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

February 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 February, 2017 was lower by 3.4% compared to February, 2016. On cumulative basis, it was lower by 2.8% than that of April 2015 - February 2016. 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 3.3% during February 2017 as compared to February 2016. During the period April 2016 - February 2017, import of crude oil increased by 6.1% over the corresponding period of the previous year.
- Total crude oil processed during February, 2017 was 19.1 MMT, a decrease of 2.3% over February, 2016. On cumulative basis, it was 224.1 MMT, an increase of 6.0% over April-February, 2015-16. Around 5.7 MMT of 12.5 MMT increase on cumulative basis was contributed by Paradip refinery and 1.8 MMT by Essar oil Ltd. An increase of around 1.0 MMT each was recorded in CPCL- Manali, BPCL-Mumbai and BPCL-Kochi refineries.
- 100% conversion for MS from BS-III std. to BS IV std. achieved during February 2017. MS and BS IV HSD production of PSU refineries (excluding Jv and Pvt. refineries) registered growth of 152.7% and 136.7% respectively during February 2017 as compared to February 2016.Production of petroleum products during February, 2017 saw de- growth of 2.8% over February, 2016. On cumulative basis a growth of 5.3% was recorded over April 2016 - February 2017.
- Imports of petroleum products increased by 13.7% during February, 2017 over the corresponding period of 2016. LPG, naphtha, Lubes and Pet-coke imports contributed to 88.8% share of total POL imports during February, 2017. Export of POL products decreased by 20.9% during February, 2017 as compared to February, 2016 primarily due to lower production as well as lower surplus availability of POL products especially MS, ATF and HSD, which constitute around 75.5% of total POL exports.

2. Indigenous crude oil and condensate production

2.1 Indigenous crude oil and condensate production decreased by 3.4% during February 2017 as compared to February 2016. Overall indigenous crude oil and condensate production decreased by 2.8% during April 2016 - February 2017 at 32919 TMT as compared to 33880 TMT produced during the same period in the previous year.

i. OIL's crude oil production in February 2017 was higher by 5.7% as compared to February 2016. On overall basis crude oil production was marginally higher by 0.3% during April 2016 - February 2017 as compared to the previous year.

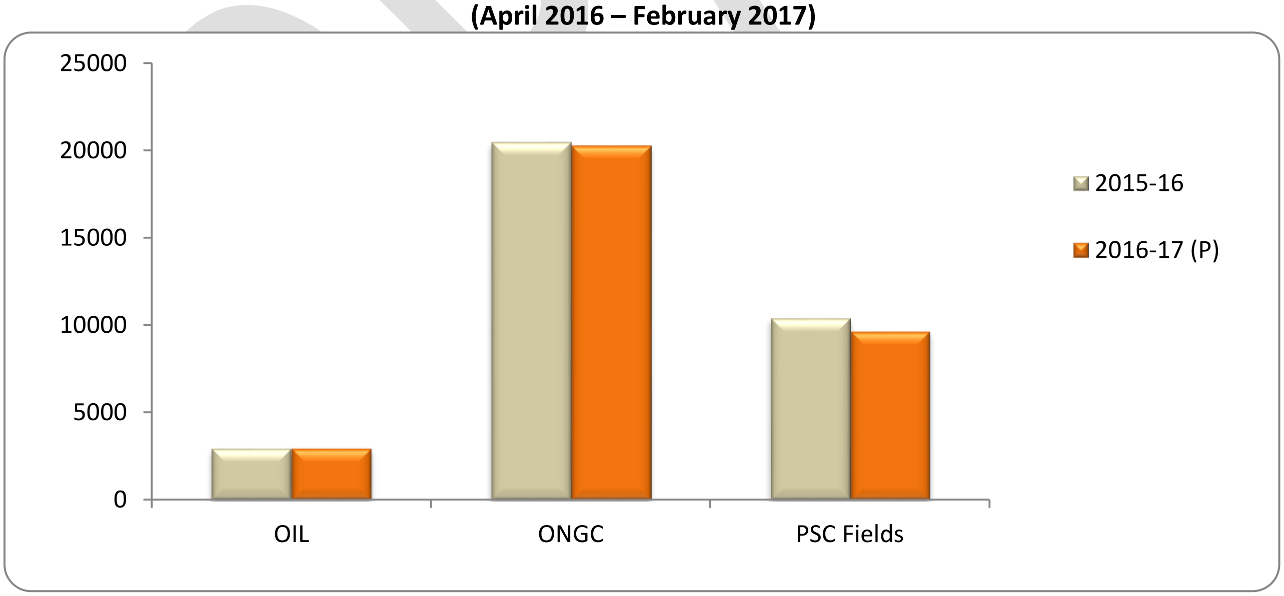
ii. In case of ONGC, crude oil and condensate production in February 2017 was lower by 2.2% as compared to February 2016. ONGC's overall crude oil and condensate production was lower by 1.0% during April 2016 - February 2017 as compared to the previous year, due to natural decline and increase in water cut in matured fields of Western offshore. The delay in conversion 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 8.5% during February 2017 as compared to February 2016. Crude oil and condensate production under PSC fields was lower by 7.3% during April 2016 - February 2017 in comparison to the previous year. The major decline was observed in Rajasthan's fields due to tripping of power fluid pump, closure of few high water cut wells in Mangala 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	**February**				**April- February**		
	Product	**2015-16**	**2016-17 (P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
OIL	**Crude oil**	**246**	**260**	**5.7**	**2957**	**2965**	**0.3**
ONGC	Crude oil	1455	**1410**	**-3.1**	16979	**16707**	**-1.6**
	Condensate	325	331	**2.0**	3512	3580	**1.9**
	Total	**1780**	**1741**	**-2.2**	**20491**	**20287**	**-1.0**
PSC FIELDS	Crude oil	868	795	**-8.4**	10413	9662	**-7.2**
	Condensate	1	0.4	**-68.9**	20	5	**-76.9**
	Total	**870**	**796**	**-8.5**	**10433**	**9667**	**-7.3**
Total	Crude oil	2570	2466	**-4.0**	30348	29334	**-3.3**
	Condensate	326	332	**1.7**	3532	3585	**1.5**
Grand Total	**Crude oil + Condensate**	**2896**	**2797**	**-3.4**	**33880**	**32919**	**-2.8**
Note: All figures are provisional. Source : Oil Companies & DGH							

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

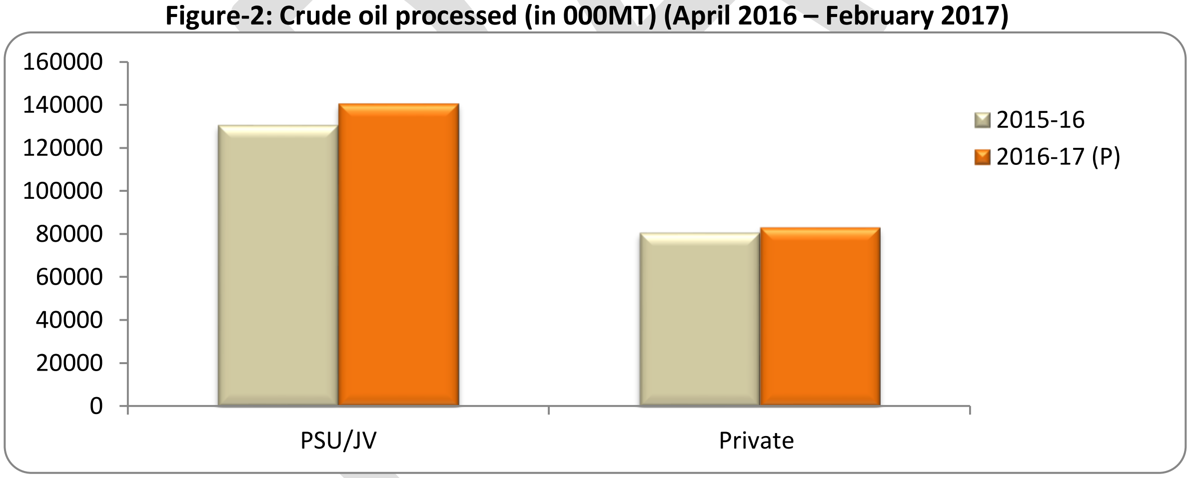
Table-2: Crude Oil Processed

(Thousand Metric Tonnes)

	February			April-February		
Oil Company	**2015-16**	**2016-17 (P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
PSU / JV						
Indigenous	2104	2203	**4.7**	25102	25386	**1.1**
Imported	10164	9850	**-3.1**	105575	115415	**9.3**
PSU/JV	**12268**	**12053**	**-1.8**	**130677**	**140801**	**7.7**
Private						
Indigenous	446	385	**-13.8**	6074	5227	**-13.9**
Imported	6790	6623	**-2.5**	74732	78040	**4.4**
Private	**7236**	**7008**	**-3.2**	**80806**	**83267**	**3.0**
Total of which	**19504**	**19060**	**-2.3**	**211483**	**224068**	**6.0**
Indigenous	**2550**	**2588**	**1.5**	**31176**	**30614**	**-1.8**
Imported	**16954**	**16473**	**-2.8**	**180307**	**193455**	**7.3**

Note: All figures are provisional. Source : Oil Companies

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



Based on processing of indigenous crude oil/condensate and the country's domestic POL consumption, self-sufficiency of petroleum products was 16.9% in February 2017 as against 16.4% during February 2016.

Indian refineries processed 71.8% of high sulphur crudes during February 2017 as compared to 70.5% in February 2016. On cumulative basis 72.4% HS crudes were processed during April 2016 - February 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 February 2017 registered de-growth of 2.3% as compared to February 2016. On an overall basis growth of 6.0% was registered during April 2016 - February 2017 over the corresponding period of the previous year.
- In PSU (including PSU, JVs) refineries crude oil processing was lower by 1.8% during February 2017 as compared to February 2016. On a cumulative basis up to February 2017, there was a growth of 7.7% over the same period of 2015-16 due to commissioning of IOCL- Paradip refinery and better capacity utilization of BPCL-Mumbai, BPCL-Kochi, CPCL- Manali, MRPL and HPCL Mumbai refineries.
- Crude oil processing by private oil refineries was lower by 3.2% in February 2017 compared to February 2016. On cumulative basis up to February 2017, there was a growth of 3.0% over the same period of 2015-16 due to better capacity utilization by Essar Oil refinery.
- Indigenous crude oil processed in PSU refineries in February 2017 increased by 4.7% as compared to February 2016 due to increase in processing of Mangala crude by MRPL. Hence indigenous crude oil processed in private refineries decreased by 13.8% during February 2017 compared to February 2016.

4.1 Petroleum products (grade-wise) production figures in February 2016 and cumulative production up to February 2016 vis-a-vis the same period during the previous year are given in Table-3 and Figure-3:

Table-3 Production of Petroleum Products

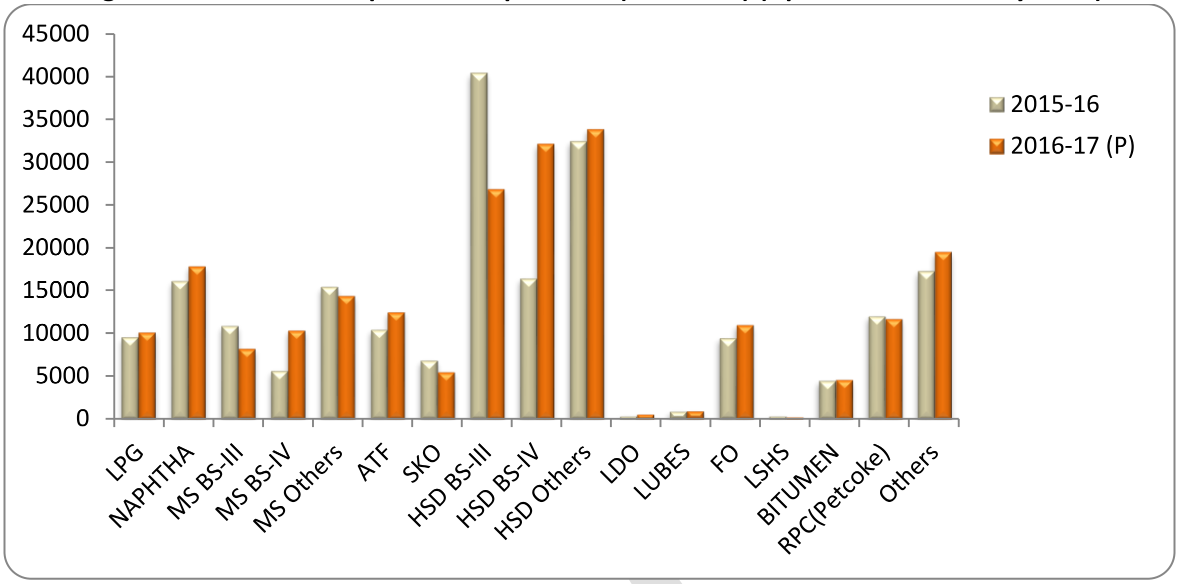
(Thousand Metric Tonnes)

PRODUCTS	February			April- February		
	2015-16	2016-17(P)	Change (%)	2015-16	2016-17 (P)	Change (%)
LPG	947	948	**0.1**	9604	10182	**6.0**
Naphtha	1490	1542	**3.5**	16190	17888	**10.5**
MS BS-III	869	0	**-100.0**	10934	8274	**-24.3**
MS BS-IV	693	1603	**131.4**	5681	10394	**83.0**
MS Others	1437	1324	**-7.8**	15498	14446	**-6.8**
ATF	1136	1096	**-3.5**	10488	12528	**19.4**
SKO	612	430	**-29.8**	6898	5542	**-19.7**
HSD BS-III	3252	260	**-92.0**	40486	26879	**-33.6**
HSD BS-IV	2086	4658	**123.3**	16486	32180	**95.2**
HSD Others	2706	2901	**7.2**	32523	33861	**4.1**
LDO	30	72	**142.0**	376	568	**51.1**
Lubes	88	81	**-7.8**	934	955	**2.2**
FO	761	643	**-15.5**	9513	11045	**16.1**
LSHS	16	22	**37.1**	357	250	**-30.0**
Bitumen	551	468	**-15.1**	4520	4635	**2.6**
RPC(Pet coke)	1065	993	**-6.8**	12067	11756	**-2.6**
Others*	1713	1875	**9.4**	17346	19564	**12.8**
Total of which	**19451**	**18915**	**-2.8**	**209900**	**220945**	**5.3**
Refineries	**19150**	**18650**	**-2.6**	**206785**	**217781**	**5.3**
Fractionators	**301**	**266**	**-11.8**	**3115**	**3164**	**1.6**

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) (April 2016 – February 2017)



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

- Production of petroleum products from refineries and fractionators decreased by 2.8% in February 2017 as compared to February 2016. On cumulative basis production was higher by 5.3% i.e. 11 MMT mainly due to increase in production of naphtha, ATF, HSD and FO by 9.0 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 – February 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 monthwise growth is shown in figures 4 and 5.

Figure-4: BS-III & BS-IV MS produced by PSU refineries (Excluding JV and Pvt. Refineries) Monthwise growth % (April 2016 – February 2017)

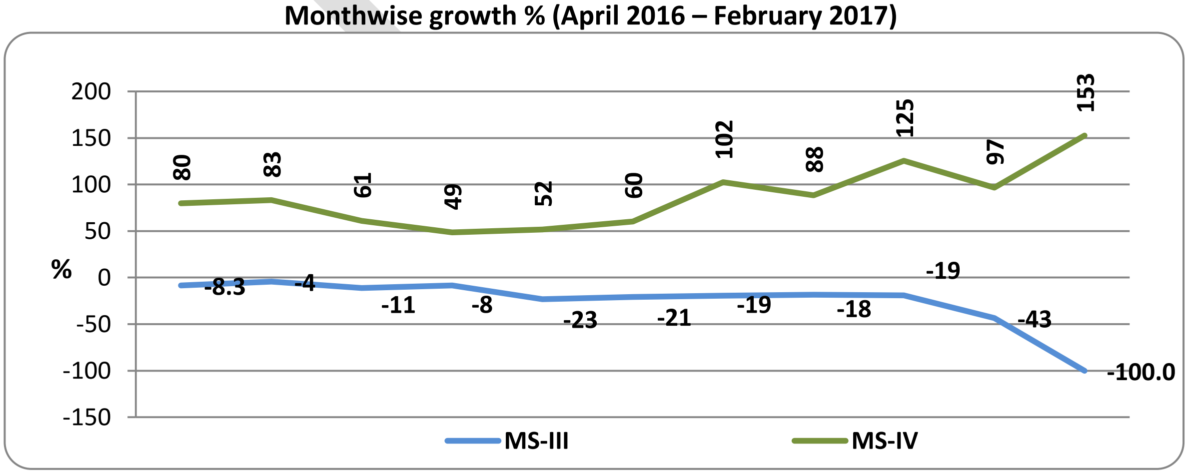
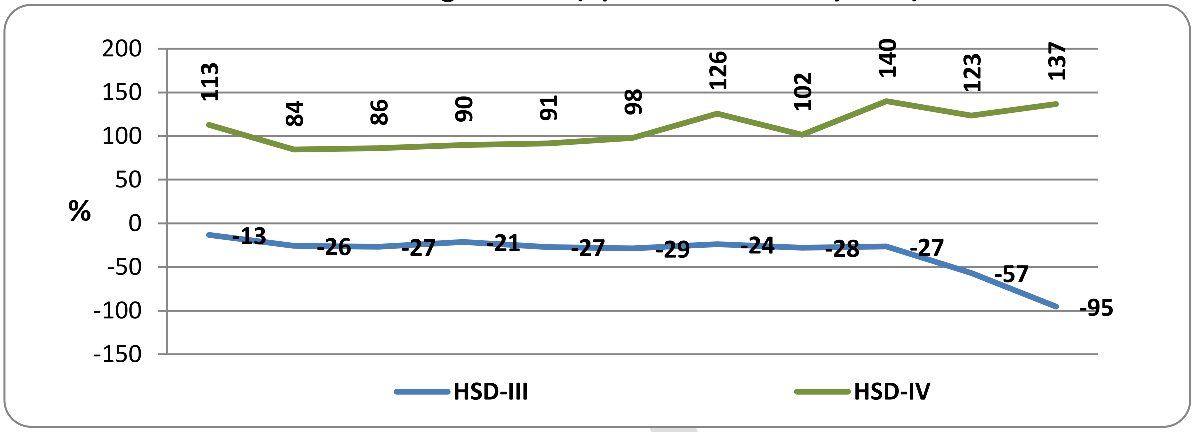


Figure-5 BS-III & BS-IV HSD produced by PSU refineries (Excluding JV and Pvt. Refineries) Monthwise growth % (April 2016 – February 2017)



- ATF production decreased by 3.5% in February 2017 as compared to the same period of the previous year. On an overall basis ATF production was more by 19.4 % in April 2016 - February 2017 as compared to the same period of the previous year.
- SKO production decreased by 19.7% during April 2016 - February 2017 as compared to the same period of the previous year.
- Pet coke production decreased by 2.6% during April 2016 - February 2017 as compared to the same period of the previous year.
- FO production showed growth of 16.1% during April 2016 - February 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 - February 2017 from refineries and fractionators was 220945 TMT against domestic consumption of 177242 TMT leaving a surplus of 43702 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.

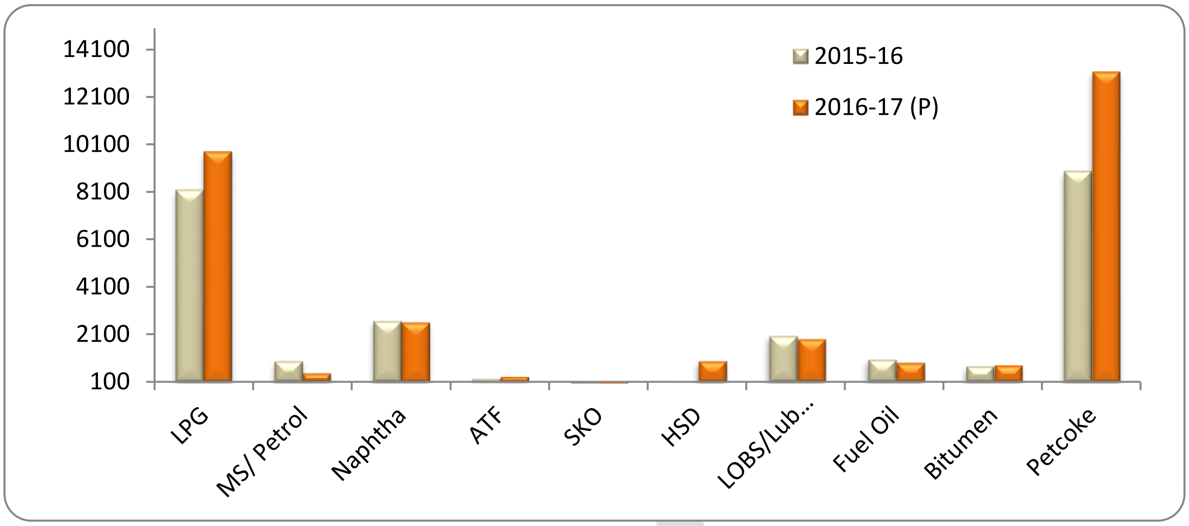
5. **Import of Crude oil and Petroleum Products**

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	**February**			**April- February**		
	2015-16	**2016-17(P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
Crude oil						
PSU/JV	9499	9863	**3.8**	109939	117926	**7.3**
Private	7384	6455	**-12.6**	74366	77656	**4.4**
Sub Total	**16882**	**16317**	**-3.3**	**184305**	**195582**	**6.1**
PRODUCTS						
IMPORTS #	**2015-16**	**2016-17(P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
LPG	684	1006	**47.1**	8210	9813	**19.5**
MS/ Petrol	0	0		993	476	**-52.0**
Naphtha	205	226	**10.5**	2683	2611	**-2.7**
ATF	20	28	**36.4**	250	326	**30.6**
SKO	0	0	**-**	41	0	**-100.0**
HSD	72	3	**-95.8**	116	990	**756.0**
LOBS/Lube oil	199	180	**-9.3**	2054	1913	**-6.9**
Fuel Oil	30	72	**139.9**	1059	914	**-13.7**
Bitumen	49	73	**48.6**	768	814	**6.0**
Pet coke	1177	1185	**0.7**	8986	13168	**46.5**
Others$	137	152	**10.5**	1585	2028	**27.9**
TOTAL of which	**2572**	**2924**	**13.7**	**26744**	**33055**	**23.6**
PSU/JV	**716**	**1014**	**41.7**	**9241**	**11313**	**22.4**
Pvt.	**1856**	**1911**	**2.9**	**17503**	**21742**	**24.2**

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) (April 2016 – February 2017)



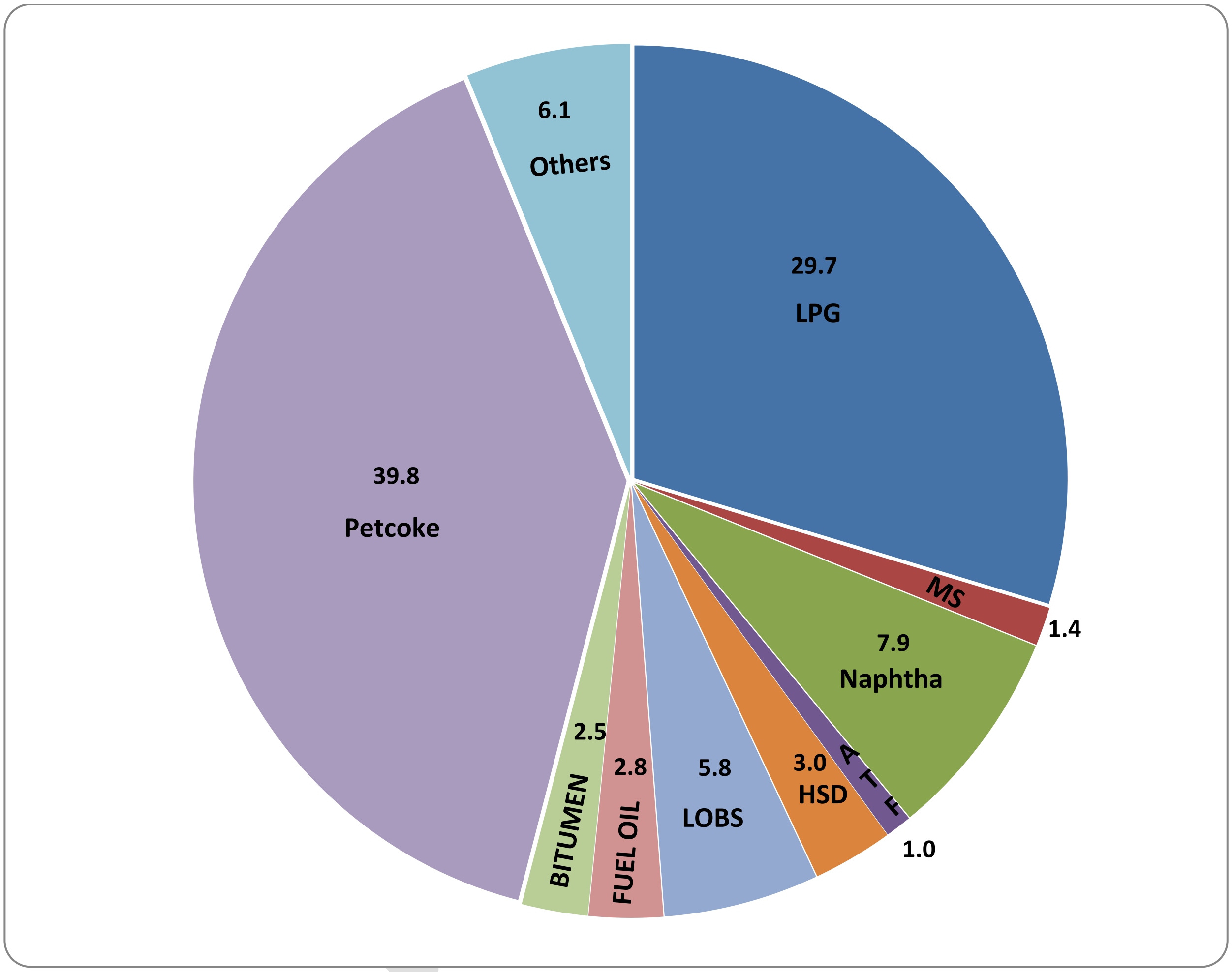
5.2 **Significant variations in import of crude oil and petroleum products are analysed below:**

- Crude oil imports during February 2017 decreased by 3.3% as compared to February 2016. On overall basis crude oil imports increased by 6.1% during April 2016 - February 2017 as compared to the same period during the previous year (2015-16).
- Crude oil imports of PSU/JV oil companies during February 2017 increased by 3.8% as compared to February 2016. On overall basis crude oil imports of PSU/JV oil companies increased by 7.3% during April 2016 - February 2017 as compared to the same period during 2015-16 mainly due to increase in processing capacity of IOC-Paradip (5.7 MMT).
- Crude oil imports of private oil companies during February 2017 decreased by 12.6% as compared to February 2016. On overall basis crude oil imports of private oil companies increased by 4.4% during April 2016 - February 2017 as compared to the same period during 2015-16 due to increase in crude throughput.
- Import of POL products increased by 13.7% during February 2017 as compared to February 2016 mainly due to increase in import of LPG (12.7%). Import of POL products increased by 23.6% during April 2016 - February 2017 as compared to the same period of the previous year (2015-16).
- Import of LPG, pet coke and lubes accounted for 81.1% share of the total petroleum product imports during February 2017 as there is deficit in domestic production vis-à-

vis domestic consumption. On cumulative basis import of LPG accounted for 29.7% and pet-coke accounted for 39.8% of the total POL imports respectively during April 2016 - February 2017.

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

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



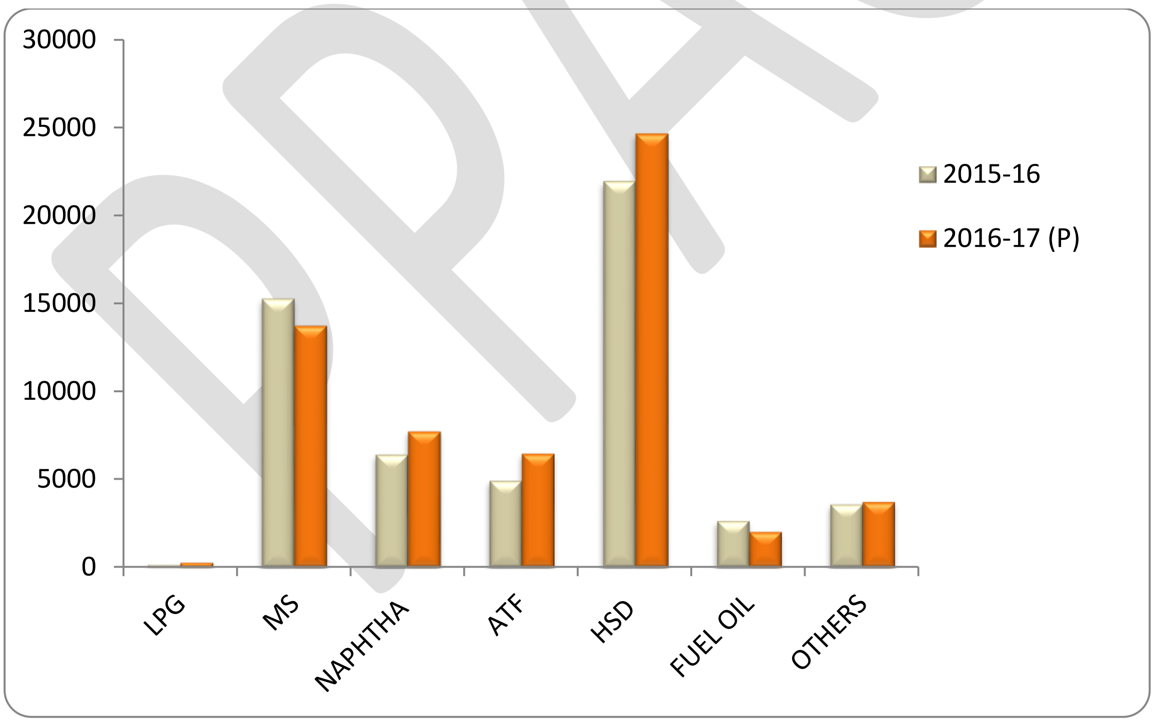
6. **Export of Petroleum Products**

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	**February**			**April- February**		
	2015-16	**2016-17(P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
LPG	17	26	**57.6**	165	287	**73.9**
MS	1573	1204	**-23.5**	15300	13800	**-9.8**
NAPHTHA	710	530	**-25.3**	6467	7808	**20.8**
ATF	579	492	**-15.0**	4968	6529	**31.4**
HSD	2353	1751	**-25.6**	21969	24670	**12.3**
FUEL OIL	239	51	**-78.7**	2680	2055	**-23.3**
OTHERS%	300	508	**69.4**	3625	3767	**3.9**
TOTAL	**5771**	**4562**	**-20.9**	**55174**	**58917**	**6.8**

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)* (April 2016 – February 2017)



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

I. Export of petroleum products decreased by 20.9% during February 2017 as compared to February 2016. Overall export of POL products increased by 6.8% during April 2016 - February 2017 as compared to the same period of the previous year.

Export of POL products decreased by 20.9% during February, 2017 as compared to February, 2016 primarily due to lower production as well as lower surplus availability of POL products like MS, ATF and HSD, which constituted around 75.5% of total POL exports.

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

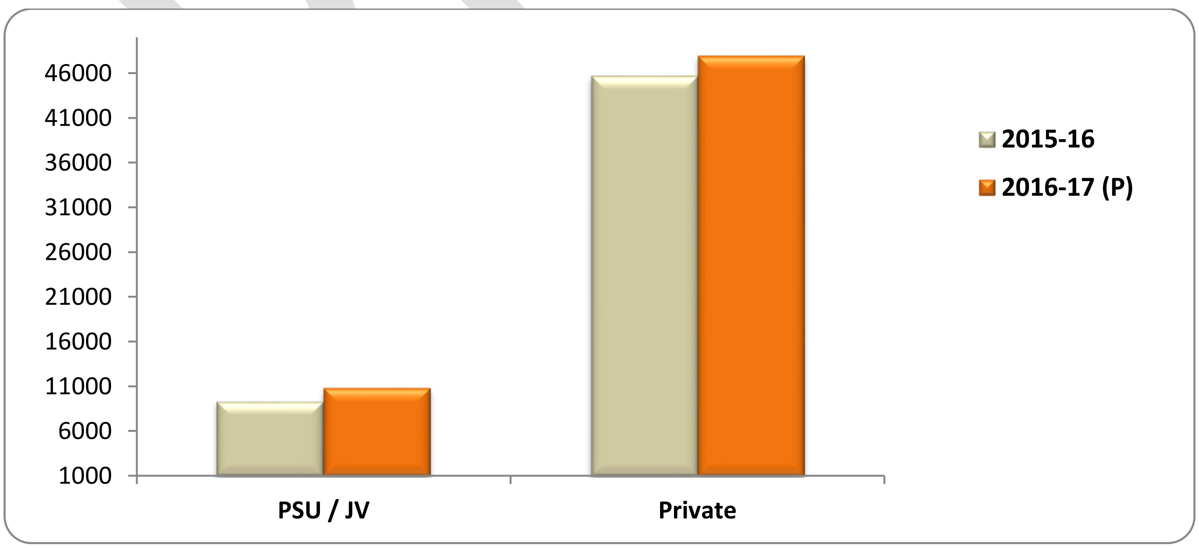
Table-6: Export of Petroleum Products

(Thousand Metric Tonnes)

Oil Company	February			April- February		
	2015-16	2016-17 (P)	Change (%)	2015-16	2016-17 (P)	Change (%)
PSU / JV	1083	825	**-23.8**	9441	10909	**15.5**
Private	4688	3737	**-20.3**	45733	48008	**5.0**
Total	**5771**	**4562**	**-20.9**	**55174**	**58917**	**6.8**

Note: All figures are provisional . Source : Oil Companies

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



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

- PSU/JV oil companies' exports registered de-growth of 23.8% during February 2017 as compared to February 2016. On a cumulative basis PSU/JV exports have shown growth of 15.5% during April 2016 - February 2017 as compared to the corresponding period of the previous year. The export of MS, ATF and HSD contributed 14.8% in the cumulative growth of 15.5% during April 2016 - February 2017.
- Private oil companies' petroleum products exports also registered de-growth of 20.3% in February 2017 as compared to February 2016. On a cumulative basis private oil companies' petroleum products exports have shown growth of 5.0% during the period April 2016 - February 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 81.9% of total petroleum product exports during February 2017 as compared to 81.2% of the previous year. On a cumulative basis during April 2016 - February 2017 private oil companies' export of POL products accounted for 81.5% of total petroleum product exports as compared to 82.9% of the previous year.

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