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

December 2016

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 December, 2016 was lower by 0.8% than that of December, 2015. On cumulative basis, it was lower by 3.2% than that of April-December, 2015. There was a reduction of crude oil production by 0.3 MMT in BH, 0.3 MMT in Mangla and 0.2 MMT in Ravva fields.
- Import of crude oil increased by 0.8% during December 2016 as compared to December 2015. During the period April - December 2016, import of crude oil increased by 8.3% over the corresponding period of the previous year.
- Total crude oil processed during December, 2016 increased by 6.4% over December, 2015. This is the highest crude oil processing in any month till date. On cumulative basis, it increased by 7.8% over the period April-December, 2015. Increase of 13.3 MMT on cumulative basis was mainly due to Paradip refinery processing of 5.2 MMT, increase of 2.0 MMT in processing by Essar Oil Limited and 1.0 MMT each by BPCL-Mumbai, MRPL and CPCL- Manali refineries.
- Production of petroleum products during December, 2016 saw a growth of 5.6% over December, 2015 and on cumulative basis a growth of 6.8% was recorded over April-December, 2015. Production during December 2016 was the highest during the year 2016-17 and the second highest production during any month till date. BS IV MS and BS IV HSD production registered growth of 115.8% and 126.7% respectively during December 2016 as compared to December 2015.
- Import of petroleum products increased by 39.6% during December 2016 as compared to December 2015 due to increase in domestic consumption of LPG (7.9%) and pet-coke (28.8%). LPG, lubes and pet-coke imports contributed to 79.9% share of the total POL imports during December, 2016. Exports of POL products increased by 8.8% during December, 2016 as compared to December, 2015 due to increase in production of ATF (23.6%) and HSD (6.5%) coupled with low demand materialization of HSD during December, 2016. During the period April - December 2016, import of petroleum products increased by 30.7% over the corresponding period of the previous year due to increase in import of LPG by 17.7% and pet-coke by 72.9%.

2. Indigenous crude oil and condensate production

2.1 Indigenous crude oil and condensate production decreased by 0.8% during December 2016 as compared to December 2015. Overall indigenous crude oil and condensate production decreased by 3.2% during April-December 2016 at 27046 TMT as compared to 27948 TMT produced during the same period in the previous year.

i. OIL's crude oil production in December 2016 was higher by 3.9% as compared to December 2015. However, on overall basis crude oil production was lower by 0.8% during April -December 2016 as compared to the previous year.

ii. In case of ONGC, crude oil and condensate production in December 2016 was marginally higher by 0.5% as compared to December 2015. However, ONGC's overall crude oil and condensate production decreased by 1.5% during April-December 2016 as compared to the previous year.

    The shortfall in production was due to natural decline from mature and marginal fields of Mumbai High and operational loss in Bassein fields due to suspected wax deposition and choking in B-193 export pipeline.

iii. Indigenous crude oil and condensate production under PSC fields decreased by 4.8% during December 2016 as compared to December 2015. Crude oil and condensate production under PSC fields was lower by 7.3% during April-December 2016 in comparison to the previous year. The major decline was observed in Ravva and Rajasthan's Mangla fields.

iv. The overall decrease in production of crude oil was 3.5% during April-December 2016 in comparison to the previous year. The overall decrease in production of condensate was 0.7% during April-December 2016 as compared to the previous year.

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

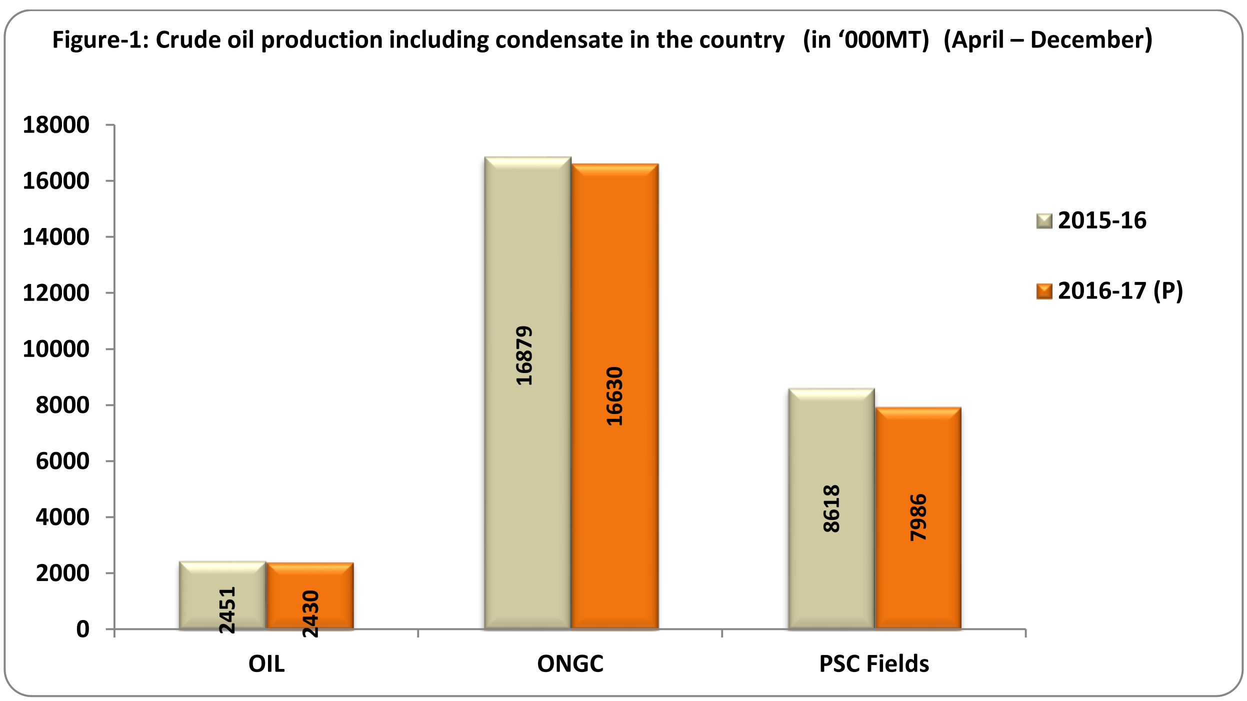
(Thousand Metric Tonnes)

Oil Company	December				April- December		
	Product	2015-16	2016-17 (P)	Change (%)	2015-16	2016-17 (P)	Change (%)
OIL	Crude oil	270	281	**3.9**	2451	2430	**-0.8**
ONGC	Crude oil	1554	1553	**-0.1**	13978	13736	**-1.7**
	Condensate	342	352	**2.9**	2902	2894	**-0.3**
	Total	**1896**	**1905**	**0.5**	**16879**	**16630**	**-1.5**
PSC FIELDS	Crude oil	911	870	**-4.5**	8601	7982	**-7.2**
	Condensate	3	0.2	**-91.3**	17	3	**-79.6**
	Total	**914**	**870**	**-4.8**	**8618**	**7986**	**-7.3**
Total	Crude oil	2735	2703	**-1.2**	25029	24149	**-3.5**
	Condensate	345	352	**2.1**	2919	2897	**-0.7**
Grand Total	**Crude oil + Condensate**	**3080**	**3055**	**-0.8**	**27948**	**27046**	**-3.2**

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

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

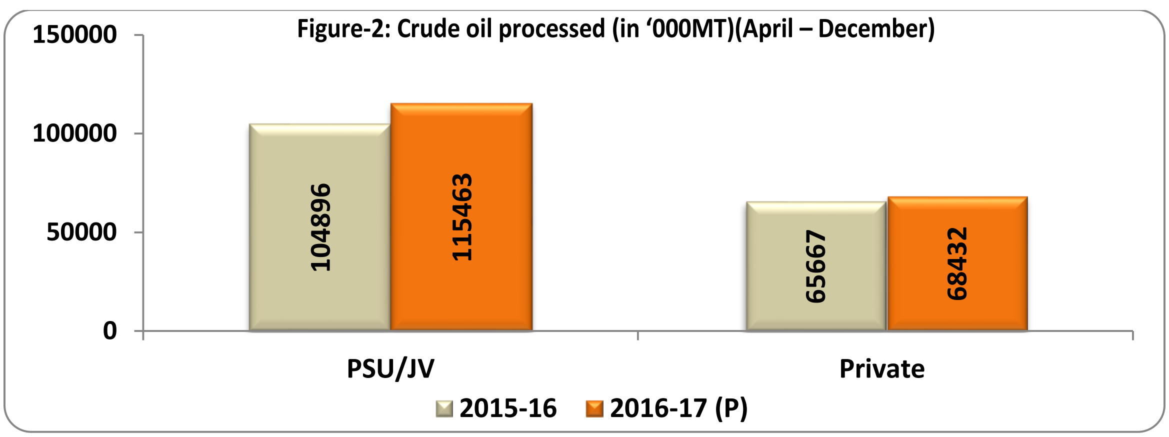
(April – December)



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)
	December			April-December		
Oil Company	**2015-16**	**2016-17 (P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
PSU / JV						
Indigenous	2349	2523	**7.4**	20813	20571	**-1.2**
Imported	9942	11146	**12.1**	84082	94892	**12.9**
PSU/JV	**12291**	**13669**	**11.2**	**104895**	**115463**	**10.1**
Private						
Indigenous	387	352	**-9.0**	4909	4389	**-10.6**
Imported	7474	7420	**-0.7**	60758	64043	**5.4**
Private	**7861**	**7772**	**-1.1**	**65667**	**68432**	**4.2**
Total of which	**20152**	**21441**	**6.4**	**170562**	**183895**	**7.8**
Indigenous	**2736**	**2875**	**5.1**	**25722**	**24960**	**-3.0**
Imported	**17416**	**18566**	**6.6**	**144840**	**158935**	**9.7**
Note: All figures are provisional. Source : Oil Companies						



Based on processing of indigenous crude oil/condensate and the country's domestic POL consumption, self-sufficiency of petroleum products was 18.0% in December 2016 as against 17.9% during December 2015.

Indian refineries processed 73.8 % of high sulphur (HS) crudes during December 2016 as compared to 72.6% in December 2015. On cumulative basis it was 72.6% high sulphur (HS) crudes during April-December 2016 as against 71.4% 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 December 2016 registered a growth of 6.4% as compared to December 2015. Till date, the crude oil processing of 21440 TMT during December 2016 was the highest crude oil processed by Indian refineries in a single month. On an overall basis growth of 7.8% was registered during April - December 2016 over the corresponding period of the previous year.
- In PSU (including PSU, JVs) refineries crude oil processing was higher by 11.2% during December 2016 as compared to December 2015. On a cumulative basis up to December 2016, there was a growth of 10.1% over the same period of 2015-16 due to commissioning of IOCL-Paradip refinery and better capacity utilization of HPCL, Mumbai, BPCL, Mumbai and Kochi, MRPL and CPCL-Manali refineries.
- Crude oil processing by private oil refineries marginally decreased by 1.1% during December 2016 compared to December 2015. On a cumulative basis up to December 2016, there was a growth of 4.2% over the same period of 2015-16 due to better capacity utilization of RIL-DTA and Essar Oil refineries.
- Indigenous crude oil processed in PSU refineries during December 2016 increased by 7.4% as compared to December 2015 due to increase in processing of Mangla crude by MRPL.
- Indigenous crude oil processed in private refineries during December 2016 decreased by 9.0% as compared to December 2015.

4. Production of Petroleum Products

4.1 Petroleum products (grade-wise) production figures in December 2016 and cumulative production up to December 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

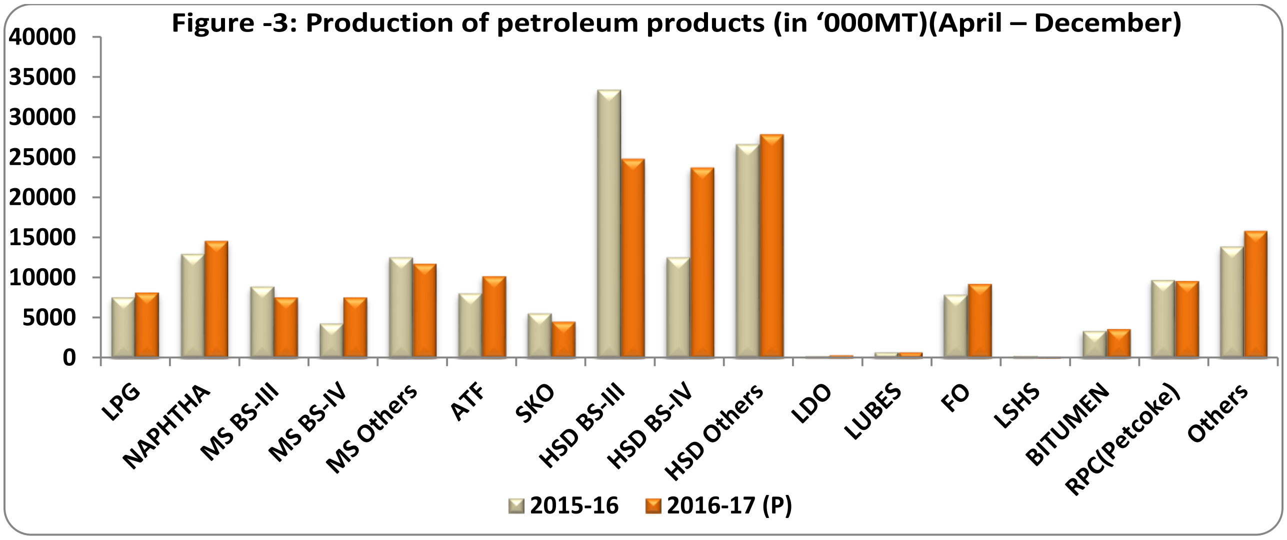
(Thousand Metric Tonnes)

PRODUCTS	December			April- December		
	2015-16	2016-17(P)	Change (%)	2015-16	2016-17 (P)	Change (%)
LPG	929	1052	**13.2**	7649	8261	**8.0**
Naphtha	1613	1667	**3.4**	13061	14679	**12.4**
MS BS-III	1135	953	**-16.0**	9009	7639	**-15.2**
MS BS-IV	467	1007	**115.8**	4366	7627	**74.7**
MS Others	1463	1084	**-25.9**	12637	11834	**-6.4**
ATF	995	1231	**23.6**	8156	10270	**25.9**
SKO	640	399	**-37.7**	5629	4610	**-18.1**
HSD BS-III	3941	2797	**-29**	33469	24876	**-25.7**
HSD BS-IV	1379	3125	**126.7**	12627	23769	**88.2**
HSD Others	3240	3197	**-1.3**	26693	27911	**4.6**
LDO	37	70	**87.7**	309	407	**31.6**
Lubes	82	75	**-8.5**	754	777	**3.0**
FO	818	1307	**59.8**	7942	9315	**17.3**
LSHS	22	23	**6.3**	333	209	**-37.2**
Bitumen	481	432	**-10.2**	3459	3696	**6.8**
RPC(Pet coke)	1151	1172	**1.8**	9798	9671	**-1.3**
Others*	1569	1485	**-5.4**	13979	15910	**13.8**
TOTAL of which	**19962**	**21076**	**5.6**	**169871**	**181462**	**6.8**
Refineries	**19677**	**20776**	**5.6**	**167293**	**178860**	**6.9**
Fractionators	**285**	**300**	**5.2**	**2578**	**2602**	**0.9**

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 – December)



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

- Production of petroleum products from refineries and fractionators increased by 5.6% in December 2016 as compared to December 2015. On a cumulative basis production was more by 6.8% as compared to the same period of the previous year 2015-16. Production during December 2016 was the highest during the year 2016-17 and the second highest production during any month till date.
- MS BS- IV production increased by 115.8% in December 2016 as compared to the corresponding period of the previous year (2015-16). On an overall basis MS BS- IV production was more by 74.7% in April - December 2016 due to BS-IV production in Paradip refinery and increased production in other refineries as compared to the same period of the previous year.
- HSD BS-IV production increased by 126.7% in December 2016 compared to the same period in 2015-16. On an overall basis HSD BS- IV production was more by 88.2 % in April - December 2016 due to BS-IV production in Paradip refinery and increased production in other refineries as compared to the same period of the previous year.
- ATF production increased by 23.6% in December 2016 as compared to the same period of the previous year. On an overall basis ATF production was more by 25.9 % in April - December 2016 as compared to the same period of the previous year.
- SKO production decreased by 18.1% during April- December 2016 as compared to the same period of the previous year.
- Pet coke production decreased by 1.3% during April- December 2016 as compared to the same period of the previous year.
- FO production showed growth of 17.3% during April - December 2016 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 - December 2016 from refineries and fractionators was 181462 TMT against domestic consumption of 146432 TMT leaving a surplus of 35030 TMT. However some petroleum products like MS, naphtha, HSD and bitumen etc. were still imported to meet specific requirements (quality & specifications) of the user industries. Imports were also resorted to, to meet domestic consumption and requirement of certain products like LPG and lubes etc. for which there is a deficit in indigenous production.

5. Import of Crude oil and Petroleum Products

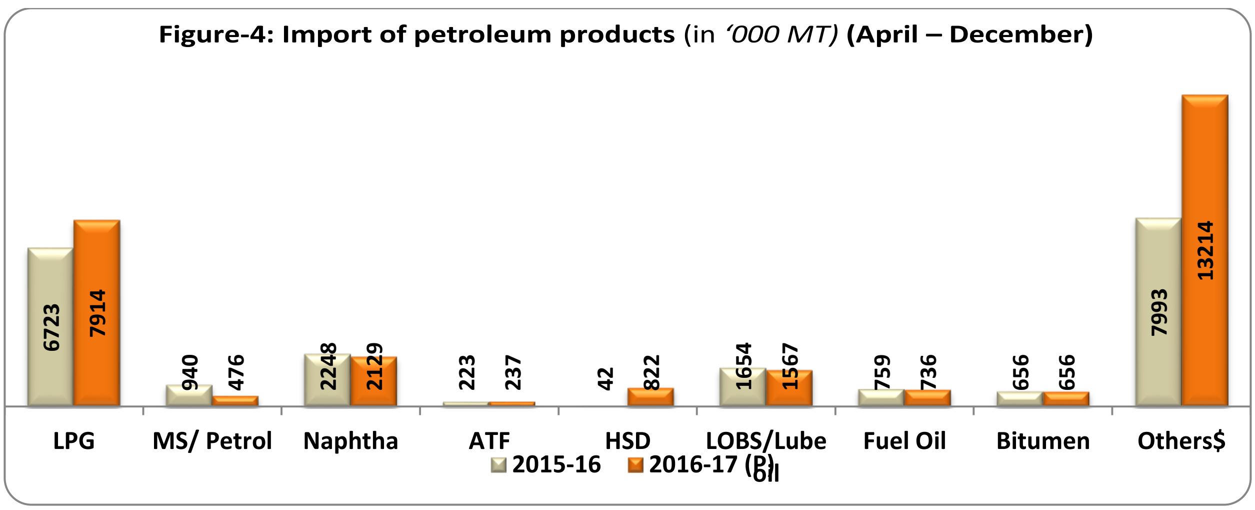
5.1 **Details of import of crude oil and petroleum products are given in Table-4 and Figure-4 below:**

Table :4 ; Import of Crude oil and Petroleum Products						
(Thousand Metric Tonnes)						
IMPORT	**December**			**April- December**		
	2015-16	**2016-17(P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
Crude oil						
PSU/JV	10118	10043	**-0.7**	89282	97544	**9.3**
Private	7608	7828	**2.9**	60011	64139	**6.9**
Sub Total	**17726**	**17871**	**0.8**	**149293**	**161684**	**8.3**
PRODUCTS						
IMPORT #	**2015-16**	**2016-17(P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
LPG	785	1107	**41.0**	6723	7914	**17.7**
MS/ Petrol	98	0	**-100.0**	940	476	**-49.3**
Naphtha	205	229	**12.0**	2248	2129	**-5.3**
ATF	26	25	**-2.8**	223	237	**6.1**
HSD	10	85	**713.0**	42	822	**1857.2**
LOBS/Lube oil	186	184	**-1.1**	1654	1567	**-5.3**
Fuel Oil	45	67	**48.3**	759	736	**-3.0**
Bitumen	93	74	**-20.6**	656	656	**-0.1**
Others$	749	1296	**73.0**	7993	13214	**65.3**
TOTAL	**2198**	**3067**	**39.55**	**21238**	**27751**	**30.7**

Note :All figures are provisional . Source : Oil Companies

 # DGCI&S data is estimated.

$ Others include SKO, Paraffin wax, Petroleum Jelly, LSWR , Aviation Gas , Pet coke etc.



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

- Crude oil imports during December 2016 increased by 0.8% as compared to December 2015. On overall basis crude oil imports increased by 8.3% during April - December 2016 as compared to the same period during the previous year (2015-16).
- Crude oil imports of PSU/JV oil companies during December 2016 decreased by 0.7% as compared to December 2015. On overall basis crude oil imports of PSU/JV oil companies

increased by 8.3% during April - December 2016 as compared to the same period during 2015-16 due to increase in IOCL's processing capacity by 6667 TMT (16.0%) mainly due to commissioning of Paradip refinery, BPCL by 2287 TMT (17.2%) and HPCL by 963 TMT (10.4%) upto quarter 3 of the current financial year.

- Crude oil imports of private oil companies during December 2016 increased by 2.9% as compared to December 2015. On overall basis crude oil imports of private oil companies increased by 6.9% during April - December 2016 as compared to the same period during 2015-16 due to increase in crude throughput.
- Import of POL products increased by 39.6% during December 2016 as compared to December 2015 due to increase in domestic consumption of LPG (7.9%) and petcoke (28.8%). Import of POL products increased by 30.7% during April - December 2016 as compared to the same period of the previous year (2015-16).
- Import of LPG and pet coke accounted for 35.7% and 37.8% of the total petroleum product imports during December 2016 as there is deficit in domestic production of LPG and petcoke vis-à-vis domestic consumption. On cumulative basis import of LPG accounted for 28.5% and pet-coke accounted for 41.3% of the total POL imports during April - December 2016.

6. Export of Petroleum Products

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

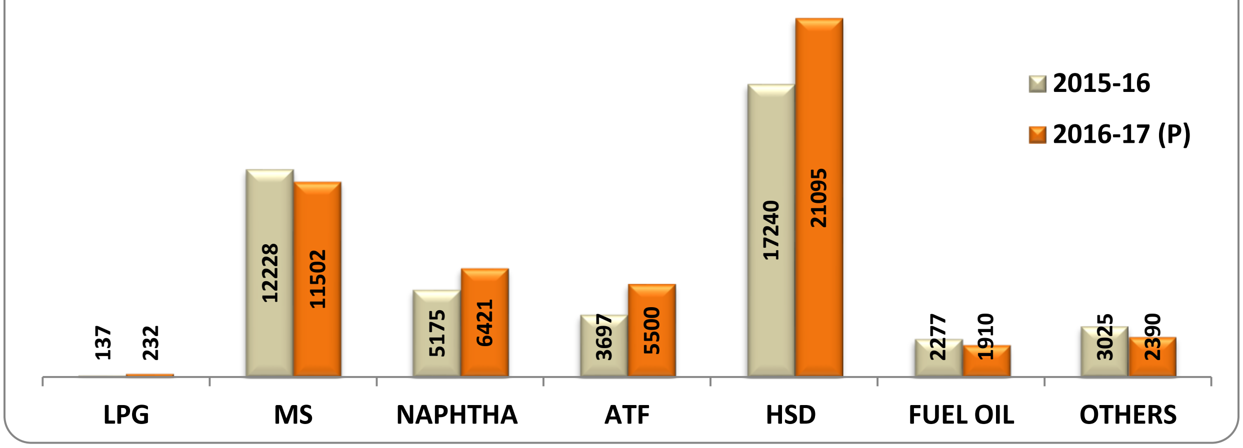
Table:5,Export of Major Petroleum Products

(Thousand Metric Tonnes)

EXPORT	December			April- December		
	2015-16	2016-17 (P)	Change (%)	2015-16	2016-17 (P)	Change (%)
LPG	7	30	**311.9**	137	232	**70.0**
MS	1493	1014	**-32.1**	12228	11502	**-5.9**
NAPHTHA	698	834	**19.4**	5175	6421	**24.1**
ATF	386	702	**81.7**	3697	5500	**48.8**
HSD	1784	2200	**23.3**	17240	21095	**22.4**
FUEL OIL	226	130	**-42.4**	2277	1910	**-16.1**
OTHERS%	285	398	**39.8**	3025	2390	**-21.0**
TOTAL	**4880**	**5308**	**8.8**	**43779**	**49050**	**12.0**

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

Figure-5: Export of Petroleum Products (*in '000MT*) **(April – December)**



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

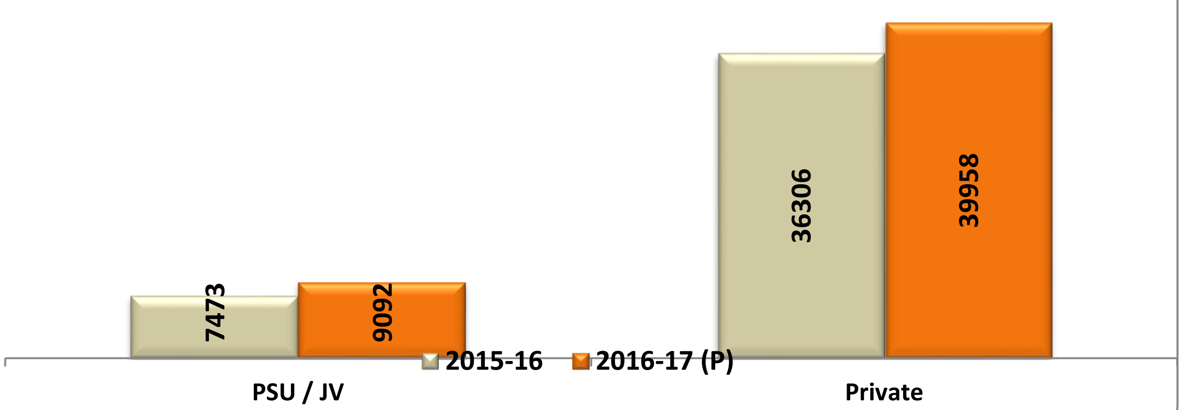
I. Export of petroleum products increased by 8.8% during December 2016 as compared to December 2015. Overall export of POL products increased by 12.0% during April - December 2016 as compared to the same period of the previous year.

Export of POL products, mainly ATF and HSD increased by 8.8% during December, 2016 as compared to December, 2015, due increase in production of ATF (23.6%) and HSD (6.5%) coupled with low demand materialization of HSD at 1 % during December, 2016 resulting in overall surplus of these products. Naphtha, ATF and HSD exports registered growth of 19.4%, 81.7%, and 23.3 % respectively during December 2016 as compared to December 2015. On cumulative basis Naphtha, ATF and HSD exports registered growth of 24.1%, 48.8% and 22.4% as compared to the same period of the previous year. During April- December 2016 FO exports declined by 16.1% as compared to the same period of the previous year.

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

Table-6: Export of Petroleum Products						
						(Thousand Metric Tonnes)
Oil Company	**December**			**April- December**		
	2015-16	**2016-17(P)**	**Change (%)**	**2015-16**	**2016-17 (P)**	**Change (%)**
PSU / JV	806	929	**15.3**	7473	9092	**21.7**
Private	4074	4379	**7.5**	36306	39958	**10.1**
Total	**4880**	**5308**	**8.8**	**43779**	**49050**	**12.0**
Note :All figures are provisional . Source : Oil Companies						

Figure-6: Export of Petroleum Products: PSU vs. Private (*in '000MT*) (April – December)



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

- PSU/JV oil companies' exports registered growth of 15.3% during December 2016 as compared to December 2015. On a cumulative basis PSU/JV exports have shown growth of 21.7% during April - December 2016 as compared to the corresponding period of the previous year. MS, Naphtha, ATF, FO and HSD made major contribution in PSU/JV exports. Naphtha (5.4%), MS (78.1%), ATF (84.3%) and HSD (101.4%) were major constituents in cumulative growth of PSU/JV exports.
- Private oil companies' petroleum products exports increased by 7.5% in December 2016 as compared to December 2015. On a cumulative basis private oil companies' petroleum products exports increased by 10.1% during the period April - December 2016 as compared to the corresponding period of the previous year. MS, HSD, Naphtha and ATF were the major contributors in private exports. Naphtha (60.6%), ATF (43.0%) and HSD (18.7%) were major constituents in cumulative growth of private exports.
- Private oil companies' export of POL products accounted for 82.5% of total petroleum product exports during December 2016 as compared to 83.5% of the previous year. On cumulative basis during April - December 2016 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.
