Department of Energy & Climate Change

A National Statistics Publication

ENERGY TRENDS

MARCH 2013

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The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the UK Statistics Authority: Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs
- are well explained and readily accessible
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

Explanatory notes are to be found inside the back cover

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Special feature articles

The cover illustration used for Energy Trends and other DECC energy statistics publications is from a photograph by David Askew. It was a winning entry in the DTI News Photographic Competition in 2002.

Introduction

Energy Trends and Quarterly Energy Prices are produced by the Department of Energy and Climate Change (DECC) on a quarterly basis. Both periodicals are published concurrently in June, September, December and March. The March editions cover the fourth quarter of the previous year and also the previous year as a whole.

Energy Trends includes information on energy as a whole and by individual fuels. The text and charts provide an analysis of the data in the tables. The tables are mainly in commodity balance format, as used in the annual Digest of UK Energy Statistics. The 2012 edition of the Digest was published on 26 July 2012. Printed and bound copies of the 2012 Digest can be obtained from The Stationery Office and an electronic version is available on the DECC website at: www.gov.uk/government/organisations/department-of-energy-climate-change/series/digest-of-uk-energy-statistics-dukes

The balance format shows the flow of a commodity from its sources of supply, through to its final use. The articles provide in-depth information on current issues within the energy sector.

The text and tables included in this publication represent a snapshot of the information available at the time of publication. However, the data collection systems operated by DECC, which produce this information, are in constant operation. New data are continually received and revisions to historic data made. To ensure that those who use the statistics have access to the most up-to-date information, revised data will be made available as soon as possible, via the electronic versions of these tables. The electronic versions are available free of charge from the DECC website. In addition to quarterly tables, the main monthly tables that were published in the period up to May 2001 when Energy Trends was produced monthly, continue to be updated and are also available on the DECC website. Both sets of tables can be accessed at: www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics

Annual data for 2012 included within this edition is on a provisional basis. New data are continually received and revisions to previous data made. Finalised figures for 2012 will be published on the 25 July 2013 in the annual Digest of UK Energy Statistics.

Energy Trends does not contain information on Foreign Trade, Weather (temperature, wind speed, sun hours and rainfall) and Prices. Foreign Trade, and Weather tables are, however, available on the DECC website at: www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics. Information on Prices can be found in the Quarterly Energy Prices publication and on the DECC website at: www.gov.uk/government/organisations/department-of-energy-climate-change/series/quarterly-energy-prices

Please note that the old DECC website moved to the new gov.uk website (www.gov.uk/) on 23 January 2013. All previous links should redirect to the new website; however, if users experience any difficulty in locating Energy Trends publications or tables on the new website they should contact either Kevin Harris (details below) or the DECC Energy Statistics contacts shown for each section or article within the publication.

If you have any comments on Energy Trends or Quarterly Energy Prices publications please send them to:

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The main points for 2012:

- Total energy production was 10½ per cent lower than in 2011. This decline in output was due to the significant falls in oil and gas production as a result of maintenance activity, as well as longer-term decline on the UK Continental Shelf.

- Imports in 2012 were at a record high, with exports at their lowest level since 1989. As a result, net import dependency climbed to 43 per cent, its highest level since 1976.

- Oil production was 14½ per cent lower than in 2011, the lowest annual production volume since our current reporting system began.

- Natural gas production was 14 per cent lower than in 2011, and at the lowest level of production since 1985. Gas exports and imports were, respectively, 21½ per cent and 6½ per cent lower than in 2011.

- Coal production was 10 per cent lower than in 2011, and at a record low level. Coal imports were 37½ per cent higher. Generators' demand for coal was higher by 31 per cent. Coal stocks were 18 per cent lower, and at a record low for the year end.

- Total primary energy consumption for energy uses rose by 2½ per cent from 2011. When adjusted to take account of weather differences between 2011 and 2012, primary consumption fell by under ½ per cent.

- Final energy consumption was 2 per cent higher than in 2011, with rises in all sectors except transport. Domestic consumption rose by 10 per cent due to the cooler weather in 2011, with temperatures in 2012 being 1.0 degrees cooler than 2011. On a seasonally and temperature adjusted basis final energy consumption was broadly unchanged.

- Gas demand was 5½ per cent lower than in 2011, largely driven by the fall in gas demand for electricity generation, whilst electricity consumption was under ½ per cent lower than in 2011, and at the lowest level since 1998.

- Electricity generated in 2012 fell by 1 per cent, from 367.8 TWh a year earlier to 363.2 TWh.

- Low carbon electricity's share of generation increased from 28 per cent in 2011 to 30½ per cent in 2012, due to higher renewables and nuclear generation.

- Of electricity generated in 2012, coal accounted for 39½ per cent (a rise of 9 percentage points on 2011) and gas 27½ per cent (a fall of 13 percentage points on 2011), their highest and lowest shares respectively since 1996, due to high gas prices. Nuclear's share increased by 1 percentage point on 2011 to 19½ per cent of the total. Renewables' share of generation increased by 2 percentage points on 2011 to a record 11 per cent.

- Hydro generation decreased by 8 per cent on 2011 as a result of lower rainfall in catchment areas, whilst wind rose by 31½ per cent, of which offshore wind rose by 45½ per cent, due to increased capacity. Overall hydro, wind and solar PV generation was 21 per cent higher than in 2011.

- Provisional estimates show that carbon dioxide emissions rose between 2011 and 2012; factors driving the change included cooler temperatures in 2012 leading to increased heating demand, and a switch in electricity generation from gas to coal.

The main points for the fourth quarter of 2012:

- Total energy production was 14 per cent lower than in the fourth quarter of 2011. This decline in output was due to a significant fall in petroleum and gas production as a result of maintenance work and slowdowns on a number of fields, which resulted in net import dependency increasing to 49 per cent.

- Oil production fell by 20 per cent when compared with the fourth quarter of 2011.

- Natural gas production was 21 per cent lower than the fourth quarter of 2011. Gas imports rose by 6½ per cent, whilst exports were less than half the level compared with quarter 4 2011.

- Coal production in the fourth quarter of 2012 was 10 per cent lower than the fourth quarter of 2011. Coal imports were 20½ per cent higher as generators' demand for coal was up by 16 per cent.

- Total primary energy consumption for energy uses rose by 5 per cent. However, when adjusted to take account of weather differences between the fourth quarter of 2011 and the fourth quarter of 2012, primary energy consumption fell by ½ per cent.

- Final energy consumption was 6½ per cent higher than in the fourth quarter of 2011. Domestic consumption rose by 19½ per cent, with average temperatures being 2.3 degrees cooler than 2011. On a seasonally and temperature adjusted basis final energy consumption rose by ½ per cent.

- Refinery production in the fourth quarter of 2012 was down 22 per cent compared with the same quarter a year earlier. This is the lowest recorded quarterly production figure and is due in the main to the closure of the Coryton refinery in Essex.

- Gas demand was 4½ per cent higher than the fourth quarter of 2011, whilst electricity consumption was 2½ per cent higher than in the fourth quarter of 2011, both driven up by the cooler weather in 2012.

- Electricity generated in the fourth quarter of 2012 rose by ½ per cent, from 96.2 TWh a year earlier to 96.7 TWh.

- Of electricity generated in the fourth quarter of 2012, gas accounted for 25½ per cent (its lowest share in the last 14 years) due to high gas prices, whilst coal accounted for 42 per cent (its highest share in the last 14 years). Nuclear generation accounted for 17 per cent of total electricity generated in the fourth quarter of 2012, up from the 15 per cent share in the fourth quarter of 2011, due to increased availability.

- Renewables' share of electricity generation increased to a new record of 12½ per cent from the 11½ per cent share in the fourth quarter of 2011. Hydro generation decreased by 21 per cent on the fourth quarter of 2011 as a result of low rainfall in catchment areas. Over the same period, offshore wind generation increased by 38 per cent, whilst onshore wind generation decreased by 7½ per cent. Overall renewable generation was up 7½ per cent compared to the same quarter in 2011.

- In the fourth quarter of 2012, 170 MW of installed capacity joined the Feed in Tariff scheme, increasing the total confirmed capacity to 1,655 MW, across 358,000 installations.

Section 1 - Total Energy

Key results show:

Provisional 2012

Total energy production was 10.3 per cent lower than in 2011, due to significant falls in the production of oil and gas.

Total primary energy consumption for energy uses was 2.5 per cent higher than in 2011. However, when adjusted to take account of weather differences between 2011 and 2012, primary energy consumption fell by 0.2 per cent.

Final energy consumption was 1.8 per cent higher than in 2011, with rises in all sectors except transport, though on a temperature corrected basis final energy consumption is estimated to have fallen by 0.1%.

Net import dependency was 43.0 per cent in 2012, its highest level since 1976, due to the falls in oil and gas production. Imports in 2012 were at a record high, with exports at their lowest level since 1989. Fossil fuel dependency was at a record low in 2012 at 86.8 per cent.

Quarter 4 2012

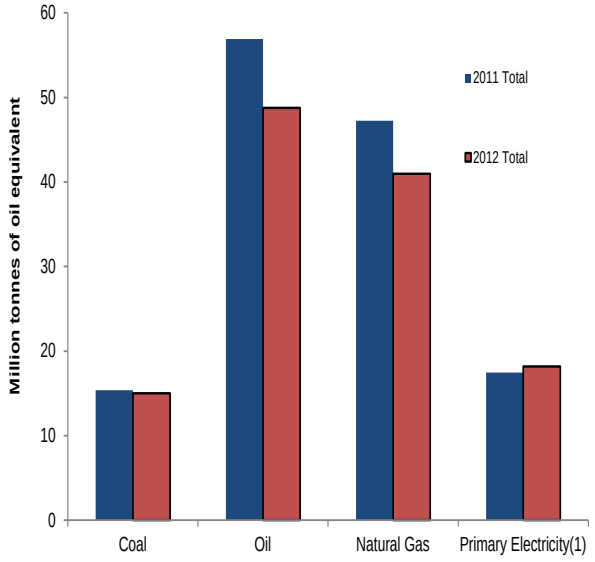
Total energy production was 14.1 per cent lower than in the fourth quarter of 2011. (**Charts 1.1 & 1.2**)

Total primary energy consumption for energy uses rose by 5.3 per cent. However, when adjusted to take account of weather differences between the fourth quarter of 2011 and the fourth quarter of 2012, primary energy consumption fell by 0.7 per cent. **(Chart 1.3**)

Final energy consumption rose by 6.6 per cent compared to the fourth quarter of 2011, with the cooler weather a significant factor. (**Charts 1.4 & 1.5**)

Net import dependency increased to 48.7 per cent in the fourth quarter of 2012.(**Chart 1.6**)

Chart 1.1 Production of indigenous primary fuels



(1) Nuclear and wind & natural flow hydro electricity.

Total production in 2012 was 122.9 million tonnes of oil equivalent, 10.3 per cent lower than in 2011. This decrease was due to significant falls in the production of oil and gas from higher maintenance activity. In the fourth quarter of 2012 production was 14.1 per cent lower than in the fourth quarter of 2011.

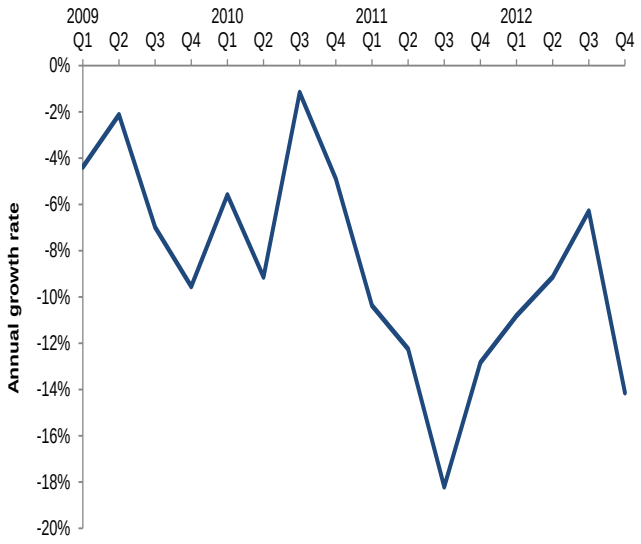
In 2012 production of coal and other solid fuels was 2.3 per cent lower than in 2011. In the fourth quarter of 2012 it was 1.5 per cent lower than a year earlier.

Production of oil was 14.3 per cent lower in 2012, than a year earlier. In the fourth quarter of 2012 it was 19.8 per cent lower than in the fourth quarter of 2011.

Production of natural gas fell by 13.3 per cent between 2011 and 2012. Between the fourth quarter of 2011 and the fourth quarter of 2012 it fell by 19.7 per cent.

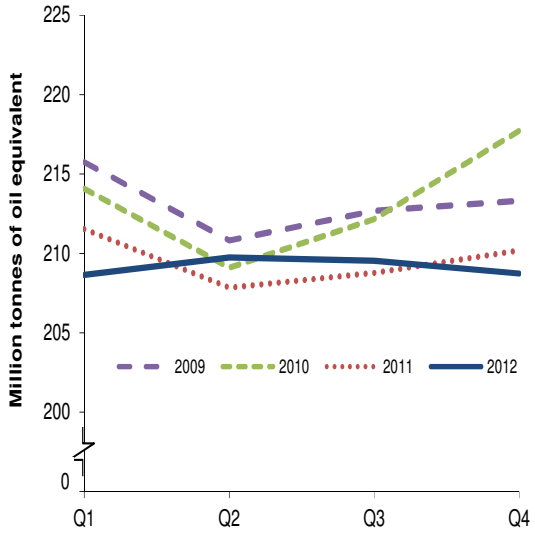
Primary electricity output in 2012 was 4.1 per cent higher than in 2011, within which nuclear electricity output rose by 2.1 per cent and output from wind and natural flow hydro rose by 21.0 per cent to a record high level. In the fourth quarter of 2012 primary electricity output was 12.0 per cent higher than in the fourth quarter of 2011, within which nuclear electricity output rose by 13.9 per cent, and output from wind and natural flow hydro rose by 2.3 per cent to a record high level.

Chart 1.2 UK production (annual growth rate)



In the fourth quarter of 2012 the annual growth rate of UK production was -14.1 per cent. This was due to the falls in oil and gas production as a result of long-term decline, as well as planned and unplanned maintenance activity.

Chart 1.3 Total inland consumption (primary fuel input basis)[(1)]



(1) Seasonally adjusted and temperature corrected annual rates.

Total inland consumption on a primary fuel input basis (temperature corrected, seasonally adjusted annualised rate), was 209.2 million tonnes of oil equivalent in 2012, a fall of 0.2 per cent from 2011. On an unadjusted basis, consumption was up 2.5 per cent; the average temperature in 2012 was 1.0 degrees Celsius cooler than in 2011.

DECC estimate that the switch from gas to coal generation increased primary energy consumption by around 1.2 per cent due to the lower thermal efficiency of coal compared to gas.

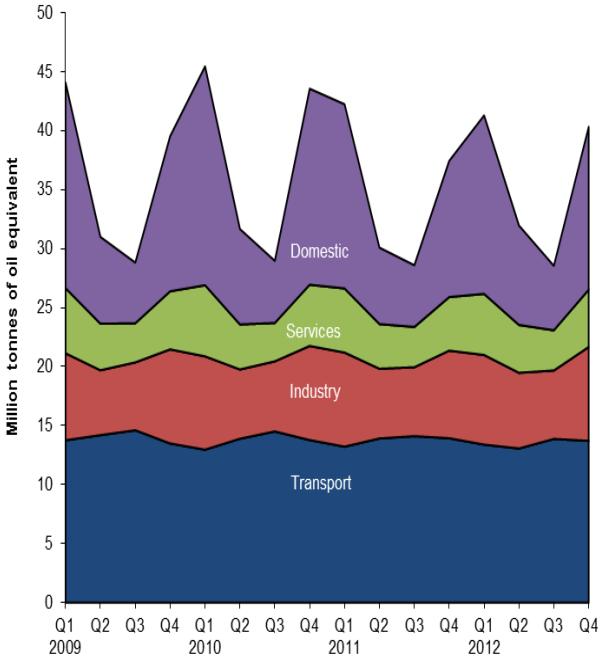
Total inland consumption on a primary fuel input basis (temperature corrected, seasonally adjusted annualised rate), was 208.7 million tonnes of oil equivalent in the fourth quarter of 2012, a fall of 0.7 per cent compared to the fourth quarter of 2011. The average temperature in the fourth quarter of 2012 was 2.3 degrees Celsius cooler than the same period a year earlier.

Between 2011 and 2012 (on a seasonally adjusted and temperature corrected basis) coal and other solid fuel consumption rose by 17.2 per cent. Between the fourth quarter of 2011 and the fourth quarter of 2012 consumption rose by 1.8 per cent, driven by increased coal use in electricity generation.

Also on a seasonally adjusted and temperature corrected basis, oil consumption fell by 1.3 per cent between 2011 and 2012 and by 1.2 per cent between the fourth quarter of 2011 and the fourth quarter of 2012.

On the same basis, gas consumption fell by 9.2 per cent between 2011 and 2012 and by 5.1 per cent between the fourth quarter of 2011 and the fourth quarter of 2012, as less gas was used in electricity generation.

Chart 1.4 Final energy consumption by user



In 2012, total final energy consumption (including non-energy use) was 1.8 per cent higher than in 2011.

Total final energy consumption rose by 6.6 per cent between the fourth quarter of 2011 and the fourth quarter of 2012.

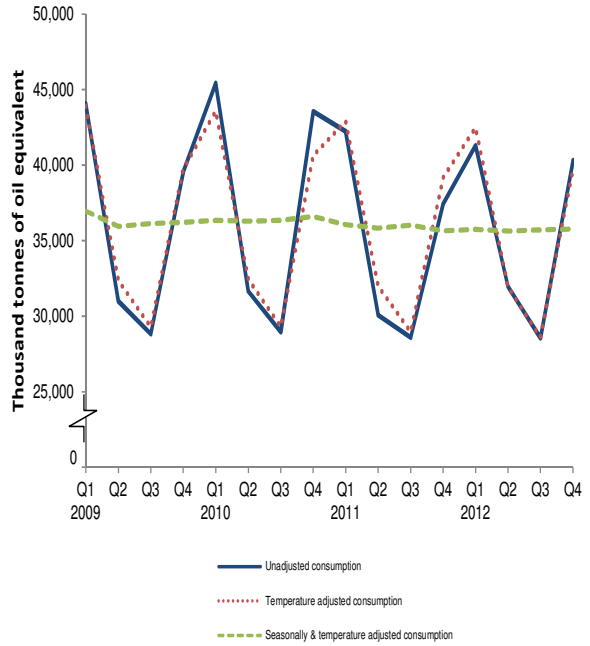
Domestic sector energy consumption rose by 19.5 per cent between the fourth quarter of 2011 and the fourth quarter of 2012, reflecting the colder weather in 2012; annually it rose by 10.2 per cent.

Service sector energy consumption rose by 6.9 per cent between the fourth quarter of 2011 and the fourth quarter of 2012; annually it rose by 1.9 per cent.

Industrial sector energy consumption rose by 7.1 per cent between the fourth quarter of 2011 and the fourth quarter of 2012; annually it rose by 2.2 per cent.

Transport sector energy consumption fell by 1.6 per cent between the fourth quarter of 2011 and the fourth quarter of 2012; annually it fell by 2.0 per cent.

Chart 1.5 Seasonally adjusted and temperature corrected final energy consumption



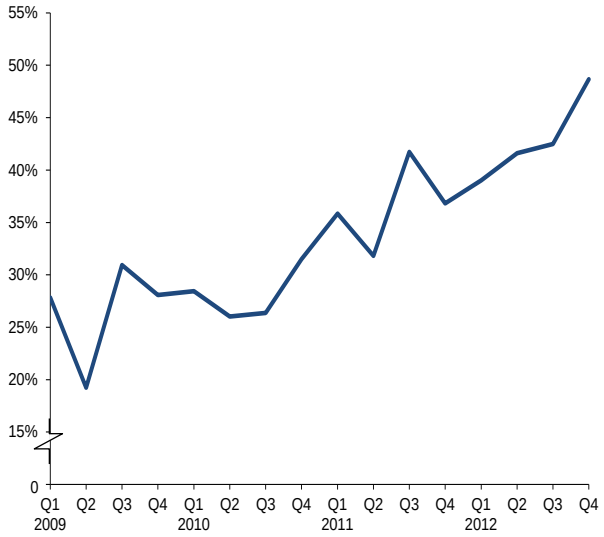
Total unadjusted final energy consumption (excluding non-energy use) rose by 2.7 per cent between 2011 and 2012. On a seasonally and temperature adjusted basis final energy consumption (excluding non-energy use) is estimated to have fallen by 0.1 per cent.

Total unadjusted final energy consumption (excluding non-energy use) rose by 7.7 per cent between the fourth quarter of 2011 and the fourth quarter of 2012.

On a seasonally and temperature adjusted basis final energy consumption (excluding non-energy use) is estimated to have increased by 0.6 per cent between the fourth quarter of 2011 and the fourth quarter of 2012.

Consumption data by fuel and sector is available in the table ET 1.3c on the DECC website at: www.gov.uk/government/publications/total-energy-section-1-energy-trends

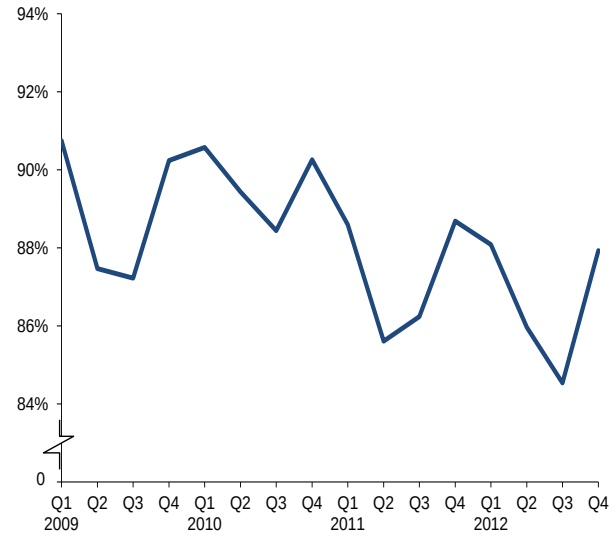
Chart 1.6 Net import dependency



Annually, total imports rose by 7.1 per cent to reach a new record high of 173.7 million tonnes of oil equivalent. Exports were down 5.0 per cent to 80.0 million tonnes of oil equivalent, its lowest annual level since 1989. These divergent trends have resulted in net import dependency increasing by 6.5 percentage points from 2011 to stand at 43.0 per cent, its highest level since 1976.

In the fourth quarter of 2012, imports increased by 7.1 per cent to a record high level. Over the same time period exports fell sharply, down by a record 22.4 per cent. As a result, net import dependency climbed 11.8 percentage points from the fourth quarter of 2011 to 48.7 per cent. Drivers include the falls in oil and gas production and the closure of the Coryton petroleum refinery.

Chart 1.7 Fossil fuel dependency



Dependency on fossil fuels in the fourth quarter of 2012 was 87.9 per cent, up 3.4 percentage points from the third quarter of 2012, but down 0.8 percentage points from the fourth quarter of 2011. Annually fossil fuel dependency was at a record low of 86.8 per cent, down 0.6 percentage points from 2011.

Relevant tables

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1 TOTAL ENERGY

TABLE 1.1. Indigenous production of primary fuels

Million tonnes of oil equivalent

						Primary electricity	
		Total	Coal[1]	Petroleum[2]	Natural gas[3]	Nuclear	Wind and natural flow hydro[4]
2010		157.9	14.7	69.0	59.1	13.9	1.19
2011		137.0	15.4	56.9	47.2	15.6	1.84
2012 p		122.9r	15.0r	48.8r	41.0r	15.9	2.23r
Per cent change		*-10.3*	*-2.3*	*-14.3*	*-13.3*	*+2.1*	*+21.0*
2011	Quarter 4	34.4	3.7	14.2	12.6	3.3	0.67
2012	Quarter 1	34.1r	3.9r	13.8	12.0	3.9	0.61
	Quarter 2	31.9r	3.9r	12.9	10.4	4.2	0.44
	Quarter 3	27.4r	3.6r	10.7	8.5r	4.1	0.50r
	Quarter 4 p	29.6r	3.7r	11.4r	10.1	3.8	0.68r
Per cent change[5]		*-14.1*	*-1.5*	*-19.8*	*-19.7*	*+13.9*	*+2.3*

1. Includes solid renewable sources (wood, straw and waste), a small amount of renewable primary heat sources (solar, geothermal etc), liquid biofuels and an estimate for slurry.
2. Crude oil, offshore and land, plus condensates and petroleum gases derived at onshore treatment plants.
3. Includes colliery methane, landfill gas and sewage gas. Excludes gas flared or re-injected.
4. Includes generation by solar PV.
5. Percentage change in the fourth quarter of 2012 compared with a year earlier.

1 TOTAL ENERGY

TABLE 1.2 Inland energy consumption: primary fuel input basis

Million tonnes of oil equivalent

						Primary electricity								Primary electricity		
		Total	Coal[1]	Petroleum[2]	Natural gas[3]	Nuclear	Wind and natural flow hydro[4]	Net imports	Total	Coal	Petroleum	Natural gas	Nuclear	Wind and natural flow hydro	Net imports
		Unadjusted[5]							*Seasonally adjusted and temperature corrected*[6,7] *(annualised rates)*						
2010		218.0	37.1	70.3	95.3	13.9	1.19	0.23	213.3	36.0	70.3	91.7	13.9	1.19	0.23
2011		203.0	37.9	68.0	79.1	15.6	1.84	0.53	209.6	40.1	68.0	83.4	15.6	1.84	0.53
2012 p		208.1r	46.8r	67.2r	75.0	15.9	2.23r	1.04r	209.2r	47.0r	67.2r	75.8r	15.9	2.23r	1.04r
Per cent change		*+2.5*	*+23.3*	*-1.3*	*-5.2*	*+2.1*	*+21.0*	*+93.6*	*-0.2*	*+17.2*	*-1.3*	*-9.2*	*+2.1*	*+21.0*	*+93.6*
2011	Quarter 4	54.4	11.6	17.4	21.3	3.3	0.67	0.11	210.2	44.4	69.6	79.5	14.1	2.12	0.44
2012	Quarter 1	59.2r	13.3r	16.8	24.4	3.9	0.61	0.17	208.6r	47.1r	67.2	77.4	14.1	2.11r	0.68
	Quarter 2	48.2r	10.5r	16.4	16.4	4.2	0.44	0.27	209.8	47.4r	65.6	77.2r	16.2r	2.27r	1.10
	Quarter 3	43.4r	9.9r	16.8	11.8	4.1	0.50r	0.35	209.5r	48.4r	67.1r	73.1	17.3r	2.36r	1.40
	Quarter 4 p	57.3r	13.0r	17.2r	22.4	3.8	0.68r	0.24r	208.7r	45.2r	68.8r	75.4r	16.2r	2.19r	0.96r
Per cent change[8]		*+5.3*	*+12.4*	*-1.2*	*+5.0*	*+13.9*	*+2.3*	*(+)*	*-0.7*	*+1.8*	*-1.2*	*-5.1*	*+14.5*	*+3.2*	*(+)*

1. Includes solid renewable sources (wood, straw and waste), a small amount of renewable primary heat sources (solar, geothermal, etc.), liquid biofuels and net foreign trade and stock changes in other solid fuels.
2. Inland deliveries for energy use, plus refinery fuel and losses, minus the differences between deliveries and actual consumption at power stations.
3. Includes gas used during production, colliery methane, landfill gas and sewage gas. Excludes gas flared or re-injected and non-energy use of gas.
4. Includes generation by solar PV. Excludes generation from pumped storage stations.
5. Not seasonally adjusted or temperature corrected.
6. Coal and natural gas are temperature corrected; petroleum and primary electricity are not temperature corrected.
7. For details of temperature correction see the June and September 2011 editions of Energy Trends; Seasonal and temperature adjustment factors were reassessed in September 2011 www.gov.uk/government/organisations/department-of-energy-climate-change/series/energy-trends
8. Percentage change in the fourth quarter of 2012 compared with a year earlier.

1 TOTAL ENERGY

Table 1.3a Supply and use of fuels

Thousand tonnes of oil equivalent

	2011	2012 p	*per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*per cent change*[1]
SUPPLY													
Indigenous production	136,990	122,762	*-10.4*	39,490	38,375	34,947	29,208	34,460	34,160r	31,819r	27,293r	29,489	*-14.4*
Imports	162,180	173,722	*+7.1*	43,713	42,555	37,197	39,037	43,392	45,120r	42,530r	39,610r	46,462	*+7.1*
Exports	-84,127	-79,959	*-5.0*	-23,389	-19,775	-21,936	-20,003	-22,414	-21,033r	-21,329r	-20,208r	-17,390	*-22.4*
Marine bunkers	-2,413	-2,113	*-12.4*	-567	-582	-624	-646	-560	-479	-603	-552	-479	*-14.6*
Stock change[2]	-919	+1,563		4,713	2,414	-2,221	-2,636	1,524	+3,499r	-2,075r	-1,035r	+1,173	
Primary supply	211,711	215,975	*+2.0*	63,959	62,988	47,363	44,959	56,402	61,267r	50,342r	45,109r	59,257	*+5.1*
Statistical difference[3]	-598	+336		149	-46	-321	-357	126	-12r	+217r	-99r	+230	
Primary demand	212,310	215,638	*+1.6*	63,811	63,034	47,684	45,316	56,276	61,279r	50,125r	45,208	59,026	*+4.9*
Transfers[4]	-14	+4		+19	28	+10	-10	-42	-26r	-78	+67	+42	
TRANSFORMATION	-48,182	-49,852	*+3.5*	-13,550	-13,945	-10,937	-10,677	-12,622	-13,432r	-11,810r	-11,373r	-13,237	*+4.9*
Electricity generation	-44,978	-46,547	*+3.5*	-12,818	-12,990	-10,210	-9,968	-11,810	-12,736r	-10,940r	-10,492r	-12,380	*+4.8*
Heat generation	-1,079	-1,079	-	-311	-336	-236	-219	-289	-336	-236	-219	-289	-
Petroleum refineries	-42	-36	*-15.8*	116	-85	62	4	-23	63	-13	-52r	-33	*+46.8*
Coke manufacture	-333	-282	*-15.4*	-118	-84	-94	-73	-83	-60r	-73	-89r	-59	*-28.2*
Blast furnaces	-1,739	-1,883	*+8.3*	-421	-445	-461	-429	-404	-343	-544	-519r	-477	*+18.1*
Patent fuel manufacture	-10	-26	*(+)*	2	-5	1	7	-13	-21r	-5r	-1r	1	*(-)*
Energy industry use	13,277	12,544	*-5.5*	3,656	3,490	3,388	3,148	3,252	3,398r	3,250r	2,988r	2,908	*-10.6*
Losses	3,825	3,545	*-7.3*	994	1,122	910	848	944	1,031	873r	729	913	*-3.3*
FINAL CONSUMPTION	147,012	149,701	*+1.8*	45,633	44,499	32,462	30,637	39,414	43,386r	34,118r	30,189r	42,008	*+6.6*
Iron & steel	1,311	1,552	*+18.3*	342	321	326	334	330	374r	390r	360r	427	*+29.4*
Other industries	25,834	26,202	*+1.4*	7,632	7,651	5,582	5,510	7,091	7,219r	6,021r	5,438r	7,524	*+6.1*
Transport	55,187	54,056	*-2.0*	13,780	13,223	13,916	14,111	13,937	13,396	13,067r	13,878r	13,715	*-1.6*
Domestic	38,842	42,791	*+10.2*	16,604	15,605	6,471	5,226	11,540	15,116r	8,422r	5,462r	13,792	*+19.5*
Other Final Users	17,168	17,500	*+1.9*	5,189	5,432	3,787	3,409	4,540	5,179r	4,058r	3,408r	4,855	*+6.9*
Non energy use	8,669	7,600	*-12.3*	2,085	2,267	2,379	2,047	1,976	2,101r	2,160r	1,645r	1,694	*-14.3*
DEPENDENCY[5]													
Net import dependency	36.5%	43.0%		31.5%	35.8%	31.8%	41.7%	36.8%	39.0% r	41.6% r	42.5% r	48.7%	
Fossil fuel dependency	87.5%	86.8%		90.3%	88.6%	85.6%	86.2%	88.7%	88.1% r	86.0% r	84.5%	87.9%	
Low carbon share	12.5%	13.2%		9.7%	11.4%	14.4%	13.8%	11.3%	11.9%	14.0%	15.5%	12.1%	

1. Percentage change in the fourth quarter of 2012 compared with a year earlier.
2. Stock fall (+), stock rise (-).
3. Primary supply minus primary demand.
4. Annual transfers should ideally be zero. For manufactured fuels differences occur in the rescreening of coke to breeze.
   For oil and petroleum products differences arise due to small variations in the calorific values used.
5. See article in the December 2010 edition of Energy Trends at:

http://webarchive.nationalarchives.gov.uk/20130109092117/http://www.decc.gov.uk/en/content/cms/statistics/publications/trends/trends.aspx

1 TOTAL ENERGY

Table 1.3b Supply and use of fuels

Thousand tonnes of oil equivalent

	2011 Quarter 4									2012 Quarter 4 p								
	Coal	Manufactured fuels[4]	Primary oil	Petroleum Products	Natural gas[5]	Bioenergy & waste[6]	Primary electricity	Electricity	Heat sold	Coal	Manufactured fuels[4]	Primary oil	Petroleum Products	Natural gas[5]	Bioenergy & waste[6]	Primary electricity	Electricity	Heat sold
SUPPLY																		
Indigenous production	2,686	-	14,176	-	12,041	1,579	3,977	-	-	2,419	-	11,362	-	9,536	1,720	4,454	-	-
Imports	6,247	14	16,122	7,036	13,240	544	-	188	-	7,458	112	14,849	9,058	14,116	615	-	254	-
Exports	-101	-139	-9,955	-7,505	-4,581	-53	-	-79	-	-101	-27	-9,401	-5,756	-2,008	-82	-	-15	-
Marine bunkers	-	-	-	-560	-	-	-	-	-	-	-	-	-479	-	-	-	-	-
Stock change[1]	+1,460	-78	+94	-215	+263	-	-	-	-	+1,711	-20	-873	-5	+361	-	-	-	-
Primary supply	10,292	-203	20,437	-1,244	20,963	2,070	3,977	109	-	11,486	65	15,937	2,819	22,005	2,252	4,454	239	-
Statistical difference[2]	+106	-3	+128	-85	-59	-	-	+39	-	+77	-	-	-29	+36	-	-	-36	-
Primary demand	10,186	-201	20,309	-1,159	21,022	2,070	3,977	71	-	11,410	+63	15,756	2,848	21,969	2,252	4,454	275	-
Transfers[3]	-	+1	-507	+464	-1	-	-667	+667	-	-	+2	-429	+471	-2	-	-682	+682	-
TRANSFORMATION	-9,757	608	-19,803	19,532	-6,475	-1,321	-3,311	7,537	367	-10,962	444	-15,327	15,021	-5,075	-1,499	-3,772	7,565	367
Electricity generation	-8,407	-151	-	-232	-5,926	-1,321	-3,311	7,537	-	-9,760	-133	-	-256	-4,526	-1,499	-3,772	7,565	-
Heat generation	-77	-13	-	-17	-549	-	-	-	367	-77	-13	-	-17	-549	-	-	-	367
Petroleum refineries	-	-	-19,803	19,780	-	-	-	-	-	-	-	-15,327	15,294	-	-	-	-	-
Coke manufacture	-1,022	939	-	-	-	-	-	-	-	-859	799	-	-	-	-	-	-	-
Blast furnaces	-189	-216	-	-	-	-	-	-	-	-209	-268	-	-	-	-	-	-	-
Patent fuel manufacture	-62	49	-	-	-	-	-	-	-	-57	58	-	-	-	-	-	-	-
Energy industry use	1	161	-	1,225	1,288	-	-	554	24	1	180	-	937	1,169	-	-	598	24
Losses	-	36	-	-	316	-	-	593	-	-	25	-	-	283	-	-	605	-
FINAL CONSUMPTION	428	212	-	17,612	12,944	750	-	7,128	342	447	304	-	17,403	15,440	754	-	7,319	342
Iron & steel	10	107	-	2	130	-	-	82	-	16	191	-	1	134	-	-	86	-
Other industries	266	48	-	1,107	3,174	165	-	2,120	210	278	46	-	1,233	3,485	201	-	2,071	210
Transport	4	-	-	13,521	-	324	-	88	-	3	-	-	13,418	-	206	-	88	-
Domestic	140	57	-	795	7,725	174	-	2,635	16	144	67	-	887	9,674	240	-	2,764	16
Other final users	8	-	-	384	1,742	86	-	2,204	116	6	-	-	343	1,974	106	-	2,310	116
Non energy use	-	-	-	1,803	173	-	-	-	-	-	-	-	1,521	173	-	-	-	-

1. Stock fall (+), stock rise (-).
2. Primary supply minus primary demand.
3. Annual transfers should ideally be zero. For manufactured fuels differences occur in the rescreening of coke to breeze. For oil and petroleum products differences arise due to small variations in the calorific values used.
4. Includes all manufactured solid fuels, benzole, tars, coke oven gas and blast furnace gas.
5. Inludes colliery methane.
6. Includes geothermal, solar heat and biofuels for transport; wind and wave electricity included in primary electricity figures.

Section 2 - Solid Fuels and Derived Gases

Key results show:

Provisional 2012

Overall production in 2012 (the lowest on record) was down 9.9 per cent (-1.8 million tonnes) compared to 2011 with deep-mined output down 15.9 per cent (-1.2 million tonnes) and surface mined output down 3.7 per cent (-0.4 million tonnes) due to operational issues at a number of sites.

Coal imports were up 37.7 per cent (+12.3 million tonnes) on levels shown in 2011.

The demand for coal by electricity generators in 2012, was 31.0 per cent (+13 million tonnes) higher than the demand in 2011, as coal replaced some gas generation.

Total stocks at the end of 2012 were the lowest year end levels recorded, at 13.2 million tonnes.

Quarter 4 2012

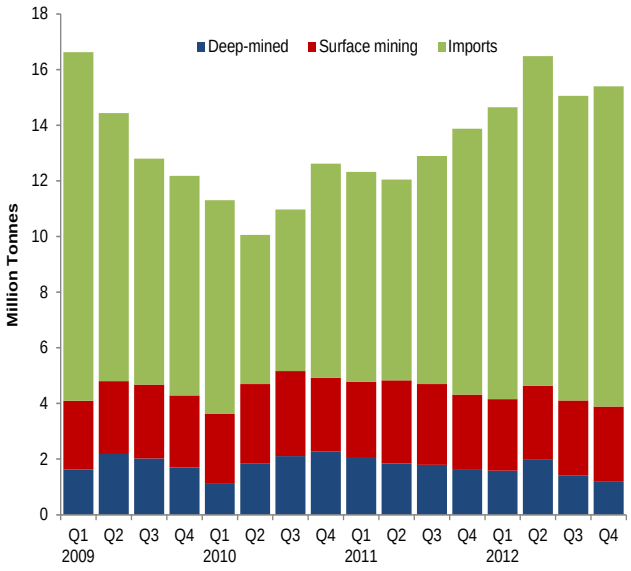
In Q4 2012, overall production was down 10.0 per cent (-0.4 million tonnes) compared to quarter 4 2011 with deep-mined output down 27.9 per cent (-0.5 million tonnes). **(Chart 2.1)**

Coal imports were up 20.4 per cent (+2.0 million tonnes) on levels shown in quarter 4 2011. **(Chart 2.1)**

The demand for coal by electricity generators in the fourth quarter of 2012 was 16.1 per cent (2.2 million tonnes) higher than demand shown in the fourth quarter of 2011. **(Chart 2.3)**

Total stock levels were down 18.0 per cent (-2.9 million tonnes) to 13.2 million tonnes compared to quarter 4 2011 and were down by 2.7 million tonnes on quarter 3 2012. **(Chart 2.4)**

Chart 2.1 Coal supply



Provisional figures for 2012, as a whole, show that coal production (including an estimate for slurry) was 9.9 per cent down on 2011 at 16.8 million tonnes. Deep mined production was down 15.9 per cent at 6.2 million tonnes, the lowest on record. Surface mine production was down by 3.7 per cent.

Provisional figures for the fourth quarter of 2012, show that coal production (including an estimate for slurry) was down 10.0 per cent on the fourth quarter of 2011 at 3.9 million tonnes. The decrease was largely due to a fall of 27.9 per cent (-0.4 million tonnes) in deep-mined production from 1.6 million tonnes in the fourth quarter of 2011, due to operational issues at several major deep mine sites.

Imports of coal in 2012 as a whole were 37.7 per cent up on 2011 at 44.8 million tonnes, similar to levels last seen during 2008.

Imports of coal in the fourth quarter of 2012 were 20.4 per cent higher than in the fourth quarter of 2011 at 11.5 million tonnes.

Table 2A Coal imports by origin

Thousand Tonnes

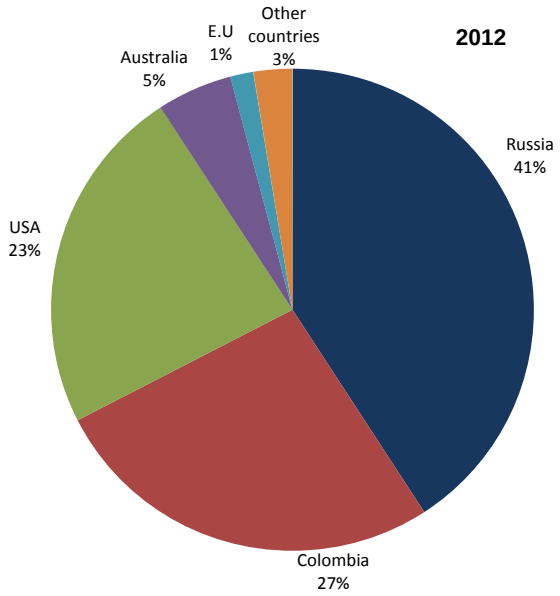
	2011	2012	2011 Q4	2012 Q4
European Union	1,155	698	142	177
Russia	12,332	18,288	3,467	4,465
Colombia	8,010	11,919	2,317	3,273
USA	6,334	10,474	2,310	2,798
Australia	3,380	2,253	847	424
Other Countries	1,316	1,165	475	371
Total imports	32,527	44,796	9,557	11,508

In quarter 4 2012, net imports (11.4 million tonnes) made up 63.4 per cent of coal supply, 4.6 percentage points higher compared to the fourth quarter of 2011 (58.8 per cent).

Steam coal, largely for the power stations market, accounted for 88.9 per cent of coal imported in the fourth quarter of 2012. Steam coal imports increased by 26.5 per cent in quarter 4 2012, when compared to the same period a year earlier.

Coking coal imports decreased by 13.9 per cent (-0.2 million tonnes) to 1.2 million tonnes, when compared to the fourth quarter in 2011. Imports of anthracite are negligible in comparison with coking coal and steam coal imports.

Chart 2.2 All Coal imports by origin



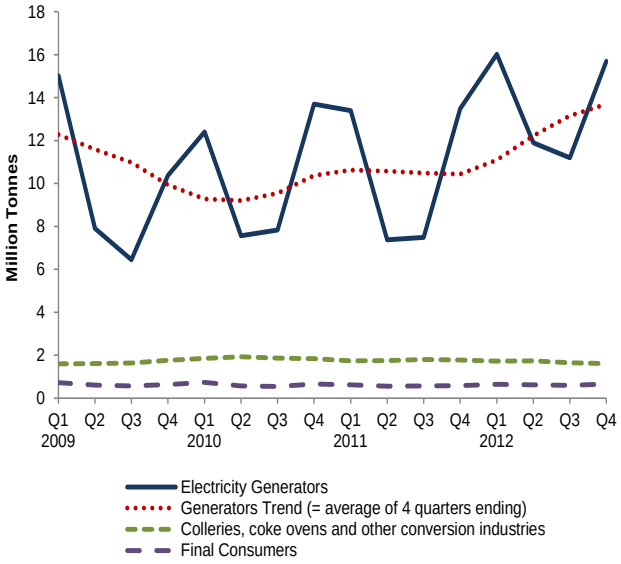
In 2012, 39.8 million tonnes of the coal imported (88.9 per cent) was steam coal, largely for the power stations market.

All but 3.9 per cent of UK steam coal imports in 2012 came from just three countries: Russia (44.5 per cent), Colombia (29.9 per cent) and the USA (21.7 per cent).

Colombian steam coal imports increased by 48.8 per cent (+3.9 million tonnes) in 2012 compared to 2011.

Steam coal imports originating from Russia were 46.6 per cent (+5.6 million tonnes) more in 2012 than in 2011.

Chart 2.3: Coal Consumption



Total demand for coal in 2012 was 64.0 million tonnes, 24.3 per cent higher than in 2011, with consumption by electricity generators up by 31.0 per cent (+13.0 million tonnes) as high gas prices increased coal use.

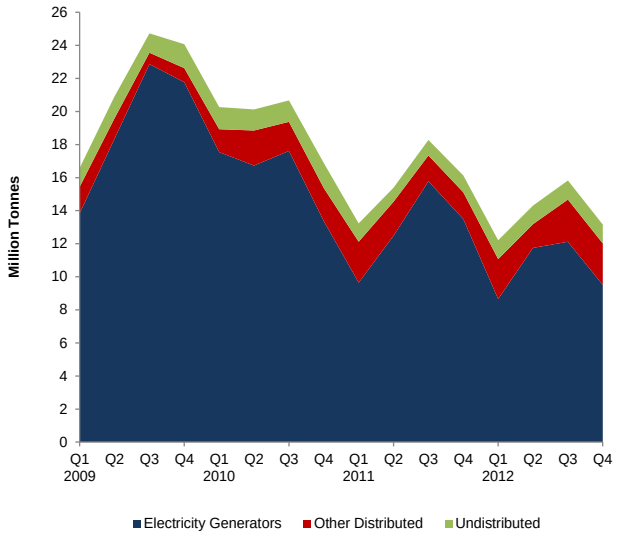
Total demand for coal in the fourth quarter of 2012, at 18.0 million tonnes, was 12.6 per cent higher than in the fourth quarter of 2011. Consumption by electricity generators was up by 16.1 per cent to 15.7 million tonnes.

Electricity generators accounted for 85.6 per cent of total coal use in 2012; compared with 81.3 per cent in 2011.

Electricity generators accounted for 87.4 per cent of total coal use in the fourth quarter of 2012; compared with 84.8 per cent a year earlier.

Sales to industrial users increased by 6.2 per cent in quarter 4 2012. Sales to final consumers (as measured by disposals to final consumers) were also up by 1.4 per cent.

Chart 2.4 Coal stocks



Coal stocks showed a seasonal fall of 2.7 million tonnes during the fourth quarter of 2012 and stood at 13.2 million tonnes, 2.9 million tonnes lower than at the end of December 2011.

The level of coal stocks at power stations at the end of the fourth quarter of 2012 was 9.5 million tonnes, 4.0 million tonnes lower than at the end of December 2011. Total stocks at the end of 2012, were at their lowest year end level in over 40 years.

Stocks held by producers (undistributed stocks) increased during the fourth quarter of 2012 to stand at 1.1 million tonnes, 0.2 million tonnes higher than at the end of December 2011.

Relevant tables

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2 SOLID FUEL AND DERIVED GASES

Table 2.1 Supply and consumption of coal

Thousand tonnes

	2011	2012 p	*per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*per cent change*[1]
SUPPLY													
Indigenous production	18,627	16,788	*-9.9*	4,927	4,773	4,835	4,699	4,321	4,155	4,636	4,109	3,888	*-10.0*
Deep mined	7,312	6,153	*-15.9*	2,284	2,039	1,838	1,793	1,642	1,585	1,978	1,406	1,184	*-27.9*
Surface mining[2]	10,580	10,185	*-3.7*	2,506	2,550	2,805	2,713	2,511	2,458	2,540	2,585	2,602	*+3.6*
Other sources	735	450	*-38.8*	136	184	192	192	167	113	118	118	102	*-38.8*
Imports[3]	32,527	44,796	*+37.7*	7,692	7,556	7,215	8,199	9,557	10,494	11,851	10,943r	11,508	*+20.4*
Exports[4]	491	480	*-2.2*	219	133	117	107	135	117	131	99	134	*-0.7*
Stock change[5]	+836	+2,879		+3,786r	+3,619	-2,173	-2,888	+2,279	+3,830	-2,101	-1,516r	+2,665	
Total supply	51,500	63,983	*+24.2*	16,186	15,815	9,760	9,902	16,022	18,363	14,256	13,437r	17,927	*+11.9*
Statistical difference	-14	-59		+7r	-63	-23	-4	+75	-27r	-4r	+2r	-29	
Total demand	51,514	64,042	*+24.3*	16,178	15,879	9,783	9,906	15,946	18,390r	14,260r	13,436r	17,956	*+12.6*
TRANSFORMATION	49,057	61,524	*+25.4*	15,524	15,214	9,198	9,323	15,323	17,742r	13,641r	12,837r	17,304	*+12.9*
Electricity generation	41,857	54,818	*+31.0*	13,695	13,440	7,412	7,481	13,523	16,025	11,901	11,192	15,700	*+16.1*
Heat generation[6]	477	477	-	134	145	106	99	127	145	106	99	127	-
Coke manufacture	5,398	4,941	*-8.5*	1,389	1,279	1,353	1,428	1,338	1,300	1,301	1,215r	1,125	*-16.0*
Blast furnaces	995	981	*-1.4*	212	257	246	245	247	199	253	255	274	*+10.7*
Patent fuel manufacture	331	307	*-7.3*	94	93	81	69	87	73r	79r	75r	80	*-8.6*
Energy industry use	4	4		1	1	1	1	1	1r	1r	1r	1	
FINAL CONSUMPTION	2,453	2,514	*+2.5*	654	664	584	582	623	647r	618r	598r	652	*+4.6*
Iron & steel	53	71		16	13	13	13	14	12r	13r	24r	22	*+59.7*
Other industries	1,629	1,711	*+5.0*	438	431	400	393	404	458r	431r	399r	422	*+4.4*
Domestic	717	682	*-4.8*	186	209	161	159	188	164r	162r	161r	195	*+3.7*
Other final users	55	51	*-7.9*	14	11	10	17	16	13r	12r	14r	12	*-24.5*
Stocks at end of period													
Distributed stocks	15,113	12,019	*-20.5*	15,366	12,186	14,447	17,332	15,113	11,072	13,188	14,672r	12,019	*-20.5*
Of which:													
Major power producers[7]	13,496	9,511	*-29.5*	13,370	9,646	12,484	15,776	13,496	8,656	11,749	12,117	9,511	*-29.5*
Coke ovens	1,355	1,003	*-26.0*	1,338	1,187	1,112	1,324	1,355	1,127	1,018	977r	1,003	*-26.0*
Undistributed stocks	926	1,141	*+23.2*	1,517	1,071	983	986	926	1,136	1,122	1,154r	1,141	*+23.2*
Total stocks [8]	16,039	13,160	*-18.0*	16,884	13,257	15,430	18,318	16,039	12,209	14,310	15,826r	13,160	*-18.0*

1. Percentage change in the fourth quarter of 2012 compared with a year earlier.
2. The term 'surface mining' has now replaced opencast production. Opencast production is a surface mining technique.
3. For a detailed breakdown of UK Imports by country and grade of coal refer to Table 2.4 Coal imports (internet table only).
4. 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.
5. Stock fall (+), stock rise (-).
6. Heat generation is based on an annual figure and is then split over a quarterly period. The 2012 heat generation will not be published until the end of July 2013. Therefore, the 2011 figure is used as an estimate for 2012.
7. This includes stocks held at ports.
8. 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

	2011	2012 p	*per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*per cent change*[3]
SUPPLY													
Indigenous production	4,342	3,973	*-8.5*	1,052	1,029	1,075	1,174	1,064	1,040	1,056	959r	918	*-13.7*
Coke Oven Coke	4,021	3,694	*-8.1*	955	943	991	1,094	993	993	983	884r	835	*-15.9*
Coke Breeze	31	31	*-2.3*	8	8	8	8	8	8	8	8r	8	*-2.7*
Other MSF	289	248	*-14.4*	89	78	76	73	63	40	66	67r	75	*+19.7*
Imports	47	205	*(+)*	39	23	2	3	18	10	17	22	156	*(+)*
Exports	499	542	*+8.6*	94	135	58	112	195	325	143	37r	37	*(-)*
Stock change[1]	-540	+102		-101	-68	-129	-233	-110	-67	+150	+48r	-29	
Transfers	-	-		-	-	-	-	-	-	-	-	-	
Total supply	3,350	3,738	*+11.6*	895	850	890	833	777	658	1,080	992r	1,008	*+29.7*
Statistical difference	-4	4		-7	-6	3	0	-1r	-0	-0	2r	3	
Total demand	3,354	3,733	*+11.3*	902	856	888	833	778	658	1,080	989r	1,006	*+29.3*
TRANSFORMATION	2,645	2,996	*+13.3*	696	673	712	660	601	521	882	828	765	*+27.4*
Coke manufacture	-	-		-	-	-	-	-	-	-	-	-	
Blast furnaces	2,645	2,996	*+13.3*	696	673	712	660	601	521	882	828	765	*+27.4*
Energy industry use	-	-		-	-	-	-	-	-	-	-	-	
FINAL CONSUMPTION	709	737	*+4.1*	206	183	175	173	177	137	198	161r	241	*+35.8*
Iron & steel	395	432	*+9.3*	100	96	107	99	94	80	122	91r	140	*+48.9*
Other industries	35	45	*+29.8*	12	9	6	10	11	5	13	12r	15	*+39.3*
Domestic	278	260	*-6.6*	95	78	63	65	73	52	64	58r	86	*+18.3*
Stocks at end of period [2]	872	587	*+11.6*	719	734	755	773	872	930	793	695r	587	*-32.7*

1. Stock fall (+), stock rise (-).
2. For some quarters, closing stocks may not be consistent with stock changes, due to additional stock adjustments
3. Percentage change in the fourth quarter of 2012 compared with a year earlier.

2 SOLID FUEL AND DERIVED GASES

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

GWh

	2011	2012 p	*per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*per cent change*[1]
SUPPLY													
Indigenous production	21,007	21,376	*+1.8*	5,110	5,183	5,368	5,360	5,096	4,662r	5,730r	5,458r	5,526	*+8.4*
Coke oven gas	8,847	8,226	*-7.0*	2,055	2,103	2,239	2,296	2,209	2,149	2,105	2,021r	1,950	*-11.7*
Blast furnace gas	10,503	11,615	*+10.6*	2,672	2,677	2,717	2,645	2,464	2,101	3,224	3,080r	3,209	*+30.2*
Benzole & tars	1,657	1,535	*-7.4*	383	403	412	419	422	411r	400r	357r	367	*-13.2*
Transfers	60	55	*-8.3*	58	32	10	11	7	11	4	14r	26	*(+)*
Total supply	21,067	21,431	*+1.7*	5,168	5,215	5,378	5,371	5,103	4,674	5,734r	5,472r	5,551	*+8.8*
Statistical difference	-131	-1		-31	-38	-33	-32	-28	-2	+0	+1r	-1	
Total demand	21,199	21,432	*+1.1*	5,199	5,253	5,411	5,403	5,131	4,675r	5,733r	5,471r	5,553	*+8.2*
TRANSFORMATION	8,038	6,062	*-24.6*	1,935	2,007	2,103	2,024	1,905	1,007r	1,692r	1,672r	1,691	*-11.3*
Electricity generation	7,441	5,465	*-26.6*	1,785	1,857	1,953	1,875	1,756	858r	1,543r	1,523r	1,541	*-12.2*
Heat generation[2]	598	598	-	149	149	149	149	149	149	149	149	149	-
Energy industry use	7,671	8,101	*+5.6*	1,922	1,901	1,927	1,967	1,875	1,774	2,126	2,104r	2,097	*+11.9*
Losses	1,751	999	*-43.0*	373	416	477	443	414	178	319	213r	289	*-30.3*
FINAL CONSUMPTION	3,739	6,270	*+67.7*	969	929	904	969	937	1,717r	1,596r	1,481r	1,476	*+57.5*
Iron & steel	1,883	4,538	*(+)*	538	479	439	502	462	1,254r	1,145r	1,077r	1,062	*(+)*
Other industries	1,857	1,732	*-6.7*	431	451	465	466	474	463r	451r	404r	414	*-12.7*

1. Percentage change in the fourth quarter of 2012 compared with a year earlier.

2. For Heat generation, the 2012 figures currently shown are the 2011 figures carried forward - these will be updated in July 2013.

Section 3 - Oil and Oil Products

Key results show:

Provisional 2012

In 2012, compared to 2011, UK production of crude and NGL's was 14.3 per cent lower, exports were virtually unchanged, whilst imports were 4.6 per cent higher. This is the lowest annual production volume since production peaked in 1999 and reflects near record decreases in crude oil production and record decreases in NGL production, resulting from long term decline and maintenance issues.

In 2012, net imports of primary oils (Crude, NGL's and process oils) made up 38.5 per cent of UK supply, this compared to 32.0 per cent in 2011.

In 2012 the UK was a net exporter of petroleum products by 1.1 million tonnes, the lowest annual recorded volume since 1984. The UK remains a net importer of DERV and aviation turbine fuel but a net exporter of motor spirit.

Refinery production in 2012 decreased by 8.3 per cent; largely driven by the closure of Coryton. There were large decreases in motor spirit, diesel fuel and aviation fuel.

In 2012 total deliveries of key transport fuels decreased by 1.3 per cent compared with 2011. Motor Spirit deliveries decreased by 4.8 per cent, aviation fuel was down by 4.2 per cent, while DERV deliveries increased by 2.6 per cent

Quarter 4 2012

Total indigenous UK production of crude oil and Natural Gas Liquids (NGL) in Q4 2012 was 19.8 per cent lower than a year ago. (**Chart 3.1**)

Refinery production in Q4 2012 was down 22.1 per cent lower compared with the same quarter a year earlier. This is the lowest recorded quarterly production figure and is due in the main to the closure of the Coryton refinery in Essex, coupled with shutdowns at other refineries for planned maintenance work. There were notable decreases in motor spirit, DERV and aviation turbine fuel. (**Chart 3.2**)

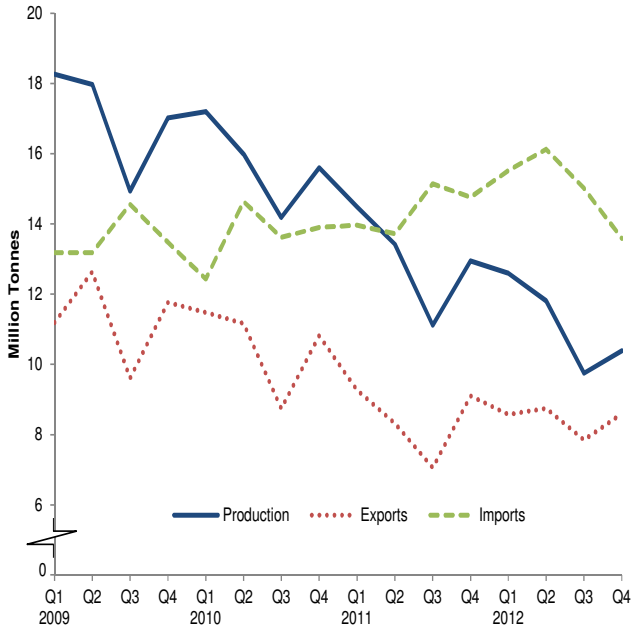
Imports of petroleum products increased by 28.6 per cent compared with Q4 2011 and exports of petroleum products decreased by 22.8 per cent. As a result the UK became a net importer of petroleum products in Q4 2012 by 3 million tonnes, for the first time since Q1 2008 and the largest net import figure on record. **(Chart 3.2)**

Net imports of primary oils (crude oil, NGLs and process oils) in Q4 2012 decreased to 5.0 million tonnes (down 11.8 per cent) due to lower refinery demand. This met 35.5 per cent of UK's refinery demand. **(Chart 3.3)**

In Q4 2012 total deliveries of key transport fuels decreased by 0.9 per cent compared with Q4 2011. Motor Spirit deliveries decreased by 4.9 per cent, aviation fuel was down by 6.5 per cent, while DERV deliveries increased by 4.5 per cent (**Chart 3.5)**

Overall stocks of crude oil and petroleum products were up by 4.6 per cent at end of the Q4 2012 compared to a year earlier. **(Chart 3.7)**

Chart 3.1 Production and trade of crude oil and NGLs



Provisional figures for 2012 show that UK crude oil and NGL production was 14.3 per cent lower than 2011. The 2012 decline in 2012 has many causes including: maintenance at the very large Buzzard field, the St Fergus associated gas terminal and the continued production constraints on the Elgin area because of the gas leak in March 2012. This is on top of a general long term decline in UK oil and gas production since 2000.

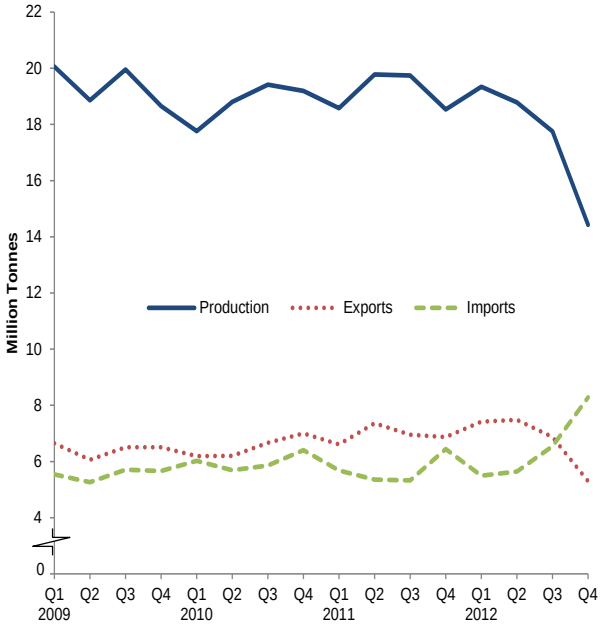
The shortfall with indigenous production was met by imports of crude oil and NGL's, which increased by 9.2 per cent. Total imports were 4.6 per cent higher in 2012 compared with 2011 and were at their highest since 2004. Imports of feedstock oils, decreased by 28.4 per cent. Feedstocks are primarily used by refineries and reflects greater maintenance activity at refineries in 2012 and also reduced demand owing to the closure of the Coryton refinery in July 2012.

Total exports of primary oils (crude, NGL's and feedstock's were virtually unchanged in 2012 compared with 2011.

In Q4 2012, indigenous crude oil production was significantly lower by 18.8 per cent compared with Q4 2011. Production of Natural Gas Liquids (NGLs) also decreased by a third.

In Q4 2012 imports of crude oil and NGL's were 3.6 per cent lower compared with Q4 2011 - the first quarterly decrease since Q2 2011. Exports of crude and NGL's also decreased by 8.0 per cent.

Chart 3.2 Production and trade of petroleum products



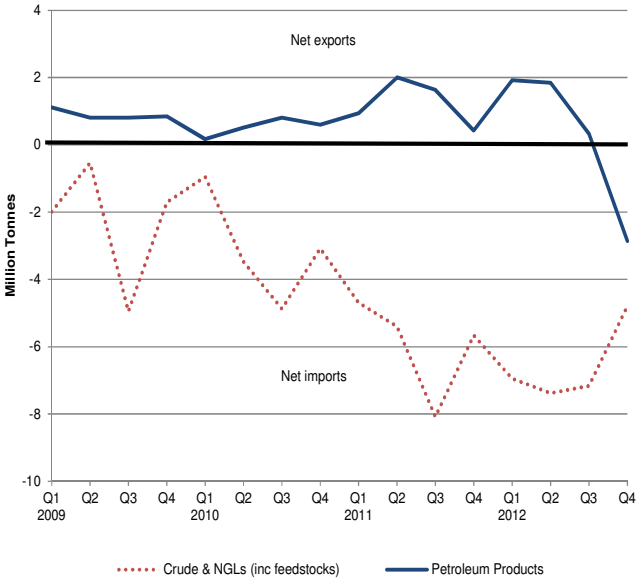
In 2012, production of petroleum products was 8.3 per cent lower compared with 2011. The closure of the Coryton refinery in July 2012 was a contributory factor towards lower production in 2012.

The shortfall in production was met by imports, which increased significantly by 13.9 per cent in 2012 compared with 2011. This was the largest year on year increase since 2006. Exports decreased by 2.6 per cent in 2012 compared with 2011, which is again indicative of lower production.

In Q4 2012, production of petroleum products was lower by over a fifth compared with Q4 2011. As mentioned above, the closure of the Coryton refinery and maintenance work is again a contributory factor.

Imports again met the shortfall in production, increasing significantly by 28.6 per cent in Q4 2012. Exports decreased by 22.8 per cent and again was a reflection of much lower refinery production during this period.

Chart 3.3 Overall trade of crude oil and NGLs, and petroleum products



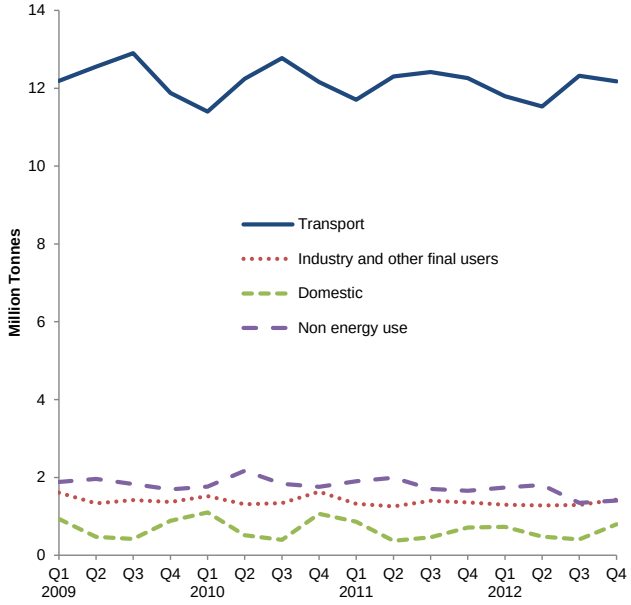
In 2012, net imports of primary oils (crude, NGL's and feedstocks) grew to 26.5 million tonnes compared with 23.8 million tonnes in 2011, an increase of 11.1 per cent.

Net imports in 2012 met around 39 per cent of UK demand for primary oils, compared to 32 per cent in 2011. Crude oil import dependence has been on an increasing trend as the production from the UK Continental Shelf continues to decline.

In 2012 the UK remained a net exporter of petroleum products by 1.1 million tonnes, but this was significantly lower than 2011 when it was a net exporter by 5.0 million tonnes. Net exports in 2012 were at their lowest level since 1984, and reflected the lower refinery production in 2012.

The UK was a net importer of petroleum products in Q4 2012 for the first time since 2008 by 3.0 million tonnes. This is the largest quarterly net margin recorded with our new reporting system, (quarterly data on the new system is available from 1998).

Chart 3.4 Final consumption of oil



In 2012, overall final consumption of petroleum products was down by 2.9 per cent compared with 2011. Within this:

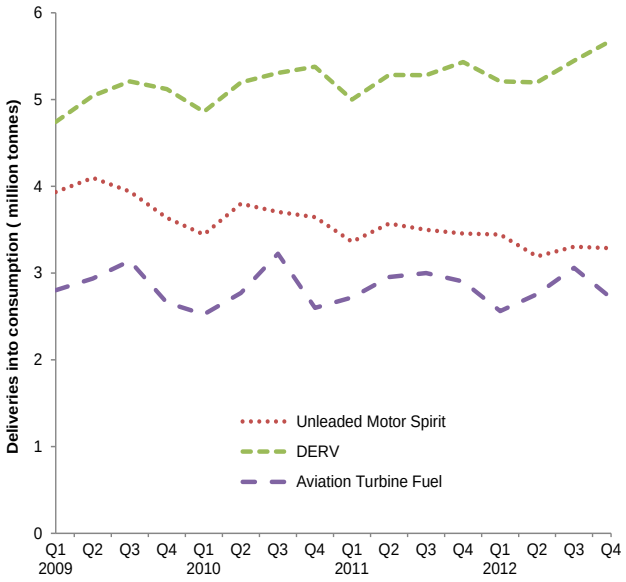
Non energy use was down by 13.2 per cent, partially due to maintenance activity at chemical plants.

Domestic consumption, primarily used for heating, was slightly higher by 0.7 per cent.

Transport, which accounts for about three-quarters of UK final consumption, was lower by 1.8 per cent in 2012. (See chart 3.5 for more detail).

In Q4 2012, overall final consumption of petroleum products was down by 1.1 per cent on Q4 2011. Within this: Non energy use was lower by 15 per cent, whilst domestic use was 11.6 per cent higher - with average temperatures in the fourth quarter being substantially colder than Q4 2011.

Chart 3.5 Demand for key transport fuels



In 2012, total deliveries of key hydrocarbon transport fuels were lower by 1.3 per cent. Within this:

DERV demand increased by 2.6 per cent whilst motor spirit deliveries fell by 4.8 per cent. Both are in line with the long term trend with motor spirit declining by around 5 per cent per annum since 2005, with DERV increasing by 1.5 per cent over the same period.

In 2012, demand for aviation fuels decreased by 4.2 per cent. Whilst passenger numbers remained robust in 2012, indications were that increasing fuel efficiency and some rationalisation of routes (including greater numbers of passengers per plane and route sharing between airline operators) have contributed to this decrease.

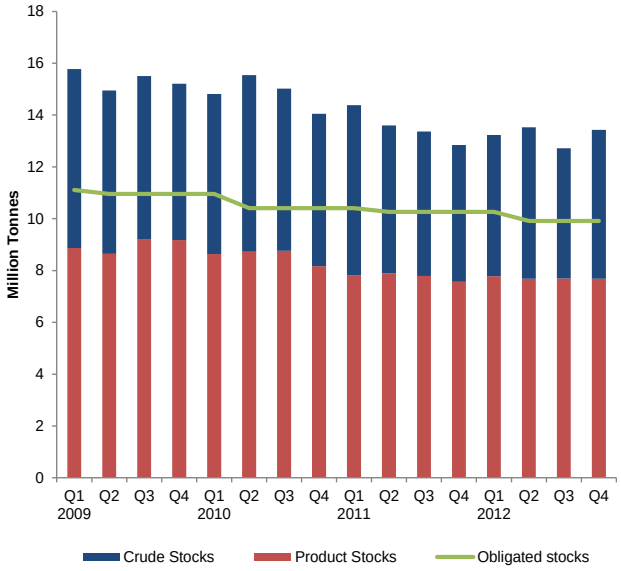
In Q4 2012, total deliveries of key hydrocarbon transport fuels were slightly lower by 0.9 per cent. Within this, DERV demand increased by 4.5 per cent, whilst motor spirit deliveries fell by 4.9 per cent. Demand for Aviation fuel decreased by 6.5 per cent.

Chart 3.6 Hypermarket share of road fuel sales

In 2012, the retail shares of both motor spirit and diesel that are sold through hypermarkets outlets decreased slightly when compared to last year from 41.0 per cent in 2011 to 40 per cent in 2012.

In Q4 2012, hypermarkets outlets accounted for 38.7 per cent of total retail sales, down from 39.9 per cent on same quarter in 2011.

Chart 3.7 UK oil stocks



In 2012, total stocks for all oil products were higher by 4.6 per cent (0.6 million tonnes) compared with 2011.

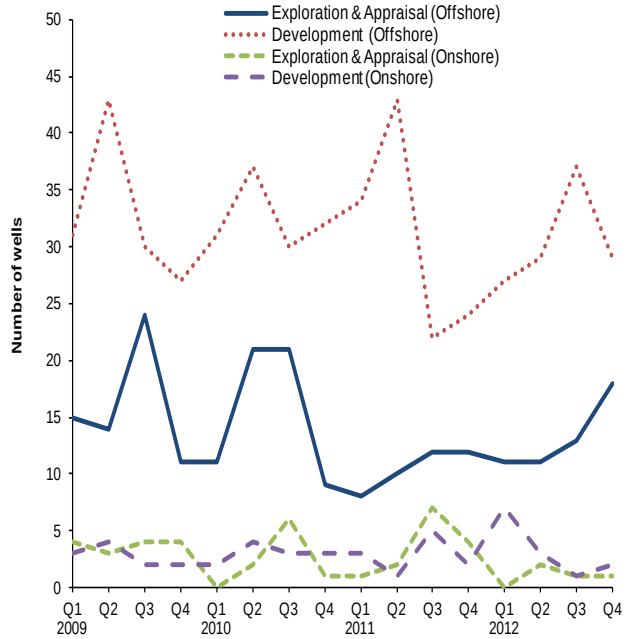
Stocks of crude and process oils were 9.1 per cent (0.5 million tonnes) higher.

Stocks of petroleum products were 1.4 per cent (0.1 million tonnes) higher at the end of 2012.

Chart 3.7 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 fourth quarter of 2012, the UK had stocks equal to around 84 days of consumption.

Chart 3.8 Drilling activity on the UKCS



There were 53 exploration and appraisal wells started offshore in 2012, compared to 42 in 2011.

There were 122 development wells drilled offshore in 2012, compared to 123 in 2011.

There were 4 exploration and appraisal wells started onshore in 2012, compared to 14 in 2011.

There were 13 development wells drilled onshore in 2012, compared to 11 in 2011.

Relevant tables

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3 OIL AND OIL PRODUCTS

Table 3.1 Supply and use of crude oil, natural gas liquids and feedstocks[1]

Thousand tonnes

	2011	2012 p	*per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*per cent change*[8]
SUPPLY													
Indigenous production[2]	51,972	44,547	*-14.3*	15,595	14,485	13,423	11,117	12,949	12,602	11,809r	9,750r	10,386	*-19.8*
Crude oil	48,571	42,055	*-13.4*	14,447	13,504	12,528	10,445	12,095	11,764	11,111	9,361r	9,819	*-18.8*
NGLs[3]	3,401	2,492	*-26.7*	1,148	981	895	672	854	838	698r	389r	566	*-33.7*
Imports[4]	57,586	60,250	*+4.6*	13,901	13,963	13,717	15,143	14,764	15,519	16,130	15,013r	13,588	*-8.0*
Crude oil & NGLs	50,582	55,237	*+9.2*	11,945	12,034	12,046	13,183	13,319	14,040	14,540	13,823r	12,835	*-3.6*
Feedstocks	7,003	5,013	*-28.4*	1,956	1,929	1,671	1,960	1,444	1,479	1,590	1,191	753	*-47.8*
Exports[4]	33,745	33,759	-	10,818	9,265	8,319	7,059	9,101	8,571	8,746	7,848r	8,595	*-5.6*
Crude Oil & NGLs	29,836	29,738	*-0.3*	10,086	8,303	7,376	5,988	8,170	7,622	7,782	6,815r	7,519	*-8.0*
Feedstocks	3,908	4,021	*+2.9*	732	963	943	1,071	931	949	964	1,033	1,076	*+15.5*
Stock change[5]	+611	-543		+426	-654	+815	+365	+85	-197r	-223r	+673r	-797	
Transfers[6]	-1,986	-1,764		-449	-492	-567	-502	-425	-633	-573r	-199r	-358	
Total supply	74,438	68,730	*-7.7*	18,656	18,036	19,068	19,063	18,271	18,720r	18,397r	17,389r	14,224	*-22.1*
Statistical difference[7]	-271	+142		+89	-94	-84	-219	+125	-14r	+99r	-115r	+173	
Total demand	74,709	68,588	*-8.2*	18,566	18,130	19,152	19,282	18,146	18,734r	18,299r	17,504r	14,052	*-22.6*
TRANSFORMATION	74,709	68,588	*-8.2*	18,566	18,130	19,152	19,282	18,146	18,734	18,299	17,504r	14,052	*-22.6*
Petroleum refineries	74,709	68,588	*-8.2*	18,566	18,130	19,152	19,282	18,146	18,734	18,299	17,504r	14,052	*-22.6*

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 in the fourth quarter of 2012 compared with a year earlier.

3 OIL AND OIL PRODUCTS

Table 3.2 Supply and use of petroleum products

Thousand tonnes

	2011	2012 p	*per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*per cent change* [1]
SUPPLY													
Indigenous production[2]	76,637	70,305	*-8.3*	19,193	18,585	19,780	19,739	18,533	19,339	18,781r	17,756r	14,429	*-22.1*
Imports[3]	22,804	25,963	*+13.9*	6,405	5,678	5,360	5,327	6,440	5,493	5,645	6,545r	8,281	*+28.6*
Exports[3]	27,800	27,083	*-2.6*	7,005	6,613	7,364	6,957	6,867	7,419	7,486	6,874	5,304	*-22.8*
Marine bunkers	2,296	2,001	*-12.9*	539	554	594	615	533	454	572	523	452	*-15.3*
Stock change[4]	+188	+193		+268	+224	+183	-21	-199	+92r	+209r	-102r	-6	
Transfers[5]	-155	-91		-74	-49	-29	-2	-74	+7r	-23	-60	-15	
Total supply	69,378	67,286	*-3.0*	18,249	17,271	17,336	17,471	17,300	17,057r	16,554r	16,743r	16,933	*-2.1*
Statistical difference[6]	-109r	-30		-9	+16	-76	+30	-78	-43r	+0r	+44r	-31	
Total demand	69,487r	67,315	*-3.1*	18,258	17,255	17,413	17,441	17,378	17,100r	16,553r	16,698r	16,964	*-2.4*
TRANSFORMATION	895r	965r	*+7.8*	322	268	194	205	228	270	236	203	255	*+11.8*
Electricity generation	832r	902r	*+8.4*	306	252	178	190	213	255	221	187	240	*+12.8*
Heat generation	63	63	*+0.0*	16	16	16	16	16	16	16	16	16	-
Blast furnaces	-	-		-	-	-	-	-	-	-	-	-	
Energy industry use	4,918	4,515	*-8.2*	1,316	1,203	1,293	1,258	1,164	1,268	1,216	1,129	902	*-22.5*
Petrolem Refineries	4,391	3,989	*-9.2*	1,193	1,072	1,162	1,127	1,030	1,137	1,085	998	769	*-25.4*
Blast Furnaces	-	-		-	-	-	-	-	-	-	-	-	
Others	527	527	*+0.0*	123	131	131	131	134	131	131	131	134	*-0.1*
FINAL CONSUMPTION	63,674r	61,835	*-2.9*	16,620	15,784	15,926	15,978	15,986	15,562r	15,101	15,366	15,806	*-1.1*
Iron & steel	4	4	*-4.0*	3	1	0	1	2	1	1	1	1	*(-)*
Other industries	4,076	4,124	*+1.2*	1,309	1,035	943	1,098	1,001	1,020	997	991r	1,115	*+11.4*
Transport	48,685	47,821	*-1.8*	12,158	11,706	12,304	12,413	12,262	11,792	11,534r	12,321r	12,174	*-0.7*
Domestic	2,401	2,417	*+0.7*	1,068	859	370	460	712	733	480	409	795	*+11.6*
Other final users	1,252	1,170	*-6.5*	322	284	316	299	352	276	281	299r	314	*-10.8*
Non energy use	7,255	6,298	*-13.2*	1,761	1,900	1,992	1,706	1,656	1,739r	1,808r	1,343	1,407	*-15.0*

1. Percentage change in the fourth quarter of 2012 compared with a year earlier.
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 3.3 Supply and use of petroleum products - annual data

Thousand tonnes

	2011									2012 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 [4]	76,637	19,856	16,801	8,683	6,411	7,907	7,253	2,377	7,348	70,305	17,472	15,795	8,941	5,775	7,197	6,519	2,268	6,339
Imports [5]	22,804	3,398	7,806	1,242	6,881	808	195	618	1,858	25,963	4,480	9,529	1,109	7,002	720	263	660	2,200
Exports [5]	27,800	9,363	3,127	4,667	1,210	5,140	820	173	3,299	27,083	8,561	3,377	4,270	1,320	5,300	1,147	112	2,996
Marine bunkers	2,296	-	-	753	-	1,543	-	-	-	2,001	-	-	868	-	1,133	-	-	-
Stock change [6]	+188	+39	+83	+43	-28	-15	-11	-2	80	+193	+26	-133	+7	+96	+155	+9	+40	-6
Transfers [7]	-155	-39	-510	+441	-518	49	+46	+455	-79	-91	-189	-285	+258	-478	132	+15	+445	10
Total supply	69,378	13,891	21,053	4,988	11,535	2,068	6,662	3,274	5,908	67,286	13,228	21,529	5,177	11,075	1,772	5,659	3,299	5,547
Statistical difference [8]	-109	-4	+62	-103	-39	-3	+8	-13	-15	-29	-4	-1	+9	-15	+24	-9	-3	-30
Total demand	69,487	13,895	20,991	5,091	11,574	2,071	6,654	3,288	5,923	67,315	13,232	21,530	5,168	11,090	1,748	5,668	3,302	5,577
TRANSFORMATION	895	-	-	63	-	426	358	-	48	965	-	-	62	-	435	358	-	111
Electricity generation	832	-	-	58	-	374	353	-	48	902	-	-	57	-	382	353	-	111
Heat generation	63	-	-	5	-	52	5	-	-	63	-	-	5	-	52	5	-	-
Petroleum refineries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coke manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patent fuel manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy industry use	4,918	-	-	527	-	660	2,308	-	1,423	4,515	-	-	526	-	520	2,025	-	1,443
FINAL CONSUMPTION	63,674	13,895	20,991	4,502	11,574	985	3,988	3,288	4,452	61,835	13,232	21,530	4,580	11,090	793	3,284	3,302	4,023
Iron & steel	4	-	-	-	-	4	-	-	-	4	-	-	-	-	4	-	-	-
Other industries	4,076	-	-	1,837	-	121	804	1,314	-	4,124	-	-	2,010	-	167	570	1,322	-
Transport	48,685	13,895	20,991	1,411	11,574	695	98	-	21	47,821	13,232	21,530	1,363	11,090	496	93	-	17
Domestic	2,401	-	-	142	-	-	286	1,973	-	2,417	-	-	139	-	-	297	1,981	-
Other final users	1,252	-	-	986	-	165	101	-	-	1,170	-	-	937	-	126	108	-	-
Non energy use	7,255	-	-	125	-	-	2,699	-	4,431	6,298	-	-	130	-	-	2,217	-	3,951

1. Includes: Middle distillate feedstock destined for use in the petrochemical industry and marine diesel oil
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 products.
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. See page 15 of the March 2011 edition of Energy Trends for a note concerning changes to this table.

3 OIL AND OIL PRODUCTS

Table 3.4 Supply and use of petroleum products - latest quarter

Thousand tonnes

	2011 4th quarter									2012 4th 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[4]	18,533	5,172	4,242	2,020	1,415	1,688	1,557	747	1,692	14,429	3,361	3,475	1,808	990	1,578	1,207	695	1,315
Imports[5]	6,440	932	2,148	345	2,094	191	23	192	514	8,281	1,311	3,109	272	2,390	285	66	278	569
Exports[5]	6,867	2,663	774	1,213	191	990	166	86	785	5,304	1,469	854	689	292	1,121	175	45	658
Marine bunkers	533	-	-	173	-	360	-	-	-	452	-	-	227	-	225	-	-	-
Stock change[6]	-199	+49	-10	+71	-252	+13	+43	-73	-39	-6	+92	-15	-22	-164	+40	+46	-27	+43
Transfers[7]	-74	-72	-106	+90	-190	+4	+15	+178	+6	-15	-10	-47	+46	-206	+4	+4	+199	-6
Total supply	17,300	3,419	5,500	1,140	2,876	547	1,472	959	1,388	16,933	3,286	5,668	1,189	2,718	562	1,147	1,100	1,264
Statistical difference[8]	-78	-39	+69	-44	-26	-7	+9	-29	-11	-31	-2	-10	+6	+3	+3	+1	-11	-21
Total demand	17,378	3,458	5,431	1,184	2,902	554	1,462	988	1,399	16,964	3,288	5,678	1,183	2,715	559	1,146	1,111	1,285
TRANSFORMATION	228	-	-	18	-	116	89	-	-	255	-	-	17	-	131	89	-	17
Electricity generation	213	-	-	17	-	103	88	-	-	240	-	-	16	-	118	88	-	17
Heat generation	16	-	-	1	-	13	1	-	-	16	-	-	1	-	13	1	-	-
Petroleum refineries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coke manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patent fuel manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy industry use	1,164	-	-	134	-	167	523	-	340	902	-	-	134	-	136	353	-	279
FINAL CONSUMPTION	15,986	3,458	5,431	1,032	2,902	271	850	988	1,054	15,806	3,288	5,678	1,031	2,715	292	704	1,111	988
Iron & steel	2	-	-	-	-	2	-	-	-	1	-	-	-	-	1	-	-	-
Other industries	1,001	-	-	426	-	34	146	395	-	1,115	-	-	448	-	62	133	444	-
Transport	12,262	3,458	5,431	217	2,902	224	25	-	4	12,174	3,288	5,678	272	2,715	193	24	-	4
Domestic	712	-	-	42	-	-	77	593	-	795	-	-	33	-	-	95	667	-
Other final users	352	-	-	317	-	11	25	-	-	314	-	-	248	-	36	31	-	-
Non energy use	1,656	-	-	30	-	-	577	-	1,049	1,407	-	-	30	-	-	421	-	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 products.
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. See page 15 of the March 2011 edition of Energy Trends for a note concerning changes to this table.

3 OIL AND OIL PRODUCTS

Table 3.5 Demand for key petroleum products[1]

Thousand tonnes

	2011	2012 p	*per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*per cent change* [2]
MOTOR SPIRIT													
Total sales	13,895	13,232	*-4.8*	3,646	3,363	3,571	3,502	3,458	3,447	3,193	3,305	3,288	*-4.9*
By seller:													
Retail sales: [3]	13,430	12,804	*-4.7*	3,518	3,269	3,443	3,379	3,340	3,360	3,079	3,190	3,175	*-4.9*
hypermarkets [4]	5,749	5,714	*-0.6*	1,410	1,386	1,472	1,479	1,412	1,397r	1,414r	1,483r	1,421	*+0.6*
refiners/other traders	7,681	7,088	*-7.7*	2,108	1,883	1,971	1,900	1,928	1,963r	1,665r	1,706r	1,754	*-9.0*
Commercial sales [5]	465	428	*-8.0*	128	95	129	123	119	86	114	115	112	*-5.4*
By grade:													
4-Star/Leaded/LRP [6]	12	10	*-13.4*	3	2	3	3	3	2	3	2	3	*-13.3*
Super Premium Unleaded	560	438	*-21.8*	209	114	122	128	196	107	106	117	108	*-44.7*
Premium Unleaded/ULSP [7]	13,324	12,784	*-4.0*	3,435	3,247	3,446	3,371	3,260	3,337	3,085	3,186	3,177	*-2.5*
GAS DIESEL OIL													
Total sales	26,082	26,698	*+2.4*	6,624	6,311	6,477	6,680	6,615	6,562	6,478	6,799r	6,860	*+3.7*
DERV fuel	20,991	21,530	*+2.6*	5,378	4,999	5,282	5,280	5,431	5,209	5,196	5,447r	5,678	*+4.5*
Retail sales: [3]	13,549	13,957	*+3.0*	3,442	2,998	3,459	3,522	3,570	3,225	3,410	3,541r	3,782	*+5.9*
hypermarkets [4]	5,300	5,344	*+0.8*	1,233	1,243	1,331	1,383	1,343	1,303r	1,295	1,388	1,358	*+1.1*
refiners/other traders	8,248	8,613	*+4.4*	2,209	1,755	2,128	2,138	2,226	1,922r	2,116	2,152	2,423	*+8.9*
Commercial sales [5]	7,442	7,573	*+1.8*	1,936	2,001	1,822	1,758	1,861	1,984	1,786	1,907	1,896	*+1.9*
Other gas diesel oil [8]	5,091	5,168	*+1.5*	1,246	1,312	1,195	1,400	1,184	1,353	1,281	1,351	1,183	*-0.1*
AVIATION FUELS													
Total sales	11,594	11,107	*-4.2*	2,604	2,722	2,960	3,005	2,907	2,564	2,761r	3,064	2,719	*-6.5*
Aviation spirit	21	17	*-16.8*	4	4	6	6	4	3	5r	5	4	*-11.6*
Aviation turbine fuel	11,574	11,090	*-4.2*	2,600	2,718	2,954	2,999	2,902	2,560	2,756r	3,059	2,715	*-6.5*
FUEL OIL													
Total Sales	1,411	1,228	*-13.0*	572	332	340	354	387	328r	193	284r	423	*+9.4*
Light	713	624	*-12.5*	335	132	183	176	221	116r	112r	171r	226	*+2.0*
Medium	124	121	*-2.6*	23	35	28	35	25	35	21	30	35	*+39.3*
Heavy	575	483	*-15.9*	214	165	128	142	140	177r	61r	83r	162	*+15.7*

1. Monthly data for inland deliveries of oil products are available - See DECC website: www.gov.uk/government/organisations/department-of-energy-climate-change/series/oil-statistics
2. Percentage change in the fourth quarter of 2012 compared with a year earlier.
3. Retail sales are those deliveries made to garages etc. mainly for resale to final consumers.
4. Data for sales by hypermarket companies are collected by a separate reporting system, but are consistent with the main data collected from companies.
5. Commercial sales are those deliveries made direct to a consumer for use in their own business, e.g. to bus and coach depots.
6. Sales of leaded petrol ceased from 31st December 1999, with Lead Replacement Petrol being introduced as a replacement fuel.
7. ULSP is Ultra Low Sulphur Petrol introduced during the second half of 2000 and first half of 2001 as a replacement for ordinary Premium grade unleaded petrol.
8. This includes gas diesel oil used for other purposes such as heating and middle distillate feedstock destined for use in the petrochemical industry.

3 OIL AND OIL PRODUCTS

Table 3.6 Stocks of petroleum[1] at end of period

Thousand tonnes

		Crude oil and refinery process oil				Petroleum products					Total stocks		
		Refineries[2]	Terminals[3]	Offshore[4]	Total[5]	Light distillates[6]	Kerosene & gas/diesel[7]	Fuel oils	Other products[8]	Total products	Net bilaterals[9]	Stocks in UK[10]	Total stocks
2010		4,110	1,049	520	5,889	1,144	5,415	687	917	8,164	2,563	11,490	14,053
2011		3,889	694	540	5,274	849	5,230	645	845	7,569	2,100	10,743	12,843
2012 p		3,829	1,165	563	5,752	732	5,657	449	841	7,678	2,441	10,990	13,431
Per cent change		*-1.6*	*+67.9*	*+4.3*	*+9.1*	*-13.9*	*+8.2*	*-30.4*	*-0.5*	*+1.4*	*+16.2*	*+2.3*	*+4.6*
2010	4th quarter	4,110	1,049	520	5,889	1,144	5,415	687	917	8,164	2,563	11,490	14,053
2011	1st quarter	4,402	1,509	553	6,580	1,102	5,231	658	815	7,806	2,516	11,869	14,386
	2nd quarter	3,959	1,093	505	5,707	1,068	5,356	659	806	7,888	2,834	10,761	13,596
	3rd quarter	3,917	818	627	5,574	1,045	5,263	633	848	7,789	2,647	10,715	13,362
	4th quarter	3,889	694	540	5,274	849	5,230	645	845	7,569	2,100	10,743	12,843
2012	1st quarter	4,006	861	488	5,445r	884	5,291	756r	853	7,784r	2,277	10,953r	13,230r
	2nd quarter	3,825r	1,248r	522	5,843r	878	5,288	671r	843	7,680r	2,431	11,092r	13,523r
	3rd quarter	3,344r	988r	456r	5,033	855	5,342r	562r	929	7,689r	2,448	10,274r	12,721r
	4th quarter p	3,829	1,165	563	5,752	732	5,657	449	841	7,678	2,441	10,990	13,431
Per cent change[11]		*-1.6*	*+67.9*	*+4.3*	*+9.1*	*-13.9*	*+8.2*	*-30.4*	*-0.5*	*+1.4*	*+16.2*	*+2.3*	*+4.6*

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 are 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 field (UKCS).
5. Includes process oils held under approved bilateral agreements.
6. Motor spirit and aviation spirit.
7. Aviation turbine fuel, burning oil, gas oil, DERV fuel, middle distillate feedstock (mdf) and marine diesel oil.
8. Ethane, propane, butane, other petroleum gases, naphtha (ldf), industrial white spirit, bitumen, petroleum wax, lubricating oil, petroleum coke and miscellaneous products.
9. The difference between the stocks held abroad for UK use under approved bilateral agreements and the equivalent stocks held in the UK for foreign use.
10. Stocks held in the national territory or elsewhere on the UKCS.
11. Percentage change in the fourth quarter of 2012 compared with a year earlier.

3 OIL AND OIL PRODUCTS

Table 3.7 Drilling activity[1] on the UKCS

Number of wells started

		Offshore				Onshore	
				Exploration &		Exploration &	
		Exploration	Appraisal	Appraisal	Development[2]	Appraisal	Development[2]
2010		28	34	62	130	9	12
2011		14	28	42	123r	14	11
2012 p		22	31	53	122	4	13
Per cent change		*+57.1*	*+10.7*	*+26.2*	*-0.8*	*-71.4*	*+18.2*
2010	4th quarter	4	5	9	32	1	3
2011	1st quarter	3	5	8	34	1	3
	2nd quarter	2	8	10	43	2	1
	3rd quarter	5	7	12	22	7	5
	4th quarter	4	8	12	24r	4	2
2012	1st quarter	5	6	11	27r	-	7
	2nd quarter	5	6	11	29	2	3
	3rd quarter	4	9r	13r	37r	1	1
	4th quarter p	8	10	18	29	1	2
Per cent change[3]		*+100.0*	*+25.0*	*+50.0*	*+20.8*	*-75.0*	-

1. Including sidetracked wells

2. Development wells are production or injection wells drilled after development approval has been granted.

3. Percentage change in the fourth quarter of 2012 compared with a year earlier

Section 4 - Gas

Key results show:

Provisional 2012

In 2012 gross production of natural gas was 14.1 per cent lower than in 2011, and, at around 452 TWh, was the lowest production since 1985.

Gas exports and imports were, respectively, 21.6 per cent and 6.3 per cent lower than in 2011. The trade position for 2012 shows net imports (difference between imports and exports) virtually unchanged.

In 2012, gas demand fell by 5.6 per cent - this was largely driven by the fall in gas demand for electricity generation. Gas used for electricity generation was lower by just under a third in 2012 compared with 2011.

Quarter 4 2012

In the fourth quarter of 2012, gross production of natural gas was 20.8 per cent lower than in the same period a year ago. (**Chart 4.1**)

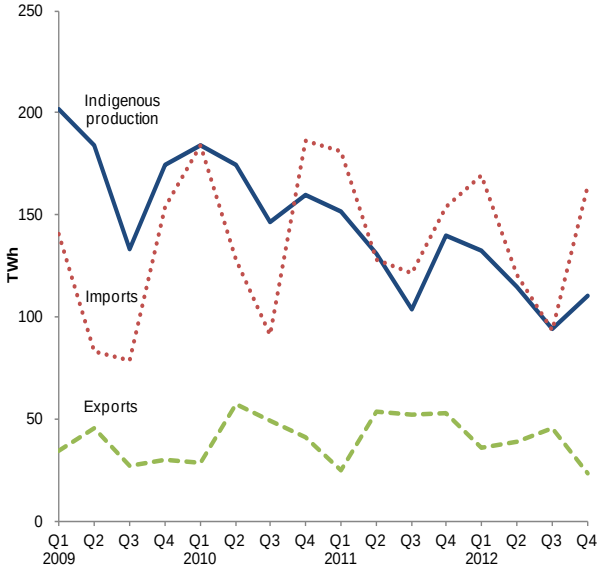
Imports increased by 6.6 per cent in the fourth quarter of 2012. Exports were under half the quarter 4 2011 level and were at their lowest since the first quarter of 2008. (**Chart 4.4**)

The trade position for quarter 4 2012 shows net imports (difference between imports and exports) 39.8 per cent higher than in the same quarter in 2011. (**Chart 4.4**)

In the fourth quarter of 2012, gas demand rose by 4.5 per cent - this was largely driven by an increase in domestic use, up 25.2 per cent in the fourth quarter of 2012 reflecting lower temperatures. (**Chart 4.6**)

The large increase in domestic demand was somewhat offset by a decrease in gas used for electricity generation, down 23.7 per cent on the quarter. (**Chart 4.6**)

Chart 4.1 Production and imports and exports of natural gas



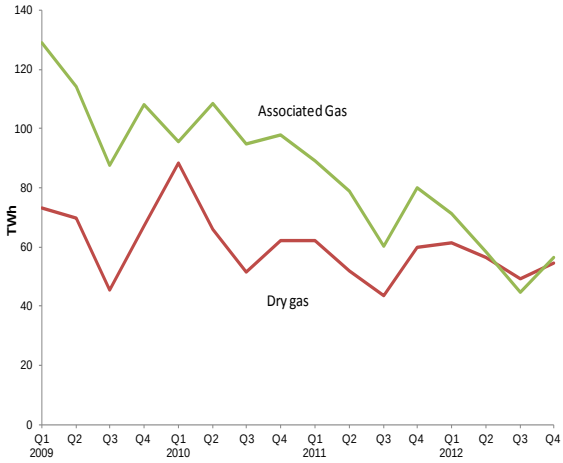
Provisional figures for 2012 show production of natural gas was 14.1 per cent lower than in 2011. A key driver of this fall in production was the Elgin gas leak that occurred in March 2012 and which has constrained production since.

Gas exports and imports were, respectively, 21.6 per cent and 6.3 per cent lower than in 2011. The trade position for 2012 shows net imports (difference between imports and exports) virtually unchanged.

In the fourth quarter of 2012, gross production of natural gas was 20.8 per cent lower than in the same period a year ago. Again a key driver of this fall in production was the Elgin gas leak.

As a result of much lower production, imports increased by 6.6 per cent in the fourth quarter of 2012. Exports were around half the level compared with quarter 4 2011 and were at their lowest since the first quarter of 2008. The trade position for quarter 4 2012 shows net imports (difference between imports and exports) 39.8 per cent higher than in the same quarter in 2011.

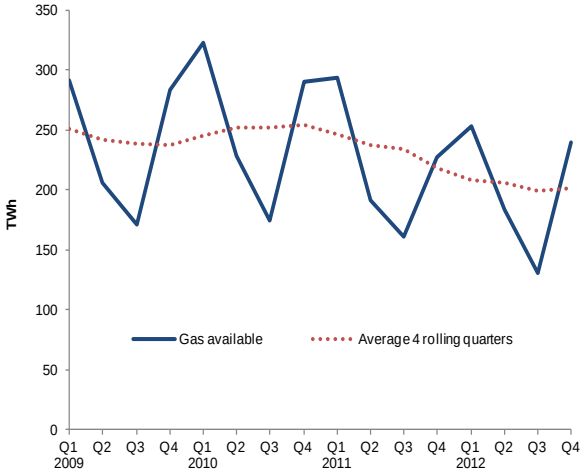
Chart 4.2 Production of dry gas and associated gas.



Associated gas production in 2012 was lower by 25.3 per cent compared with 2011. The main driver behind this was the gas leak at the Elgin platform in March 2012. This continued to affect production in the last three quarters of 2012.

Similarly in Q4 2012, associated gas production decreased by 29.7 per cent compared with the same quarter a year earlier.

Chart 4.3 Gas availability

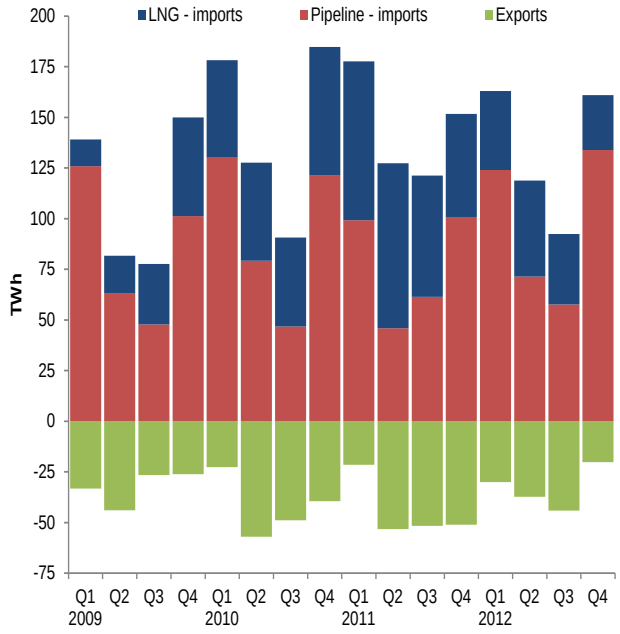


Gas available at terminals is equal to the gross gas production, minus producers own use, plus net imports.

Gas availability is seasonal, mirroring gas demand, and peaks during Q4 and Q1 each year. Gas available in Q4 2012 increased by 5.5 per cent compared to Q4 2011 to 240TWh. This was largely driven by an increase in domestic use, with average temperatures in the fourth quarter being 2.3 degrees colder than in the same quarter in 2011.

The long term picture shows that the average availability over 4 rolling quarters had remained fairly constant, before there was decline through 2011 and 2012. In 2012 this was caused by a reduction in gas used for electricity generation.

Chart 4.4 Imports and exports



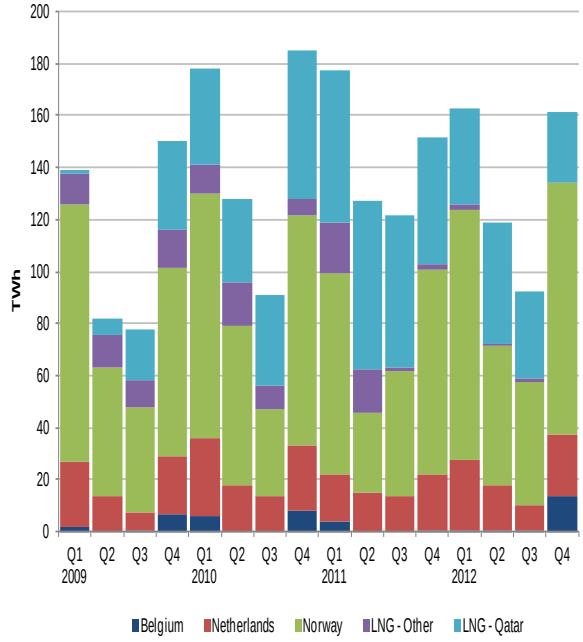
In 2012, exports of natural gas were around a fifth lower compared with 2011 reflecting much lower UK production and imports of gas in 2012. Gas imports were lower by 6.3 per cent in 2012, whilst the trade position was virtually unchanged on 2011.

Pipeline imports in 2012 were higher by a just over a quarter compared with 2011. Liquefied Natural Gas (LNG) imports in 2012 were just over half the level of 2011. LNG imports accounted for 27.7 per cent of total imports in 2012 compared with 46.8 per cent in 2011.

Total imports in Q4 2012 increased by 6.6 per cent compared with Q4 2011. Exports were under half the level, and were at their lowest level since the first quarter of 2008. The trade position for quarter 4 2012 widened and shows net imports (difference between imports and exports) 39.8 per cent higher than in the same quarter in 2011.

Pipeline imports in Q4 2012 were a third higher compared with the same quarter a year earlier. Liquefied Natural Gas (LNG) imports in Q4 2012 were much lower, and were just over half the level of Q4 2011. The fall in LNG imports is likely to be due to a combination of factors, such as the decline in UK gas demand and the strong competition for LNG in the global market, especially Japan following the closure of their nuclear facilities in 2011.

Chart 4.5 Imports by origin

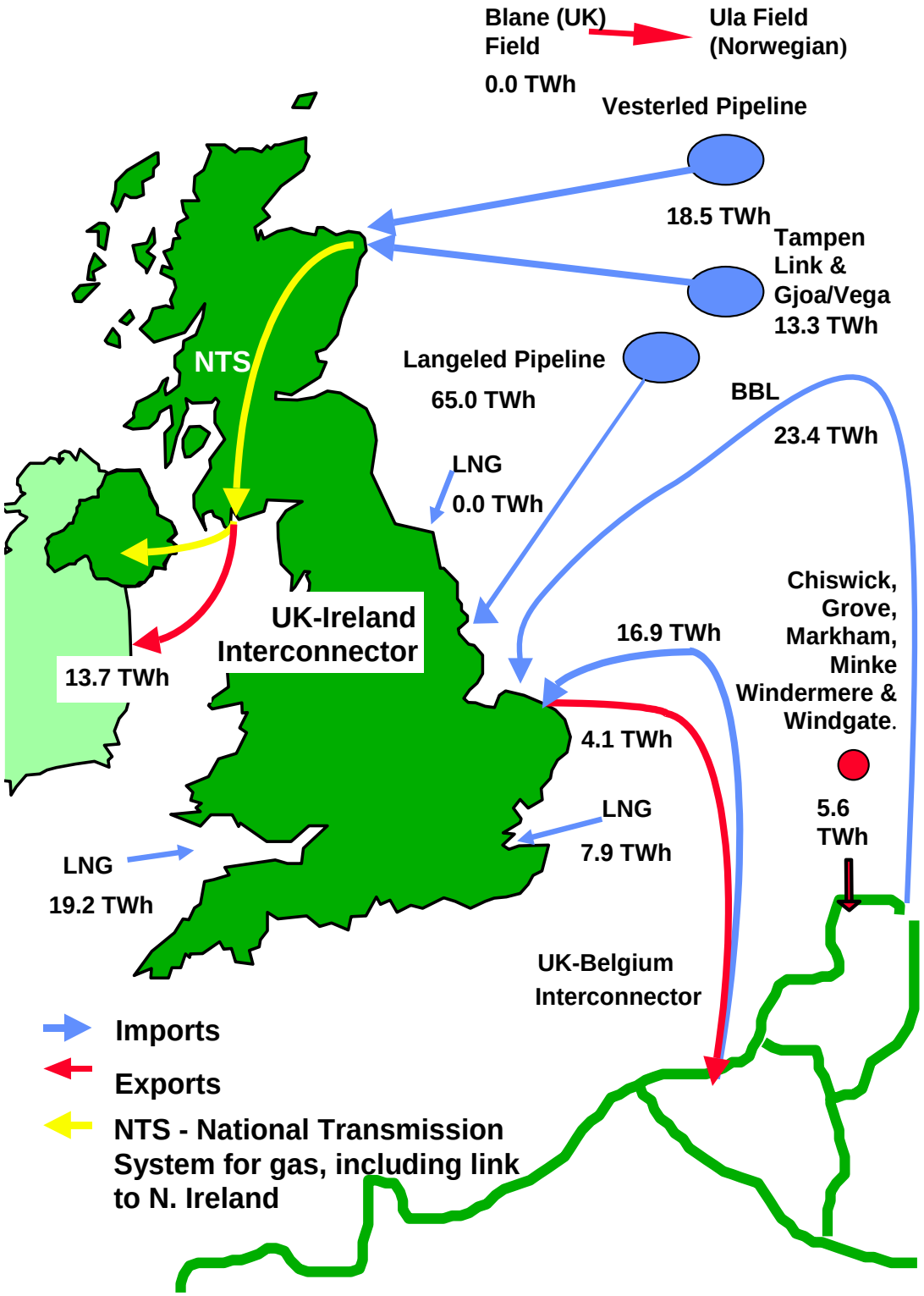


In 2012, the increase in imports was mainly driven by an increase in Norwegian imports, up 25.8 per cent compared with 2011. Imports from the Netherlands were also higher by 13.4 per cent. Imports from Belgium also increased and were over three times higher in 2012 compared with 2011 - the Bacton to Zeebrugge interconnector switched to import mode in 2012, particularly in Q4 2012. In 2011, the interconnector was mainly in export mode.

The fall in LNG imports in 2012 were mainly driven by a sharp fall in imports from Qatar, which were lower by 37.4 per cent.

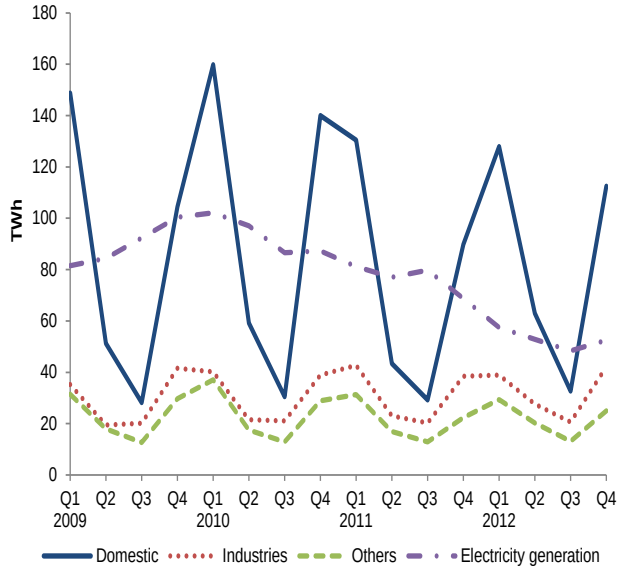
In Q4 2012, imports from Norway increased substantially, and were just under a quarter higher compared with the same quarter in 2011. Imports from Netherlands were 6.6 per cent higher and Belgium imports also increased. LNG imports from Qatar were 44.2 per cent lower.

Map: UK imports and exports of gas Q4 2012 [1]



1. Please note that imports and exports in this map uses nominated flows through the UK-Belgium Interconnector as in table 4.1. The figures here will differ from those in ET Table 4.3 which uses actual physical flows through the Interconnector.

Chart 4.6 UK demand for natural gas



In 2012, gas demand fell by 5.6 per cent - this was largely driven by the fall in gas demand for electricity generation, down by just under a third in 2012 compared with 2011, reflecting the greater use of coal for electricity generation at the expense of higher priced gas.

The decline in gas used for electricity generation was somewhat offset by an increase in domestic use of gas, up 14.8 per cent in 2012. The average temperature in 2012 was around 1.0 degree cooler compared with 2011. Industry use of gas increased by 4.3 per cent with a similar increase with other final users, up by 5.5 per cent compared with 2011.

In Q4 2012, gas demand rose by 4.5 per cent - this was largely driven by an increase in domestic use, up 25.2 per cent. The average temperature in the fourth quarter of 2012 was 2.3 degrees colder than in the same quarter of 2011.

The large increase in domestic demand was somewhat offset by a decrease in gas used for electricity generation, down 23.7 per cent on the quarter. Again, this reflects the greater use of coal for electricity generation at the expense of gas.

Relevant table

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4 GAS

Table 4.1. Natural gas supply and consumption

GWh

	2011	2012 p	*per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*per cent change1*
SUPPLY													
Indigenous production	526,030	451,977	*-14.1*	159,681	151,607	131,034	103,515	139,874	132,548r	114,711r	93,987r	110,732	*-20.8*
Imports	584,414	547,645	*-6.3*	186,370	181,011	127,837	121,583	153,983	169,218	120,478r	93,784	164,165	*+6.6*
of which LNG	*270,733*	*148,224*	*-45.3*	*63,439*	*78,370*	*81,514*	*59,915*	*50,935*	*38,990*	*47,366*	*34,703*	*27,166*	*-46.7*
Exports	183,689	144,023	*-21.6*	41,115	24,866	53,666	51,883	53,275	36,215r	38,953r	45,507r	23,348	*(-)*
Stock change[2]	-22,623	-269		+18,491	+6,805	-21,374	-11,109	+3,055	+13,504	-9,544	-8,427	+4,198	
Transfers	-60	-55		-58	-32	-10	-11	-7	-11	-4	-14	-26	
Total supply	904,072	855,276	*-5.4*	323,368	314,526	183,822	162,095	243,629	279,043r	186,688r	133,824r	255,721	*+5.0*
Statistical difference	-1,687	484		94	411	-614	-801	-684	-507r	1,056r	-486r	422	
Total demand	905,759	854,791	*-5.6*	323,274	314,115	184,436	162,896	244,313	279,550r	185,633r	134,310r	255,300	*+4.5*
TRANSFORMATION	330,377	234,741	*-28.9*	94,080	88,666	82,109	84,440	75,163	65,012	57,874	52,976	58,879	*-21.7*
Electricity generation	306,705	211,069	*-31.2*	87,225	81,121	77,032	79,774	68,778	57,466	52,798	48,311	52,494	*-23.7*
Heat generation[3]	23,672	23,672	-	6,855	7,545	5,077	4,666	6,385	7,545	5,077	4,666	6,385	-
Energy industry use	59,940	54,798	*-8.6*	17,061	16,545	15,264	13,178	14,953	14,698r	14,144r	12,387r	13,570	*-9.2*
Losses	14,554	12,279	*-15.6*	4,310	4,392	3,636	2,856	3,669	3,723	2,763r	2,504r	3,288	*-10.4*
FINAL CONSUMPTION	500,888	552,973	*+10.4*	207,824	204,511	83,426	62,423	150,528	196,117r	110,852r	66,442r	179,562	*+19.3*
Iron & steel	5,758	5,319	*-7.6*	1,505	1,374	1,398	1,476	1,510	1,358	1,282	1,124r	1,555	*+2.9*
Other industries	118,672	123,824	*+4.3*	37,354	41,288	21,667	18,813	36,903	37,509r	26,341r	19,447r	40,527	*+9.8*
Domestic	292,971	336,211	*+14.8*	140,043	130,486	43,430	29,219	89,837	127,944r	63,020r	32,738r	112,508	*+25.2*
Other final users	75,432	79,566	*+5.5*	26,886	29,349	14,918	10,901	20,264	27,292r	18,195r	11,120r	22,959	*+13.3*
Non energy use[3]	8,054	8,054	-	2,037	2,014	2,014	2,014	2,014	2,014	2,014	2,014	2,014	-

1. Percentage change in the fourth quarter of 2012 compared with a year earlier.

2. Stock fall (+), stock rise (-).

3. For Heat generation and non energy use, the 2012 figures currently shown are the 2011 figures carried forward - these will be updated in July 2013.

Section 5 – Electricity

Key results show:

Provisional 2012
Electricity generated in 2012 fell by 1.3 per cent from 367.8 TWh in 2011 to 363.2 TWh.

Low carbon electricity's share of generation increased from 28.1 per cent in 2011 to 30.7 per cent in 2012, due to higher renewables and nuclear generation.

Renewables' share of electricity generation increased from 9.4 per cent in 2011 to a record 11.3 per cent in 2012, reflecting a near 20 per cent growth in renewable generation.

Gas's share of generation fell from 39.9 per cent to 27.5 per cent, due to high gas prices. It was gas's lowest share since 1996. Coal's share of generation increased from 29.5 per cent to 39.3 per cent, its highest share since 1996.

Final consumption of electricity in 2012 was 0.2 per cent lower than in 2011, the lowest level since 1998. Domestic sales rose by 1.4 per cent.

Net imports of electricity at 12.0 TWh, were nearly double the 2011 value of 6.2 TWh, due mainly to increased imports from the Netherlands, and at the highest level for 12 years.

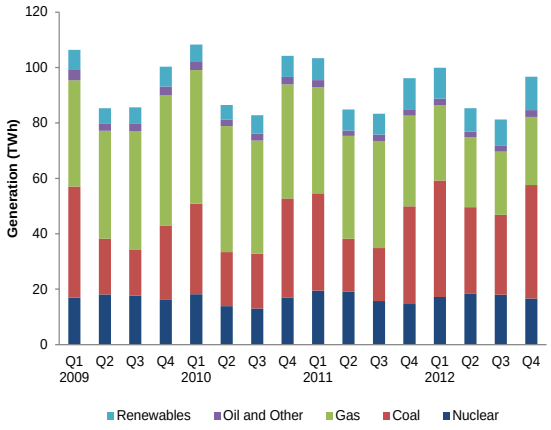
Quarter 4 2012
Electricity generated in the fourth quarter of 2012 rose by 0.5 per cent from 96.2 TWh a year earlier to 96.7 TWh (**Chart 5.1**).

Renewables' share of electricity generation increased from 11.7 per cent in the fourth quarter of 2011 to a record 12.5 per cent in the fourth quarter of 2012. (**Chart 5.2**)

Gas's quarterly share of generation fell from 34.1 per cent to 25.5 per cent, while coal's quarterly share rose from 36.7 per cent to 42.3 per cent, their lowest and highest shares respectively for at least 14 years, due to high gas prices. Nuclear's share increased from 15.2 per to 17.2 per cent, due to increased availability after outages a year ago. (**Chart 5.2**)

Final consumption in the fourth quarter of 2012 rose by 2.7 per cent on a year earlier, and domestic sales rose by 4.9 per cent, reflecting cooler weather in 2012. **(Chart 5.6)**

Chart 5.1 Electricity generated by fuel type



In 2012, total electricity generated fell 1.3 per cent from 367.8 TWh in 2011 to 363.2 TWh.

In 2012, coal fired generation rose by 31.5 per cent from 108.6 TWh in 2011 to 142.8 TWh, its highest level for six years. Gas fired generation fell 32.1 per cent from 146.8 TWh to 99.7 TWh, its lowest level since 1996. This was due to high gas prices, with several gas stations being run at minimal or zero levels as a result.

Nuclear generation rose 2.1 per cent from 69.0 TWh to 70.4 TWh, the highest level for six years.

In 2012, wind and solar PV generation rose 31.5 per cent from 15.7 TWh to 20.7 TWh, with much increased capacity compared to 2011. Hydro generation fell 8.1 per cent from 5.7 TWh to 5.2 TWh, with average rainfall in the main hydro areas 24 per cent lower in 2012 than a year earlier.

Chart 5.2 Shares of electricity generation

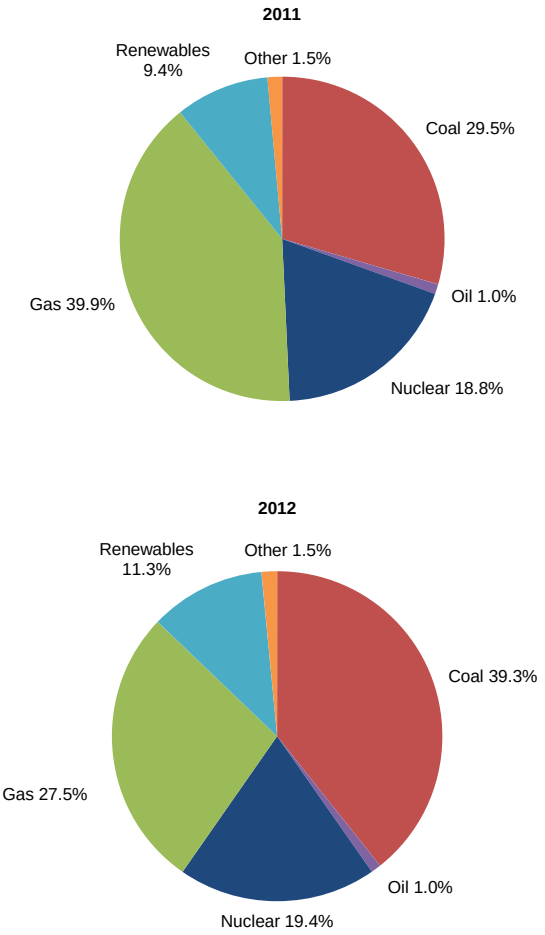
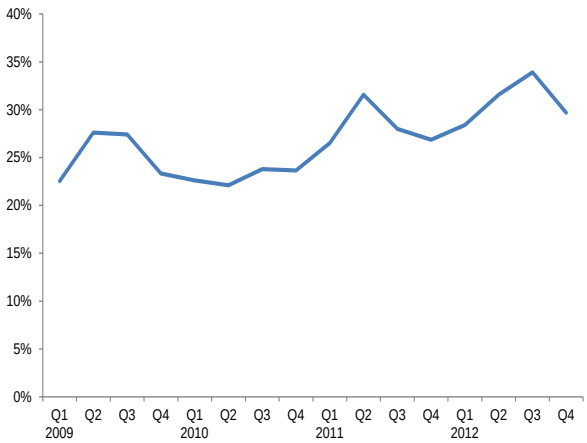


Chart 5.3 Low carbon electricity's share of generation



The share of generation from coal increased from 29.5 per cent in 2011 to 39.3 per cent in 2012, its highest share since 1996. Gas's share of generation decreased from 39.9 per cent in 2011 to 27.5 per cent in 2012, its lowest share since 1996. Nuclear's share of generation increased from 18.8 per cent in 2011 to 19.4 per cent in 2012.

The share of renewables (hydro, wind and bioenergy) increased from 9.4 per cent in 2011 to 11.3 per cent in 2012. This was due to increased wind and bioenergy generation capacity.

Low carbon electricity's share of generation increased from 28.1 per cent in 2011 to 30.7 per cent in 2012, the highest share in the last sixteen years, due to higher renewables and nuclear generation.

In 2012 Q4, total electricity generated rose 0.5 per cent from 96.2 TWh in 2011 Q4 to 96.7 TWh.

In 2012 Q4, coal fired generation rose by 16.1 per cent from 35.3 TWh in 2011 Q4 to 40.9 TWh, its highest fourth quarter level for five years. Gas fired generation fell 24.9 per cent from 32.8 TWh to 24.6 TWh, its lowest fourth quarter level for at least 14 years. Nuclear generation rose 13.9 per cent from 14.6 TWh to 16.6 TWh, due to increased availability after outages a year earlier.

In 2012 Q4, wind and solar PV generation rose 10.4 per cent from 5.8 TWh to 6.4 TWh, due to increased capacity. Hydro generation fell 20.9 per cent from 2.0 TWh to 1.6 TWh. Rainfall in the main hydro areas for the quarter was 33 per cent lower in the fourth quarter of 2012 compared to the same quarter a year ago.

The share of generation from coal increased from 36.7 per cent in 2011 Q4 to 42.3 per cent in 2012 Q4, its highest fourth quarter share for at least 14 years. Gas's share of generation decreased from 34.1 per cent in 2011 Q4 to 25.5 per cent in 2012 Q4, its lowest quarterly share for at least 14 years. Nuclear's share of generation increased from 15.2 per cent in 2011 Q4 to 17.2 per cent in 2012 Q4.

The share of renewables (hydro, wind and bioenergy) increased from 11.7 per cent in 2011 Q4 to 12.5 per cent in 2012 Q4. This was due to increased capacity for wind and bioenergy generation.

Low carbon electricity's share of generation increased from 26.9 per cent in 2011 Q4 to 29.7 per cent in 2012 Q4, due to higher renewables and nuclear generation.

Chart 5.4 UK trade in electricity

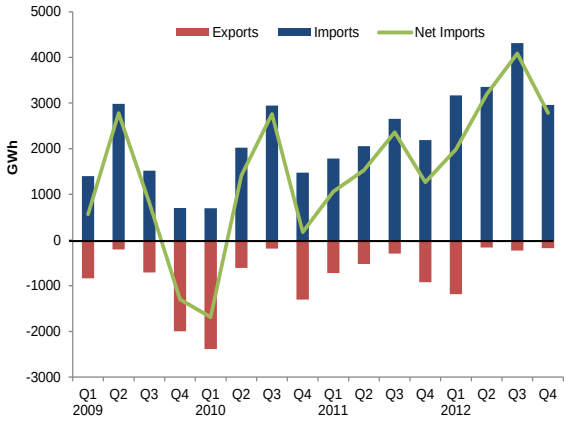


Chart 5.5 Electricity final consumption (annual)

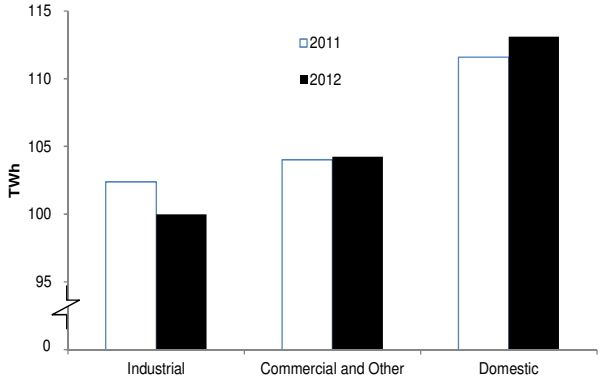
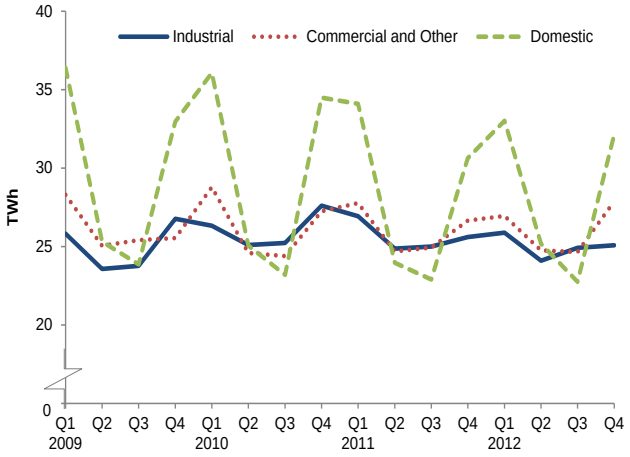


Chart 5.6 Electricity final consumption (quarterly)



In 2012, imports of electricity rose by 58.7 per cent, whilst exports fell by 29.2 per cent. Net imports of electricity, at 12,044 GWh, were nearly double the 2011 value of 6,222 GWh, due mainly to increased imports from the Netherlands via the interconnector which came into full operation in April 2011. This was the highest level for net imports for 12 years and represented 3.4 per cent of electricity supplied in 2012.

In 2012, the UK was a net importer from France and the Netherlands with net imports of 6,405 GWh and 5,792 GWh respectively. The UK was a net exporter to Ireland, with net exports of 153 GWh.

In 2012 Q4, compared with the same period in 2011, imports of electricity rose by 35.0 per cent, whilst exports fell by 81.0 per cent. For every quarter from 2010 Q2, the UK has been a net importer after two quarters of being a net exporter (2009 Q4 and 2010 Q1).

Net imports of electricity, at 2,782 GWh, were more than double the level of 1,269 GWh in 2011 Q4. This represented 3.0 per cent of electricity supplied in 2012 Q4. In 2012 Q4, the UK was a net importer from France and Netherlands with net imports of 1,291 GWh and 1,494 GWh respectively and a net exporter to Ireland with exports of 3 GWh.

Final consumption of electricity fell by 0.2 per cent in 2012, from 318.0 TWh in 2011, to 317.3 TWh, its lowest level since 1998.

Domestic use rose by 1.4 per cent, from 111.6 TWh to 113.1 TWh. Industrial use of electricity fell 2.4 per cent, from 102.4 TWh to 100.0 TWh, while consumption by commercial and other users [1] rose by 0.2 per cent, from 104.0 TWh to 104.2 TWh.

In 2012, temperatures were on average 1.0 degrees cooler than in 2011.[2]

Final consumption of electricity rose by 2.7 per cent in 2012 Q4, from 82.9 TWh in 2011 Q4, to 85.1 TWh.

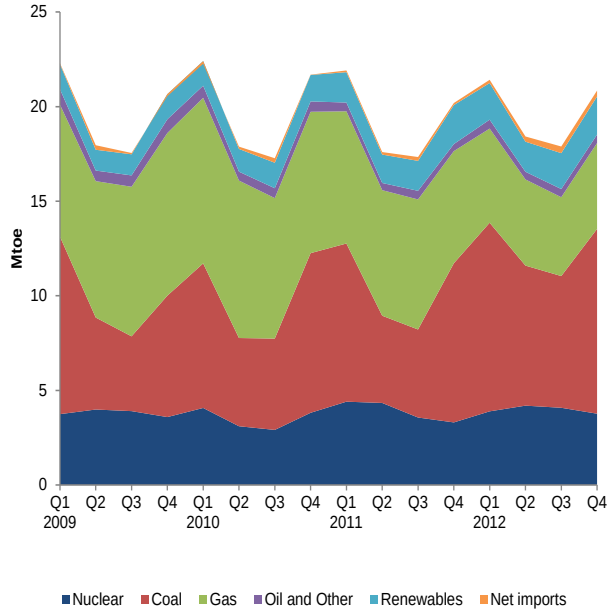
Domestic use rose by 4.9 per cent, from 30.6 TWh to 32.1 TWh. Industrial use of electricity fell 2.0 per cent, from 25.6 TWh to 25.1 TWh, while consumption by commercial and other users rose by 4.7 per cent, from 26.7 TWh to 27.9 TWh.

In 2012 Q4, temperatures were on average 2.3 degrees cooler than a year earlier. It was the coldest October since 2003.

[1] Includes commercial, transport and other final users.

[2] Temperature data comes from table ET 7.1, at: www.gov.uk/government/organisations/department-of-energy-climate-change/series/weather-statistics

Chart 5.7 Fuel used for electricity generation



Fuel used by generators in 2012 rose 2.0 per cent, from 77.0 mtoe in 2011 to 78.6 mtoe.[3]

Despite this increase in fuel use, generation fell by 1.3 per cent. This was due to the large increase in the use of coal to generate electricity, at the expense of gas. Coal stations have a lower thermal efficiency compared with gas, with more fuel required to generate each unit

Fuel used by generators in 2012 Q4 rose 3.3 per cent, from 20.2 mtoe in 2011 Q4 to 20.8 mtoe.

In 2012 Q4, gas use was 23.4 per cent lower than in 2011 Q4, due to higher gas prices. Coal use during the year was 16.1 per cent higher than a year earlier, while nuclear sources were 13.9 per cent higher.

In 2012, gas use was 31.0 per cent lower than in 2011. Coal use during 2012 was 31.0 per cent higher than a year earlier, while nuclear sources were 2.1 per cent higher.

[3] For wind (and other primary renewable sources), the fuel used is assumed the same as the electricity generated, unlike thermal generation where conversion losses are incurred.

Relevant tables

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5 ELECTRICITY

Table 5.1. Fuel used in electricity generation and electricity supplied

	2011	2012 p	*per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*per cent change*[1]
FUEL USED IN GENERATION													
All generating companies										**Million tonnes of oil equivalent**			
Coal	26.03	34.09	*+31.0*	8.44	8.36	4.61	4.65	8.41	9.97	7.40	6.96	9.76	*+16.1*
Oil	0.90	0.85	*-6.4*	0.33	0.26	0.19	0.25	0.20	0.26	0.19	0.18	0.21	*+1.4*
Gas	26.42	18.23	*-31.0*	7.51	6.99	6.64	6.87	5.93	4.98	4.55	4.17	4.54	*-23.4*
Nuclear	15.63	15.95	*+2.1*	3.82	4.41	4.34	3.57	3.31	3.90	4.20	4.08	3.77	*+13.9*
Hydro	0.49	0.45	*-8.1*	0.11	0.11	0.10	0.11	0.17	0.16	0.07	0.09	0.14	*-20.9*
Wind [2]	1.35	1.78	*+31.5*	0.29	0.29	0.31	0.26	0.49	0.45	0.37r	0.41	0.55	*+10.4*
Bioenergy [3]	4.91	5.20	*+6.1*	1.08	1.20	1.10	1.21	1.39	1.33	1.15r	1.39r	1.33	*-4.4*
Other fuels	0.77	0.91	*+18.9*	0.18	0.20	0.19	0.21	0.17	0.21	0.21r	0.25r	0.24	*+41.9*
Net imports	0.53	1.11	*(+)*	0.02	0.09	0.13	0.20	0.11	0.17	0.27	0.35	0.31	*(+)*
Total all generating companies	77.03	78.57	*+2.0*	21.76	21.91	17.60	17.33	20.19	21.42	18.42r	17.89r	20.85	*+3.3*
ELECTRICITY GENERATED													
All generating companies												**TWh**	
Coal	108.58	142.83	*+31.5*	35.71	35.14	19.06	19.12	35.26	42.01	31.11r	28.79r	40.93	*+16.1*
Oil	3.66	3.55	*-3.1*	1.31	1.15	0.69	0.96	0.87	1.04	0.79	0.74	0.98	*+12.9*
Gas	146.81	99.75	*-32.1*	41.15	38.33	37.09	38.60	32.79	27.14	25.17r	22.82	24.62	*-24.9*
Nuclear	68.98	70.41	*+2.1*	17.05	19.45	19.15	15.76	14.62	17.20	18.53	18.03	16.65	*+13.9*
Hydro (natural flow)	5.69	5.23	*-8.1*	1.23	1.30	1.15	1.24	2.00	1.83	0.78	1.04r	1.58	*-20.9*
Wind [2]	15.75	20.71	*+31.5*	3.38	3.36	3.59	3.04	5.75	5.23	4.31r	4.82r	6.35	*+10.4*
- of which, Offshore	5.13	7.46	*+45.6*	1.10	1.00	1.12	1.10	1.92	1.49	1.64	1.69	2.64	*+37.9*
Bioenergy [3]	12.97	15.20	*+17.2*	2.99	3.31	2.89	3.29	3.47	4.12	3.30r	3.66r	4.13	*+18.8*
Pumped Storage	2.91	2.97	*+2.1*	0.82	0.77	0.65	0.70	0.78	0.79	0.67	0.71	0.79	*+1.7*
Other fuels	2.44	2.54	*+4.1*	0.58	0.59	0.59	0.62	0.65	0.57	0.63r	0.67r	0.67	*+3.4*
Total all generating companies	367.80	363.19	*-1.3*	104.21	103.41	84.87	83.34	96.19	99.93	85.29r	81.26r	96.70	*+0.5*
ELECTRICITY SUPPLIED [4]													
All generating companies												**TWh**	
Coal	103.13	135.57	*+31.5*	33.90	33.37	18.10	18.17	33.49	39.88	29.53r	27.32	38.83	*+16.0*
Oil	3.31	3.19	*-3.7*	1.16	1.04	0.62	0.87	0.78	0.94	0.72	0.66	0.87	*+11.9*
Gas	144.11	97.93	*-32.0*	40.34	37.62	36.41	37.91	32.17	26.64	24.72r	22.40r	24.16	*-24.9*
Nuclear	62.66	63.95	*+2.1*	15.49	17.67	17.40	14.31	13.28	15.62	16.83	16.38	15.12	*+13.9*
Hydro	5.65	5.19	*-8.1*	1.22	1.29	1.14	1.23	1.99	1.82	0.77	1.03r	1.57	*-20.9*
Wind [2]	15.75	20.71	*+31.5*	3.38	3.36	3.59	3.04	5.75	5.23	4.31r	4.82r	6.35	*+10.4*
- of which, Offshore	5.13	7.46	*+45.6*	1.10	1.00	1.12	1.10	1.92	1.49	1.64	1.69	2.64	*+37.9*
Bioenergy [3]	11.54	13.54	*+17.3*	2.71	2.95	2.57	2.93	3.09	3.67	2.93r	3.26r	3.68	*+19.1*
Pumped Storage (net supply) [5]	-0.95	-1.01		-0.28	-0.26	-0.22	-0.23	-0.24	-0.26	-0.24	-0.25	-0.26	
Other fuels	2.30	2.40	*+4.1*	0.55	0.56	0.56	0.58	0.61	0.54	0.59r	0.64r	0.63	*+3.4*
Net imports	6.22	12.04	*+93.6*	0.18	1.06	1.53	2.36	1.27	1.99	3.19r	4.08	2.78	*(+)*
Total all generating companies	353.73	353.51	*-0.1*	98.64	98.66	81.70	81.18	92.18	96.07	83.35r	80.34r	93.74	*+1.7*

1. Percentage change in the fourth quarter of 2012 compared with a year earlier.

2. Includes solar PV and wave/tidal

3. Up to 2006 Q4, this includes non-biodegradable wastes. From 2007 Q1, this is included in 'Other fuels' (as it is not considered a renewable source).

4. Electricity supplied net of electricity used in generation

5. Net supply from pumped storage is usually negative, as electricity used in pumping is deducted.

5 ELECTRICITY

Table 5.2 Supply and consumption of electricity

GWh

	2011	2012 p	*Per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*Per cent change*[1]
SUPPLY													
Indigenous production	367,801	363,187	*-1.3*	104,209	103,406	84,866	83,340	96,189	99,930	85,292r	81,262r	96,703	*+0.5*
Major power producers[2 3]	329,406	325,075	*-1.3*	94,712	93,508	75,619	74,088	86,191	89,997	75,865r	72,088r	87,125	*+1.1*
Auto producers	35,490	35,146	*-1.0*	8,680	9,128	8,594	8,550	9,218	9,139	8,752r	8,469r	8,785	*-4.7*
Other sources[4]	2,906	2,966	*+2.1*	818	770	654	702	780	794	675	705	793	*+1.7*
Imports	8,689	13,791	*+58.7*	1,479	1,787	2,054	2,656	2,192	3,169	3,352	4,311	2,958	*+35.0*
Exports	2,467	1,746	*-29.2*	1,303	723	525	297	922	1,182	162	227	176	*-81.0*
Transfers	-	-		-	-	-	-	-	-	-	-	-	
Total supply	374,023	375,231	*+0.3*	104,385	104,470	86,396	85,699	97,458	101,917	88,482r	85,346r	99,486	*+2.1*
Statistical difference	-320	185		71	-312	-268	-188	449	137	261r	208r	-420	
Total demand	374,343	375,046	*+0.2*	104,314	104,783	86,664	85,887	97,009	101,781	88,221r	85,138r	99,906	*+3.0*
TRANSFORMATION	-	-		-	-	-	-	-	-	-	-	-	
Energy industry use[5]	28,153	29,773	*+5.8*	7,882	7,755	6,679	6,503	7,217	7,858	7,127r	7,045r	7,742	*+7.3*
Losses	28,181	27,955	*-0.8*	6,881	8,243	6,472	6,567	6,899	8,085	7,069r	5,761r	7,041	*+2.0*
FINAL CONSUMPTION	318,009	317,318	*-0.2*	89,551	88,785	73,513	72,818	82,893	85,838	74,025r	72,332r	85,123	*+2.7*
Iron & steel	3,842	3,958	*+3.0*	939	967	964	962	949	960	987	1,012	999	*+5.3*
Other industries	98,554	96,022	*-2.6*	26,537	25,969	23,897	24,034	24,654	24,925	23,106r	23,904r	24,086	*-2.3*
Transport	4,079	4,079	*-*	1,019	1,020	1,020	1,020	1,020	1,020	1,020	1,020	1,020	*-*
Domestic	111,585	113,106	*+1.4*	34,488	34,088	23,963	22,895	30,639	33,011	25,186	22,762r	32,147	*+4.9*
Other final users	99,948	100,154	*+0.2*	26,568	26,742	23,669	23,907	25,630	25,922	23,727r	23,634r	26,871	*+4.8*
Non energy use	-	-		-	-	-	-	-	-	-	-	-	

1. Percentage change in the fourth quarter of 2012 compared with a year earlier.

2. Companies that produce electricity from nuclear sources plus all companies whose prime purpose is the generation of electricity are included under the heading "Major Power Producers". At the end of December 2011 they were:

AES Electric Ltd., Baglan Generation Ltd., Barking Power Ltd., British Energy plc., Centrica Energy, Coolkeeragh ESB Ltd., Corby Power Ltd., Coryton Energy Company Ltd., Derwent Cogeneration Ltd., DONG Energy Burbo UK Ltd, Drax Power Ltd., EDF Energy plc., E.On UK plc., Energy Power Resources, GDF Suez Teesside Power Ltd., Immingham CHP, Infinis plc, International Power Mitsui, Magnox North Ltd., Premier Power Ltd., RGS Energy Ltd, Rocksavage Power Company Ltd., RWE Npower plc., Scottish Power plc., Scottish and Southern Energy plc., Seabank Power Ltd., SELCHP Ltd., Spalding Energy Company Ltd., Statkraft Energy Ltd.

3. This table includes the change of definition of Major power producers (MPPs) to include major wind farm companies. Details of this change of definition were given in an article on pages 43 to 48 of the September 2008 edition of Energy Trends.

4. Gross supply from pumped storage hydro

5. Includes electricity used in generation and for pumping

Section 6 – Renewables

Key results show:

Provisional 2012
Renewables' share of electricity generation was a record 11.3 per cent in 2012, an increase of 2.0 percentage points on the 9.4 per cent in 2011.

In 2012, on the 2009 Renewable Energy Directive basis, normalised renewable generation was 10.8 per cent of gross electricity consumption, an increase of 2.1 percentage points on 2011's share. The UK has now passed the 10 per cent target set (for 2010) under the 2001 Renewables Directive.

Renewable electricity generation was 41.1 TWh in 2012, an increase of 20 per cent on the 34.4 TWh in 2011, due to increased capacity.

Renewable electricity capacity was 15.5 GW at the end of 2012, a 26 per cent increase (3.2 GW) on a year earlier.

Quarter 4 2012
Renewables' share of electricity generation was a record 12.5 per cent, up 0.8 percentage points on the share in 2011 Q4, reflecting high renewable generation**. (Chart 6.1)**

Renewable electricity generation was a record 12.1 TWh in 2012 Q4, an increase of 7.4 per cent on the 11.2 TWh in 2011 Q4, due to increased capacity, and despite lower rainfall and wind speeds. **(Chart 6.2)**

In 2012 Q4, 170 MW of installed capacity was confirmed on the Feed in Tariff scheme, increasing the total confirmed to 1,655 MW, across 358,298 installations. **(Chart 6.5)**

Table 6A Renewable electricity shares – 2011 and 2012 *(provisional)*

	2011	2012
International Basis: actual renewable generation / total generation	9.4%	11.3%
2009 Renewable Energy Directive: normalised renewable generation / gross electricity consumption	8.7%	10.8%
2001 Renewables Directive: normalised renewable generation / electricity demand	8.6%	10.7%

In 2012, renewables' share of electricity generation increased to 11.3 per cent, from 9.4 per cent in 2011, due to increased capacity. Overall electricity generation fell 1.3 per cent (from 367.8 TWh to 363.2 TWh), as a result of lower overall demand; this reduction contributed around 0.2 percentage points of the 2.0 percentage point increase in renewables' share.

On the 2009 Renewable Energy Directive (RED) basis, the share was 10.8 per cent, compared with 8.7 per cent in 2011. On the basis of the 2001 Renewables Directive (RD), the share increased from 8.6 per cent to 10.7 per cent (passing the 10 per cent target set for 2010). Both the RED and RD measures use normalised wind and hydro generation, to account for variable generation due to weather conditions. [1]

Renewables' share of electricity generation increased to a record 12.5 per cent in 2012 Q4, a 0.8 percentage point increase on the previous record, 11.7 per cent in 2011 Q4. [2]

The increase in the 2012 Q4 share on 2011 Q4 reflects increased capacity, particularly in onshore and offshore wind, and despite average rainfall and wind speeds being lower than the high levels experienced a year ago. Overall quarterly electricity generation (96.7 TWh) was up slightly (0.5 per cent) on a year earlier (as a result of higher demand, largely due to lower temperatures), but this had a minimal contribution to the 0.8 percentage point increase in the renewables share.

[1] For more information on normalisation, and the various measures of renewable electricity's shares, please see March 2011's "*Renewable electricity 2010 – provisional data*", at: www.gov.uk/government/organisations/department-of-energy-climate-change/series/energy-trends-articles

[2] Total electricity generation and electricity demand figures can be found in tables ET 5.1 and ET 5.2 , at: www.gov.uk/government/organisations/department-of-energy-climate-change/series/electricity-statistics

Chart 6.1 Renewables' share of electricity generation

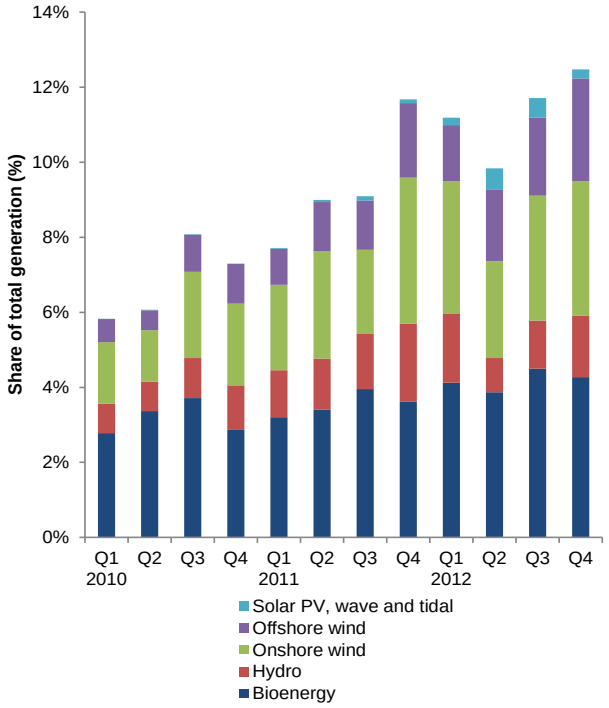
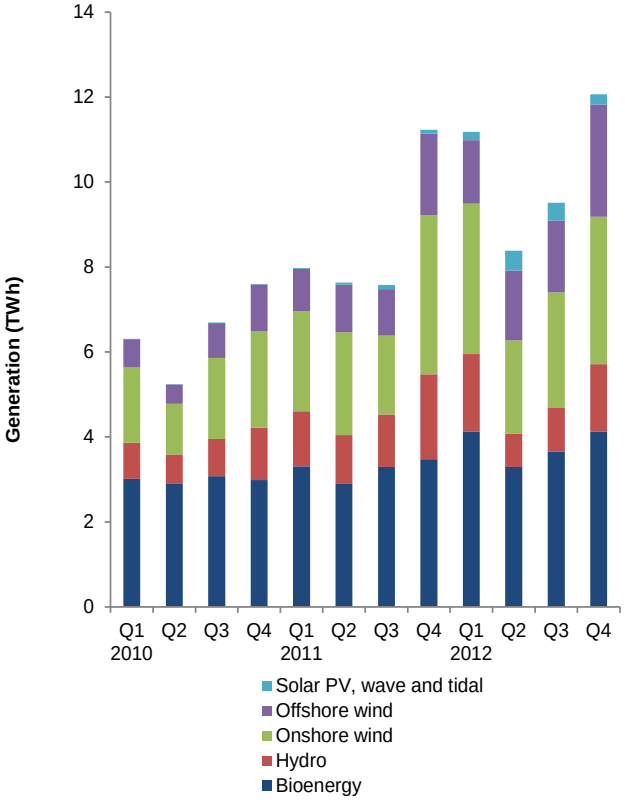


Chart 6.2 Renewable electricity generation



Total electricity generated from renewables in 2012 was up by 20 per cent on 2011, from 34.4 TWh to a record 41.1 TWh. *Normalised* renewable generation rose from 32.4 TWh in 2011 to 40.2 TWh in 2012.

The largest absolute increase in generation was from offshore wind, rising from 5.1 TWh in 2011 to 7.5 TWh in 2012 (a 46 per cent increase). This was largely due to increased capacity. Onshore wind generation also increased, from 10.4 TWh to 11.9 TWh (a 15 per cent increase), with the impact of increased capacity out-weighing that of slightly lower wind speeds (0.8 knots lower than in 2011).

Hydro generation fell by 8.1 per cent on a year earlier, from 5.7 TWh to 5.2 TWh, with rainfall levels in 2012 24 per cent lower than the those of 2011, which were the highest in at least the last decade. August 2012 saw the return to generation, however, of Glendoe, the UK's newest, and second largest, hydro station after being closed for three years.

Generation from bioenergy [3] increased by 17 per cent, from 13.0 TWh in 2011 to a record 15.2 TWh in 2012. Within this figure, generation from plant biomass more than doubled (due to the opening of Tilbury power station at the end of 2011), from 1.7 TWh to 4.2 TWh; however, generation from co-firing fell by 39 per cent, as, despite increased generation, coal power stations burned a smaller proportion of biomass with coal.

In 2012, 37 per cent of renewables generation was from bioenergy, 29 per cent from onshore wind, 18 per cent from offshore wind, and 13 per cent from hydro. Despite a large increase in capacity, just 3.2 per cent of generation was from solar PV.

Total electricity generated from renewables in 2012 Q4 was up by 7.4 per cent on 2011 Q4, from 11.2 TWh to a record high of 12.1 TWh. Due to much increased capacity, offshore wind generation, in 2012 Q4, increased by 38 per cent on a year earlier, from 1.9 TWh to 2.6 TWh. However, despite increased capacity, electricity generated from onshore wind in 2012 Q4 fell by 7.3 per cent on 2011 Q4, from 3.7 TWh to 3.5 TWh, due to much lower wind speeds (2.7 knots lower) than the high wind speeds of a year earlier.[4]

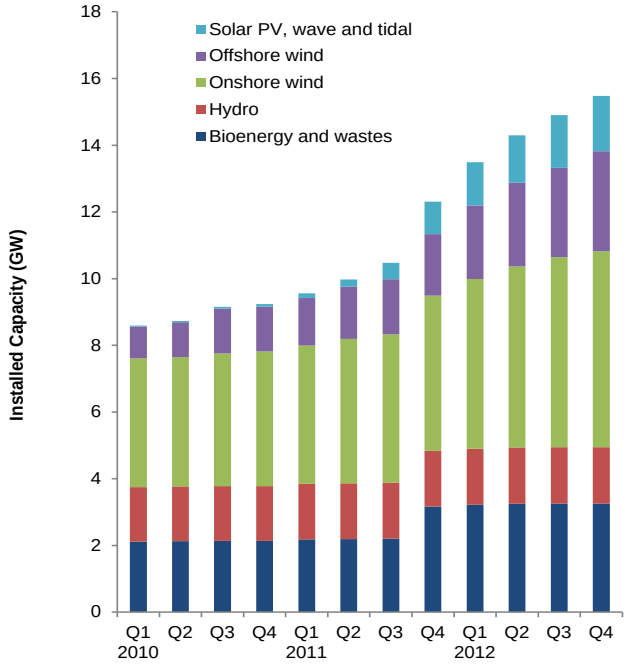
In 2012 Q4, hydro generation fell by 21 per cent on a year earlier, from 2.0 TWh to 1.6 TWh, due to one third less rainfall (in the main hydro areas) than the very high levels of a year earlier (the wettest quarter 4 for at least ten years).

In 2012 Q4, bioenergy had the largest share of generation (34 per cent), with 29 per cent from onshore wind, 22 per cent from offshore wind, and 13 per cent from hydro.

[3] Bioenergy consists of: landfill gas, sewage gas, municipal solid waste, plant biomass, animal biomass, and co-firing (generation only)

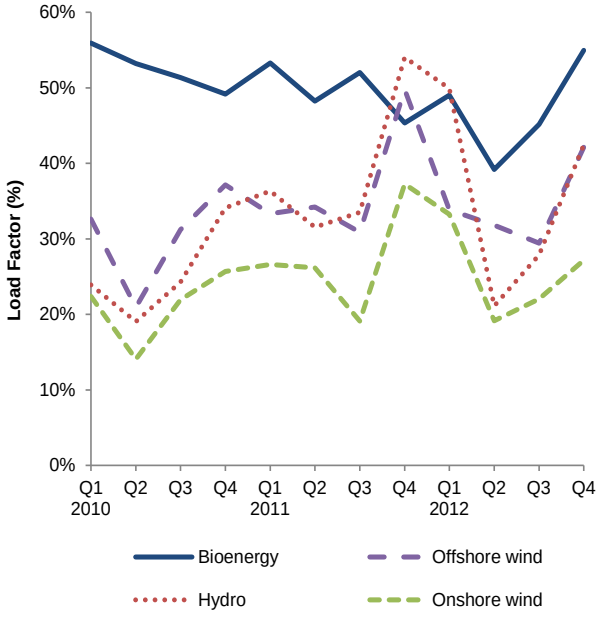
[4] Statistics on weather (temperature, wind speeds, rainfall and sun levels) can be found in tables ET 7.1 – 7.4, at: www.gov.uk/government/organisations/department-of-energy-climate-change/series/weather-statistics

Chart 6.3 Renewable electricity capacity (as at end of quarter)



To note that the solar PV (and onshore wind) figures not only include installations confirmed on the FiTs scheme, but also a large number of sub 50 kW installations commissioned, and registered on the Microgeneration Certification Scheme, that are awaiting confirmation on FiTs (as well as any capacity not supported by FiTs).

Chart 6.4 Renewable electricity load factors



At the end of 2012 Q4, the UK's renewable electricity capacity totalled 15.5 GW, an increase of one quarter (3.2 GW) on that installed at the end of 2011 Q4 and 3.9 per cent (0.6 GW) on that installed at the end of the previous quarter.

At the end of 2012 Q4, onshore wind had the highest share of capacity (38 per cent), followed by bioenergy (21 per cent), offshore wind (19 per cent), hydro and solar PV (11 per cent each).

During 2012, onshore and offshore wind capacity each increased by 1.2 GW, with several large on and off shore wind farms opening, or continuing to expand, during the year. Solar PV capacity also saw a large increase, as a result of the Great Britain Feed in Tariff scheme, with 0.7 GW being added to the 1.0 GW installed at the end of 2011.

In 2012 Q4, onshore wind capacity increased by 180 MW, with much of this due to the continued expansion of the new Clyde North and Whitelee 2 wind farms. Offshore wind increased by 313 MW, as a result of the beginning of generation at the first half of the new London Array wind farm during the quarter. The growth in solar PV capacity slowed during the quarter, but still showed an increase of 81 MW.

In 2012, onshore wind's load factor averaged 25.8 per cent, a 1.5 percentage point fall on 2011's 27.3 per cent, due to the lower wind speeds, particularly in the final quarter. Offshore wind's load factor also fell, by 1.7 percentage points, from 36.8 per cent to 35.1 per cent. [5] With around one quarter less rainfall (in the main hydro areas) on average than a year earlier, hydro's load factor in 2012 fell by 1.7 percentage points, from 39.2 per cent in 2011 (the highest since at least 1997) to 35.4 per cent.

Hydro's load factor in 2012 Q4 was 42.4 per cent, a 7.7 per cent fall on a year earlier, again due to much lower rainfall. However, this was an increase from 27.9 per cent a quarter earlier, with 41 per cent more rainfall. Onshore wind's load factor in 2012 Q4 of 27.2 per cent was 10.1 percentage points lower than a year earlier, with average wind speeds one quarter lower than the high speeds of 2011 Q4. Offshore wind's load factor also fell markedly, to 42.1 per cent, from 2011 Q4's 49.8 per cent, but was up by 12.7 percentage points on the previous quarter.

Bioenergy's load factor in 2012 Q4 increased to 55.0 per cent, from 45.3 per cent in 2011 Q4 and 45.2 per cent in 2012 Q3. This increase was largely due to the largest biomass station, Tilbury, opening at the end of 2011, and returning to full operations in 2012 Q4, after being closed due to fire for much of 2012.

[5] Load Factors are calculated using an average of capacity at the start and end of the period. Therefore, they can also be influenced by the time in the year/quarter when any new capacity came online. The 2012 and 2012 Q4 load factors for offshore wind have been reduced by 2.3 and 1.9 percentage points respectively as a result of the inclusion of London Array, where the 313 MW of capacity was fully operational only in December.

Chart 6.5 Feed in Tariffs: installed capacity (as at end of quarter)

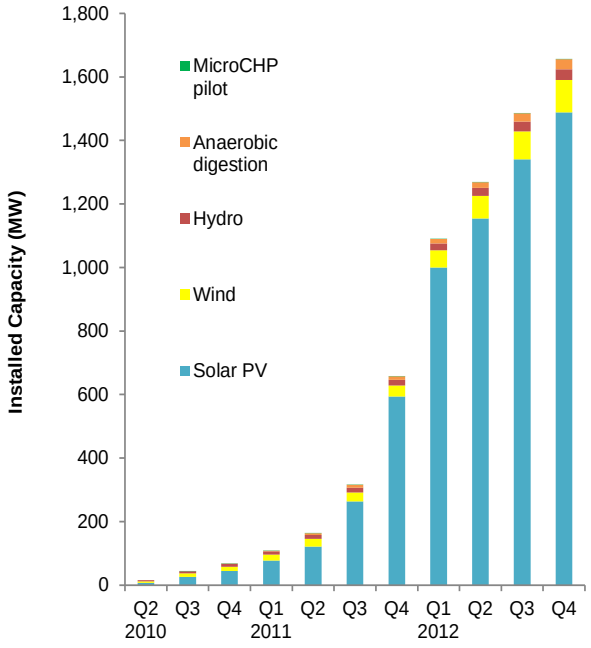
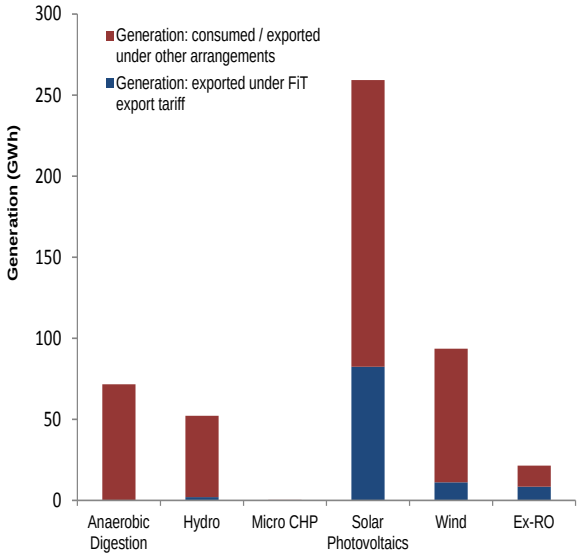


Chart 6.6 Feed in Tariffs: 2011/12 generation



At the end of 2012 Q4, 1,655 MW of capacity was confirmed on the GB Feed in Tariff (FiT) scheme. This was an increase of 11 per cent (170 MW) on that confirmed at the end of 2012 Q3, and over double the amount confirmed at the end of 2011 Q4 (658 MW). [6] [7]

In terms of number of installations, at the end of 2012 Q4, there were 358,000 confirmed on the FiT scheme, an 8.7 per cent increase on the 330,000 confirmed at the end of the previous quarter.

Solar photovoltaics (PV) represent the majority of both installations and installed capacity confirmed on FiTs, with, respectively, 99 per cent and 90 per cent of the total. The majority of solar PV installations are sub-4 kW retrofitted schemes, which increased by 25,500 (80 MW), to 332,000 (981 MW) in 2012 Q4.

Whilst the majority (89 per cent) of the increase in FiT installations in 2012 Q4 was due to sub-4 kW retrofitted schemes, these contributed less than half of the increase in capacity terms; a further 21 per cent of the increase in capacity was from solar PV schemes in the 10-50 kW range, with 1,088 schemes, totalling 35 MW, being confirmed on FiTs during the quarter.

Renewable installations confirmed on FiTs (all except MicroCHP) represented 11 per cent of all renewable installed capacity.

In 2011/12 (the second years of the FiT scheme), a total of 499 GWh was generated under FiTs, more than seven times the 69 GWh in 2010/11. This generation was from a total of 207,000 installations. [8]

Of total FiT generation, solar PV contributed 52 per cent, wind 19 per cent, anaerobic digestion 14 per cent and hydro 10 per cent. Installations that have transferred from the Renewables Obligation (ex-RO) made up 4 per cent of generation.

Of total FiT generation, 21 per cent (104 GWh) was exported to the public distribution system under the FiTs export tariff. The remaining 79 per cent was either consumed or exported under other arrangements. Solar PV contributed 79 per cent of all electricity exported under the FiTs export tariff [9]; 32 per cent of generation from solar PV was exported under the tariff.

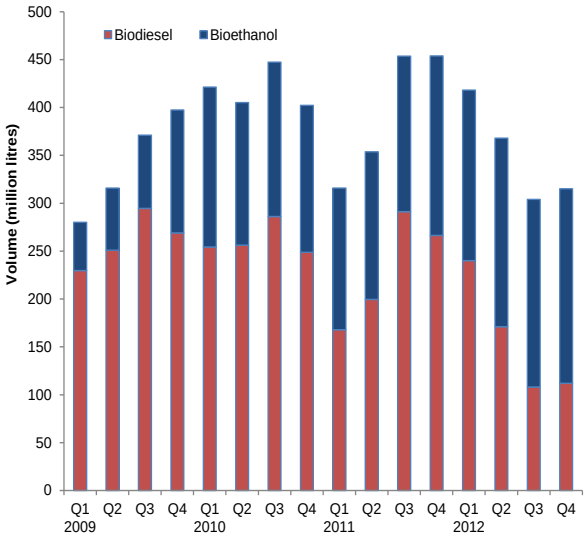
[6] To note that Feed in Tariff uptake statistics are based on the *confirmation* date, which can be several months later than the commissioning (installation) date. Hence the amount of capacity installed in a quarter may differ substantially from that confirmed on the FiTs scheme in the same quarter.

[7] Statistics on Feed in Tariff uptake, and generation, can be found in the monthly central Feed-in-Tariff register statistics table and Feed-in-Tariff generation statistics table, at: www.gov.uk/government/organisations/department-of-energy-climate-change/series/feed-in-tariff-statistics

[8] Generation from installations that received FiT generation payments during 2011/12. There were 247,798 installations confirmed on FiTs at the end of March 2012 – the remaining 40,947 had not received generation payments during the year.

[9] The majority of solar PV generation is from retrofitted 0-4 kW schemes. These are typically domestic installations, which are deemed to export 50 per cent of their output.

Chart 6.7 Liquid biofuels for transport consumption



In 2012, 1,405 million litres of liquid biofuels were consumed in transport, a fall of 11 per cent on 2011's 1,577 million litres. This reduction was particularly down to a fall of over 60 per cent (compared with a year earlier) in consumption of biodiesel in the second half of 2012 (see below).

Bioethanol consumption rose by 19 per cent, from 652 million litres in 2011 to a new record high of 774 million litres in 2012. However, biodiesel consumption fell by 32 per cent, from 925 million litres in 2011 to 631 million litres in 2012.

After six years of biodiesel contributing the largest share of biofuels consumption, 2012 saw a reversal, with bioethanol representing 55 per cent of biofuels consumption, and biodiesel's share 45 per cent. In 2012, bioethanol accounted for 4.1 per cent of motor spirit, and biodiesel 2.4 per cent of diesel; the combined contribution was 3.1 per cent, 0.4 percentage points lower than in a year earlier.

In 2012 Q4, 315 million litres of liquid biofuels were consumed in transport, a fall of 31 per cent on the 454 million litres in 2011 Q4.

In 2012 Q4, biodiesel accounted for 1.6 per cent of diesel, and bioethanol 4.3 per cent of motor spirit. The combined contribution of the two fuels was 2.7 per cent, a fall from 3.9 per cent a year earlier.

Biodiesel consumption fell by 58 per cent, from 266 million litres in 2011 Q4 to 112 million litres in 2012 Q4. Reasons for the fall may include policy changes, from 1 April 2012: the doubling of credits, under the Renewable Transport Fuel Obligation for some types of biodiesel (such as waste cooking oil) - meaning less needs to be blended with diesel; and the ending of a reduced duty rate on cooking oil used for biodiesel, increasing duty payable by 20 pence per litre.

Bioethanol consumption rose by 8.2 per cent, from 188 million litres to a record 203 million litres.

In 2012 Q4, the largest share of consumption was from bioethanol (64 per cent), with 36 per cent from biodiesel.

Relevant tables

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6 RENEWABLES

Table 6.1. Renewable electricity capacity and generation

	2011	2012 p	*per cent change*	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter p	*per cent change*
Cumulative Installed Capacity [1]												**MW**	
Onshore Wind	4,650	5,875	*+26.3*	4,037	4,142	4,333	4,448	4,650	5,092r	5,421r	5,694	5,875	*+26.3*
Offshore Wind	1,838	2,996	*+63.0*	1,341	1,427	1,564	1,650	1,838	2,201r	2,517r	2,683	2,996	*+63.0*
Shoreline wave / tidal	3	6	*+82.0*	3	3	3	3	3	4	6r	6	6	*+82.0*
Solar photovoltaics	976	1,655	*+69.6*	77	137	212	489	976	1,298r	1,412r	1,574	1,655	*+69.6*
Small scale Hydro	205	217	*+6.1*	188	198	201	203	205	210	217r	217	217	*+6.1*
Large scale Hydro	1,471	1,471	-	1,453	1,471	1,471	1,471	1,471	1,471	1,471	1,471	1,471	-
Landfill gas	1,067	1,068	*+0.1*	1,025	1,067	1,067	1,067	1,067	1,068	1,068	1,068	1,068	*+0.1*
Sewage sludge digestion	198	199	*+0.6*	186	195	195	198	198	198	198	199	199	*+0.6*
Municipal solid waste combustion	577	609	*+5.5*	461	448	448	448	577	609r	609r	609	609	*+5.5*
Animal Biomass (non-AD) [2]	111	111	-	111	111	111	111	111	111	111	111	111	-
Anaerobic Digestion	55	82	*+49.0*	28	39	42	53	55	69r	79r	81	82	*+49.0*
Plant Biomass [3]	1,159	1,191	*+2.7*	330	327	328	330	1,159	1,163	1,189r	1,191	1,191	*+2.7*
Total	12,310	15,479	*+25.8*	9,238	9,563	9,974	10,471	12,310	13,493r	14,298r	14,904	15,479	*+25.8*
Co-firing [4]	338	208	*-38.6*	266	338	338	338	338	208r	208r	208	208	*-38.6*
Generation [5]												**GWh**	
Onshore Wind [6]	10,372	11,915	*+14.9*	2,272	2,350	2,423	1,855	3,744	3,539r	2,200r	2,705	3,472	*-7.3*
Offshore Wind [6, 7]	5,126	7,463	*+45.6*	1,100	997	1,117	1,096	1,916	1,493	1,639r	1,690	2,642	*+37.8*
Shoreline wave / tidal [6]	1	4	*(+)*	0	0	0	0	0	1	1r	1	1	*(+)*
Solar photovoltaics [6]	252	1,327	*(+)*	8	18	48	93	92	197r	472r	421	238	*(+)*
Hydro [6]	5,686	5,227	*-8.1*	1,236	1,299	1,151	1,239	1,998	1,829	777r	1,039	1,582	*-20.8*
Landfill gas [6]	4,979	5,221	*+4.9*	1,191	1,329	1,130	1,323	1,197	1,343r	1,307r	1,301	1,269	*+6.0*
Sewage sludge digestion [6]	755	723	*-4.2*	160	188	189	189	189	190	182r	170	181	*-4.5*
Biodegradable municipal solid waste combustion [8]	1,739	2,286	*+31.5*	399	355	344	355	686	539r	567r	597	582	*-15.1*
Co-firing with fossil fuels	2,964	1,818	*-38.7*	664	822	586	768	787	703r	530r	411	173	*-78.0*
Animal Biomass (non-AD) [6, 9]	614	620	*+1.0*	156	159	154	154	148	172r	134r	139	176	*+18.9*
Anaerobic Digestion	239	330	*+38.0*	23	50	52	71	67	79r	86r	84	81	*+20.8*
Plant Biomass [6, 10]	1,683	4,206	*(+)*	392	409	437	434	403	1,093r	491r	955	1,667	*(+)*
Total	34,410	41,140	*+19.6*	7,602	7,974	7,632	7,576	11,228	11,178r	8,386r	9,512	12,063	*+7.4*
Non-biodegradable wastes [11]	1,005	1,319	*+31.3*	231	205	199	205	396	311	327r	345	336	*-15.0*
Load Factors [12]													
Onshore Wind	27.3%	25.8%		25.7%	26.6%	26.2%	19.1%	37.3%	33.3%	19.2%	22.0%	27.2%	
Offshore Wind	36.8%	35.1%		37.1%	33.3%	34.2%	30.9%	49.8%	33.8%	31.8%	29.4%	42.1%	
Hydro	39.2%	35.4%		34.1%	36.3%	31.6%	33.5%	54.0%	49.9%	21.1%	27.9%	42.4%	
Landfill gas	54.4%	55.7%		52.7%	58.8%	48.5%	56.2%	50.8%	57.6%	56.0%	55.2%	53.8%	
Sewage sludge digestion	45.0%	41.5%		39.1%	45.7%	44.3%	43.7%	43.4%	44.1%	42.3%	38.8%	41.2%	
Biodegradable municipal solid waste combustion	38.2%	43.9%		39.2%	36.1%	35.2%	35.9%	60.6%	41.6%	42.7%	44.4%	43.3%	
Animal Biomass (non-AD)	63.4%	63.9%		63.9%	66.5%	63.7%	63.1%	60.5%	71.4%	55.4%	56.9%	71.9%	
Anaerobic Digestion	65.6%	54.6%		39.0%	68.2%	59.0%	67.1%	55.8%	58.2%	53.6%	47.6%	44.6%	
Plant Biomass	25.8%	40.7%		53.9%	57.7%	61.1%	59.6%	24.5%	43.1%	19.1%	36.3%	63.4%	
Total (excluding co-firing and non-biodegradable wastes)	33.3%	32.2%		34.2%	35.2%	33.0%	30.2%	41.5%	37.2%	25.9%	28.2%	35.4%	

1. Cumulative capacity at the end of the quarter/year
2. Includes the use of farm waste digestion, poultry litter and meat and bone.
3. Includes the use of waste tyres, straw combustion, short rotation coppice and hospital waste.
4. This is the amount of fossil fuelled capacity used for co-firing of renewables based on the proportion of generation accounted for by the renewable source over the course of the year.
5. Generation figures for the latest quarter are highly provisional, particularly for the thermal renewable technologies (such as landfill gas) in the lower half of the table.
6. Actual generation figures are given where available, but otherwise are estimated using a typical load factor or the design load factor, where known. All solar photovoltaic generation is estimated this way.
7. For 2009, shoreline wave and tidal are included in offshore wind.
8. Biodegradable part only.
9. Includes the use of farm waste digestion, poultry litter combustion and meat and bone combustion.
10. Includes the use of straw and energy crops.
11. Non-biodegradable part of municipal solid waste plus waste tyres, hosptal waste and general industrial waste.
12. Load factors are calculated based on installed capacity at the beginning and the end of the quarter/year.

6 RENEWABLES

Table 6.2. Liquid biofuels for transport consumption

	2011	2012 p	*per cent change*	2010 1st quarter	2010 2nd quarter	2010 3rd quarter	2010 4th quarter	2011 1st quarter	2011 2nd quarter	2011 3rd quarter	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter p	2012 4th quarter p	*per cent change*
Volume																
Bioethanol	652	774	*+18.8*	167	149	161	153	148	154	162	188	178	197r	196	203	*+8.2*
Biodiesel	925	631	*-31.8*	254	256	286	249	168	200	291	266	240	171r	108	112	*-58.0*
Total biofuels for transport	1,577	1,405	*-10.9*	421	405	447	402	316	354	453	454	418	368r	304	315	*-30.6*
Energy													**Thousand tonnes of oil equivalent**			
Bioethanol	367	436	*+18.8*	94	84	91	87	83	87	91	106	100	111r	110	114	*+8.2*
Biodiesel	760	518	*-31.8*	209	211	235	204	138	164	239	219	197	141r	89	92	*-58.0*
Total biofuels for transport	1,128	955	*-15.3*	303	294	326	291	221	251	331	325	298	252r	199	206	*-36.4*
Shares of road fuels																
Bioethanol as per cent of Motor Spirit	3.3%	4.1%		3.4%	2.8%	3.1%	3.0%	3.1%	3.1%	3.3%	3.8%	3.9%	4.1%	4.2%	4.3%	
Biodiesel as per cent of DERV	3.6%	2.4%		4.2%	4.0%	4.3%	3.7%	2.7%	3.1%	4.4%	4.0%	3.8%	2.6%	1.6%	1.6%	
Total biofuels as per cent of road fuels	3.5%	3.1%		3.9%	3.4%	3.8%	3.4%	2.9%	3.1%	3.9%	3.9%	3.9%	3.2%	2.7%	2.7%	

Source: HM Revenue and Customs Hydrocarbon Oils Bulletin, available at:
https://www.uktradeinfo.com/Statistics/Pages/TaxAndDutybulletins.aspx

Coal in 2012

Introduction

This article gives an overview of UK coal production and consumption. In 2012 UK coal production fell to an all-time low of 17 million tonnes. However, due to the high price of gas, coal used for electricity generation increased to the highest levels seen since 2006. At 54.8 million tonnes this represented an increase of 31 per cent on 2011. To meet this demand coal imports also increased by 38 per cent (to 45 million tonnes) and coal stocks fell by 3 million tonnes to their lowest year end levels for 40 years.

Background

Until the late 1960s, coal was the main source of energy produced in the UK, peaking at 228 million tonnes in 1952. Ninety-five per cent of this came from around 1,334 deep-mines that were operational at the time, with the rest from around 92 surface mines. As UK energy started to become more diverse from the early 1970s (initially, through primary electricity via hydro schemes followed by natural gas and crude oil and renewable & waste in later years), production of home produced coal has significantly declined. However, there was (and still is) a significant demand for coal in this country. Before 1970, it was used as a fuel source in the industrial sector, for fuelling trains and used within households for cooking and heating. Since then, it has mainly been used by electricity generators, who on average consume around 70 per cent of total UK coal supply[1] each year. Therefore, to meet this demand during the last 40 years the UK has become increasingly reliant on coal imported from other countries, more specifically, steam coal, which is used at coal-fired power stations to generate electricity.

Deep mined production

Generally, since the peak levels reported in 1954 (217 million tonnes), deep mined production has fallen by an average of 2 per cent each year between 1954 and 1983 (102 million tonnes)[2]. Although, the 1984 miners' strike had a substantial effect on the amount of coal produced in the UK, which saw deep-mined production falling by 66 million tonnes (65 per cent) between 1983 and 1984, the UK coal industry recovered and returned to the long term trend in 1985 producing more than double the levels of 1984 (an increase of 40 million tonnes). Thereafter, deep-mined production decreased on average by 8 per cent a year with provisional figures in 2012, showing a record low of 6 million tonnes, 97 per cent less than the peak during 1954 and a 16 per cent decrease on 2011 (7 million tonnes). This has been a result of a number of operational and geological issues faced by several of the 10 deep-mined sites in operation at the end of 2012.

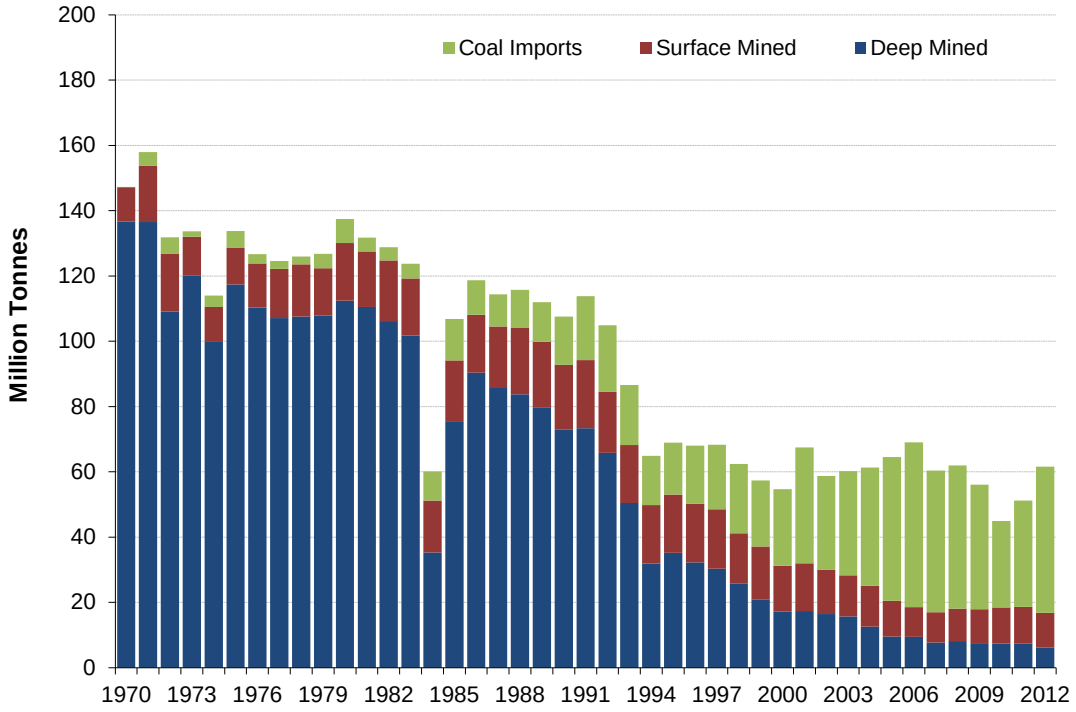
Surface mine production

Surface mine production (including recovered coal) increased on average by 3 per cent a year between the late 1940s and late 1980s, with production peaking in 1991, to stand at 21 million tonnes. Thereafter, although surface mine production declined by an average of 4 per cent between 1991 and 2005, it exceeded deep-mined production for the first time in 2005, accounting for 53 per cent of total production (21 million tonnes). This share continues to grow as deep mined production has been steadily declining. Provisional figures for 2012, show that surface mine production was 11 million tonnes, the same as the levels first recorded in 1948 and during 2011. Surface mine production accounted for 61 per cent of UK coal production in 2012.

[1] Coal Supply is calculated as sum of production, net imports and stock change.

[2] Between 1972 and 1974, deep mined production on average decreased by 9 per cent a year as a result of miners' striking over pay.

Chart 1: UK Coal Supply, 1970 to 2012



Coal Imports

Imports, initially of coal types in short supply in this country, started in 1970 and grew steadily to reach 20 million tonnes a year by the late 1990s. The very rapid expansion of imports in 2001 meant that imports exceeded the level of UK production for the first time. As annual levels of UK coal production continued to fall, imports continued to grow rapidly and in 2006 reached a new record of 51 million tonnes, representing 75 per cent of total UK coal supply. From this point on, UK imports fell, mainly as a result of less demand by electricity generators, rather than higher indigenous production. However, in 2012, due to a greater demand by electricity generators and with UK production at an all-time low, imports increased by 38 per cent (+12 million tonnes) from the levels reported in 2011 (33 million tonnes), but still 6 million tonnes lower than 2006.

Steam coal (used mainly by electricity generators) represents on average around 80 per cent of total UK imports each year and represented 89 per cent of total imports in 2012 (45 million tonnes). Russia has long been the UK's main source of imports, contributing 44 per cent of steam coal imports in 2012. In more recent years, steam coal has also been imported from Colombia and the USA, together contributing 52 per cent of total steam coal imported in 2012.

Eleven per cent of coal imported during 2012 was coking coal (5 million tonnes), which has been used in coke ovens and similar carbonising processes within the industrial sector. Eighty-five per cent of this total, originated from two countries alone, Australia (47 per cent) and the USA (38 per cent). Imports of anthracite (mainly used in the domestic sector) are negligible, in comparison to steam and coking coal.

Chart 2: Total UK coal imports by country of origin, 2002 to 2012

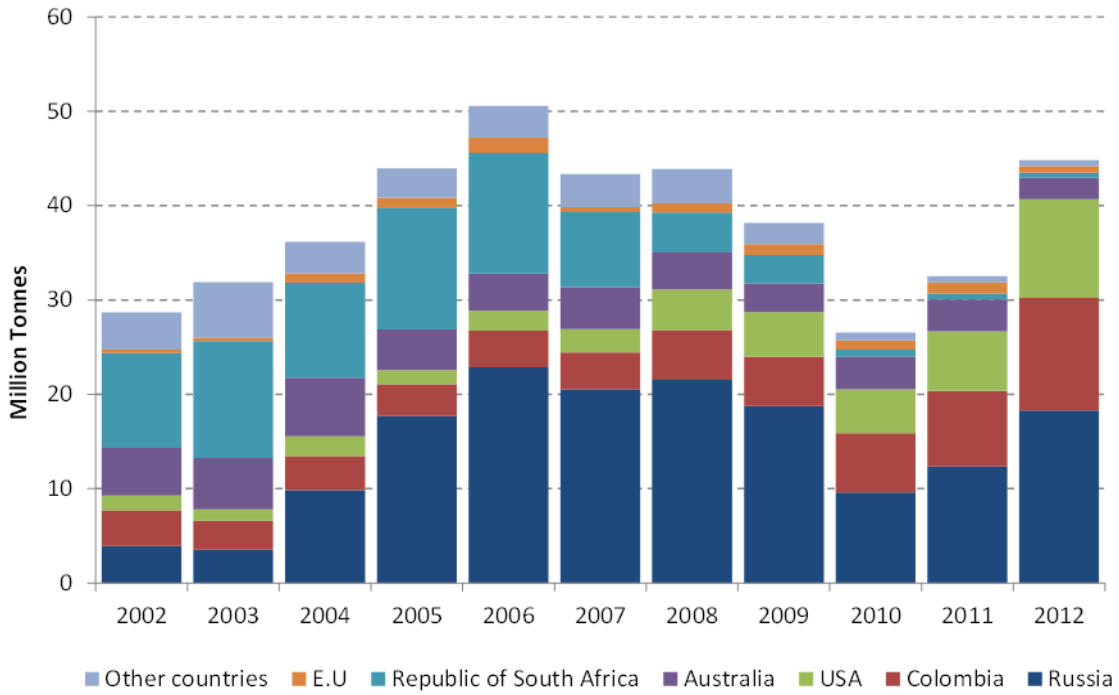
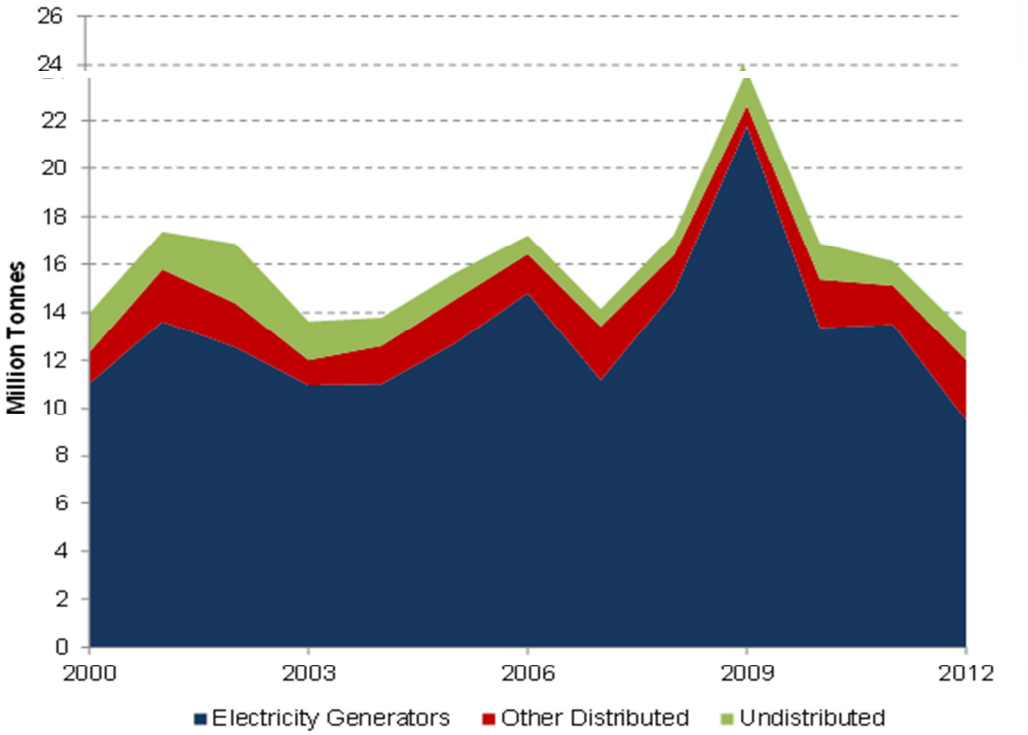


Chart 3: Total UK coal stocks, 2000 to 2012



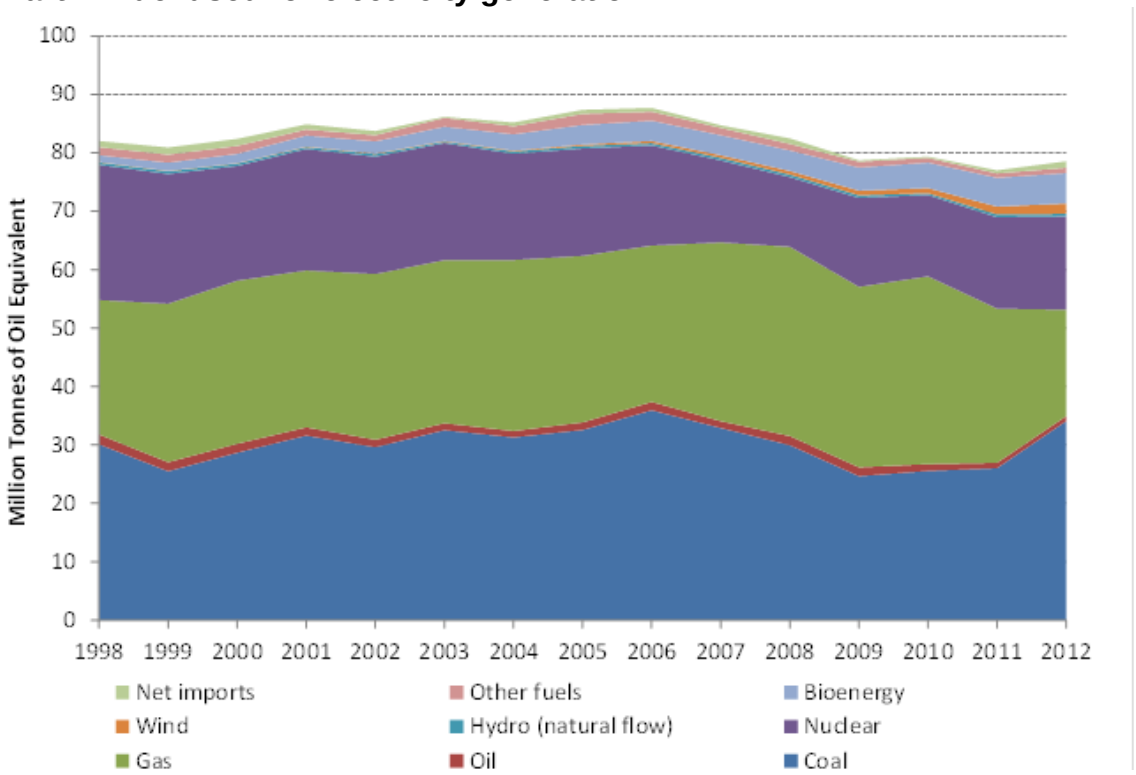
Coal Stocks

Most coal stocks in the UK are those held by electricity generators since this sector represents the largest share of the total demand for coal in the UK. Coal stocks have generally fluctuated between 2000 and 2008, between 13 and 18 million tonnes. However, in 2009, coal stocks, mainly held by generators increased by 7 million tonnes (largest year on year increase) on 2008 to reach a record high of 24 million tonnes. In contrast, stocks decreased during 2010 by 7 million tonnes to 17 million tonnes as generators used their stocks as opposed to importing coal from other countries. This fall continued into 2012, where total coal stocks decreased to 13 million tonnes, the lowest level on record, of which 10 million tonnes were held by generators.

Coal used for electricity generation

Coal use has remained significant in the electricity generation sector due to the fluctuations in gas prices, which made coal fired stations generate electricity at a lower cost than some gas fired stations. In 2006, coal use by electricity generators peaked at 57 million tonnes, representing 85 per cent of total coal demand. Coal use gradually fell between 2007 and 2011 before increasing again in 2012 to 55 million tonnes, representing 86 per cent of total coal demand.

Chart 4: Fuel used for electricity generation



Since 1998, coal has contributed on average 33 per cent to the total amount of electricity generated in the UK. In 2006, 149 TWh of electricity generated was from coal (37 per cent of total generation, 397 TWh) and were the highest levels on record. After 2006, as gas became more competitive, the percentage share of electricity generated from coal fell to 27 per cent (103 TWh) in 2009 before increasing to a share of 39 per cent (143 TWh) in 2012.

In 2012 the UK had 28GW of coal fired capacity[3], of this 7GW has opted-out of the Large Combustion Plant Directive (LCPD) and is due to close at the end of 2015 or before. The increase in coal generation between 2011 and 2012 is due to an increase in both generation by plants that have opted-in to the LCPD and plants that have opted-out. Around three-quarters of the increase can be attributed to plants that have opted-in as these plants account for the majority of installed coal capacity. An article looking at the running hours for plants that have opted-out of the LCPD will be published in the September 2013 edition of Energy Trends[4].

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[3] Tilbury has been excluded as it converted to biomass in 2011(Tilbury is still subject to the LCPD but will not have contributed to the increase in coal generation in 2012

[4] Running hours for plants opted-out of the LCPD can be found here www.bmreports.com/bsp/bes.php?prefix=LCPD

Domestic energy bills in 2012: The impact of variable consumption

Introduction

DECC publishes estimates of annual domestic electricity and gas bills in its Quarterly Energy Prices (QEP) publication. These bills are based on quarterly pricing information collected from energy suppliers. They are calculated using standard annual consumption assumptions of 3,300kWh for standard electricity, 6,600kWh for Economy 7 electricity, and 18,000kWh for gas. These assumptions allow for easy price comparisons between years, removing the impact of weather and energy efficiency measures.

Table 1: Domestic energy bills based on fixed consumption (current terms)[1]

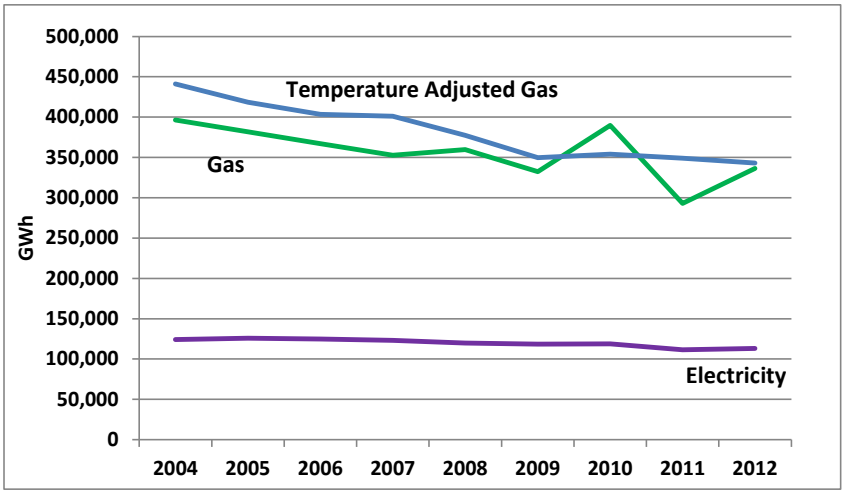
	Gas	Standard Electricity	Combined Bill
2008	£604	£425	£1,029
2009	£680	£430	£1,110
2010	£658	£418	£1,076
2011	£719	£453	£1,172
2012	£800	£479	£1,279
2011-12 % Change	*11.3%*	*5.7%*	*9.1%*

In the March 2012 edition of Energy Trends we first published final calendar year bills based on actual average household consumption for the years 2009 through to 2011. This article uses household consumption data to calculate these bills for the year 2010 through to 2012.

Annual Domestic Energy Consumption

Quarterly data on energy consumption is published in tables 4.1 (Gas) and 5.2 (Electricity) of Energy Trends. The data is collected from a variety of sources - supplier surveys, DECC administrative systems, data modelling – and is combined to provide quarterly and annual figures. Chart 1 shows the trends in energy consumption in the UK from 2004 to 2012.

Chart 1: Annual domestic energy consumption in the UK: 2004-2012 (GWh) [2]



Although this period has seen some large fluctuations in annual energy consumption (particularly for gas), the trend is of generally falling consumption between 2004 and 2012.

This is likely to be as a result of a number of factors, which include price changes, weather patterns, and increased household energy efficiency in the form of greater insulation and increased efficiency of boilers, lighting, and appliances.

[1] Gas data within this article refers to Great Britain unless otherwise stated. Electricity bills and consumption figures are based on UK data.

[2] Electricity consumption figures include both Standard Electricity and Economy 7 Electricity customers.

Price Changes

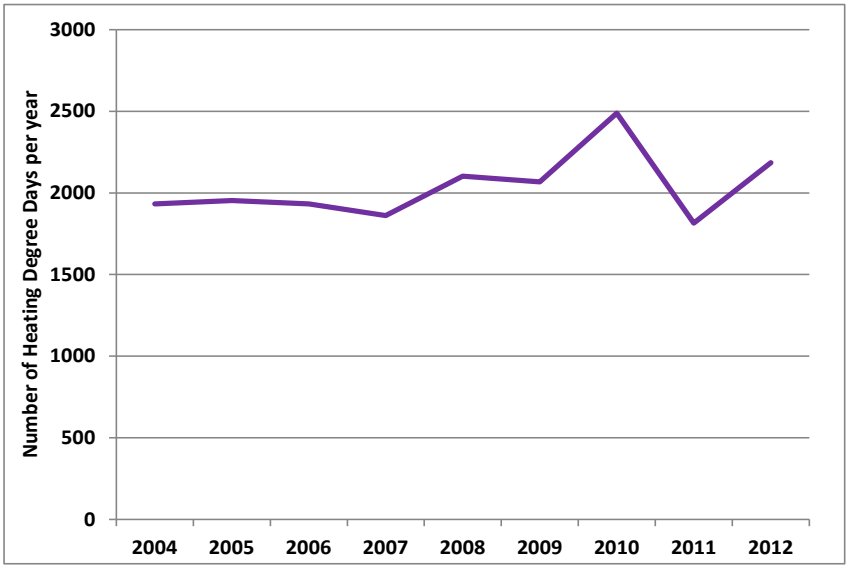
RPI data shows that gas and electricity prices have been rising in both current and real terms almost every year between 2004 and 2012. It is likely that people have reacted to these rising prices by reducing their consumption of household gas and electricity.

Following two rounds of energy price rises in 2011, small reductions in gas or electricity prices were announced by all of the big six suppliers in early 2012. However, the subsequent large rises in prices towards the end of 2012 outweighed these small reductions, causing overall annual energy prices to rise. Gas prices have generally risen by more than electricity prices in recent years. The extent of these rises is visible in Table 1, where consumption is fixed between years.

Weather

Annual changes in consumption figures have been greater for gas than electricity. In addition to the pricing factors mentioned above, this is likely to be as a result of annual variation in the demand for heating. DECC estimates that in 2011, 74 per cent of domestic gas use was for space heating, compared to only 13 per cent for electricity.[3] As a result, the degree to which changes in electricity consumption will be attributable to weather patterns will be much smaller than for gas, as far fewer households rely on electricity for heating.

Chart 2: Average Heating Degree Days 2004-2012



Heating Degree Days (HDDs) are used to reflect how weather influences the energy used to heat homes. They are calculated relative to a base temperature (DECC use 15.5°C), so if a day has an average (of the maximum and minimum) temperature of 10°C, the HDD for that day will be 5.5. If the daily average temperature exceeds the base temperature, the HDD for that day will be 0. The HDDs are summed for each month and published in Table 7.1 of Energy Trends.

Between 2004 and 2009 the number of Heating Degree Days per calendar year was relatively consistent. Over this period, annual energy consumption fell fairly steadily, as shown in Chart 1. In 2010 the comparatively much colder weather saw the number of Heating Degree Days jump by 20 per cent, and led to a corresponding rise in energy consumption. The warmer weather of 2011 had the opposite effect.

Average 2012 temperatures were much cooler, with the number of Heating Degree Days rising by 20 per cent compared to 2011. This led to an increase in demand for electricity and gas for heating resulting in greater consumption of energy by the domestic sector in 2012 than in 2011.

[3] Energy Consumption in the UK: Table 3.7

Annual Domestic Energy Bills based on Actual Consumption

Table 2 shows estimates of annual household consumption of gas and electricity for 2008 – 2012. These are calculated by dividing total energy consumption figures shown in Chart 1 by DECC estimates of customer numbers on each fuel type.[4]

Table 2: Average annual household consumption in kWh 2008-2012 [5]

	Standard Electricity	E7 Electricity	Total electricity	Gas
2008	4,130	6,430	4,510	16,550
2009	4,130	6,180	4,440	15,230
2010	4,090	6,230	4,420	17,800
2011	3,830	5,850	4,120	13,260
2012	3,780	6,430	4,160	15,180
2011-12 % Change	*-1.3%*	*9.9%*	*1.0%*	*14.5%*

Most energy tariffs are comprised of a fixed and a variable element. These can be in the form of either a Standing Charge and Single Unit price structure, or a tariff whereby a customer pays a high price for a set number of units of energy consumed, and any subsequent consumption is paid for at a lower unit rate. The average fixed and variable prices and corresponding bills for 2010-2012 can be seen in table 3 below:

Table 3: Average Fixed and Variable prices and corresponding bills under both actual and assumed consumption levels [6] [7]

		Average Annual Fixed Cost (£)	Average Peak Unit Price (p/kWh)	Average Off Peak Unit Price (p/kWh)	Bill using standard consumption	Bill using actual consumption
Gas	2010	94.09	3.14		£658	£652
	2011	106.63	3.40		£719	£558
	2012	112.74	3.82		£800	£693
Standard Electricity	2010	44.50	11.30		£418	£507
	2011	56.38	12.02		£453	£517
	2012	60.72	12.66		£479	£539
Economy 7 Electricity	2010	72.00	13.22	5.09	£652	£619
	2011	70.88	14.48	5.65	£708	£636
	2012	75.15	15.28	6.20	£757	£739
Combined Bill (Gas + Std Electricity)	2010				£1,076	£1,159
	2011				£1,172	£1,075
	2012				£1,279	£1,232

From 2010 to 2012, bills based on standard consumption assumptions have been rising consistently between years. This reflects price increases during this period. However, when variations in annual consumption are taken into account, a different trend for each payment type is evident.

[4] DECC estimates that in 2012 there were 23.3 million domestic Standard electricity customers and 3.9 million Economy 7 electricity customers in the UK, and 22.0 million domestic Gas customers in Great Britain. These figures are based on DCLG household numbers published in Table 3.3 of DECC's Energy Consumption in the UK, data collected through the Domestic Fuel Inquiry, and other sources.

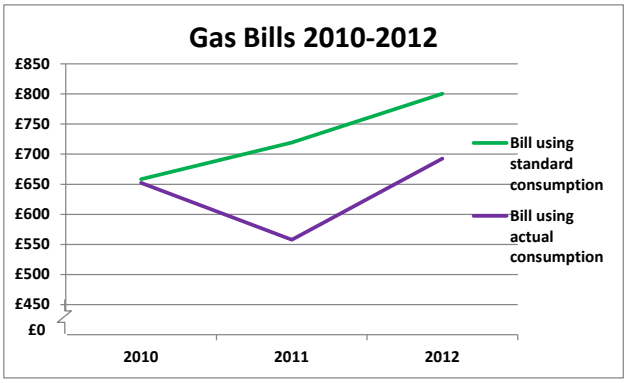
[5] Total domestic consumption figures are available in DUKES tables 4.2 (Gas) and 5.3 (Electricity).

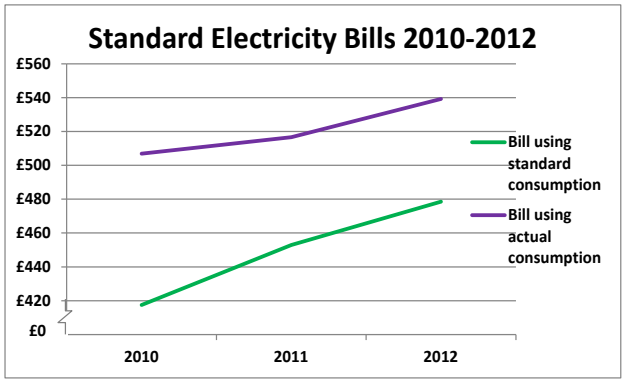
[6] The average unit prices are published in QEP tables 2.2.4 (Electricity) and 2.3.4 (Gas).

[7] Economy 7 electricity tariffs are based on different prices for units consumed during the day (peak) and night (off-peak). Our bills calculations assume 55% of electricity is consumed at the lower night rate.

The large drop in gas consumption between 2010 and 2011 outweighed the effects of the rising prices, and so bills based on actual consumption fell. When consumption rose again in the cooler 2012, bills rose to their peak level over this three year period, as a result of both the higher consumption and higher prices.

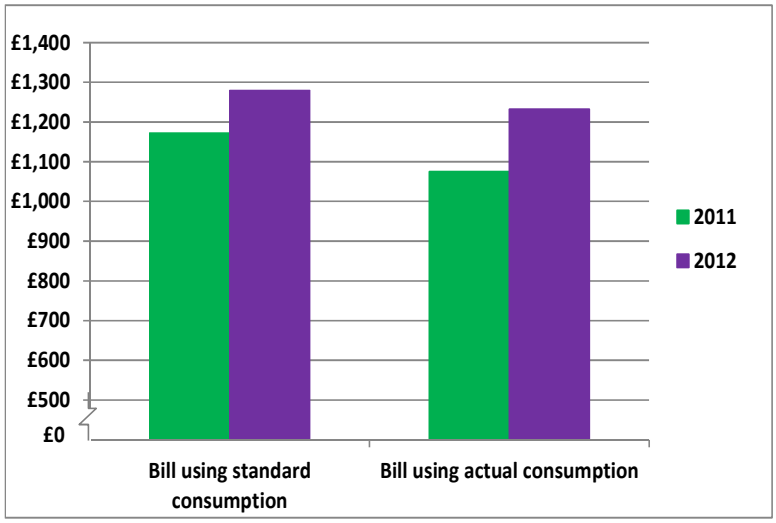
Charts 3 and 4: Annual Gas and Standard Electricity Bills 2010-2012





The impact of weather on standard electricity consumption is much less than for gas, as mentioned earlier. As a result, standard electricity consumption fell steadily between 2010 and 2012, which is likely to be due to improvements to the energy efficiency of lights and appliances as opposed to movements in annual average temperatures. These falling consumption levels meant that although actual bills did rise between these years (due to rising prices), they did not rise by as much as they did under standard consumption assumptions.

Chart 5: Combined Energy Bills 2011-2012



Between 2011 and 2012, combined energy bills rose when calculated both with standard consumption assumptions, and actual consumption figures. Combined bills based on actual energy consumption were £1,075 in 2011, and rose by £157 (14.6%) to £1,232 in 2012.

Average household gas consumption rose by 14.5 per cent between 2011 and 2012. Combined with the effects of price increases implemented by energy suppliers in 2012, actual gas bills rose by £135 over this period.

For standard electricity, average household consumption fell by 1.3 per cent between 2011 and 2012. This was not enough to counteract the effects of the price rises implemented by suppliers at the end of 2011 and 2012, and so actual average standard electricity bills rose by £22 between 2011 and 2012.

User Feedback

Please send any comments or queries regarding this analysis to the contact details below:

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Petrol and diesel prices

Introduction

Estimates of retail prices for unleaded petrol (ultra-low sulphur petrol – ULSP) and diesel (ultra-low sulphur diesel – ULSD) are published in Section 4 of DECC's Quarterly Energy Prices publication. This article provides background to petrol and diesel prices and analysis of price movements over the past few years.

Background

The price of crude oil is the main driver of changes in petroleum product prices. Crude oil prices are influenced by a number of factors, both local and global. Other factors affecting petroleum product prices are the rates of hydrocarbon oil duty and VAT. The current retail price of ULSP is 137.58 pence per litre, of which the pre-tax price is 56.70 p/l (41%), duty is 57.95 p/l (42%), and VAT is 22.93 p/l (17%).

Prices post-2000

Oil prices

The price of crude oil has been on an upward trend since the early years of this century. The start of the Iraq War in 2003, hurricane damage to US refineries in 2005, conflict in Lebanon in 2006, increased demand from emerging economies, geopolitical tensions, and the weak dollar in 2008 all led to price increases. Crude oil prices peaked in real terms in 2008, reaching over $140 per barrel in cash terms in July (10 per cent higher than the real terms peaks reached in the late 1970's), before dropping sharply into December 2008 as the world economy slowed. Prices then increased from January 2009 on, with prices in 2011 staying above $100/barrel throughout the year.

In the first quarter of 2012, prices were in the range of $120 -$125/barrel, due to concerns over potential Iranian supply disruption, but in April the crisis in the Eurozone caused reduced estimates of future demand, and hence prices, to fall. By June, prices had fallen below $100/barrel for the first time since January 2011. However, by July prices were increasing again, as Eurozone worries reduced, and concerns about potential supply disruption in the Middle East, maintenance outages in the North Sea planned for September, and the upcoming Gulf of Mexico hurricane season drove prices back up. By late August prices had reached over $115/barrel, but fell back to around $110 by December due to worries about a possible fiscal crisis in the US. Prices increased steadily into 2013, reaching 4-month highs of over $118 in mid-February due to increased demand from China, before falling back to around $110 in early March as political gridlock in Washington triggered automatic U.S. budget cuts.

Petroleum product prices

Chart 1 on the next page shows how changes in petrol and diesel prices compare to changes in crude oil prices. The prices for road fuels closely follow the pattern of the crude oil index, with the crude oil price spike in 2008 and the fall that followed in 2009 clearly shown in the crude price index and reflected in the prices of both fuels.

Tax and Duty

Chart 2 shows the relative percentages of the retail price for unleaded petrol represented by the operator's price, by VAT, and by duty. Tax and duty on road fuels is comprised of hydrocarbon oil duty and VAT, which together currently account for around 60% of the retail price of road fuel - amongst the highest rate in Europe. However, as duty is a fixed rate, the proportion of tax and duty varies as the wholesale price of the fuel changes. Tax and duty has accounted for almost 75% of the retail price of petrol as recently as January 2009, when retail prices were almost 60% lower than present (at 86.3 p/l), compared to 59% tax and duty in March 2013.

Chart 1: Percentage changes in average prices of ULSP, & ULSD and crude oil

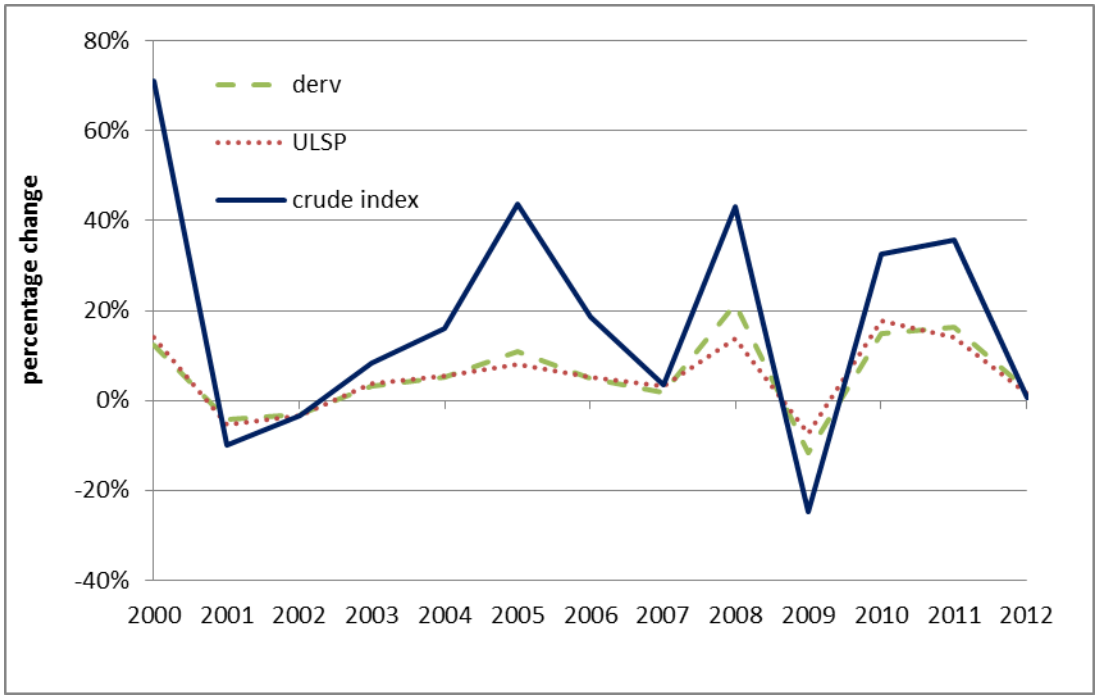
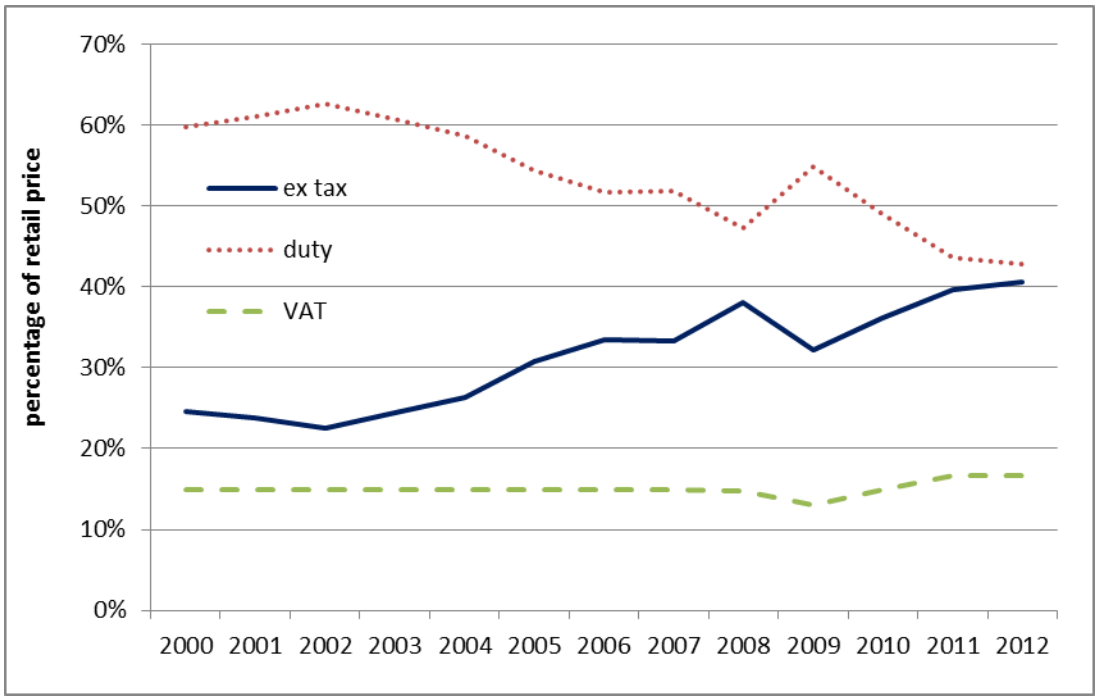


Chart 2: Percentage of ULSP retail price represented by operator's price, tax and duty



The Chancellor of the Exchequer is responsible for duty policy, which is currently that rates should rise each year at least in line with inflation. Addressing the concerns surrounding high oil prices, the fair fuel stabiliser was introduced in March 2012, under which fuel duty will not rise beyond the rate of retail price inflation when oil prices are above $75 (£45) per barrel. Duty rates on road fuels have not changed since March 2011, with the proposed rise of 3 pence per litre due in September 2013 being cancelled in the 2013 Budget of 20 March.

Data collection and methodology

DECC collects and publishes petrol and diesel price data weekly and monthly. Fourteen companies (ten oil companies and four supermarkets), covering over 90% of the road fuel market, provide monthly road fuel price data. A smaller sample provides prices weekly. Both surveys also collect price data on gas oil and standard grade burning oil (kerosene heating oil).

The weekly prices are collected every Monday and are the prices for that day. The monthly prices are collected mid-month and are prices as of the 15th of the month. To reduce the burden on business, those companies that supply weekly prices are not re-surveyed for the monthly survey, instead their weekly data for the date closest to the 15th is used.

For both weekly and monthly prices, the average price for each fuel is calculated by weighting the individual company prices by the annual volume of sales of each reporting company, stratified by 'supermarkets' and 'other'. The weekly data is also provided to the European Commission under Council Decision 1999/280/EC. The monthly data is provided to the Office for National Statistics (ONS) as part of the Producer Price Index (PPI) survey, and as such is statutory under the Statistics of Trade Act.

Data validation and standard errors

A daily price survey using an alternative methodology is produced by a commercial reporting company and the data made available to DECC and published on their website. Each week, the data are compared to ensure that both series are moving in similar directions. In addition, the weekly data closest to the 15th of the month is regularly compared against the mid-month prices collected for the monthly statistics.

Estimates of the standard error on the monthly prices are around 0.1% for both petrol and diesel, based on data for the first six months of 2012. The standard errors on weekly estimates are slightly higher, at around 0.25%, due to the smaller sample size (around 65% compared to over 90% for the monthly survey).

Publication

The weekly (Monday) prices for ULSP and ULSD are published on the DECC website each Tuesday at 9.30 am:
www.gov.uk/government/uploads/system/uploads/attachment_data/file/85829/weekly_fuel_prices.xls. This is one of the most timely data releases available, with data collected on the Monday afternoon. Data are delayed for one day for Bank Holidays falling on a Monday.

Monthly prices for ULSP and ULSD, plus prices for super-unleaded petrol, gas oil and standard grade burning oil, are published on the last Thursday of each month in Table 4.1.1 on the DECC website:
www.gov.uk/government/uploads/system/uploads/attachment_data/file/69866/qep_411.xls

The monthly data is published one month in arrears, but an initial estimate of ULSP and ULSD prices for the current month is also published, based on the weekly data. The spreadsheet also details quarterly and annual prices, and prices excluding VAT and excluding VAT & duty. Commentary is provided on price changes (month on month and year on year).

Other uses of the data

The weekly prices, along with data on tax and duty rates, are reported to the EU for publication in the 'Oil Bulletin': http://ec.europa.eu/energy/oil/index_en.htm. This data on a monthly basis is combined with data for other EU member states and re-published by DECC in Table 5.1.1 and 5.2.1, which show how UK petrol and diesel prices compare with the rest of Europe:
www.gov.uk/government/uploads/system/uploads/attachment_data/file/69869/qep_511.xls

The monthly prices are also used to produce Table 4.1.3, which has average prices for January of each year:
www.gov.uk/government/uploads/system/uploads/attachment_data/file/69868/qep_413.xls

The monthly prices are also used to produce price indices for the monthly PPI (Producer Price Index) that DECC prepares for ONS (Office of National Statistics).

User feedback

Please send any comments or queries about this article to:

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Long term mean temperatures 1981-2010

Introduction

DECC are planning on changing the 30 year long term mean period used to calculate temperature data comparisons be changed from 1971-2000 to 1981-2010 with effect from the publication of the June 2013 edition of Energy Trends on 27 June 2013.

Background

Long term mean averages are normally updated at the end of each decade, with thirty years selected as a period long enough to eliminate any year-to-year variations.

At present average mean air temperatures are calculated from the maximum and minimum daily temperature as recorded at 17 meteorological stations, selected as representative of fuel consumption in Great Britain, 2 in Scotland, 2 in Wales and 13 in England, 4 of which are double weighted. Data on temperatures recorded are provided by the Meteorological Office. Temperature comparisons with previous months and the long term mean are then published every month in the Energy Trends table 7.1 at: www.gov.uk/government/organisations/department-of-energy-climate-change/series/weather-statistics.

Temperature data are used in the compilation of Energy Trends tables 1.2, inland energy consumption: primary fuel input basis, seasonally adjusted and temperature corrected series, and table 1.3c seasonally adjusted and temperature corrected final energy consumption data by fuel and sector, available at: www.gov.uk/government/publications/total-energy-section-1-energy-trends. Articles in the June and September 2011 editions of Energy Trends provide more background to the methodology used in the compilation of these tables as well as the publication of heating degree day (HDD) data in Energy Trends table 7.1.

Impact

A summary of the average monthly and annual temperatures and the differences between the two 30 year periods is shown in Table 1. All months show a increase in average temperature, except December which shows a fall of 0.4 degrees Celsius, whilst annually there has been an increase of 0.23 degrees Celsius. This is similar to the increase noted between 1971-2000 and 1961-1990. The DECC numbers differ marginally than those published on the Met Office website, due to the different number of weather stations and weightings used.

Table 1: Comparison of long term mean temperatures

Degrees Celsius

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1971-2000	4.3	4.5	6.2	7.9	11.0	13.7	16.2	16.0	13.6	10.3	7.0	5.1	9.7
1981-2010	4.6	4.6	6.5	8.4	11.4	14.1	16.4	16.2	14.0	10.6	7.3	4.7	9.9
Difference	+0.3	+0.1	+0.3	+0.5	+0.4	+0.4	+0.2	+0.2	+0.3	+0.3	+0.3	-0.4	+0.2

Heating Degree Days

In DECC's temperature and seasonal adjustment, the adjustments for temperature are based on heating degree days. These have also been re-estimated for the period 1981-2010. As we do not have detailed daily temperature data for each of the 17 stations for the full period, some estimation was required. A base temperature of 15.5 degrees Celsius was used, as detailed in an article in Energy Trends in June 2011, and the methodology note on energy balances available on the DECC website.

The period 1981-2010 was warmer than the period 1971-2000 as previously mentioned. In the period 1971-2000, we estimated that on average there were 2,244 heating degree days per year. For the period 1981-2010 we estimate that there were on average 2,176 heating degree days, a fall of 3.0 per cent.

In general the change in the base period is unlikely to have a significant effect on the messages being derived from the adjusted data, as the main inferences from the data are year on year changes as shown in table 1.2 in this publication, where base data effects will cancel each other out. New regression factors will though be estimated, so some small changes in growth rates published in June/July may occur.

Timing

DECC plan to change all of the above tables in June 2013 consistent with the new 30 year long term mean period of 1981-2010. The annual DUKES temperature tables 1.1.7 to 1.1.9, available at:
www.gov.uk/government/organisations/department-of-energy-climate-change/series/weather-statistics, will be similarly changed on publication of the 2013 edition of the Digest of United Kingdom Energy Statistics on 25 July 2013.

User feedback

We welcome feedback from users, therefore if you have any comments or queries regarding the change in the long term mean temperature period, please contact Iain MacLeay or Kevin Harris using the contact details below.

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DECC and the new Government website

Introduction

On 23 January 2013 DECC's website content moved to the new single website for Government www.gov.uk. The new homepage for DECC is now: www.gov.uk/decc, and the new homepage for DECC statistics is now: www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics. By 2014, the websites of all government departments and many other public bodies will have moved to www.gov.uk, some have already moved, and others will follow over the next few months.

Background

The statistical content on the new website is exactly the same as before with each statistical series shown on the DECC statistics homepage. Some examples of the new statistical series web addresses that may be of interest to readers of Energy Trends include:

Electricity statistics:
www.gov.uk/government/organisations/department-of-energy-climate-change/series/electricity-statistics

Renewables statistics:
www.gov.uk/government/organisations/department-of-energy-climate-change/series/renewables-statistics

Domestic Energy Price statistics:
www.gov.uk/government/organisations/department-of-energy-climate-change/series/domestic-energy-prices

Energy Trends publications:
www.gov.uk/government/organisations/department-of-energy-climate-change/series/energy-trends

All web addresses from the old DECC website will automatically be redirected to the new website, so users do not need to change any links or bookmarks that they have set up.

All current data and publications previously available on the old DECC website have been transferred to the new website; historic data and publications can however still be accessed via the National Archives website at:
http://webarchive.nationalarchives.gov.uk/20130109092117/http://www.decc.gov.uk/en/content/cms/statistics/statistics.aspx

The new website also hosts a search facility to enable users to find statistics and documents that DECC has published, available at:
www.gov.uk/government/publications?departments%5B%5D=department-of-energy-climate-change&publication_filter_option=statistics, which can be filtered by publication type, topic, government department and date. Published alongside the search facility is a live feed listing the latest statistics content published by DECC.

User feedback

We welcome all feedback from users, therefore if you have any comments or queries regarding the new website, please contact Kevin Harris using the contact details below.

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UKCS capital expenditure survey 2012

A survey of activity relating to oil and gas fields and associated infrastructure on the UK Continental Shelf (UKCS) was conducted in autumn 2012. The annual joint DECC–Oil & Gas UK survey was conducted by Oil & Gas UK who have collated the data and provided it to DECC. The survey covered operators' intentions to invest in UKCS oil and gas production. It also collected information on projected operating and decommissioning costs and on oil and gas production. This note is restricted to development capital expenditure in the period up to 2017.[1]

Summary of results

The survey indicates total development capital expenditure (i.e. excluding expenditure on exploration, appraisal and decommissioning) relating to existing fields and significant discoveries of some £11.6 billion in 2012. The reported survey data suggest that (in 2012 prices) expenditure might rise to around £14.5 billion in 2013 and £13.5 billion or more in 2014 but much uncertainty applies to these figures and, based on recent experience, they seem unlikely to be reached in practice, with £14 billion in 2013 and £13 billion in 2014 more reasonable central estimates.

After 2014, the survey indicates a sustained high level of development capital expenditure but such projections are inevitably very uncertain. It is extremely unlikely that all of the possible projects will go ahead as reported, at least on the timeframe indicated, but against that the survey excludes activity relating to new and some recent discoveries and extends beyond the time horizon for planning many incremental projects.

Background

Operators were asked to report their investment intentions for all oil and gas field developments and projects where development data were available. They placed each field or project in one of the following categories:

Sanctioned fields - fields, including sanctioned incremental investments, which are in production or under development assuming minimum ongoing investment (e.g. mandatory environmental or safety projects, etc.)

'Probable' incremental projects - projects which are not yet sanctioned but with at least 50% probability of being technically and economically developable

Probable new field developments - new fields which are not yet sanctioned but with at least 50% probability of being technically and economically producible

'Possible' incremental projects - projects which are not yet sanctioned with a significant but less than 50% probability of being technically and economically developable

Possible new field developments - new fields which are not yet sanctioned with a significant but less than 50% probability of being technically and economically producible

Operators were asked to include any developments which have the potential to become commercial at some time in the next 10 years. They were asked to indicate the probability of each new field or project going ahead and to use the central (most likely) case in the event that there was uncertainty about the timing of expenditure. Operators' estimates (of costs and production) were meant to be consistent with commercial development.

Capital expenditure plans by category

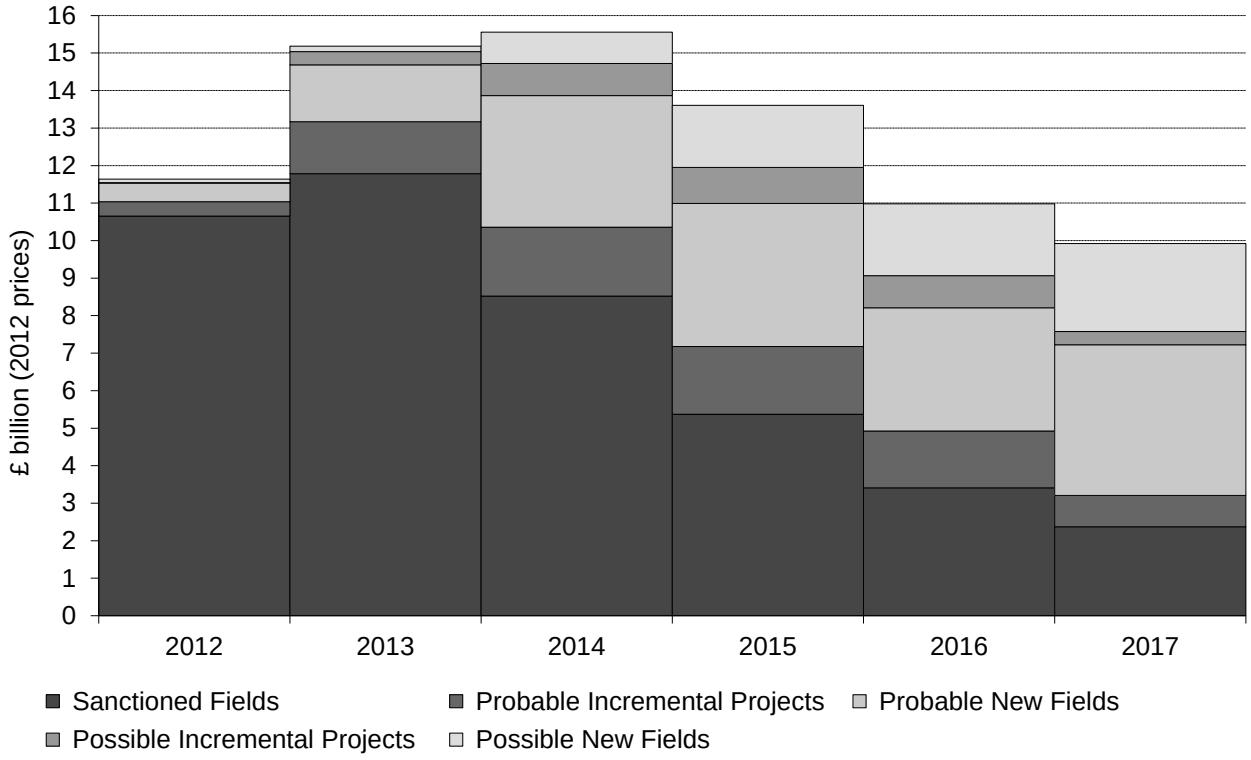
The results of the survey are summarised in Table 1 and illustrated in Chart 1. Expenditure has been included at the time reported by the operators though it is likely that at least some of the less-certain projects will slip or not even materialise. The table also includes weighted totals which reflect the probabilities assigned by the operators. The resultant profile for total development capital expenditure is very close to that for sanctioned fields plus probable projects.

1. A report by Oil & Gas UK on the full range of findings from the survey and a parallel survey of exploration and appraisal activity, *2013 Activity Survey*, was published in February 2013 and is available online at www.oilandgasuk.co.uk/.

Table 1: Total development capital expenditure plans by category

(£ billion, 2012 prices)	2012	2013	2014	2015	2016	2017	Total for 2013–2017
Sanctioned Fields	**10.7**	**11.8**	**8.5**	**5.4**	**3.4**	**2.4**	**31.5**
Probable Incremental Projects	0.4	1.4	1.8	1.8	1.5	0.8	7.4
Probable New Fields	0.5	1.5	3.5	3.8	3.3	4.0	16.1
Sanctioned plus Probable	**11.5**	**14.7**	**13.9**	**11.0**	**8.2**	**7.2**	**55.0**
Possible Incremental Projects	0.0	0.4	0.9	1.0	0.9	0.4	3.4
Possible New Fields	0.1	0.1	0.8	1.7	1.9	2.3	6.9
Sanctioned plus Probable plus Possible	**11.6**	**15.2**	**15.6**	**13.6**	**11.0**	**9.9**	**65.3**
Weighted Total	**11.6**	**14.3**	**13.5**	**11.0**	**8.4**	**7.3**	**54.5**

Chart 1: Total development capital expenditure plans by category



Compared with the intentions over the five years following the survey conducted in 2011, the 2012 survey indicates a large increase in sanctioned expenditure both absolutely and as a proportion of the total, reflecting the approval of several major projects in the last year, while expenditure on probable projects has fallen both absolutely and as a proportion of the total.

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Recent and forthcoming publications of interest to users of energy statistics

Electricity and gas consumption at middle layer super output area (MSOA), lower layer super output area (LSOA) and intermediate geography zone (IGZ) level during 2011

On 28 March 2013, DECC released 2011 electricity and gas consumption data for England and Wales at Middle Layer Super Output Area (MSOA) level, and for Scotland at Intermediate Geography Zone (IGZ) level. These data are available for both domestic and non-domestic gas and domestic and non-domestic electricity consumption (though excluding consumption from businesses on half-hourly meters).

These follow on from the publication of similar estimates for 2005 to 2010 and are classed as National Statistics. MSOAs are a statistical geography developed by the Office for National Statistics (ONS) as part of the 2001 census. On average, an MSOA contains a population of around 7,200 (with a minimum of 5,000), while IGZs are slightly smaller containing an average of around 4,000 people (with a minimum of 2,500).

Also on 28 March 2013, DECC released 2011 LSOA electricity and gas consumption data for domestic consumers within England and Wales. This data has previously been published for the whole of England and Wales for 2008 to 2010 following successful pilot carried when the 2007 data were published for around 40 local authorities.

LSOAs are also a statistical geography developed for the 2001 Census by the ONS. The 34,378 LSOAs in England and Wales have a minimum population of 1,000 (or around 400 households) and are used as the building block for MSOAs. DECC are only able to publish the gas and electricity LSOA consumption data for domestic consumers. Due to the small size of these geographical areas, the majority of the non-domestic consumption would be disclosive and would have to be aggregated.

These datasets complement the local authority based data sets released in December 2012.

These data can be accessed on the DECC website at:
www.gov.uk/government/organisations/department-of-energy-climate-change/series/mlsoa-and-llsoa-electricity-and-gas-estimates

The MSOA, LSOA and IGZ geography boundaries are in the process of being updated by the Office for National Statistics following the 2011 census; these changes will result in property coverage changes to around 2½ per cent of LSOAs, and around 2 per cent of MSOAs. Further information on the changes resulting from the census can be found on the neighbourhood statistics website at: www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/census/output-area--oas-/index.html

DECC will be adopting the new boundaries and definitions for data relating to 2012 onwards.

Green Deal and Energy Company Obligation monthly statistics

On 14 March 2013 monthly data on the Green Deal and Energy Company Obligation (ECO) was published for the first time, covering the period to end February 2013.

This follows the launch of ECO on 1 January 2013, and the launch of the Green Deal on 28 January 2013. Data to end March 2013 will be available on 11 April and then will be updated monthly.

Data on Green Deal Plans, and Green Deal and ECO measures installed will be published in June.

The reports and data can be accessed on the DECC website at: www.gov.uk/government/organisations/department-of-energy-climate-change/series/green-deal-and-energy-company-obligation-eco-statistics

Energy UK "Compare My Energy" tool

Energy UK have used data from DECC's National Energy Efficiency Data-Framework (NEED) to create a tool which allows households to compare their gas and electricity consumption with the typical consumption for similar properties. It is intended to help consumers understand where they could save energy and provides pointers to information about ways to reduce consumption.

The tool can be found at: www.comparemyenergy.org.uk.

List of special feature articles published in Energy Trends in 2012

Energy

June 2012	DECC report on surveys of business in 2011/12
September 2012	Running hours during winter 2011/12 for plants opted-out of the Large Combustion Plant Directive (LCPD) Estimates of heat use in the United Kingdom in 2011

Combined Heat and Power (CHP)

September 2012	Combined Heat and Power in Scotland, Wales, Northern Ireland and the regions of England in 2011

Electricity

December 2012	Electricity generation and supply figures for Scotland, Wales, Northern Ireland and England, 2008 to 2011

Energy efficiency

September 2012	Home insulation levels in Great Britain – methodological changes Number of properties benefitting through receipt of insulation measures and energy efficiency products from Energy Supplier obligations
December 2012	National Energy Efficiency Data-Framework

Energy prices

March 2012	Domestic energy bills in 2011
June 2012	Estimates of domestic dual fuel energy bills in 2011 Industrial energy prices
December 2012	Tariff type variation in the domestic energy market

Feed-in Tariffs

March 2012	Feed in Tariffs: 2010/11 generation data
June 2012	Identifying trends in the deployment of domestic solar PV under the Feed-in Tariff scheme
September 2012	Feed-in Tariff statistics

Fuel Poverty

June 2012	Fuel Poverty levels in England, 2010

Petroleum (oil and oil products)

March 2012	Comparison of M-1 and M-2 oil data

Renewables

June 2012	Renewable energy in 2011
September 2012	Renewable electricity in Scotland, Wales, Northern Ireland and the regions of England in 2011 National Grid operational metering data and renewables New Renewables Obligation Certificates (ROCs) table

Sub-national energy consumption

March 2012	Sub-national electricity consumption statistics and household energy distribution analysis for 2010 Gas and electricity consumption data below Local Authority level Identifying local areas with higher than expected domestic gas use
June 2012	Sub-national road transport fuel consumption statistics for 2010 and analysis of national trends in diesel and petrol use
December 2012	Sub-national energy consumption statistics updates

UK Continental Shelf (UKCS)

March 2012	UKCS capital expenditure survey 2011

PDF versions of the special feature articles appearing in Energy Trends in 2012 can be accessed on the DECC website at:
www.gov.uk/government/organisations/department-of-energy-climate-change/series/energy-trends-articles

Articles published before 2012 can be accessed on the National Archives version of the DECC website at:
http://webarchive.nationalarchives.gov.uk/20130109092117/http://www.decc.gov.uk/en/content/cms/statistics/statistics.aspx

Explanatory notes

General

More detailed notes on the methodology used to compile the figures and data sources are available on the DECC website.

Symbols used in the tables

.. not available
- nil or less than half the final digit shown
p provisional
r revised; where a column or row shows 'r' at the beginning, most, but not necessarily all, of the data have been revised.
e estimated; totals of which the figures form a constituent part are therefore partly estimated

Notes to tables

- Figures for the latest periods and the corresponding averages (or totals) are provisional and are liable to subsequent revision.
- The figures have not been adjusted for temperature or seasonal factors except where noted.
- Due to rounding the sum of the constituent items may not equal the totals.
- Percentage changes relate to the corresponding period a year ago. They are calculated from unrounded figures but are shown only as (+) or (-) when the percentage change is very large.
- Quarterly figures relate to calendar quarters.
- All figures relate to the United Kingdom unless otherwise indicated.

Conversion factors

1 tonne of crude oil =	7.55 barrels
1 tonne =	1,000 kilograms
1 gallon (UK) =	4.54609 litres
1 kilowatt (kW) =	1,000 watts
1 megawatt (MW) =	1,000 kilowatts
1 gigawatt (GW) =	1,000 megawatts
1 terawatt (TW) =	1,000 gigawatts

All conversion of fuels from original units to units of energy is carried out on the basis of the gross calorific value of the fuel. More detailed information on conversion factors and calorific values is given in Annex A of the Digest of United Kingdom Energy Statistics.

Conversion matrices

To convert from the units on the left hand side to the units across the top multiply by the values in the table.

To:	**Thousand toe**	**Terajoules**	**GWh**	**Million therms**
From	**Multiply by**			
Thousand toe	1	41.868	11.630	0.39683
Terajoules (TJ)	0.023885	1	0.27778	0.0094778
Gigawatt hours (GWh)	0.085985	3.6000	1	0.034121
Million therms	2.5200	105.51	29.307	1

To:	**Tonnes of oil equivalent**	**Gigajoules**	**kWh**	**Therms**
From	**Multiply by**			
Tonnes of oil equivalent	1	41.868	11,630	396.83
Gigajoules (GJ)	0.023885	1	277.78	9.4778
Kilowatt hours (kWh)	0.000085985	0.003600	1	0.034121
Therms	0.0025200	0.105510	29.307	1

Note that all factors are quoted to 5 significant figures

Abbreviations

ATF	Aviation turbine fuel
CCGT	Combined cycle gas turbine
DERV	Diesel engined road vehicle
GVA	Gross value added
LNG	Liquefied natural gas
MSF	Manufactured solid fuels
NGLs	Natural gas liquids
UKCS	United Kingdom continental shelf

Sectoral breakdowns

The categories for final consumption by user are defined by the Standard Industrial Classification 2007, as follows:

Fuel producers	05-07, 09, 19, 24.46, 35
Final consumers	
Iron and steel	24 (excluding 24.4, 24.53 and 24.54)
Other industry	08, 10-18, 20-23, 24.4 (excluding 24.46), 24.53, 24.54, 25-33, 36-39, 41-43
Transport	49-51
Other final users	
Agriculture	01-03
Commercial	45-47, 52-53, 55-56, 58-66, 68-75, 77-82
Public administration	84-88
Other services	90-99
Domestic	Not covered by SIC 2007

ENERGY TRENDS

Energy is a major natural resource and a key factor in the economy and environment of the United Kingdom. Data on energy supply and demand, energy prices and values and trade in energy are vital components of this country's main economic and environmental indicators.

ENERGY TRENDS, which was first published in the 1960s, is a quarterly publication produced by the Department of Energy and Climate Change. With tables, charts and commentary covering all the major aspects of energy, it provides a comprehensive picture of energy production and use.

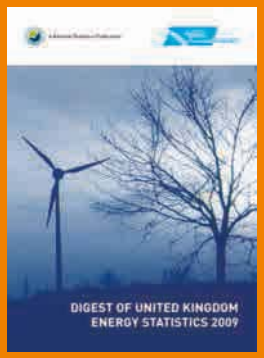
ENERGY TRENDS provides essential information for everyone involved in energy, from economists to environmentalists, and from energy suppliers to energy users.

Quarterly Energy Prices and Energy Trends

Subscription available from DECC (0300 068 5056)
Price £40 per annum UK
www.gov.uk/government/organisations/department-of-energy-climate-change/series/quarterly-energy-prices
and
www.gov.uk/government/organisations/department-of-energy-climate-change/series/energy-trends
Single copies available from the Publications Orderline
priced £6 for Energy Trends and £8 for Quarterly Energy Prices.

UK Energy in Brief

Available from the Publications Orderline
www.gov.uk/government/organisations/department-of-energy-climate-change/series/uk-energy-in-brief



Digest of UK Energy Statistics

Available from the Stationery Office (0870 600 5522)
www.gov.uk/government/organisations/department-of-energy-climate-change/series/digest-of-uk-energy-statistics-dukes

Energy Consumption in the UK

Available on the Internet at:
www.gov.uk/government/organisations/department-of-energy-climate-change/series/energy-consumption-in-the-uk

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