

Section 3 – Oil and Oil Products

Key results show:

Total indigenous UK production of crude oil and Natural Gas Liquids (NGL) in Q2 2017 was 1.9 per cent lower than a year ago, with crude oil production decreasing and NGL production increasing. **(Chart 3.1)**

Net imports of primary oils (crude oil, NGLs and process oils) in Q2 2017 increased to 4.0 million tonnes, up 6.2 per cent on 2016. These met about 14 per cent of UK's refinery demand. **(Chart 3.3)**

Indigenous production of petroleum products was stable on last year, up just 0.2 per cent, although within this there was variability in terms of products because of maintenance patterns last year. **(Chart 3.2)**

Exports decreased by 6.9 per cent compared with the second quarter of 2016 and imports decreased by 13.4 per cent. The UK was a net importer of petroleum products in Q2 2017 by 2.1 million tonnes. **(Chart 3.2)**

In Q2 2017 total deliveries of key transport fuels were stable, up just 0.7 per cent compared with Q2 2016. Excluding the bio component, demand for petrol was down 1.3 per cent while demand for road diesel increased by 1.5 per cent. Deliveries of jet fuel increased by 1.0 per cent. **(Chart 3.5)**

Overall stocks of crude oil and petroleum products were down by 4.2 per cent at end of Q2 2017. **(Chart 3.7)**

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Contacts for further information:

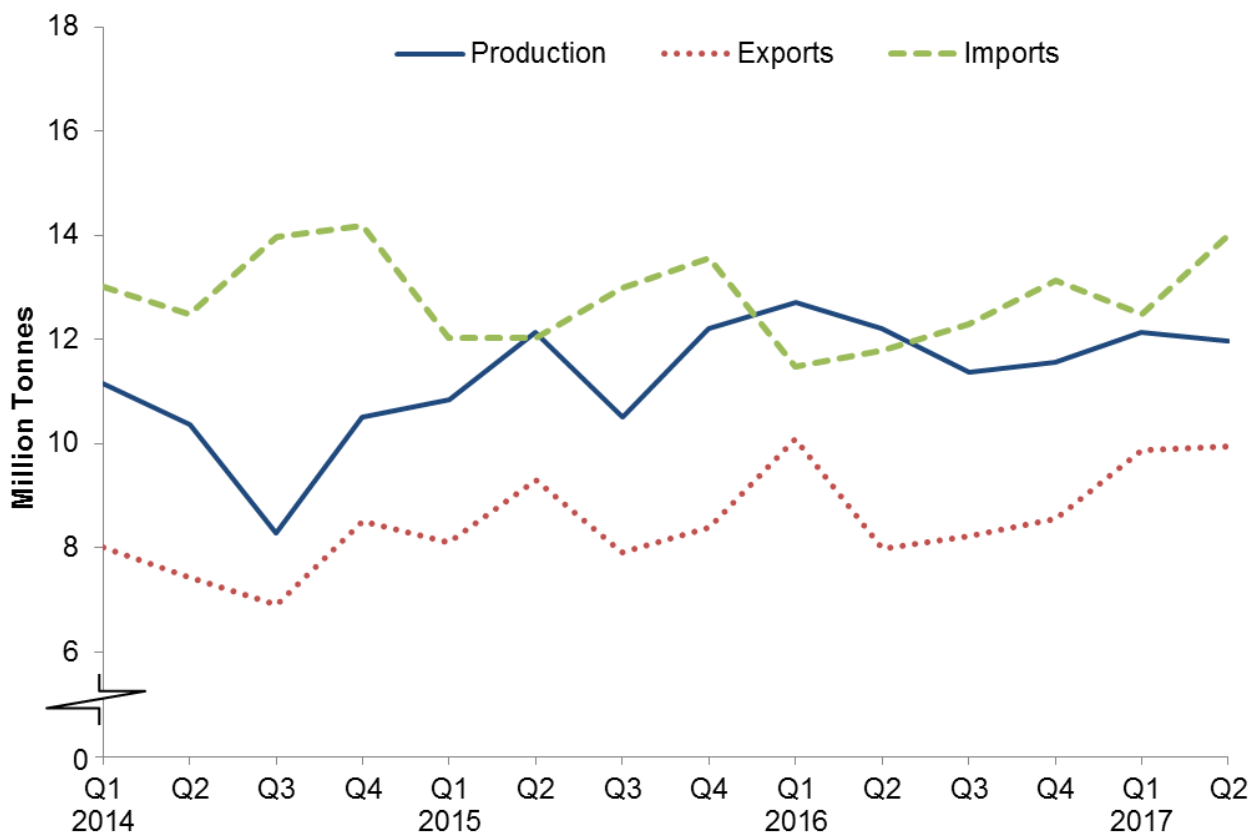
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Chart 3.1 Production and trade of crude oil and NGLs (Table 3.1)



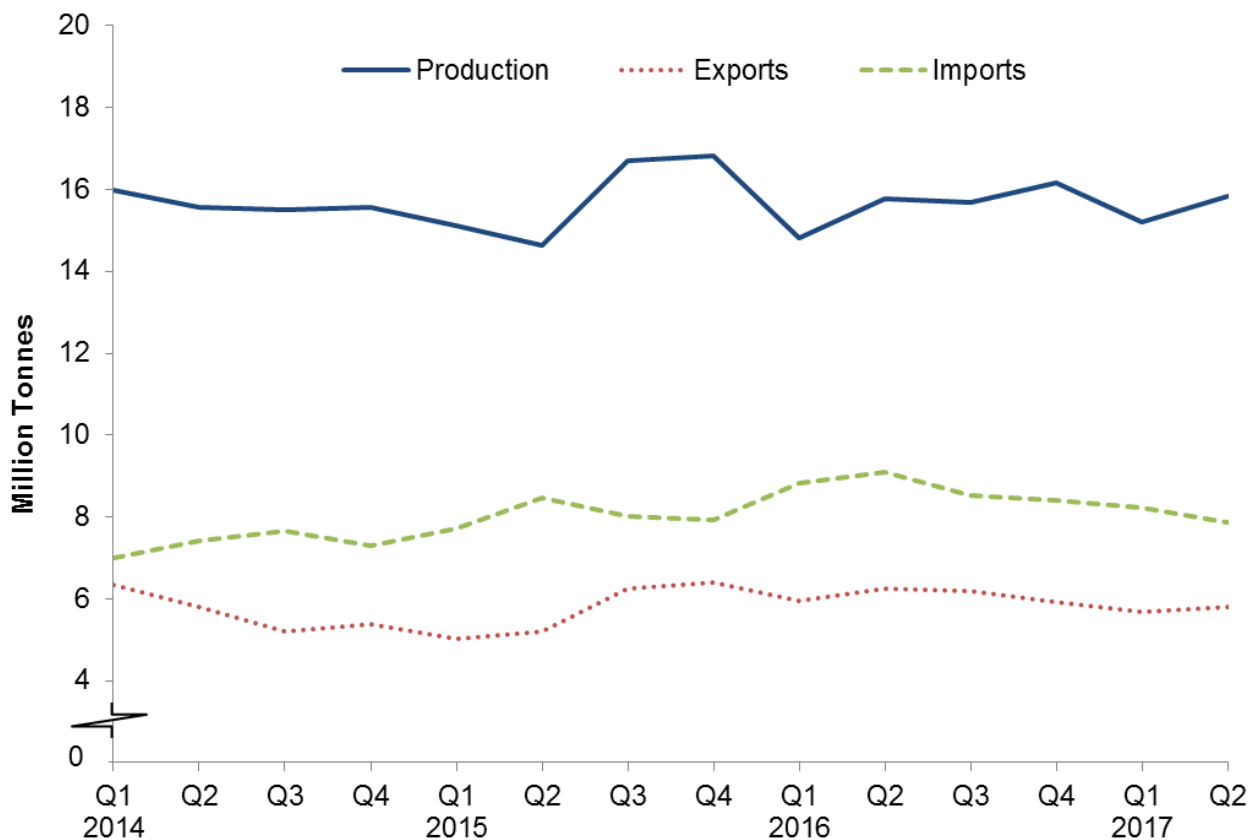
Indigenous crude oil production was lower by 3.6 per cent in Q2 2017 compared with the same quarter a year ago. Production levels have begun to settle since the boost from new fields coming online through 2015.

The high proportion of Natural Gas Liquids (NGLs) in the new fields led to a 24 per cent increase in production on the second quarter of 2016. Taken together, indigenous production of crude and NGLs was 1.9 per cent lower.

The key story this quarter is around trade of crude oil; despite the levelling in production, exports of crude and NGLs were up more than a quarter (28 per cent) on last year. Although exports were relatively low in Q2 2016, partially explaining the growth, the Q2 2017 export volume led to a record low for use of indigenous crude at UK refineries. The growth was likely attributable to 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 19 per cent increase in imports of crude and NGLs to cover UK refinery demand, with feedstock imports also up by one-fifth (and exports down by a quarter).

Overall, net imports of primary oils (crude, NGLs and feedstocks) were 4.1 million tonnes in Q2 2017 compared with 3.8 million tonnes in the same quarter of 2016.

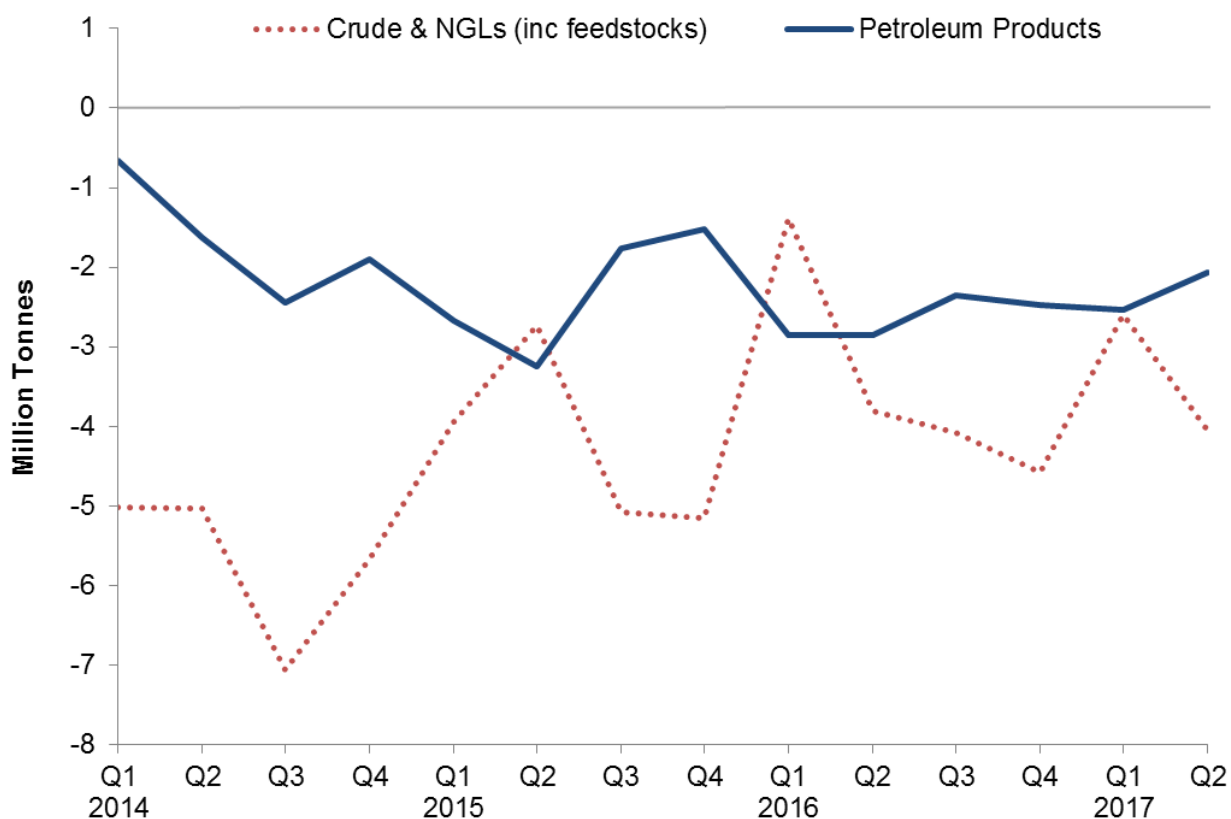
Chart 3.2 Production and trade of petroleum products (Table 3.2)

Indigenous production of petroleum products in Q2 2017 was stable (up just 0.2 per cent) compared with the same quarter in 2016.

Imports of petroleum fell by 13 per cent in the second quarter of 2017. This was partially because imports were at a record high in Q2 2016 when we saw high stock levels being built under favourable market conditions. In addition, whereas production and demand remained stable on last year exports fell by 6.9 per cent (particularly of road diesel which was down 0.3 million tonnes), meaning that lower import volumes were needed to meet demand. Exports of kerosene type jet fuel and gas oil were down around 0.25 million tonnes.

The UK was a net importer (2.1 million tonnes) of petroleum products in Q2 2017.

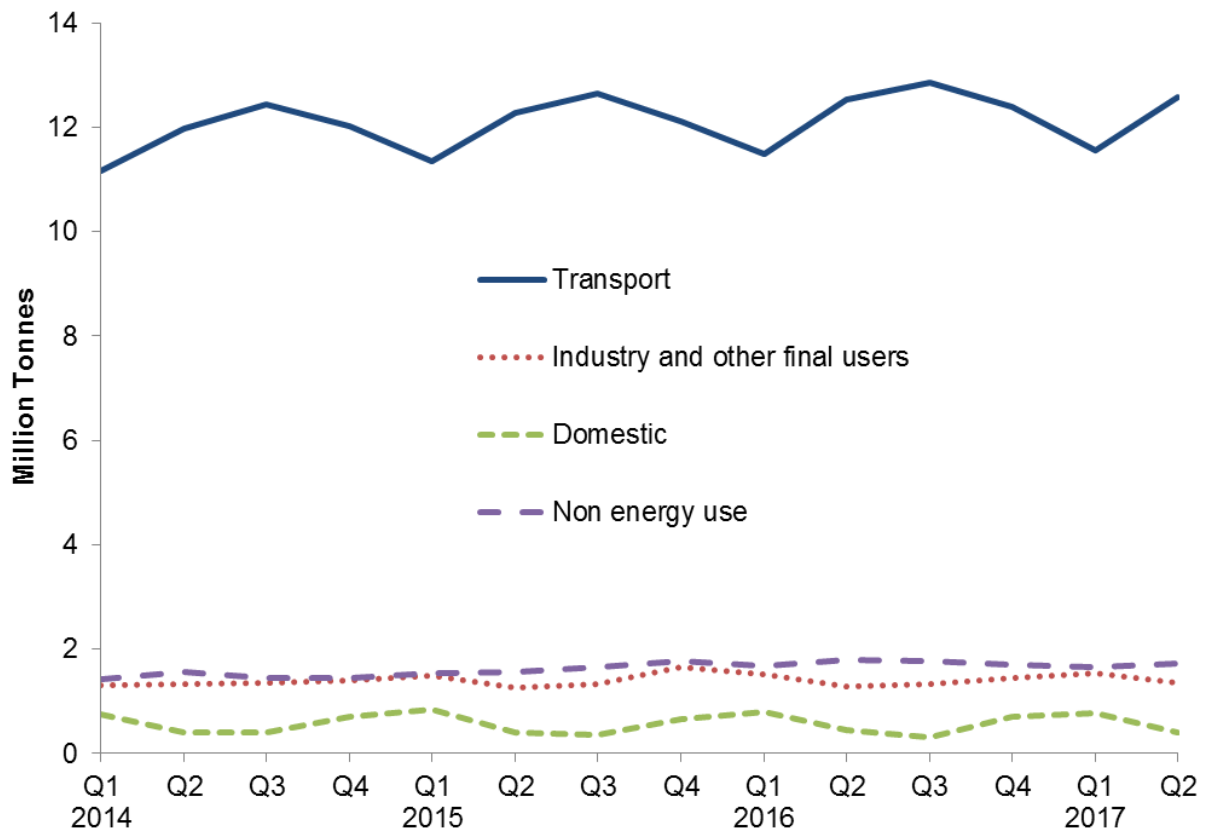
Chart 3.3 Overall trade in primary oils and petroleum products (Table 3.1)



In Q2 2017 net imports of primary oils (crude, NGLs and feedstocks) increased to 4.0 million tonnes compared with 3.8 million tonnes in Q2 2016, an increase of 6.2 per cent.

The UK's overall net import dependence for primary oils was 14 per cent in Q2 2017, the same as this time last year.

In Q2 2017 the UK was a net importer of petroleum products, by 2.1 million tonnes, down from 2.9 million tonnes in the same quarter of 2016.

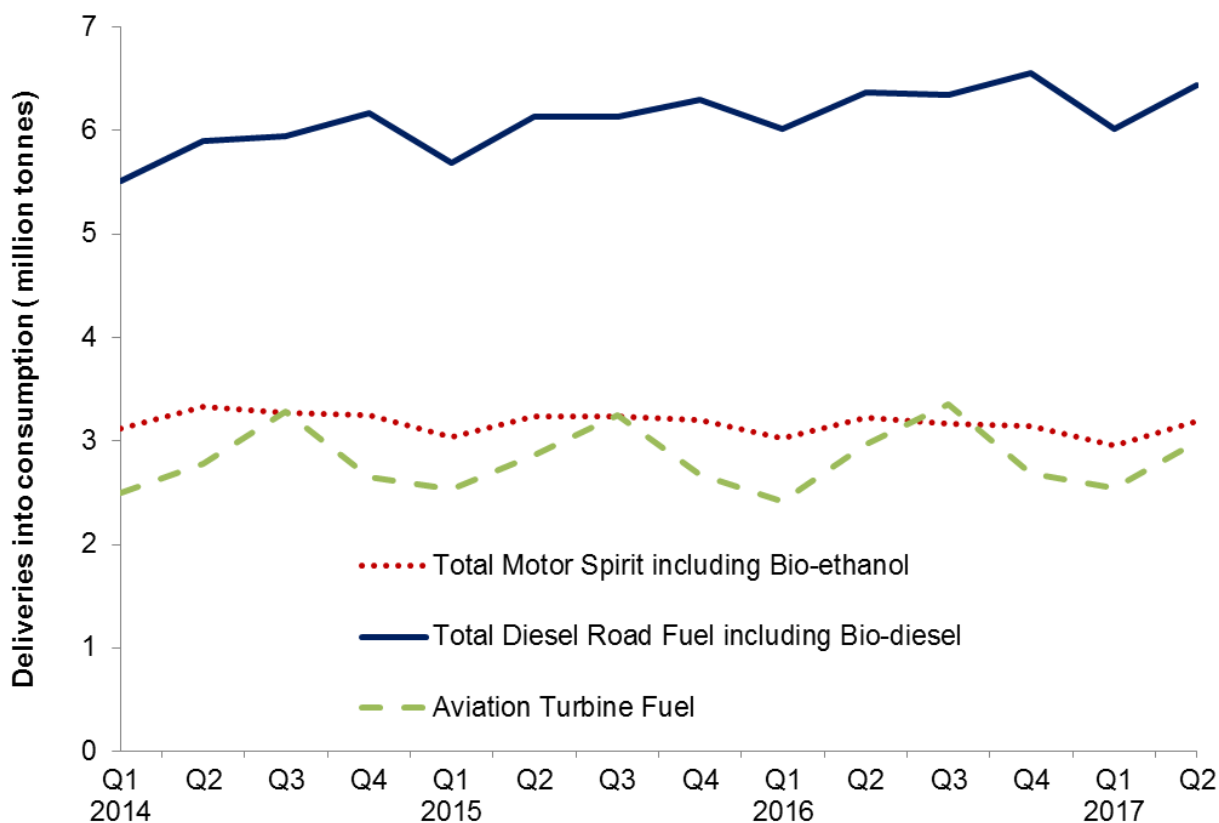
Chart 3.4 Final consumption of oil (Table 3.4)

In Q2 2017 final consumption of petroleum products was stable on last year, up just 0.1 per cent.

Transport, which accounts for about three-quarters of UK final consumption, was higher by just 0.4 per cent. Consumption of road diesel was up 1.5 per cent while petrol was down 1.3 per cent. (See Chart 3.5 for more detail).

Demand for products for non-energy use was lower by 3.4 per cent in the latest quarter following a period of strong growth in the petrochemical sector, which is now levelling off.

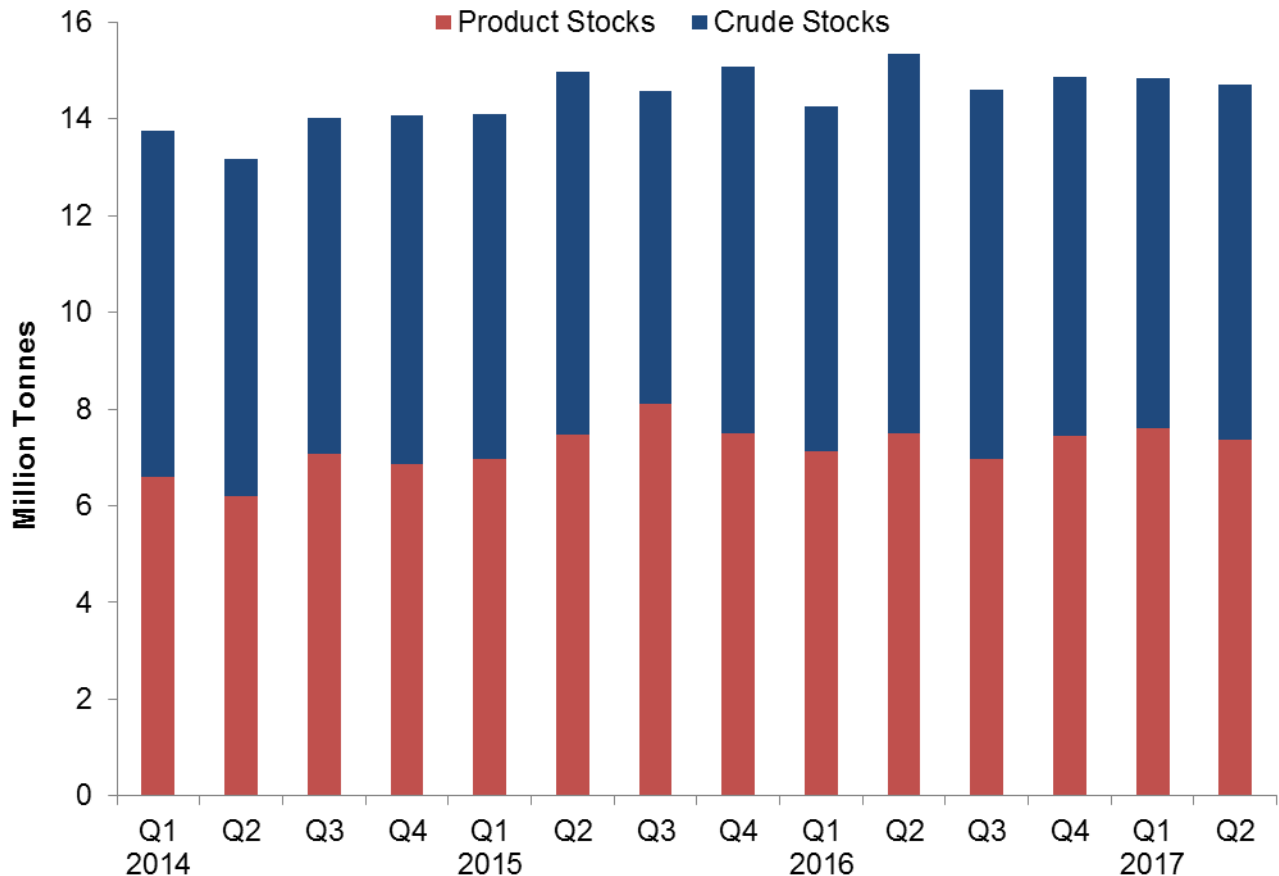
Chart 3.5 Demand for key transport fuels (Table 3.4 and Table 3.5)



Excluding the bio component, motor spirit (petrol) deliveries were down by 1.3 per cent on the second quarter of 2016. Including biofuel they were down 1.2 per cent on last year.

Diesel (DERV) demand increased by 1.5 per cent compared to Q2 2016. Total DERV consumption, including biodiesel, increased by 1.1 per cent.

Demand for aviation turbine fuel increased by 1.0 per cent compared to Q2 2016. Consumption increased sharply on the first quarter of this year because demand is seasonal with more people flying during summer months.

Chart 3.6 UK oil stocks (Table 3.6)

At the end of Q2 2017, total stocks for all oil were down by 4.2 per cent (0.6 million tonnes) compared to the same point in 2016. Total stocks in Q2 2016 had been at the highest level since Q2 2010.

Stocks of crude were down by 6.6 percent, primarily because of a fall in net volumes held under bilateral agreements (down 0.3 million tonnes) and at refineries (down 0.2 million tonnes).

Product stocks remained fairly stable (down 1.7 per cent), with increases in stocks of gas/diesel oil and kerosene not offsetting decreases in net bilaterals or draws on UK stocks of petrol, fuel oil and other products.

Chart 3.6 combines stocks of products with the product equivalent of stocks of crude oil to give an overall level of UK stocks of key products.

At the end of the Q2 2017, the UK had stocks equal to around 60 days of demand.

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 2nd quarter	2015 3rd quarter	2015 4th quarter	2016 1st quarter	2016 2nd quarter	2016 3rd quarter	2016 4th quarter	2017 1st quarter	2017 2nd quarter p	per cent change ⁸
SUPPLY													
Indigenous production ²	45,698	47,872	+4.8r	12,141	10,515	12,206	12,716	12,210	11,377	11,570	12,132r	11,977	-1.9
Crude oil	42,826	44,306	+3.5r	11,364	9,895	11,404	11,816	11,347	10,560	10,583	11,105r	10,933	-3.6
NGLs ³	2,462	3,139	+27.5r	689	508	688	784	757	717	881	911r	940	+24.2
Feedstocks	410	428	+4.2	88	112	114	116	105	100	106	116	103	-1.7
Imports ⁴	50,604	48,708	-3.7r	12,035	12,979	13,553	11,480	11,785	12,305	13,138	12,483r	13,995	+18.8
Crude oil & NGLs	45,286	42,415	-6.3r	10,931	11,396	12,006	9,842	10,171	10,681	11,721	11,034r	12,056	+18.5
Feedstocks	5,318	6,293	+18.3r	1,104	1,583	1,547	1,638	1,614	1,624	1,417	1,449	1,939	+20.2
Exports ⁴	33,709	34,856	+3.4r	9,309	7,908	8,396	10,090	7,976	8,225	8,565	9,888r	9,949	+24.7
Crude Oil & NGLs	31,820	33,247	+4.5r	8,846	7,279	8,083	9,460	7,544	7,931	8,312	9,534r	9,623	+27.6
Feedstocks	1,890	1,609	-14.8r	463	630	313	630	433	294	253	353r	325	-24.8
Stock change ⁵	-98	-125	+27.2	-384	970	-626	355	-492	95	-83	414r	-211	(-)
Transfers ⁶	-1,152	-1,282	+11.3r	-382	-225	-445	-225	-368	-209	-481	-560r	-540	+46.8
Total supply	61,343	60,317	-1.7	14,101	16,331	16,292	14,236	15,159	15,343	15,579	14,581r	15,273	+0.8
Statistical difference ⁷	-48	-45		-2	-16	-16	+14	-81	+4	+17	-6.0r	-6	
Total demand	61,391	60,362	-1.7	14,103	16,347	16,308	14,221	15,240	15,339	15,562	14,587	15,279	+0.3
TRANSFORMATION	61,391	60,362	-1.7	14,103	16,347	16,308	14,221	15,240	15,339	15,562	14,587	15,279	+0.3
Petroleum refineries	61,391	60,362	-1.7	14,103	16,347	16,308	14,221	15,240	15,339	15,562	14,587	15,279	+0.3

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

Thousand tonnes

	2015	2016	per cent change	2015 2nd quarter	2015 3rd quarter	2015 4th quarter	2016 1st quarter	2016 2nd quarter	2016 3rd quarter	2016 4th quarter	2017 1st quarter	2017 2nd quarter p	per cent change ¹
SUPPLY													
Indigenous production ²	63,282	62,455	-1.3	14,628	16,713	16,835	14,819	15,790	15,689	16,156	15,209r	15,826	0.2
Imports ³	32,133	34,854	8.5	8,457	8,024	7,940	8,814	9,098	8,539	8,403	8,230r	7,876	-13.4
Exports ³	22,926	24,312	6.0	5,212	6,260	6,416	5,964	6,245	6,179	5,923	5,688r	5,816	-6.9
Marine bunkers	2,509	2,659	6.0	698	687	573	538	727	763	632	510r	610	-16.0
Stock change ⁴	-743	89		-266	-267	-68	148	-278	460	-241	-301r	131	
Transfers ⁵	-1,190	-1,268		-249	-227	-184	-474	-300	-281	-212	-189r	-75	
Total supply	68,046	69,158	1.6	16,660	17,296	17,534	16,805	17,337	17,465	17,552	16,750r	17,332	0.0
Statistical difference ⁶	-51	30		-25	-62	-30	32	-2	-7	8	-40r	-20	
Total demand	68,097	69,128	1.5	16,685	17,358	17,564	16,773	17,339	17,472	17,544	16,790r	17,352	0.1
TRANSFORMATION													
Electricity generation	560	501	-10.5	128	142	158	146	110	115	130	118	100	-9.6
Heat generation	59	58	-0.7	15	15	15	15	14	14	15	15	14	0.0
Other Transformation	506	535	5.7	113	136	142	142	130	121	143	139	125	-4.0
Energy industry use													
Petroleum Refineries	3,344	3,284	-1.8	750	915	872	823	854	783	824	825	861	0.8
Blast Furnaces	0	0		0	0	0	0	0	0	0	0	0	
Others	699	662	-5.3	175	175	175	166	166	166	166	166	166	0.0
FINAL CONSUMPTION													
Iron & steel	6	4	-29.9	1	2	2	3	1	0	0	3r	0	-29.8
Other industries	3,939	3,722	-5.5	821	858	1,208	1,095	821	842	964	1,111r	902	9.9
Transport	48,374	49,292	1.9	12,265	12,638	12,115	11,495	12,531	12,867	12,400	11,551r	12,583	0.4
Domestic	2,273	2,275	0.1	414	363	652	799	447	313	716	782r	413	-7.7
Other final users	1,813	1,840	1.5	449	467	454	410	473	485	473	422r	456	-3.6
Non energy use	6,525	6,954	6.6	1,556	1,648	1,773	1,681	1,794	1,766	1,714	1,659r	1,732	-3.4

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 2nd quarter										2017 2nd 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	15,790r	4,359	3,247	1,782	1,185	1,144	1,860r	437	1,777		15,826	4,313	3,424	1,733	1,489	904	1,825	371	1,768	
Imports ⁹	9,098	1,112	3,796	695	2,049	396	168	164	719		7,876	923	3,378	436	1,806	260	229	55	790	
Exports ⁹	6,245	2,744	567	765	288	885	364	14	617		5,816	2,778	317	545	290	709	380	10	787	
Marine bunkers	727	-	-	494	-	233	0	-	-		610	-	-	436	-	175	-	-	-	
Stock change ⁶	-278	-73	-186	-37	+30	-23	-16	+28	-0		+131	+98	-82	-21	+140	+12	-27	+5	+7	
Transfers ⁷	-300	+427	-107	+61	-8	-181	-	-0	-492		-75	+476	-110	+102	-140	-119	-12	+130	-402	
Total supply	17,337r	3,080	6,182	1,243	2,968	217	1,647r	614	1,386		17,332	3,031	6,292	1,269	3,005	173	1,634	551	1,377	
Statistical difference ⁸	-2	+8	-	+16	-	-3	-12	+1	-12		-20	-0	-	-9	+8	+10	-40	-0	+12	
Total demand	17,339r	3,072	6,173	1,226	2,968	220	1,660r	613	1,406		17,352	3,031	6,267	1,279	2,998	162	1,674	551	1,391	
TRANSFORMATION	254	-	-	20	-	40	170	-	25		239	-	-	21	-	28	165	-	25	
Electricity generation	110	-	-	18	-	29	63	-	-		100	-	-	20	-	17	63	-	-	
Heat generation	14	-	-	1	-	11	2	-	-		14	-	-	1	-	11	2	-	-	
Petroleum refineries	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
Coke manufacture	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
Blast furnaces	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
Patent fuel manufacture	22	-	-	-	-	-	0	-	22		18	-	-	-	-	-	0	-	18	
Other transformation ⁹	108	-	-	-	-	-	105	-	4		106	-	-	-	-	-	100	-	6	
Energy industry use	1,019	-	-	150	-	75	492	-	302		1,026	-	-	150	-	57	521	-	299	
FINAL CONSUMPTION	16,066	3,072	6,173	1,057	2,968	105	998	613	1,079		16,087	3,031	6,267	1,108	2,998	78	987	551	1,067	
Iron & steel	1	-	-	-	-	1	0	-	-		0	-	-	-	-	0	-	-	-	
Other industries	821r	-	-	394	-	67	99r	250	11		902	-	-	478	-	42	89	220	72	
Transport	12,531	3,072	6,173	296	2,968	0	17	-	4		12,583	3,031	6,267	268	2,998	0	16	-	4	
Domestic	447	-	-	36	-	-	47	364	-		413	-	-	40	-	42	330	-	-	
Other final users	473r	-	-	327	-	38	108r	-	-		456	-	-	318	-	35	103	-	-	
Non energy use	1,794	-	-	4	-	-	725	-	1,064		1,732	-	-	4	-	-	736	-	992	

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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 Statistic:
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	per cent change	2015 2nd quarter	2015 3rd quarter	2015 4th quarter	2016 1st quarter	2016 2nd quarter	2016 3rd quarter	2016 4th quarter	2017 1st quarter	2017 2nd quarter	per cent change ²
MOTOR SPIRIT													
of which, Hydrocarbon ³	12,082	11,951	-1.1%	3,076	3,072	3,040	2,877	3,072	3,014	2,988	2,815r	3,031	-1.3%
of which, Bio-ethanol ⁴	631	603	-4.5%	161	163	157	146	154	150	152	146r	157	1.9%
Total Motor Spirit including Bio-ethanol	12,713	12,554	-1.3%	3,237	3,235	3,197	3,023	3,226	3,164	3,140	2,961r	3,188	-1.2%
of which, sold through Supermarkets ⁵	5,794	5,885	1.6%	1,467	1,435	1,473	1,480	1,479	1,453	1,473	1,388	1,445	-2.3%
DIESEL ROAD FUEL													
of which, Hydrocarbon ³	23,656	24,648	4.2%	5,998	5,976	6,106	5,889	6,173	6,167	6,419	5,903r	6,267	1.5%
of which, Bio-diesel ⁴	595	630	5.8%	135	158	191	127	195	174	133	118r	169	-13.1%
Total Diesel Road Fuel including Bio-diesel	24,251	25,279	4.2%	6,133	6,134	6,298	6,016	6,368	6,342	6,552	6,022r	6,436	1.1%
of which, sold through Supermarkets ⁵	6,644	7,267	9.4%	1,648	1,706	1,685	1,793	1,802	1,814	1,858	1,761	1,811	0.5%

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 Process oil ⁵		Motor Spirit ⁶	Kerosene ⁷	Gas/Diesel Oil ⁸		Fuel oils	Other products ⁹	Net bilaterals of products ⁵		Total Net bilaterals ⁵	Total Stocks in UK ¹⁰
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	2nd quarter	3,590	1,565	474	1,862	7,491	1,150	1,265	1,706	348	697	2,315	7,481	4,177	10,795	14,972
	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	1,968	230r	678	1,949	7,612r	4,178	10,658r	14,835r
	2nd quarter p	3,003	1,550	653	2,129	7,334	1,115	1,430	2,042	207	698	1,876	7,368	4,005	10,697	14,702
<i>Per cent change</i> ¹¹		-6.2	-2.3	+2.8	-12.3	-6.6	-3.7	+2.3	+2.6	-23.4	-10.5	-1.2	-1.7	-7.4	-2.9	-4.2

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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.