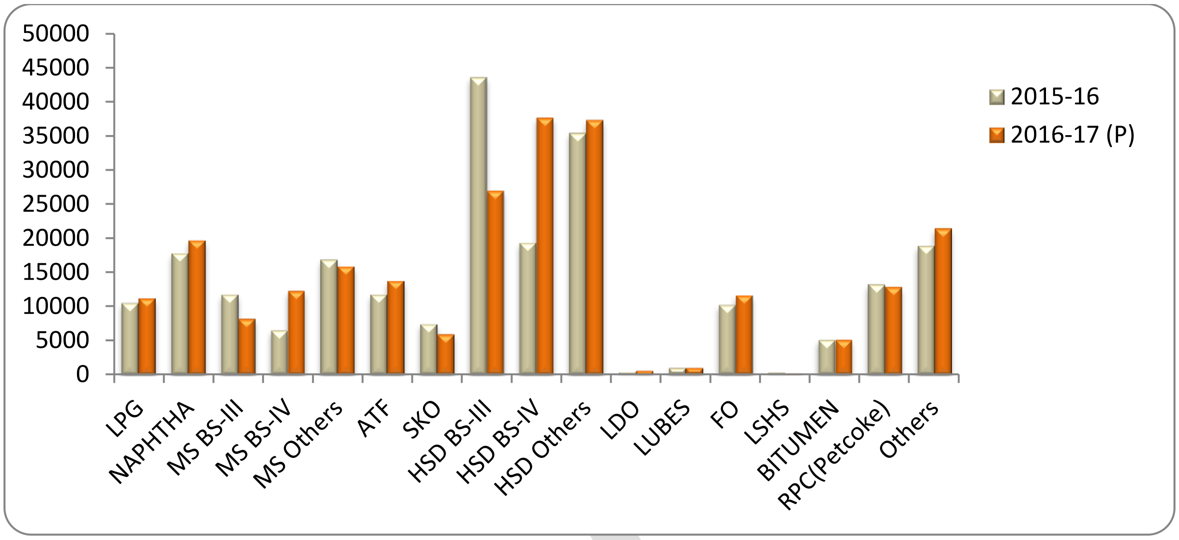
- Crude oil processing by Indian refineries during March 2017 registered marginal de-growth of 0.3% as compared to March 2016. On an overall basis growth of 5.4% was registered during April 2016 - March 2017 over the corresponding period of the previous year.
- In PSU (including JVs) refineries crude oil processing was marginally lower by 0.2% during March 2017 as compared to March 2016. On a cumulative basis up to March 2017, there was a growth of 7.0% over the same period of 2015-16 due to commissioning of IOCL- Paradip refinery and better capacity utilization of BPCL-Kochi, CPCL- Manali and HPCL Mumbai refineries.
- Crude oil processing by private oil refineries was marginally lower by 0.4% in March 2017 compared to March 2016. On cumulative basis up to March 2017, there was a growth of 2.7% over the same period of 2015-16 due to better capacity utilization by Essar Oil refinery.
- Indigenous crude oil processed in PSU refineries in March 2017 increased by 2.7% as compared to March 2016 due to increase in processing of Mangala crude by MRPL and hence indigenous crude oil processed in private refineries decreased by 17.2% during March 2017 compared to March 2016.

4. Production of Petroleum Products

4.1 Petroleum products (grade-wise) production figures in March 2017 and cumulative production up to March 2017 vis-a-vis the same period during the previous year are given in Table-3 and Figure-3:

Table-3 Production of Petroleum Products						
(Thousand Metric Tonnes)						
PRODUCTS	March			April- March		
	2015-16	2016-17 (P)	Change (%)	2015-16	2016-17 (P)	Change (%)
LPG	996	1071	**7.5**	10600	11252	**6.2**
NAPHTHA	1671	1869	**11.8**	17861	19757	**10.6**
MS BS-III	868	-38	**-104.4**	11802	8236	**-30.2**
MS BS-IV	890	1951	**119.3**	6571	12345	**87.9**
MS Others	1450	1498	**3.3**	16948	15943	**-5.9**
ATF	1305	1281	**-1.9**	11793	13809	**17.1**
SKO	605	436	**-27.9**	7503	5978	**-20.3**
HSD BS-III	3182	145	**-95.4**	43668	27024	**-38.1**
HSD BS-IV	2913	5550	**90.5**	19399	37730	**94.5**
HSD Others	2998	3506	**17.0**	35520	37367	**5.2**
LDO	53	61	**15.6**	429	629	**46.7**
LUBES	103	75	**-27.0**	1037	1030	**-0.7**
FO	804	668	**-16.9**	10317	11713	**13.5**
LSHS	17	22	**30.6**	374	272	**-27.3**
BITUMEN	638	549	**-13.8**	5157	5185	**0.5**
Petcoke	1252	1159	**-7.4**	13319	12915	**-3.0**
Others	1583	1944	**22.8**	18929	21508	**13.6**
Total of which	**21328**	**21748**	**2.0**	**231228**	**242693**	**5.0**
REFINERIES	**21066**	**21454**	**1.8**	**227851**	**239235**	**5.0**
FRACTIONATORS	**262**	**294**	**12.2**	**3377**	**3458**	**2.4**
Note: All figures are provisional. Source : Oil Companies						
** Others include products like Propylene, solvents (Hexane, Benzene, Toluene, Xylene and Specialty solvents), Reformate, Mineral Turpentine Oil, Carbon Black Feed Stock, Waxes, Sulphur etc.*						

Figure-3: Production of petroleum products (in'000MT) (2016 –2017)



4.2 **Significant variations in petroleum products production by refineries / fractionators are analyzed below:**

- Production of petroleum products from refineries and fractionators increased by 2.0% in March 2017 as compared to March 2016. On cumulative basis production was higher by 5.0% i.e. 11.5 MMT mainly due to increase in production of naphtha, ATF, HSD and FO by 8.8 MMT approximately.
- BS- IV production of MS and HSD in PSU refineries (excluding JV and Pvt. Refineries) have shown an upward trend during April 2016 – March 2017 in comparison to the same period in 2015-16 in line with the Auto Fuel policy of introducing BS-IV fuels in more states and regions. The month-wise production trends are shown in figures 4 and 5.

Figure-4: Month-wise BS-III & BS-IV MS production by PSU refineries (2016 –2017) (Excluding JV and Pvt. Refineries)

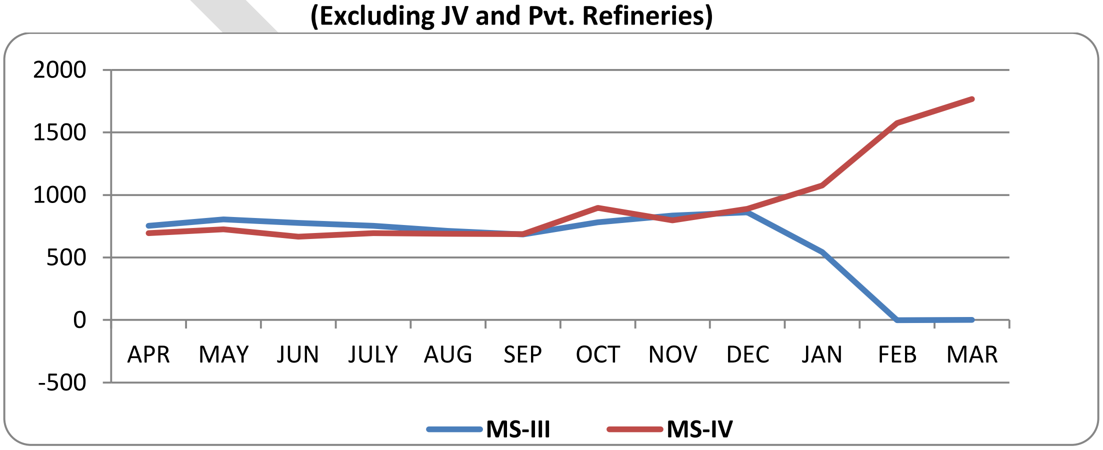
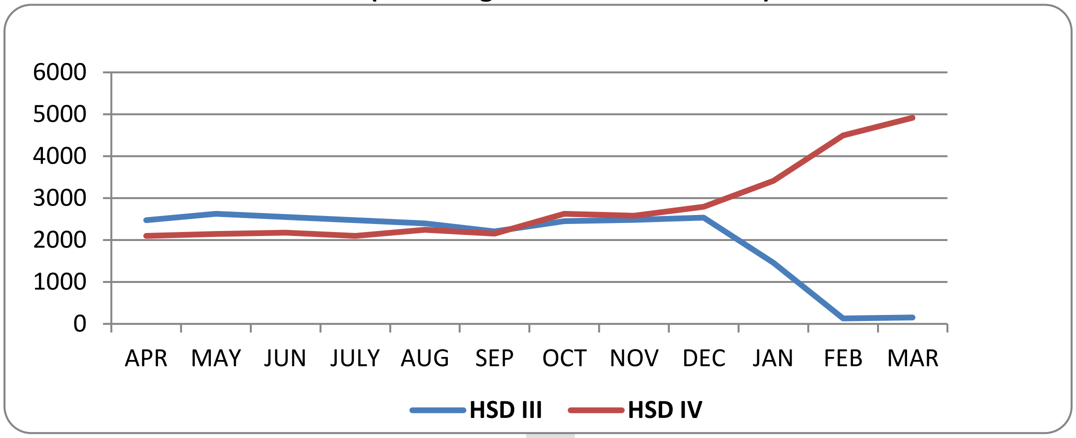


Figure-5: Month-wise BS-III & BS-IV HSD production by PSU refineries (2016 –2017) (Excluding JV and Pvt. Refineries)



- ATF production decreased by 1.9% in March 2017 as compared to the same period of the previous year. On overall basis ATF production was more by 17.1 % in April 2016 - March 2017 as compared to the same period of the previous year.
- SKO production decreased by 20.3% during April 2016 - March 2017 as compared to the same period of the previous year.
- Pet coke production decreased by 3.0% during April 2016 - March 2017 as compared to the same period of the previous year.
- FO production showed growth of 13.5% during April 2016 - March 2017 as compared to the same period of the previous year due to shutdown of bottom upgradation units in refineries.

On overall basis petroleum products availability during April 2016 - March 2017 from refineries and fractionators was 242693 TMT against domestic consumption of 194214 TMT leaving a surplus of 48479 TMT. However some petroleum products like naphtha and lubes were still imported to meet specific requirements (quality & specifications) of the user industries. Imports were also resorted to, to meet domestic consumption of LPG and bitumen for which there is a deficit in indigenous production.

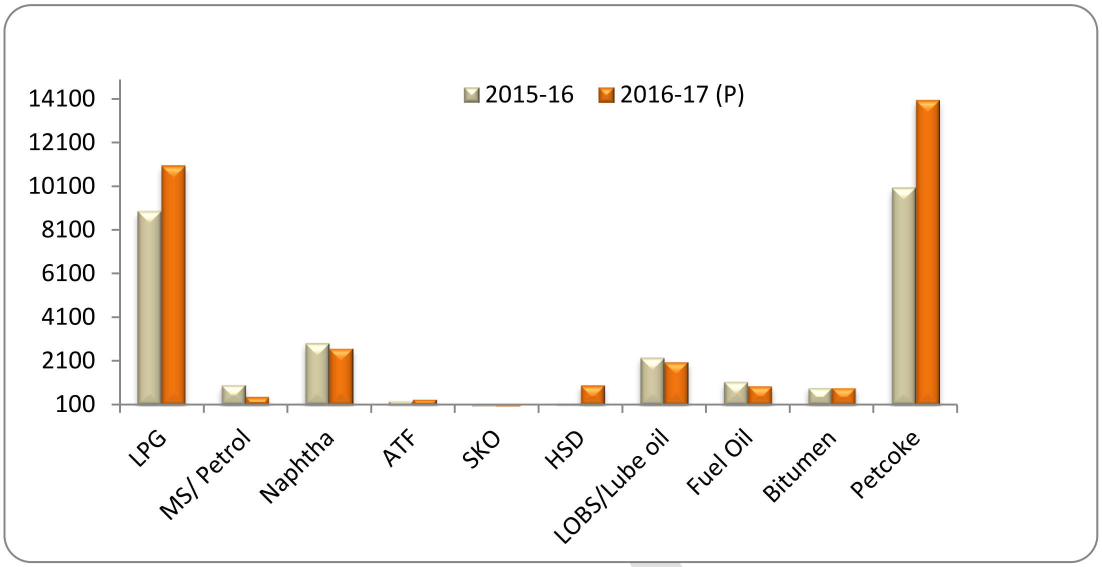
5. Import of Crude oil and Petroleum Products

5.1 **Details of import of crude oil and petroleum products are given in Table-4 and Figure-6 below:**

Table: 4 ; Import of Crude oil and Petroleum Products						
						(Thousand Metric Tonnes)
IMPORT	**March**			**April- March**		
	2015-16	**2016-17(P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
Crude oil						
PSU/JV	11265	10238	**-9.1**	121204	128301	**5.9**
Private	7281	7342	**0.8**	81647	84998	**4.1**
Sub Total	**18546**	**17580**	**-5.2**	**202850**	**213299**	**5.2**
PRODUCTS						
IMPORT #	**2015-16**	**2016-17 (P)**	**Change**	**2015-16**	**2016-17**	**Change**
LPG	750	1234	**64.6**	8959	11042	**23.3**
MS/ Petrol	20	0	**-100.0**	1012	476	**-53.0**
Naphtha	248	212	**-14.8**	2931	2692	**-8.2**
ATF	36	30	**-18.1**	286	358	**25.4**
SKO	0	0	**-**	41	0	**-100.0**
HSD	62	3	**-94.6**	177	997	**462.3**
LOBS/Lube oil	210	177	**-15.6**	2264	2075	**-8.4**
Fuel Oil	111	101	**-9.1**	1170	967	**-17.3**
Bitumen	111	75	**-32.3**	879	905	**2.9**
Petcoke	1055	1162	**10.2**	10041	14041	**39.8**
Others$	109	179	**64.4**	1694	2306	**36.1**
TOTAL	**2712**	**3173**	**17.0**	**29456**	**35859**	**21.7**
PSU/JV	**816**	**1234**	**51.3**	**10056**	**12547**	**24.8**
Pvt.	**1896**	**1939**	**2.3**	**19400**	**23312**	**20.2**

Note : All figures are provisional . Source : Oil Companies
 # DGCI&S data is estimated.
$ Others include SKO, Paraffin wax, Petroleum Jelly, LSWR , Aviation Gas etc.

Figure-6, Import of petroleum products (in'000MT) (2016 –2017)



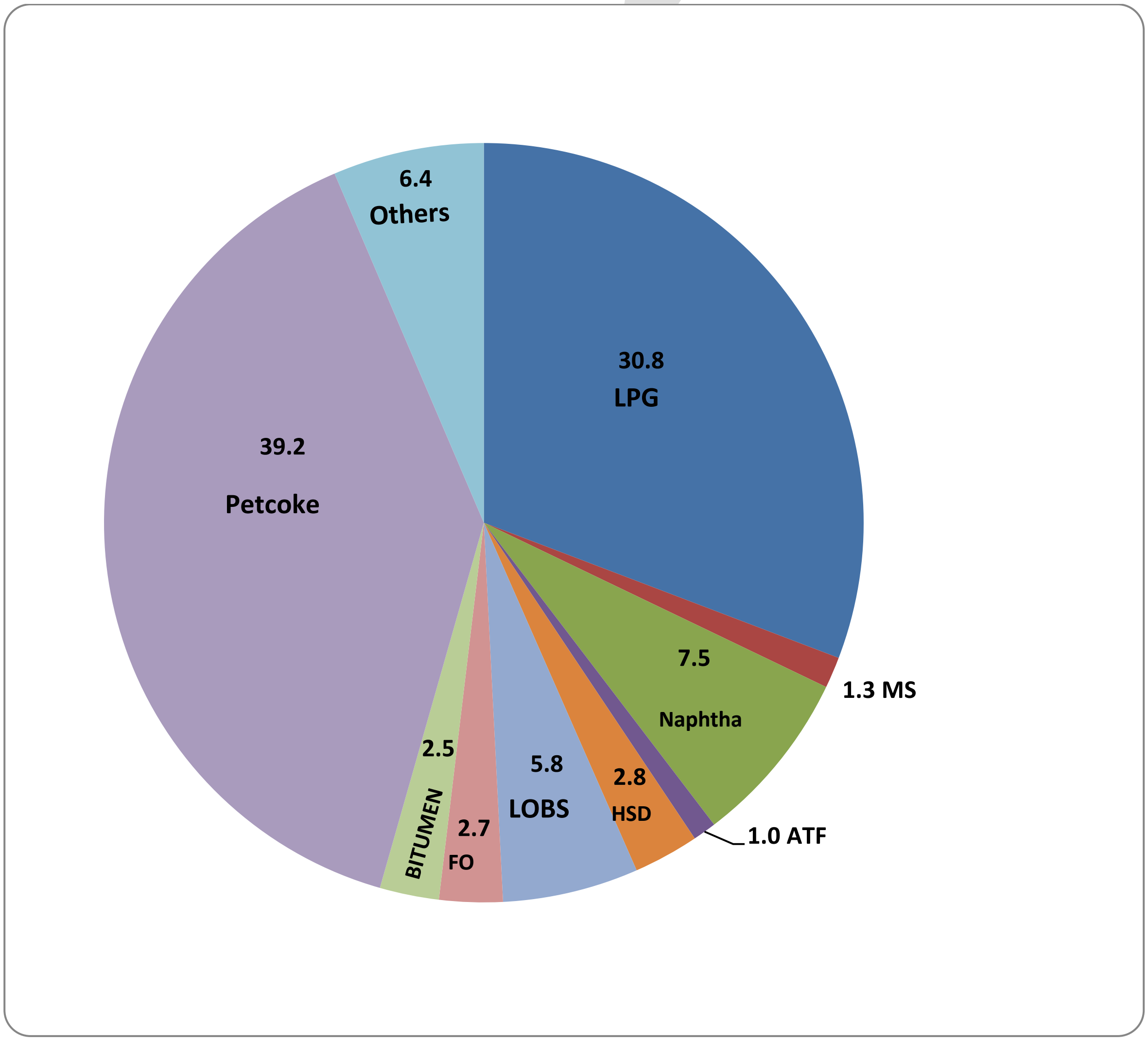
5.2 **Significant variations in import of crude oil and petroleum products are analysed below:**

- Crude oil imports during March 2017 decreased by 5.2% as compared to March 2016. On overall basis crude oil imports increased by 5.2% during April 2016 - March 2017 as compared to the same period during the previous year (2015-16).
- Crude oil imports of PSU/JV oil companies during March 2017 decreased by 9.1% as compared to March 2016. On overall basis crude oil imports of PSU/JV oil companies increased by 5.9% during April 2016 - March 2017 as compared to the same period during 2015-16 mainly due to increase in crude oil processing by IOC-Paradip refinery (8.2 MMT).
- Crude oil imports of private oil companies during March 2017 marginally increased by 0.8% as compared to March 2016. On overall basis crude oil imports of private oil companies increased by 4.1% during April 2016 - March 2017 as compared to the same period during 2015-16 due to increase in crude throughput.
- Import of POL products increased by 17.0% during March 2017 as compared to March 2016 mainly due to increase in import of LPG. Import of POL products increased by 21.7% during April 2016 - March 2017 as compared to the same period of the previous year (2015-16) with imports of LPG and petcoke accounting for 95.0% of total increase of 6.4MMT.

- Import of LPG, pet coke and lubes accounted for 81.1% share of the total petroleum product imports during March 2017 as there is deficit in domestic production vis-à-vis domestic consumption. On cumulative basis import of LPG accounted for 30.8% and pet-coke accounted for 39.2% of the total POL imports respectively during April 2016 - March 2017.

The share of all major products in the cumulative imports of the country during April 2016 March 2017 is shown in figure-7 below:

Figur-7, Percentage share of petroleum products in imports (2016 –2017)



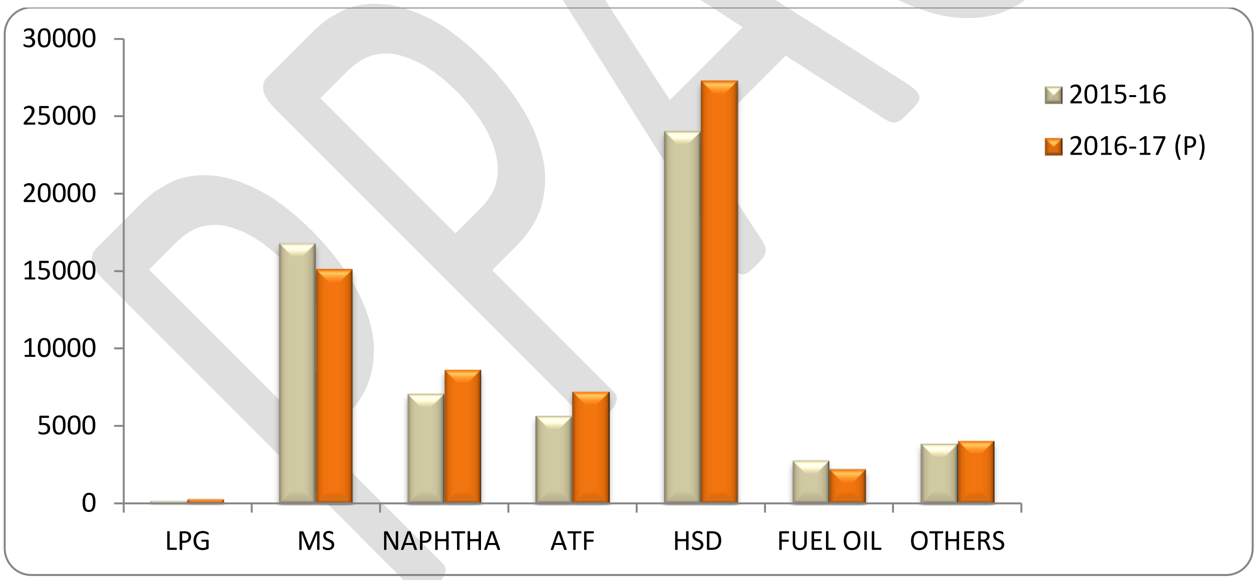
6. Export of Petroleum Products

6.1 The details of export of petroleum products are given in Table-5 and Figure-8 below:

Table:5,Export of Major Petroleum Products						
	(Thousand Metric Tonnes)					
EXPORT	March			April- March		
	2015-16	2016-17 (P)	Change (%)	2015-16	2016-17 (P)	Change (%)
LPG	30	30	**-1.6**	195	317	**62.3**
MS	1517	1339	**-11.7**	16817	15139	**-10.0**
NAPHTHA	649	854	**31.5**	7116	8662	**21.7**
ATF	718	724	**0.9**	5686	7253	**27.6**
HSD	2069	2606	**26.0**	24037	27276	**13.5**
FUEL OIL	126	193	**52.8**	2806	2248	**-19.9**
OTHERS	256	323	**26.0**	3881	4090	**5.4**
TOTAL	**5365**	**6068**	**13.1**	**60539**	**64986**	**7.3**

Note : All figures are provisional . Source : Oil Companies
'% Others in export include CBFS, VGO, Hexane, Benzene, MTO, Sulphur etc.

Figure-8: Export of Petroleum Products (*in '000MT*) (2016 –2017)



6.2 **Significant variations in export of petroleum products in the country are analysed below:**

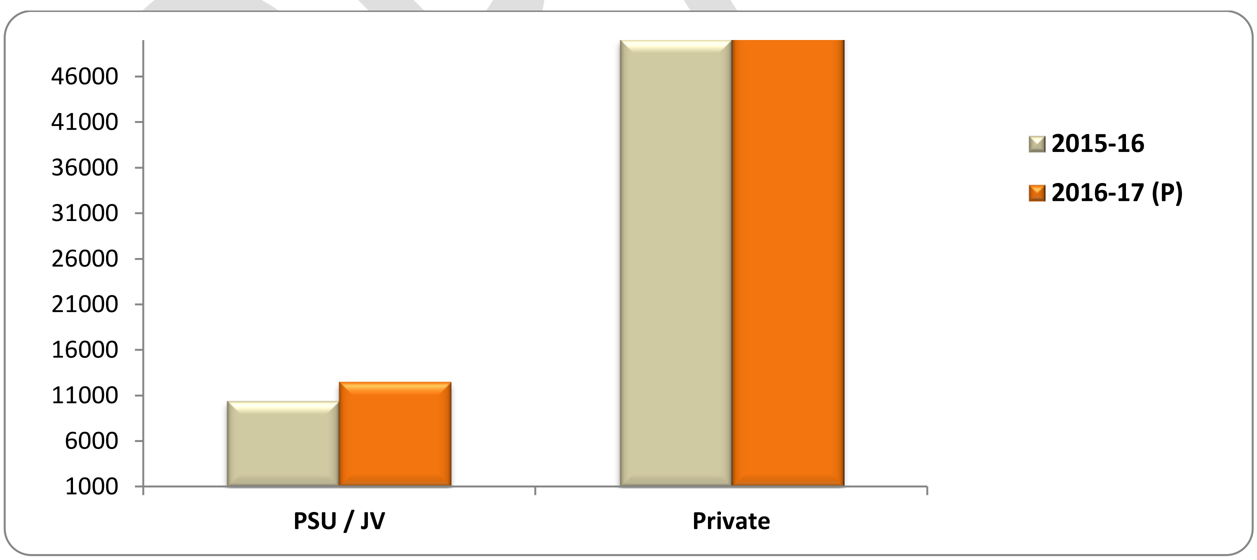
I. Export of petroleum products increased by 13.1% during March 2017 as compared to March 2016 primarily due to higher production as well as higher surplus availability of POL products like Naphtha, ATF and HSD, which constituted around 69.0% of total POL exports.

II. Overall export of POL products increased by 7.3% during April 2016 - March 2017 as compared to the same period of the previous year.

III. Trend of export of petroleum products by PSUs / JVs and Private sector in the country is given in Table-6 and Figure-9 below:

Table-6: Export of Petroleum Products						
						(Thousand Metric Tonnes)
Oil Company	**March**			**April- March**		
	2015-16	**2016-17(P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
PSU / JV	1011	1665	**64.6**	10452	12574	**20.3**
Private	4353	4403	**1.1**	50086	52411	**4.6**
TOTAL	**5365**	**6068**	**13.1**	**60539**	**64986**	**7.3**
Note: All figures are provisional . Source : Oil Companies						

Figure-9: Export of Petroleum Products: PSU vs. Private (in '000MT) (April 2016 – March 2017)



Salient features of exports by PSU/JV and Private oil companies

- PSU/JV oil companies' exports registered growth of 64.6% during March 2017 as compared to March 2016. On a cumulative basis PSU/JV exports have shown growth of 20.3% during April 2016 - March 2017 as compared to the corresponding period of the previous year. The export of MS, ATF and HSD contributed 17.6% in the cumulative growth of 20.3% during April 2016 - March 2017.
- Private oil companies' petroleum products exports registered marginal growth of 1.1% in March 2017 as compared to March 2016. On a cumulative basis private oil companies' petroleum products exports have shown growth of 4.6% during the period April 2016 - March 2017 as compared to the corresponding period of the previous year. Cumulative growth was mainly due to increase in export of Naphtha, ATF and HSD.
- Private oil companies' export of POL products accounted for 72.6% of total petroleum product exports during March 2017 as compared to 81.1% of the previous year. On a cumulative basis during April 2016 - March 2017 private oil companies' export of POL products accounted for 80.7% of total petroleum product exports as compared to 82.7% of the previous year.

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