Section 2 – Solid Fuels and Derived Gases

Key results show:

Provisional 2017

Overall coal production in 2017 was 3.0 million tonnes, the lowest on record, and down 27 per cent (-1.1 million tonnes) compared to 2016. Deep-mined output was down 7.8 per cent (-2 thousand tonnes) and surface mined output was down 27 per cent (-1.1 million tonnes) mainly due to one of the large surface mines not producing since April 2017 (it is under 'care and maintenance'), along with lower demand. **(Chart 2.1)**

Coal imports at 8.5 million tonnes were nearly identical to 2016. **(Chart 2.1)**

The demand for coal by electricity generators in 2017 was 8.7 million tonnes (a new record low). This was 28 per cent (-3.3 million tonnes) below the demand in 2016. The decline was due to the carbon price per GWh pushing the cost of coal generation above gas, leading production to favour gas over coal. Additionally coal-fired capacity had fallen with the closure of Longannet and Ferrybridge C in 2016. **(Chart 2.3)**

Total stocks at the end of 2017 were 4.9 million tonnes (lowest value for at least 19 years), 40 per cent lower than at the end of 2016 (8.3 million tonnes). This was due to generators reducing stocks held due to closures and lower coal-fired demand. **(Chart 2.4)**

Quarter 4 2017

In the fourth quarter of 2017, overall production was down 39 per cent (-0.5 million tonnes) compared to the fourth quarter of 2016 due to the further contraction of surface mined coal (-0.5 million tonnes). Deep mined coal remains only a small component of coal production as only a few small deep mines are still operational. **(Chart 2.1)**

Coal imports were down 8.2 per cent (-0.2 million tonnes) on the levels in quarter 4 2016. **(Chart 2.1)**

The demand for coal by electricity generators in the fourth quarter of 2017 was 0.8 per cent (-27 thousand tonnes) lower than demand in the fourth quarter of 2016. This was the smallest decline for over four years as coal generation supplied the seasonal peak in demand over the colder months, with Fiddler's Ferry and Eggborough operating as part of the UK's winter capacity measures. **(Chart 2.3)**

Relevant tables

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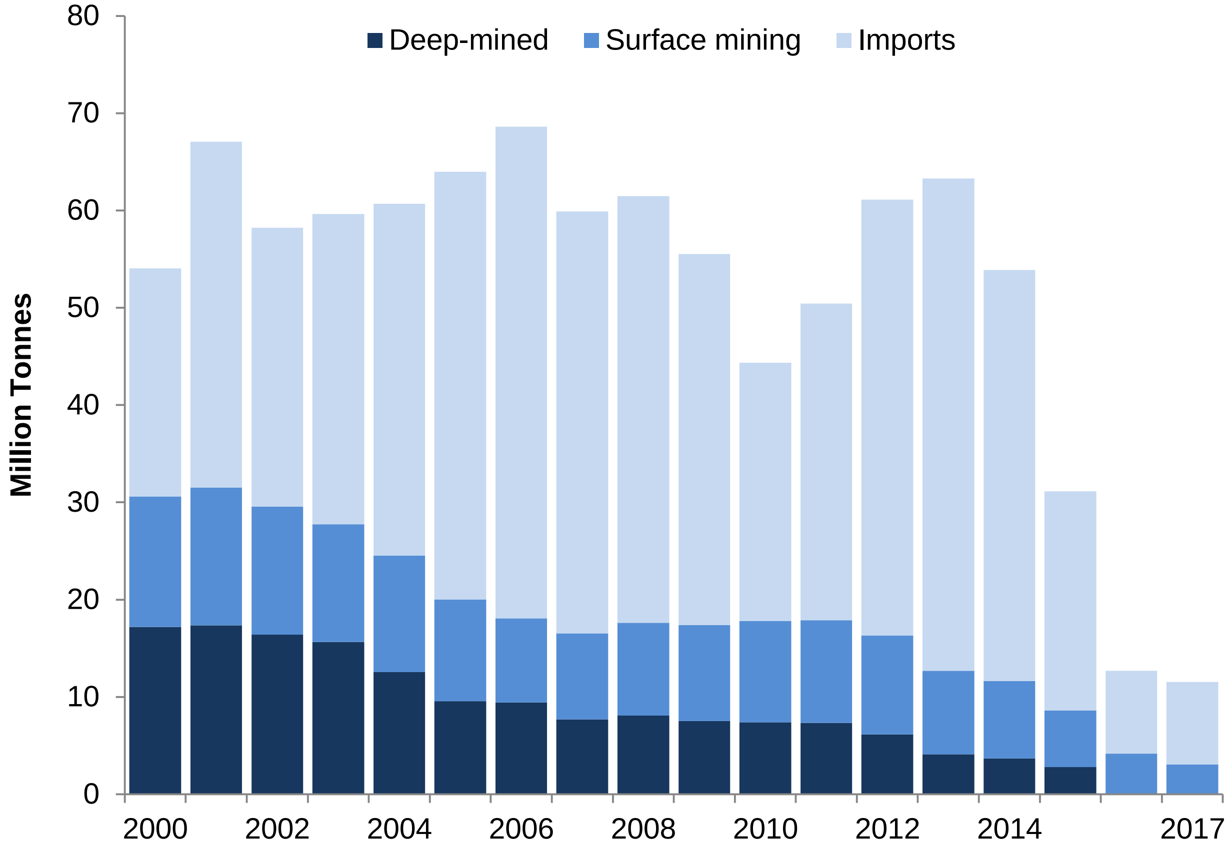
Chart 2.1 Coal supply (Table 2.1)



Provisional figures for 2017 show that coal production was 27 per cent down on 2016 at 3.0 million tonnes. Following the closure of the last three deep mines in 2015 (Hatfield, Thoresby and Kellingley), production remains a fraction of the values seen two years ago. At 20 thousand tonnes deep mined coal comprises less than 1 per cent of total production. Surface mine production was down by 27 per cent at 3.0 million tonnes (a new record low). This was mainly due to one of the large surface mines not producing since April 2017 (it is under 'care and maintenance'), along with lower demand. Coal use has declined since the early seventies as new fuels have entered the market. In the last ten years UK coal production has fallen by 82 per cent.

Provisional figures for the fourth quarter of 2017 show that coal production fell to 0.7 million tonnes, down 39 per cent on the fourth quarter of 2016. However, compared to the third quarter of 2017 overall supply increased, responding to the seasonal increase in demand. This was mainly due to an increase in overall electricity demand in colder weather, along with Fiddlers Ferry and Eggborough operating to make up a shortfall in demand as part of the UK's winter capacity measures. In the last ten years UK coal consumption has fallen by 77 per cent.

Imports of coal in 2017 as a whole were near identical to the values in 2016. Imports in 2016 were the lowest value in 34 years due to lower demand from electricity generators.

The decrease in demand reflects the fact that consumption by electricity generators was down by 28 per cent to 8.7 million tonnes (a new record) in 2017.

Table 2A Coal imports by origin

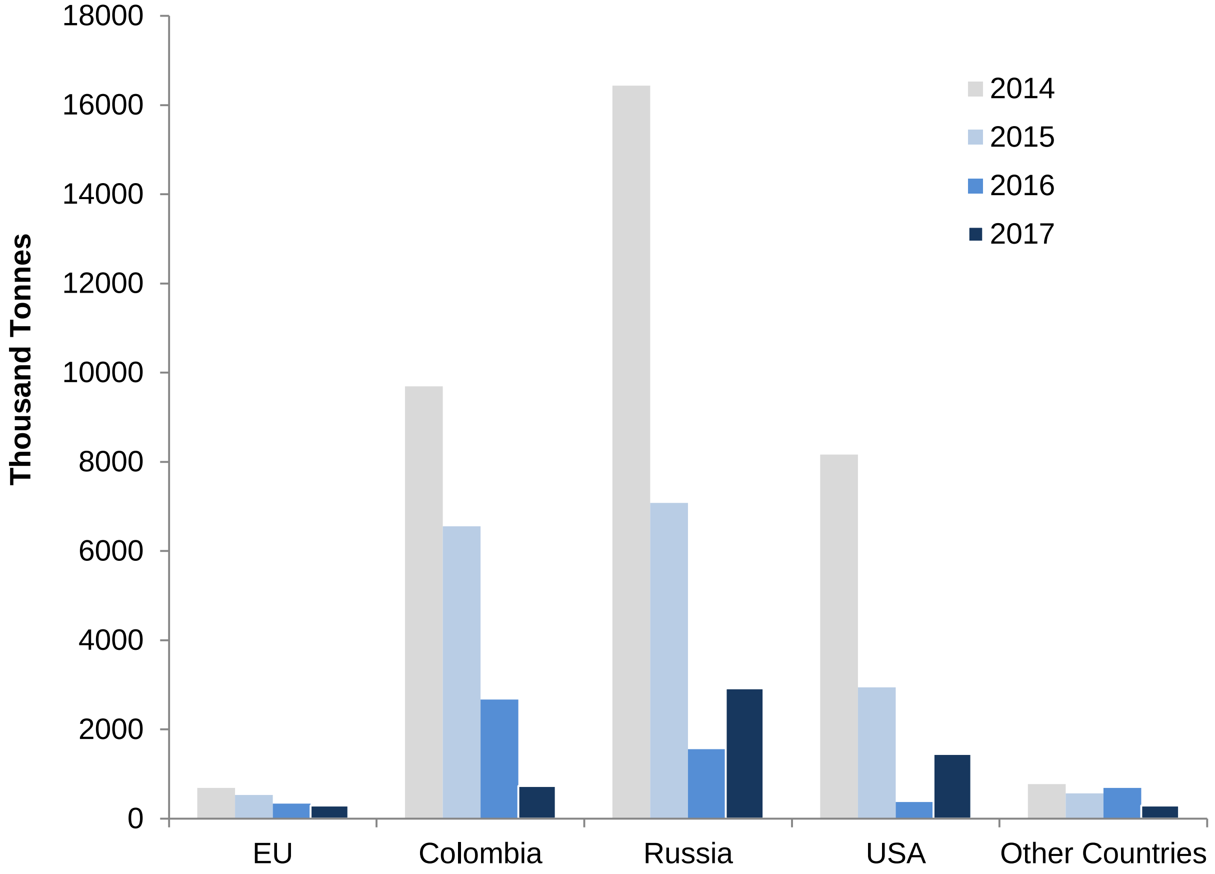
Thousand Tonnes

	2016	2017p	2016 Q4	2017 Q4p
European Union	439	350	102	88
Russia	2,292	3,882	585	1,091
Colombia	2,667	731	808	428
USA	1,420	2,355	678	602
Australia	778	750	443	242
Other Countries	898	427	150	89
Total Imports	**8,494**	**8,495**	**2,768**	**2,539**

Coal imports of 8.5 million tonnes in 2017 were almost identical to the value in 2016. Steam coal imports rose by 1.2 per cent to 5.7 million tonnes, while coking coal imports fell 3.2 per cent to 2.7 million tonnes. Steam coal accounted for 67 per cent of total coal imports in 2017 and coking coal accounted for 32 per cent of coal imports.

In the fourth quarter of 2017, total coal imports decreased by 8.2 per cent to 2.5 million tonnes. Russia (43 per cent) and the USA (24 per cent) accounted for 67 per cent of total coal imports. Steam coal imports in the fourth quarter of 2017 rose by 11.9 per cent to 2.0 million tonnes and accounted for 77 per cent of total coal imports. Coking coal imports in the fourth quarter of 2017 fell by 44 per cent to 0.5 million tonnes and accounted for 21 per cent of total coal imports.

Chart 2.2 Steam coal imports [(Table 2.4)]

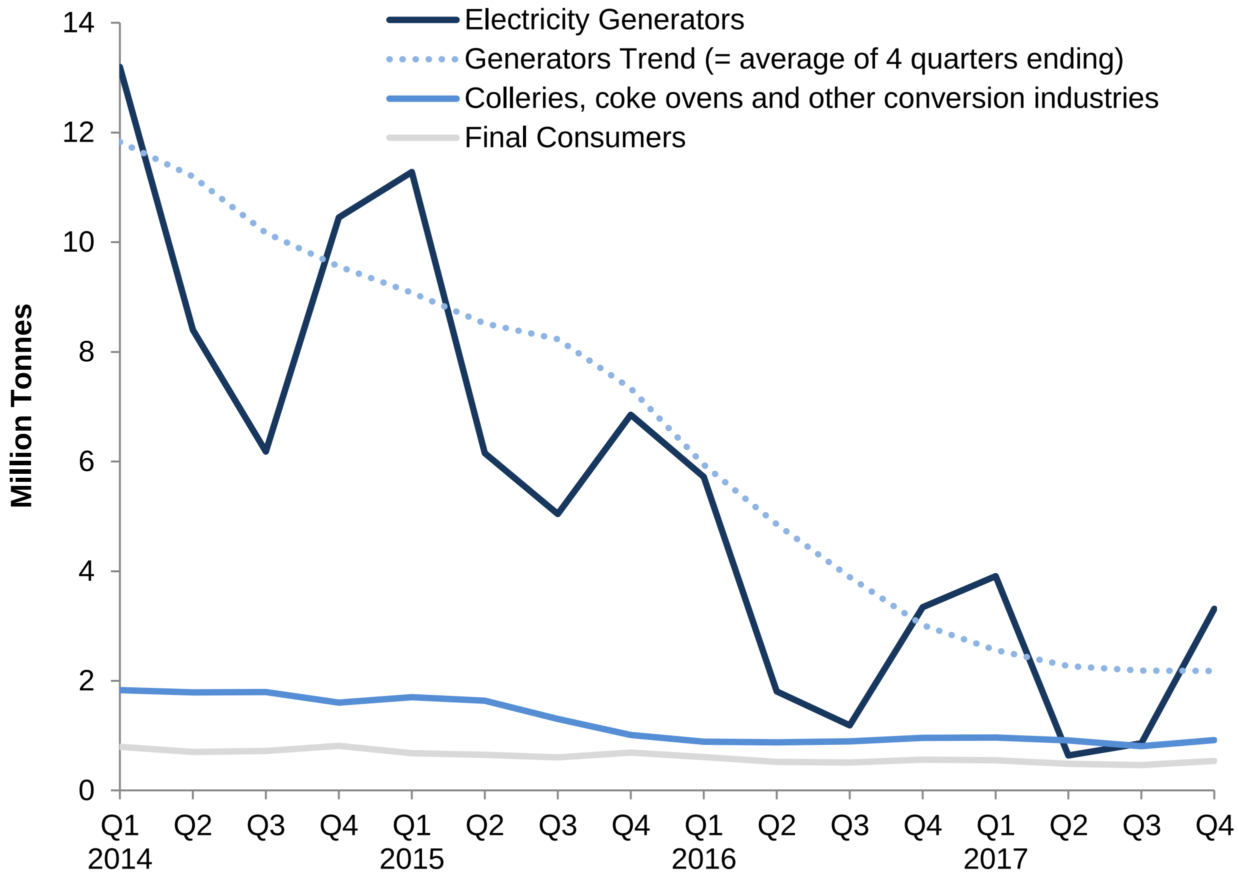


In 2017, 5.7 million tonnes of the coal imported (67 per cent) was steam coal, largely for the power stations market. Russia (51 per cent) and the USA (26 per cent) in 2016 represented 77 per cent of steam coal imports.

Steam coal imports from the USA were nearly four times higher in 2017 than in 2016, increasing to 1.5 million tonnes (+1.1 million tonnes). There was also an increase of steam coal imports from Russia of 88 per cent to 2.9 million tonnes (+1.4 million tonnes). Steam coal imports from Colombia fell by 73 per cent to 731 thousand tonnes (-1.9 million tonnes).

In the fourth quarter of 2017 all but 6 per cent of UK steam coal imports came from just three counties: Russia (51 per cent), Colombia (22 per cent) and the USA (21 per cent). Steam coal imports from Russia rose from 404 thousand tonnes in the fourth quarter of 2016 to 1,013 thousand tonnes in the fourth quarter of 2017. Steam coal imports from the USA rose by 21 per cent from 334 thousand tonnes in the fourth quarter of 2016 to 404 thousand tonnes in the fourth quarter of 2017. Steam coal imports from Colombia fell by 47 per cent from 808 thousand tonnes in the fourth quarter of 2016 to 428 thousand tonnes in the fourth quarter of 2017.

Chart 2.3 Coal consumption [(Table 2.1)]



Total demand for coal in 2017 was 14.4 million tonnes, 20 per cent lower than in 2016, with consumption by electricity generators down by 28 per cent (-3.3 million tonnes) to a new record low of 8.7 million tonnes. The decline was due to the carbon price per GWh pushing the cost of coal generation above gas, leading production to favour gas over coal. Additionally coal-fired capacity had fallen with the closure of Longannet and Ferrybridge C in 2016. Electricity generators accounted for 61 per cent of total coal use in 2017; compared with 67 per cent in 2016.

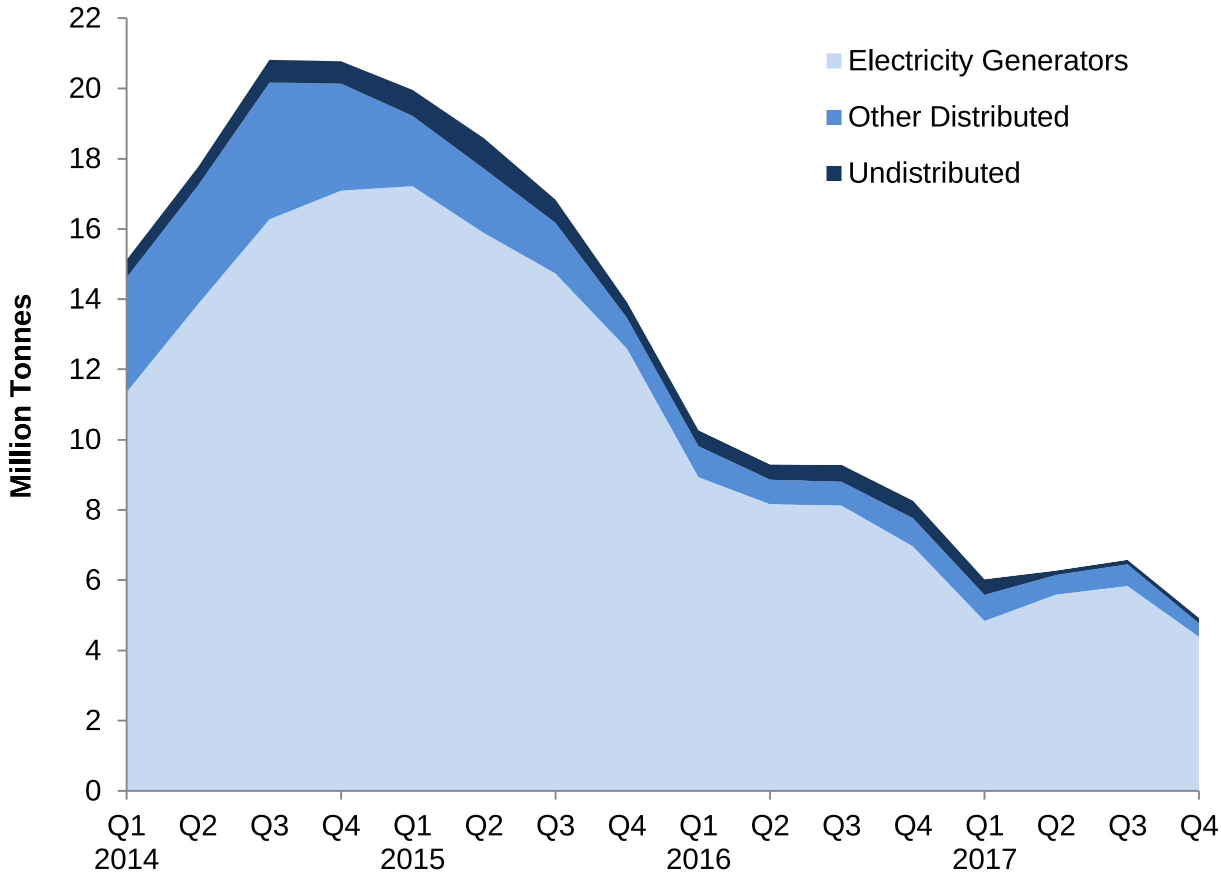
Coal used for coke manufacture rose 3.7 per cent to 1.9 million tonnes, while coal used in blast furnaces fell 4.6 per cent to 1.3 million tonnes.

Total demand for coal in the fourth quarter of 2017, at 4.8 million tonnes, was 1.8 per cent lower than in the fourth quarter of 2016. Consumption by electricity generators was down by only 0.8 per cent to 3.3 million tonnes. This was the smallest quarter-on-quarter drop for five years as coal-fired generation met seasonally higher electricity demand in the cold weather as part of the UK's winter capacity measures. Electricity generators accounted for 69 per cent of total coal use in the fourth quarter of 2017; unchanged compared to a year earlier.

Sales to final consumers (as measured by disposals to final consumers) fell by 3.1 per cent in 2017. Sales to industrial users fell by 9.1 per cent. Sales to final consumers were up by 3.6 per cent in the fourth quarter of 2017. Sales to industrial users decreased by 3.7 per cent.

Coal used in blast furnaces was 0.3 million tonnes in the fourth quarter of 2017, a decrease of 8.5 per cent compared to the fourth quarter of 2016.

Chart 2.4 Coal stocks [(Table 2.1)]



Coal stocks showed a fall of 3.3 million tonnes during the fourth quarter of 2017 compared to the end of December 2016 and stood at 4.9 million tonnes (the lowest value for at least 19 years).

The level of coal stocks at power stations at the end of the fourth quarter of 2017 was 4.4 million tonnes (a new record), 2.6 million tonnes lower than at the end of December 2016, due to generators reducing stocks held due to closures and lower coal-fired demand.

Stocks held by coke ovens halved to 0.3 million tonnes at the end of the fourth quarter of 2017, 0.3 million tonnes lower than at the end of the December 2016.

Stocks held by producers (undistributed stocks) decreased during the fourth quarter of 2017 to 0.1 million tonnes and were 0.3 million tonnes lower than at the end of December 2016.

2 SOLID FUEL AND DERIVED GASES

Table 2.1 Supply and consumption of coal

Thousand tonnes

	2016	2017 p	*per cent change*	2015 4th quarter	2016 1st quarter	2016 2nd quarter	2016 3rd quarter	2016 4th quarter	2017 1st quarter	2017 2nd quarter	2017 3rd quarter	2017 4th quarter p	*per cent change*[1]
SUPPLY													
Indigenous production	4,178	3,041	*-27.2*	1,612	1,001	962	1,027	1,188	888	708	721	724	*-39.0*
Deep mined	22	20	*-7.8*	504	7	6	5	5	5	5	5	5	-
Surface mining[2]	4,156	3,021	*-27.3*	1,108	994	957	1,022	1,183	883	702	716	720	*-39.2*
Imports[4]	8,494	8,495	-	4,103	2,675	1,356	1,694	2,768	2,412	1,681r	1,862	2,539	*-8.2*
Exports[5]	443	495	*+11.6*	96	103	76	137	128	120	100	142	133	*+4.1*
Stock change[6]	+5,655	+3,334	*-41.0*	+2,920	+3,651	+971	+9	+1,023	+2,234r	-247r	-306	+1,653	*+61.5*
Total supply	17,883	14,375	*-19.6*	8,539	7,225	3,213	2,594	4,851	5,414r	2,042r	2,136r	4,783	*-1.4*
Statistical difference	-6	-7		-16	+2	+4	-1	-11	-13r	+1r	-2r	+7	
Total demand	17,889	14,382	*-19.6*	8,555	7,223	3,209	2,595	4,863	5,428r	2,041r	2,137r	4,776	*-1.8*
TRANSFORMATION	15,678	12,337	*-21.3*	7,865	6,611	2,685	2,081	4,301	4,875r	1,553r	1,674r	4,235	*-1.5*
Electricity generation	12,058	8,724	*-27.6*	6,851	5,722	1,808	1,187	3,341	3,907r	638r	864r	3,315	*-0.8*
Heat generation[7]	213	213	-	58	76	43	29	65	76	43	29	65	-
Coke manufacture	1,821	1,888	*+3.7*	545	443	438	464	475	482	469	474	462	*-2.8*
Blast furnaces	1,364	1,301	*-4.6*	344	316	345	346	357	350	354	270	326	*-8.5*
Patent fuel manufacture	223	210	*-5.6*	66	55	51	55	62	59	48	36	67	*+7.6*
Energy industry use	-	-		-	-	-	-	-	-	-	-	-	
FINAL CONSUMPTION	2,211	2,046	*-7.5*	691	612	524	514	562	553	488	464	541	*-3.7*
Iron & steel	35	32	*-7.0*	10	10	10	7	7	9	9	8	6	*-4.7*
Other industries	1,580	1,436	*-9.1*	519	431	381	393	376	373	358	342	362	*-3.7*
Domestic	550	534	*-2.9*	154	156	123	101	171	156	112	103	163	*-4.2*
Other final users	47	44	*-5.8*	8	15	11	12	9	14	10	10	10	*+7.2*
Stocks at end of period													
Distributed stocks	7,766	4,774	*-38.5*	13,471	9,817	8,863	8,805	7,766	5,583r	6,148r	6,454r	4,774	*-38.5*
Of which:													
Major power producers[8]	6,962	4,387	*-37.0*	12,595	8,933	8,163	8,125	6,962	4,838r	5,589r	5,834	4,387	*-37.0*
Coke ovens	605	325	*-46.3*	547	457	488	322	605	445	464	454	325	*-46.3*
Undistributed stocks	492	146	*-70.3*	441	444	427	476	492	436	119	119	146	*-70.3*
Total stocks[9]	8,258	4,920	*-40.4*	13,913	10,261	9,291	9,281	8,258	6,020r	6,267r	6,573r	4,920	*-40.4*

1. Percentage change between the most recent quarter and the same quarter a year earlier.
2. The term 'surface mining' has now replaced opencast production. Opencast production is a surface mining technique.
3. Not produced since 2013 as the only mine producing slurry has ceased trading
4. For a detailed breakdown of UK Imports by country and grade of coal refer to Table 2.4 Coal imports (internet table only).
5. Trade is counted as an export under three conditions, when it is recorded as an import and is subsequently exported; it enters the UK port with the intention of being imported but due to a change of ownership at the port it is exported without having cleared the port; and when items leave the warehouse and are exported. Trade is not classified as exports when it is resting at a UK port and the UK is not the intended final destination.
6. Stock change + = stock draw, - = stock build.
7. Heat generation is based on an annual figure and is then split over a quarterly period. The 2017 heat generation figures currently shown are the 2016 figures carried forward - these will be updated in June 2018.
8. This includes stocks held at ports.
9. For some quarters, closing stocks may not be consistent with stock changes, due to additional stock adjustments

2 SOLID FUEL AND DERIVED GASES

Table 2.2 Supply and consumption of coke oven coke, coke breeze and other manufactured solid fuels

Thousand tonnes

	2016	2017 p	*per cent change*	2015 4th quarter	2016 1st quarter	2016 2nd quarter	2016 3rd quarter	2016 4th quarter	2017 1st quarter	2017 2nd quarter	2017 3rd quarter	2017 4th quarter p	*per cent change* [3]
SUPPLY													
Indigenous production	1,593	1,580	*-0.8*	474	376	385	409	424	408	384	395	393	*-7.2*
Coke Oven Coke	1,332	1,361	*+2.2*	404	320	319	344	348	346	337	343	334	*-4.1*
Coke Breeze	16	18	*+11.8*	5	4	4	4	4	4	4	5	4	*+12.0*
Other MSF	245	201	*-17.9*	66	51	61	61	71	57	42	47	55	*-23.1*
Imports	1,251	1,000	*-20.0*	325	287	284	284	397	187	233	264r	316	*-20.2*
Exports	22	20	*-12.3*	8	6	4	6	6	7	1	4	8	*+23.9*
Stock change[1]	-126	-3	*-97.7*	+4	-2	+21	-15	-130	+65	+17	-25	-60	*-54.4*
Transfers	-4	-4		-	-1	-1	-0	-2	-1	-1	-1	-1	
Total supply	2,691	2,554	*-5.1*	796	654	685	671	682	652	632	628	642	*-5.9*
Statistical difference	0	-1		-0	-0	-	0	-0	-0	-	-0	-0	
Total demand	2,691	2,554	*-5.1*	796	654	685	671	682	652	632	628	642	*-5.8*
TRANSFORMATION	2,140	2,017	*-5.8*	635	525	548	533	535	508	507	502	499	*-6.7*
Coke manufacture	-	-		-	-	-	-	-	-	-	-	-	
Blast furnaces	2,140	2,017	*-5.8*	635	525	548	533	535	508	507	502	499	*-6.7*
Energy industry use	-	-		-	-	-	-	-	-	-	-	-	
FINAL CONSUMPTION	551	538	*-2.5*	161	130	137	138	146	144	126	125r	143	*-2.7*
Iron & steel	316	296	*-6.5*	98	75	79	84	78	76	70	74	76	*-3.2*
Other industries	-	-		-	-	-	-	-	0	0	0	-0	
Domestic	236	242	*+2.9*	63	55	58	55	68	68	56	51r	67	*-2.0*
Stocks at end of period[2]	1,249	1,252	*+0.2*	1,124	1,126	1,108	1,142	1,249	1,187	1,170	1,200	1,252	*+0.2*

1. Stock change + = stock draw, - = stock build.
2. For some quarters, closing stocks may not be consistent with stock changes, due to additional stock adjustments
3. Percentage change between the most recent quarter and the same quarter a year earlier; (+) represents a positive percentage change greater than 100%.

2 SOLID FUEL AND DERIVED GASES

Table 2.3 Supply and consumption of coke oven gas, blast furnace gas, benzole and tars

GWh

	2016	2017 p	*per cent change*	2015 4th quarter	2016 1st quarter	2016 2nd quarter	2016 3rd quarter	2016 4th quarter	2017 1st quarter	2017 2nd quarter	2017 3rd quarter	2017 4th quarter p	*per cent change* [1]
SUPPLY													
Indigenous production	14,089	14,064	*-0.2*	3,874	3,406	3,603	3,424	3,656	3,541	3,543	3,403	3,577	*-2.1*
Coke oven gas	3,468	3,745	*+8.0*	1,000	870	836	855	907	960	946	949	891	*-1.8*
Blast furnace gas	10,090	9,763	*-3.2*	2,713	2,403	2,645	2,439	2,603	2,444	2,451	2,332	2,536	*-2.6*
Benzole & tars	531	556	*+4.7*	161	134	123	129	145	138	146	122	150	*+3.3*
Transfers	344	148	*-56.9*	132	127	106	64	47	56	24	29	39	*-17.0*
Total supply	14,433	14,213	*-1.5*	4,006	3,534	3,709	3,487	3,703	3,597	3,568	3,431	3,616	*-2.3*
Statistical difference	+9	+29		+17	-6	+10	+10	-5	+5	+3	+10	+12	
Total demand	14,424	14,183	*-1.7*	3,989	3,540	3,699	3,477	3,708	3,592	3,565	3,421	3,605	*-2.8*
TRANSFORMATION	6,875	6,585	*-4.2*	1,880	1,669	1,682	1,653	1,871	1,716	1,651	1,560	1,658	*-11.3*
Electricity generation	6,278	5,987	*-4.6*	1,731	1,520	1,533	1,504	1,721	1,566	1,502	1,410	1,509	*-12.3*
Heat generation[2]	598	598	-	149	149	149	149	149	149	149	149	149	-
Energy industry use	5,446r	5,324	*-2.2*	1,497	1,376r	1,415r	1,270r	1,386r	1,350r	1,345r	1,293r	1,337	*-3.5*
Losses	1,116	1,272	*+14.0*	323	248	337	318	213	272	301	332	367	*+72.6*
FINAL CONSUMPTION	987r	1,001	*+1.5*	289	247r	265r	236r	239r	254r	268r	237r	243	*+1.5*
Iron & steel	456r	445	*-2.3*	128	114r	142r	107r	94r	117r	122r	115r	92	*-1.4*
Other industries[3]	-	-		-	-	-	-	-	-	-	-	-	
Non-Energy Use[4]	531	556	*+4.7*	161	134	123	129	145	138	146	122	150	*+3.3*

1. Percentage change between the most recent quarter and the same quarter a year earlier; (+) represents a positive percentage change greater than 100%.

2. Heat generation is based on an annual figure and is then split over a quarterly period. The 2017 heat generation figures currently shown are the 2016 figures carried forward - these will be updated in June 2018

3. The main industrial consumer of derived gases Monckton coke-works (also a producer of them) closed in December 2014.

4. From 2009, unclassified final consumption for benzole and tars has been recorded under non energy use