

Section 3 – Oil and Oil Products

Key results show:

Total indigenous UK production of crude oil and Natural Gas Liquids (NGL) in Q3 2017 decreased by 0.4 per cent compared to a year ago. **(Chart 3.1)**

Net imports of primary oils (crude oil, NGLs and process oils) in Q3 2017 were 4.3 million tonnes (up from 4.1 million tonnes last year). This is equivalent to 28 per cent of the UK's refinery demand. **(Chart 3.3)**

Refinery production in Q3 2017 was up 1.6 per cent on the same quarter of last year. Production in the year to date increased compared to last year (up 1.5 per cent in year to Q3). **(Chart 3.2)**

Trade in petroleum products was down in Q3 2017 compared to the same period a year earlier, with imports down by 4.6 per cent and exports down 6.7 per cent. The UK was a net importer of petroleum products in Q3 2017 by 2.4 million tonnes and remains short in middle distillates such as road diesel and jet fuel. **(Chart 3.2)**

Total deliveries of the key transport fuels were up 0.5 per cent. Excluding the biofuel component, diesel deliveries increased by 1.1 per cent in line with the long term trend and motor spirit deliveries decreased by 0.6 per cent. The diesel share of road fuels is now 68 per cent as more drivers move towards diesel vehicles. **(Chart 3.5)**

Overall stocks of crude oil and petroleum products stood at 14.2 million tonnes. This quarter has seen a move towards companies preferring petroleum product to primary oil stocks. **(Chart 3.6)**

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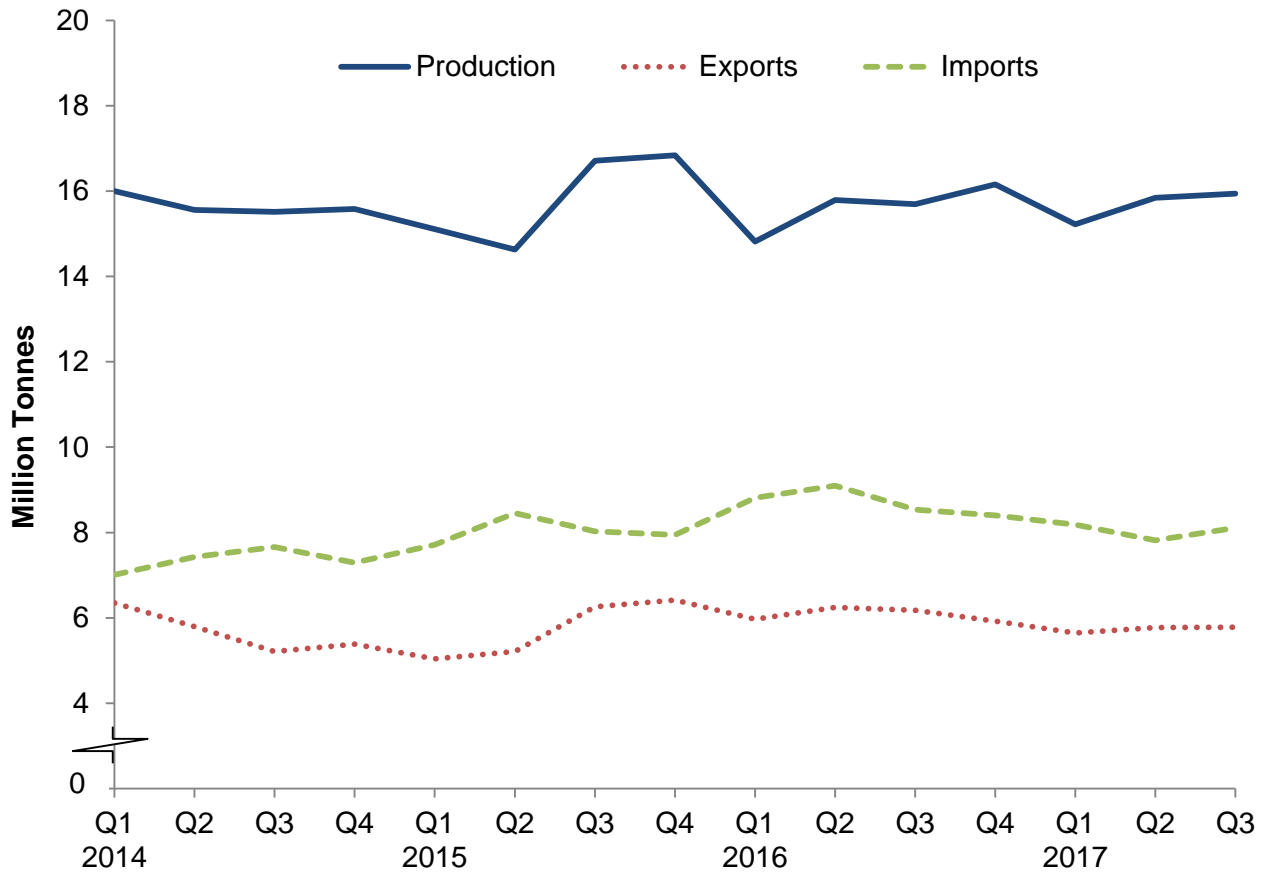
Chart 3.1 Production and trade of crude oil and NGLs (Table 3.1)



Indigenous UK crude oil production was 0.9 per cent lower in Q3 of 2017 compared with Q3 2016. Production of NGLs increased by 6.7 per cent compared to last year, partly due to increased production from the St Fergus FLAGS terminal. Overall indigenous production was down 0.4 per cent.

The 17 per cent increase in exports of crude and NGLs was likely driven by global economic factors including the OPEC production cuts, which have made it comparatively cheaper for Asian refineries to use UKCS crude oil. These strong exports resulted in a 17 per cent increase in imports of crude and NGLs to meet UK refinery demand.

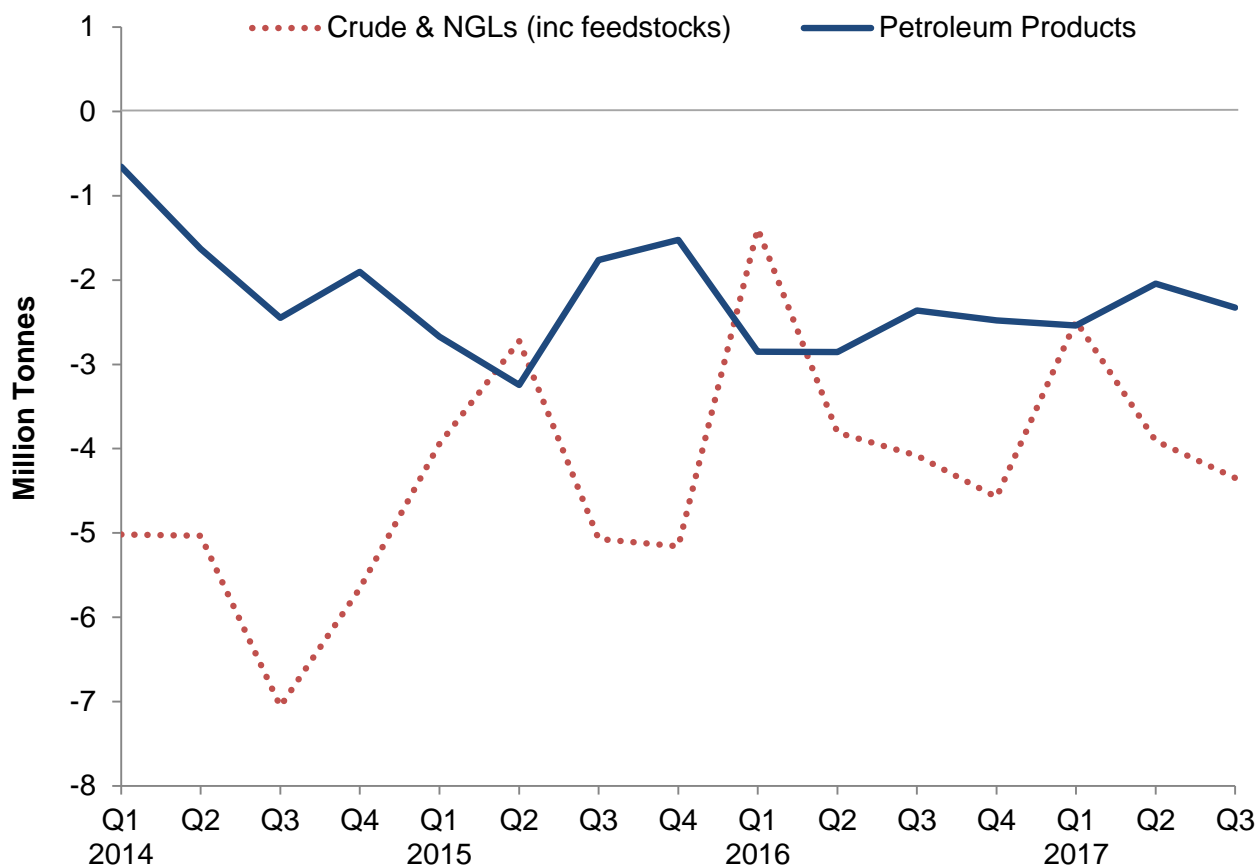
Net imports of primary oils (crude, NGLs and feedstocks) increased from 4.1 million tonnes in Q3 2016 to 4.3 million tonnes in Q3 2017.

Chart 3.2 Production and trade of petroleum products (Table 3.2)

Indigenous production of petroleum products at refineries in Q3 2017 was 1.6 per cent greater compared with a year earlier, imports of petroleum products were down 4.6 per cent and exports down 6.7 per cent.

Whilst the trade balance on some products has varied slightly on the same quarter last year, the broad pattern is similar to last year with the UK reliant on imports of middle distillates (particularly road diesel and jet fuel which comprise around two-thirds of imports) and strong exports of petrol (which comprises nearly half of the UK's petroleum product exports).

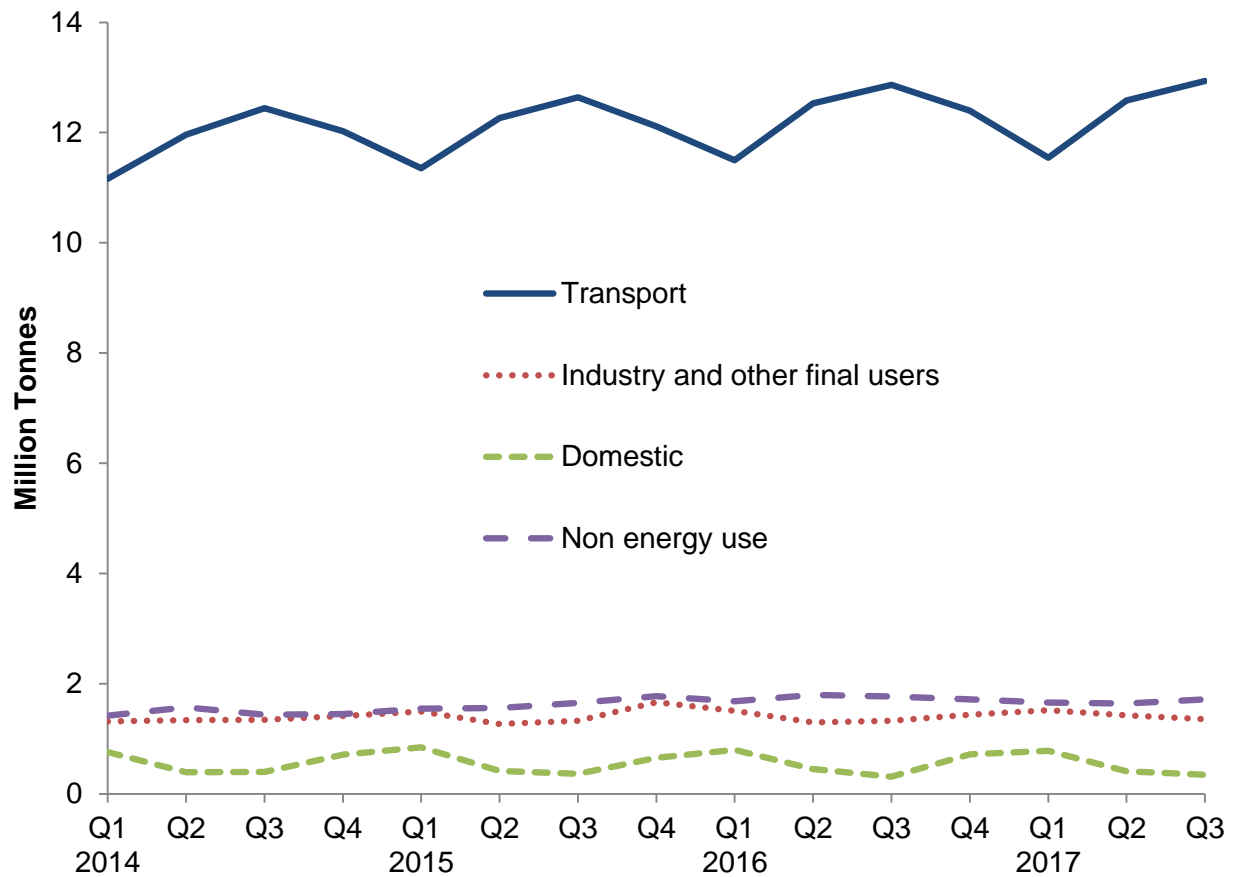
Chart 3.3 Overall trade in primary oils and petroleum products (Table 3.1)



The UK's overall net import dependence for primary oils (Crude, NGL's and feedstocks) was stable at 17 per cent in Q3 2017.

Crude oil import dependence decreased in 2017 following development work on a number of UKCS assets including Schiehallion. Refinery receipts of indigenous crude have seen a sustained decrease in 2017 due to higher exports to meet refinery demand from Asia (see Chart 3.1).

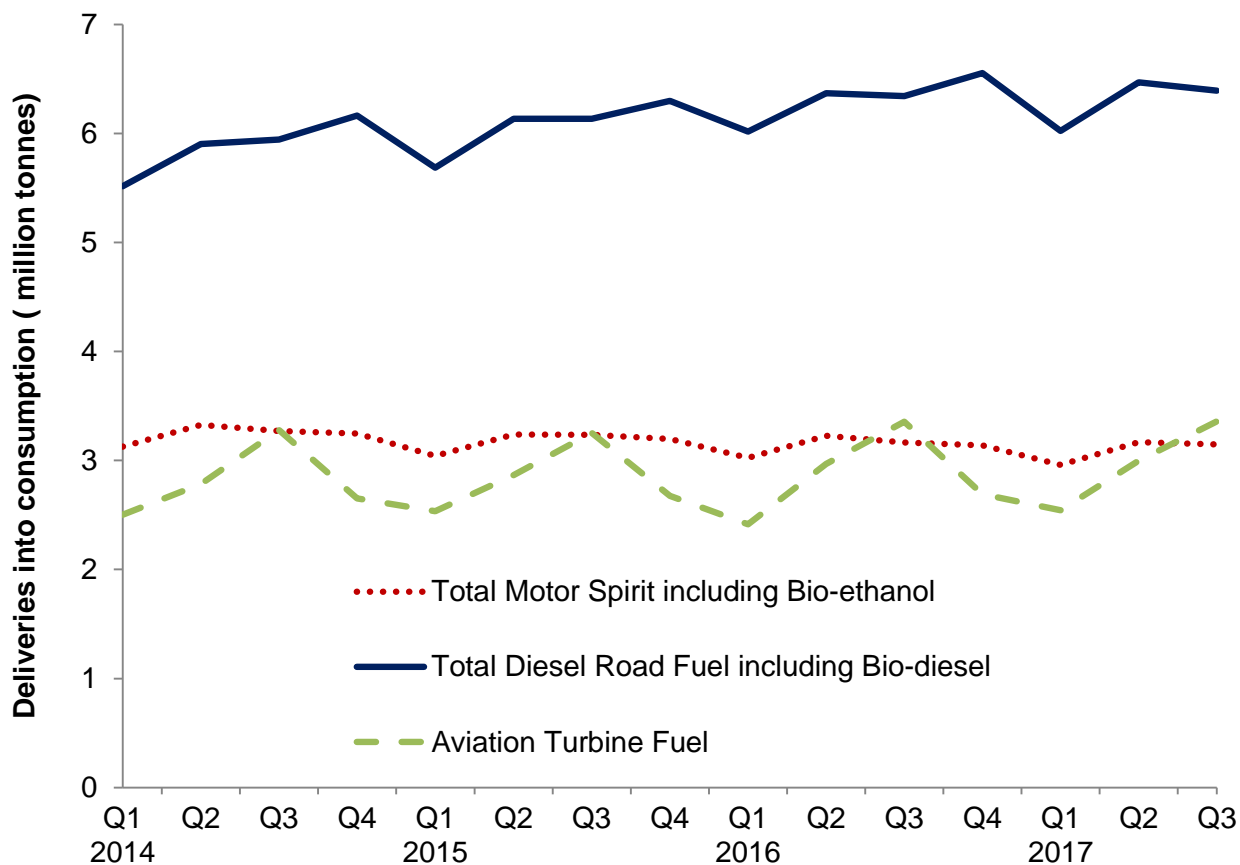
In Q3 2017 the UK was a net importer of petroleum products by 2.4 million tonnes, stable on the same period last year.

Chart 3.4 Final consumption of oil ([Table 3.4](#))

Final consumption in the oil sector is slightly seasonal with different products peaking at different times of the year. Consumption of domestic fuels for heating peaks in Q1 and Q4 each year, and consumption of aviation fuels is higher in Q2 and Q3.

Overall, final consumption of petroleum products in Q3 2017 was relatively stable on the same period last year with the exception of an 11 per cent increase in domestic demand for heating fuels compared to lower demand last year when September was warmer than usual.

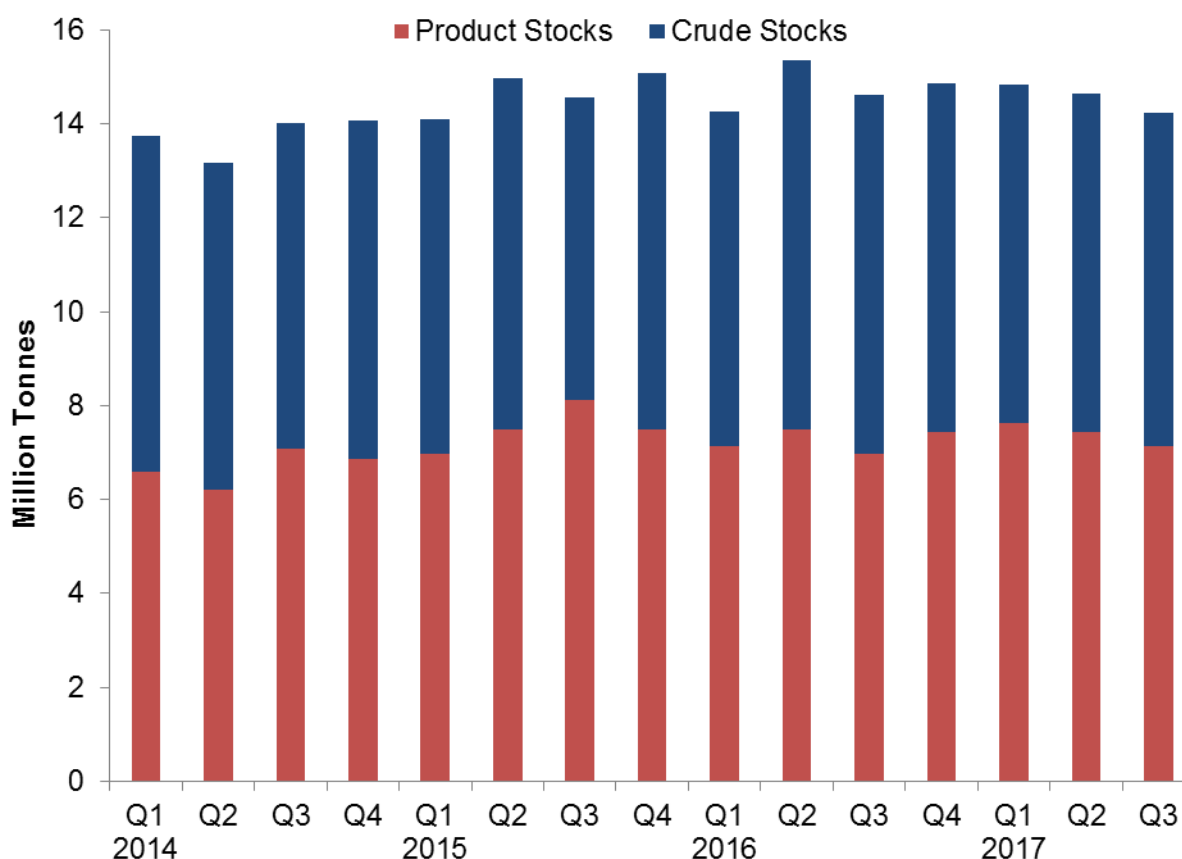
Chart 3.5 Demand for key transport fuels (Table 3.4 and Table 3.5)



Transport fuels accounted for 79 per cent of demand for petroleum products, with road fuels alone accounting for more than half of total demand.

Consumption of all transport fuels were near identical to last year. Motor spirit sales saw a decrease (down 0.6 per cent), which was countered by an increase in road diesel (up 1.1 per cent) in continuation of the long term trend as more motorists switch from petrol to diesel. Deliveries of aviation turbine fuel were similar to the same period last year, up just 0.1 per cent.

Chart 3.6 UK oil stocks (Table 3.6)



The UK holds oil stocks both for operational and commercial purposes and to meet obligations set out by the European Union (EU) and the International Energy Agency (IEA) to ensure the continuity of oil supply in times of significant disruption. The UK meets these obligations by directing companies to hold stocks of oil over and above what they would need for operational purposes. The UK is required to hold stock equivalent to 61 days of consumption to meet the EU requirements and stock equivalent to 90 days of net imports to meet IEA requirements.

At the end of Q3 2017 the UK held 14.2 million tonnes, equivalent to just under the 61 days of consumption with an additional 10 days of commercial stocks available on top of the obligation. The same volume is equivalent to around 180 days of net imports. UK total oil stocks were broadly stable (down 2.7 per cent on the same period last year), with primary oil stocks down 7.3 per cent and petroleum product stocks up 2.4 per cent.

There has been a 5.5 per cent decrease to primary oils held for the UK elsewhere in the EU whilst there has been no substantial change in petroleum products held overseas on the same period last year. The primary driver for this changes are prices as companies seek to minimise the cost of meeting their obligations by securing the best prices for oil held on their behalf. The result has been a decrease in net stock held overseas on behalf of the UK, down 3.1 per cent.

Further information on how the UK meets its oil stocking obligations are set out at: www.gov.uk/government/publications/uk-emergency-oil-stocking-international-obligations

3 OIL AND OIL PRODUCTS

Table 3.1 Supply and use of crude oil, natural gas liquids and feedstocks¹

Thousand tonnes

	2015	2016	per cent change	2015 3rd quarter	2015 4th quarter	2016 1st quarter	2016 2nd quarter	2016 3rd quarter	2016 4th quarter	2017 1st quarter	2017 2nd quarter	2017 3rd quarter p	per cent change ⁸
SUPPLY													
Indigenous production ²	45,698	47,872	+4.8r	10,515	12,206	12,716	12,210	11,377	11,570	12,253r	12,016r	11,330	-0.4
Crude oil	42,826	44,306	+3.5r	9,895	11,404	11,816	11,347	10,560	10,583	11,209r	10,972r	10,465	-0.9
NGLs ³	2,462	3,139	+27.5r	508	688	784	757	717	881	929r	940r	765	+6.7
Feedstocks	410	428	+4.2	112	114	116	105	100	106	116	103	100	+0.3
Imports ⁴	50,604	48,708	-3.7r	12,979	13,553	11,480	11,785	12,305	13,138	12,016r	13,677r	14,031	+14.0
Crude oil & NGLs	45,286	42,415	-6.3r	11,396	12,006	9,842	10,171	10,681	11,721	10,567r	11,738r	12,481	+16.9
Feedstocks	5,318	6,293	+18.3r	1,583	1,547	1,638	1,614	1,624	1,417	1,449r	1,939r	1,550	-4.6
Exports ⁴	33,709	34,856	+3.4r	7,908	8,396	10,090	7,976	8,225	8,565	9,528r	9,770r	9,684	+17.7
Crude Oil & NGLs	31,820	33,247	+4.5r	7,279	8,083	9,460	7,544	7,931	8,312	9,175r	9,445r	9,243	+16.5
Feedstocks	1,890	1,609	-14.8r	630	313	630	433	294	253	353	325	441	+50.1
Stock change ⁵	-98	-125	+27.2	970	-626	355	-492	95	-83	414	-94r	190	+99.2
Transfers ⁶	-1,152	-1,282	+11.3r	-225	-445	-225	-368	-209	-481	-574r	-560r	-429	(+)
Total supply	61,343	60,317	-1.7	16,331	16,292	14,236	15,159	15,343	15,579	14,581r	15,269r	15,439	+0.6
Statistical difference ⁷	-48	-45		-16	-16	+14	-81	+4	+17	-6r	-9r	+1	
Total demand	61,391	60,362	-1.7	16,347	16,308	14,221	15,240	15,339	15,562	14,587	15,279	15,437	+0.6
TRANSFORMATION	61,391	60,362	-1.7	16,347	16,308	14,221	15,240	15,339	15,562	14,587	15,279	15,437	+0.6
Petroleum refineries	61,391	60,362	-1.7	16,347	16,308	14,221	15,240	15,339	15,562	14,587	15,279	15,437	+0.6

1. As there is no use made of primary oils and feedstocks by industries other than the oil and gas extraction and petroleum refining industries, other industry headings have not been included in this table. As such, this table is a summary of the activity of what is known as the Upstream oil industry.

2. Includes offshore and onshore production.

3. Natural Gas Liquids (NGLs) are condensate and petroleum gases derived at onshore treatment plants.

4. Foreign trade as recorded by the Petroleum Industry which may differ from the figures published by HM Revenue and Customs in the Overseas Trade Statistics. Data are subject to further revision as revised information on imports and exports becomes available.

5. Stock fall (+), stock rise (-). Stocks include stocks held at refineries, at oil terminals and also those held in tanks and partially loaded vessels at offshore facilities.

6. Mostly direct disposals to petrochemical plants.

7. Total supply minus total demand.

8. Percentage change between the most recent quarter and the same quarter a year earlier.

3 OIL AND OIL PRODUCTS

Table 3.2 Supply and use of petroleum products

<i>Thousand tonnes</i>													
	2015	2015	per cent	2015	2015	2016	2016	2016	2016	2017	2017	2017	per cent
			change	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	change ¹
	2015	2016		quarter	quarter	quarter	quarter	quarter	quarter	quarter	quarter	quarter p	
SUPPLY													
Indigenous production ²	63,282	62,455	-1.3	16,713	16,835	14,819	15,790	15,689	16,156	15,223r	15,845r	15,943	1.6
Imports ³	32,133	34,854	8.5	8,024	7,940	8,814	9,098	8,539	8,403	8,183r	7,818r	8,143	-4.6
Exports ³	22,926	24,312	6.0	6,260	6,416	5,964	6,245	6,179	5,923	5,644r	5,774r	5,763	-6.7
Marine bunkers	2,509	2,659	6.0	687	573	538	727	763	632	511r	597r	729	-4.4
Stock change ⁴	-743	89		-267	-68	148	-278	460	-241	-301	124r	243	
Transfers ⁵	-1,190	-1,268		-227	-184	-474	-300	-281	-212	-189	-75	-210	
Total supply	68,046	69,158	1.6	17,296	17,534	16,805	17,337	17,465	17,552	16,761r	17,342r	17,627	0.9
Statistical difference ⁶	-51	30		-62	-30	32	-2	-7	8	-6r	18r	-2	
Total demand	68,097	69,128	1.5	17,358	17,564	16,773	17,339	17,472	17,544	16,767r	17,323r	17,630	0.9
TRANSFORMATION	1,125	1,094	-2.7	293	314	302	254	250	288	272r	241r	242	-3.2
Electricity generation	560	501	-10.5	142	158	146	110	115	130	119r	102r	106	-7.8
Heat generation	59	58	-0.7	15	15	15	14	14	15	15	14	14	0.0
Other Transformation	506	535	5.7	136	142	142	130	121	143	139	125	122	0.9
Energy industry use	4,043	3,946	-2.4	1,089	1,047	988	1,019	949	990	991	1,026	1,037	9.3
Petroleum Refineries	3,344	3,284	-1.8	915	872	823	854	783	824	825	861	871	11.3
Blast Furnaces	0	0		0	0	0	0	0	0	0	0	0	
Others	699	662	-5.3	175	175	166	166	166	166	166	166	166	0.0
FINAL CONSUMPTION	62,929	64,088	1.8	15,976	16,203	15,482	16,066	16,273	16,266	15,505r	16,056r	16,350	0.5
Iron & steel	6	4	-29.9	2	2	3	1	0	0	3r	2r	0	11.4
Other industries	3,939	3,722	-5.5	858	1,208	1,095	821	842	964	1,080r	957r	861	2.2
Transport	48,374	49,292	1.9	12,638	12,115	11,495	12,531	12,867	12,400	11,547r	12,582r	12,935	0.5
Domestic	2,273	2,275	0.1	363	652	799	447	313	716	782r	411r	346	10.5
Other final users	1,813	1,840	1.5	467	454	410	473	485	473	437r	463r	493	1.6
Non energy use	6,525	6,954	6.6	1,648	1,773	1,681	1,794	1,766	1,714	1,656r	1,642r	1,715	-2.9

1. Percentage change between the most recent quarter and the same quarter a year earlier; (+) represents a positive percentage change greater than 100%.
2. Includes refinery production and petroleum gases extracted as products during the production of oil and gas.
3. Foreign trade as recorded by the Petroleum Industry which may differ from the figures published by HM Revenue and Customs in the Overseas Trade Statistics.
Data are subject for further revision as revised information on imports and exports becomes available.
4. Stock fall (+), stock rise (-).
5. Mainly transfers from product to feedstock.
6. Total supply minus total demand.

3 OIL AND OIL PRODUCTS

Table 3.4 Supply and use of petroleum products - latest quarter

Thousand tonnes

	2016 3rd quarter									2017 3rd quarter p								
	Total Petroleum Products	Motor spirit	DERV ⁹	Gas oil ¹	Aviation turbine fuel	Fuel oils	Petroleum gases ²	Burning oil	Other products ³	Total Petroleum Products	Motor spirit	DERV ⁹	Gas oil ¹	Aviation turbine fuel	Fuel oils	Petroleum gases ²	Burning oil	Other products ³
SUPPLY																		
Indigenous Production ⁷	15,689r	4,342	3,621	1,805	1,280	1,044	1,612r	309	1,676	15,943	4,431	3,441	1,821	1,482	975	1,771	358	1,664
Imports ⁹	8,539	954	3,385	495	2,375	335	264	102	629	8,143	808	3,184	462	2,240	281	156	51	962
Exports ⁹	6,179	2,743	821	534	380	795	236	13	659	5,763	2,751	361	557	352	784	293	22	642
Marine bunkers	763	-	-	523	-	239	0	-	-	729	-	-	501	-	228	-	-	-
Stock change ⁹	+460	+51	+116	+61	+176	+14	+0	-19	+61	+243	+19	+187	-69	+80	-5	-7	+75	-37
Transfers ⁷	-281	+400	-123	+35	-97	-168	-2	+85	-410	-210	+488	-192	+239	-84	-72	-17	+14	-586
Total supply	17,465r	3,005	6,178	1,339	3,354	190	1,638r	464	1,296	17,627	2,995	6,258	1,395	3,366	167	1,610	475	1,361
Statistical difference ⁹	-7	-9	-	-1	-	-2	-15	+3	+18	-2	-2	+26	-	+7	-3	-27	+16	-19
Total demand	17,472r	3,014	6,167	1,340	3,354	193	1,653r	461	1,289	17,630	2,996	6,233	1,395	3,359	170	1,637	460	1,380
TRANSFORMATION	250	-	-	20	-	44	163	-	23	242	-	-	19	-	36	162	-	25
Electricity generation	115	-	-	19	-	33	63	-	-	106	-	-	18	-	25	63	-	-
Heat generation	14	-	-	1	-	11	2	-	-	14	-	-	1	-	11	2	-	-
Petroleum refineries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coke manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patent fuel manufacture	18	-	-	-	-	-	0	-	18	20	-	-	-	-	0	-	-	20
Other transformation ⁹	103	-	-	-	-	-	98	-	5	102	-	-	-	-	97	-	-	5
Energy industry use	949	-	-	150	-	65	474	-	260	1,037	-	-	150	-	73	524	-	290
FINAL CONSUMPTION	16,273	3,014	6,167	1,170	3,354	84	1,016	461	1,007	16,350	2,996	6,233	1,226	3,359	61	951	460	1,065
Iron & steel	0	-	-	-	-	0	0	-	-	0	-	-	-	-	0	-	-	-
Other industries	842r	-	-	458	-	49	79r	211	45	861	-	-	469	-	34	73	180	105
Transport	12,867	3,014	6,167	309	3,354	0	18	-	4	12,935	2,996	6,233	325	3,359	0	18	-	4
Domestic	313	-	-	40	-	-	23	250	-	346	-	-	43	-	-	23	279	-
Other final users	485r	-	-	358	-	35	91r	-	-	493	-	-	383	-	28	82	-	-
Non energy use	1,766	-	-	5	-	-	804	-	957	1,715	-	-	5	-	-	754	-	956

1. Includes middle distillate feedstock destined for use in the petrochemical industry and marine diesel
2. Includes ethane, propane, butane and other petroleum gases
3. Includes naphtha, industrial and white spirits, lubricants, bitumen, petroleum waxes, petroleum coke and other oil product
4. Includes refinery production and petroleum gases extracted as products during the production of oil and gas
5. Foreign trade as recorded by the Petroleum Industry which may differ from the figures published by HM Revenue and Customs in the Overseas Trade Statistics:
Data are subject to further revision as revised information on imports and exports becomes available
6. Stock fall (+), stock rise (-).
7. Mainly transfers from product to feedstock.
8. Total supply minus total demand.
9. Backflows from petrochemical companies have been placed on a separate row for the first time June 2016. Please see article in Energy Trend June 2016 for more information

3 OIL AND OIL PRODUCTS

Table 3.5 Biofuel sales and sales through supermarkets¹

Thousand tonnes

	2015	2016	<i>per cent change</i>	2015 3rd quarter	2015 4th quarter	2016 1st quarter	2016 2nd quarter	2016 3rd quarter	2016 4th quarter	2017 1st quarter	2017 2nd quarter	2017 3rd quarter	<i>per cent change²</i>
MOTOR SPIRIT													
of which, Hydrocarbon ³	12,082	11,951	-1.1%	3,072	3,040	2,877	3,072	3,014	2,988	2,815	3,015r	2,996	-0.6%
of which, Bio-ethanol ⁴	631	603	-4.5%	163	157	146	154	150	152	146	153r	151	0.7%
Total Motor Spirit including Bio-ethanol	12,713	12,554	-1.3%	3,235	3,197	3,023	3,226	3,164	3,140	2,961	3,169r	3,148	-0.5%
of which, sold through Supermarkets ⁵	5,794	5,885	1.6%	1,435	1,473	1,480	1,479	1,453	1,473	1,388	1,445	1,443	-0.7%
DIESEL ROAD FUEL													
of which, Hydrocarbon ³	23,656	24,648	4.2%	5,976	6,106	5,889	6,173	6,167	6,419	5,903	6,280r	6,233	1.1%
of which, Bio-diesel ⁴	595	630	5.8%	158	191	127	195	174	133	118	188r	158	-9.5%
Total Diesel Road Fuel including Bio-diesel	24,251	25,279	4.2%	6,134	6,298	6,016	6,368	6,342	6,552	6,022	6,467r	6,390	0.8%
of which, sold through Supermarkets ⁵	6,644	7,267	9.4%	1,706	1,685	1,793	1,802	1,814	1,858	1,761	1,811	1,863	2.7%

1. Monthly data for inland deliveries of oil products are available - See BEIS website: <https://www.gov.uk/government/collections/oil-statistics>

2. Percentage change between the most recent quarter and the same quarter a year earlier.

3. Demand excluding bioethanol. Based on HMRC data.

4. Bioethanol based on HMRC data and excludes other renewables

5. Data for sales by supermarkets collected by a monthly reporting system. Includes Asda, Morrisons, Sainsburys and Tesco only.

3 OIL AND OIL PRODUCTS

Table 3.6 Stocks of petroleum¹ at end of period

Thousand tonnes

		Crude oil and refinery process oil					Petroleum products							Total stocks		
		Refineries ²	Terminals ³	Offshore ⁴	Net bilaterals of Crude and		Motor Spirit ⁶	Kerosene ⁷	Gas/Diesel		Other products ⁹	Net bilaterals of		Total Net bilaterals ⁵	Total Stocks in UK ¹⁰	Total stocks
					Process oil ⁵	Total ⁵			Oil ⁸	Fuel oils		products ⁵	Total products			
2012		3,829	1,194	473	195	5,690	605	1,427	1,931	491	841	2,441	7,735	2,636	10,790	13,425
2013		3,592	1,102	513	1,469	6,677	1,041	1,419	1,539	404	693	2,432	7,528	3,901	10,304	14,205
2014		3,876	1,147	460	1,728	7,211	947	1,178	1,656	253	773	2,064	6,871	3,792	10,290	14,082
2015		3,156	1,629	499	2,289	7,574	1,084	1,425	1,858	314	792	2,022	7,497	4,312	10,759	15,070
2016		3,088	1,795	526	2,006	7,415	1,079	1,342	2,033	218	687	2,082	7,442	4,089	10,769	14,857
2015	3rd quarter	3,098	1,211	350	1,793	6,451	1,087	1,436	1,825	314	750	2,703	8,116	4,496	10,071	14,567
	4th quarter	3,156	1,629	499	2,289	7,574	1,084	1,425	1,858	314	792	2,022	7,497	4,312	10,759	15,070
2016	1st quarter	3,081	1,370	478	2,193	7,122	1,085	1,456	1,767	247	763	1,812	7,130	4,005	10,247	14,253
	2nd quarter	3,201	1,586	635	2,427	7,849	1,158	1,398	1,990	270	780	1,899	7,495	4,326	11,018	15,344
	3rd quarter	3,238	1,473	615	2,323	7,650	1,107	1,241	1,809	261	718	1,826	6,964	4,150	10,464	14,614
	4th quarter	3,088	1,795	526	2,006	7,415	1,079	1,342	2,033	218	687	2,082	7,442	4,089	10,769	14,857
2017	1st quarter	3,131	1,307	557	2,229	7,224	1,212	1,575	1,970r	236r	678	1,949	7,620r	4,178	10,666r	14,844r
	2nd quarter	3,003	1,549r	542r	2,129	7,222r	1,112r	1,430	2,083r	226r	698	1,876	7,425r	4,005	10,642r	14,647r
	3rd quarter p	2,970	1,318	610	2,197	7,095	1,093	1,276	1,964	229	742	1,826	7,130	4,023	10,202	14,225
<i>Per cent change¹¹</i>		-8.3	-10.5	-0.9	-5.5	-7.3	-1.3	+2.8	+8.6	-12.3	+3.3	-	+2.4	-3.1	-2.5	-2.7

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1. Stocks held at refineries, terminals and power stations. Stocks in the wholesale distribution system and certain stocks at offshore fields (UK Continental Shelf [UKCS]), and others held under approved bilateral agreements also included.

2. Stocks of crude oil, NGLs and process oil at UK refineries.

3. Stocks of crude oil and NGLs at UKCS pipeline terminals.

4. Stocks of crude oil in tanks and partially loaded tankers at offshore fields (UKCS).

5. The difference between stocks held abroad for UK use under approved bilateral agreements and the equivalent stocks held in the UK for foreign use. From 2013 onwards, EU Directive 2009/119/EC came into effect and this has led to changes in how UK companies manage their stock-holding. The increase in crude stocks held abroad was at the expense of a decrease in product stocks held under similar agreements.

6. Motor spirit and aviation spirit.

7. Aviation turbine fuel and burning oil.

8. Gas oil, DERV fuel, middle distillate feedstock (mdf) and marine diesel oil.

9. Ethane, propane, butane, other petroleum gases, naphtha (ldf), industrial and white spirits, bitumen, petroleum wax, lubricating oil, petroleum coke, and miscellaneous products.

10. Stocks held in the national territory or elsewhere on the UKCS

11. Percentage change between the most recent quarter and the same quarter a year earlier.