Department of Energy & Climate Change

A National Statistics Publication

ENERGY TRENDS

MARCH 2014

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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.

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- 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.

This document is also available from our website at: www.gov.uk/government/collections/energy-trends

Explanatory notes are to be found inside the back cover

Contents

Contents continued

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 2013 edition of the Digest was published on 25 July 2013. Printed and bound copies of the 2013 Digest can be obtained from The Stationery Office and an electronic version is available on the DECC section of the gov.uk website at: www.gov.uk/government/collections/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 section of the gov.uk 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 section of the gov.uk website. Both sets of tables can be accessed at:
www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics

Annual data for 2013 included within this edition is on a provisional basis. New data are continually received and revisions to previous data made. Finalised figures for 2013 will be published on the 31 July 2014 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 section of the gov.uk 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 section of the gov.uk website at:
www.gov.uk/government/collections/quarterly-energy-prices

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The main points for 2013:

- Total energy production was 6½ per cent lower than in 2012, due to record low production levels of coal, oil and gas.

- Imports in 2013 were at a record high, with exports at their lowest level since 1980. As a result, net import dependency climbed to 47 per cent, its highest level since 1975.

- Crude oil & NGL production was 9 per cent lower than in 2012, the lowest annual production volume since our current reporting system began.

- Natural gas production was 6 per cent lower than in 2012, and at the lowest level of production since 1984. Gas exports and imports were, respectively, 24 per cent and 2½ per cent lower than in 2012.

- Coal production was 25 per cent lower than in 2012 due to mine closures, and at a record low level. Coal imports were 10 per cent higher. Generators' demand for coal was lower by 9 per cent. Coal stocks were 11 per cent higher.

- Total primary energy consumption for energy uses fell by ½ per cent from 2012. When adjusted to take account of weather differences between 2012 and 2013, primary consumption fell by just under 2 per cent.

- Final energy consumption was just over ½ per cent higher than in 2012, with rises in the domestic and services sectors but falls in the industrial and transport sectors. On a seasonally and temperature adjusted basis final energy consumption was just under ½ per cent lower than in 2012.

- Gas demand was 1 per cent lower than in 2012, mainly driven by the fall in gas demand for electricity generation, whilst electricity consumption was ½ per cent lower than in 2012, and at the lowest level since 1998.

- Electricity generated in 2013 fell by 2 per cent, from 363.8 TWh a year earlier to 356.7 TWh.

- Low carbon electricity's share of generation increased from 31 per cent in 2012 to 35 per cent in 2013, due to higher renewables and nuclear generation.

- Of electricity generated in 2013, coal accounted for 36 per cent (a fall of 3 percentage points on 2012) and gas 27 per cent (a fall of 1 percentage point on 2012), gas' lowest share since 1996, due to high gas prices. Nuclear's share increased by less than 1 percentage point on 2012 to 20 per cent of the total. Renewables' share of generation increased by 4 percentage points on 2012 to a record 15 per cent.

- Renewable electricity generation was 52.8 TWh in 2013, an increase of 28 per cent on the 41.3 TWh in 2012, with wind generation up 40 per cent. Renewable electricity capacity was 19.4 GW at the end of 2013, a 25 per cent increase (3.9 GW) on a year earlier.

- Provisional estimates show that carbon dioxide emissions fell between 2012 and 2013; the key factor driving the change was a switch in electricity generation away from fossil fuels.

The main points for the fourth quarter of 2013:

- Total energy production was broadly unchanged when compared with the fourth quarter of 2012.

- Crude oil & NGL production rose by 1 per cent when compared with the fourth quarter of 2012, within which crude oil production rose by 2½ per cent reflecting maintenance activity on the Buzzard field at the end of 2012, whilst NGL production fell by 19 per cent.

- Natural gas production was 2 per cent lower than the fourth quarter of 2012. Gas imports fell by 13 per cent, whilst exports fell by 12½ per cent.

- Coal production in the fourth quarter of 2013 was 30 per cent lower than the fourth quarter of 2012 and was at a record low. Coal imports were 4 per cent higher as generators' demand for coal was down by 18 per cent.

- Total primary energy consumption for energy uses fell by 5 per cent. However, when adjusted to take account of weather differences between the fourth quarter of 2012 and the fourth quarter of 2013, primary energy consumption fell by ½ per cent.

- Final energy consumption was 5½ per cent lower than in the fourth quarter of 2012. Domestic consumption fell by 12 per cent, with average temperatures being 1.4 degrees warmer than 2012. On a seasonally and temperature adjusted basis final energy consumption fell by ½ per cent.

- Gas demand was 10 per cent lower than the fourth quarter of 2012, whilst electricity consumption was 3½ per cent lower than in the fourth quarter of 2012, both driven down by the warmer weather in 2013.

- Electricity generated in the fourth quarter of 2013 fell by 5 per cent, from 97.0 TWh a year earlier to 92.3 TWh.

- Of electricity generated in the fourth quarter of 2013, gas accounted for 25 per cent (its lowest share in the last 15 years) due to high gas prices, whilst coal accounted for 36 per cent. Nuclear generation accounted for 20 per cent of total electricity generated in the fourth quarter of 2013, up from the 17 per cent share in the fourth quarter of 2012, due to increased availability.

- Renewables' share of electricity generation increased to a new record of 18 per cent from the 13 per cent share in the fourth quarter of 2012. Hydro generation increased by 7 per cent on the fourth quarter of 2012. Due to high wind speeds and increased capacity, onshore wind generation rose by 63 per cent and offshore wind by 42 per cent. Overall renewable generation was up 33 per cent compared to the same quarter in 2012.

- In the fourth quarter of 2013, 154 MW of installed capacity joined the Feed in Tariff scheme, increasing the total confirmed capacity to 2,241 MW, across 448,160 installations.

Section 1 - Total Energy

Key results show:

Provisional 2013

Total energy production was 6.6 per cent lower than in 2012, due to record low production levels of coal, oil and gas. **(Chart 1.1**)

Total primary energy consumption for energy uses was 0.6 per cent lower than in 2012. However, when adjusted to take account of weather differences between 2012 and 2013, primary energy consumption fell by 1.8 per cent. **(Chart 1.3**)

Final energy consumption was 0.7 per cent higher than in 2012, with rises in the domestic and services sectors but falls in the industrial and transport sectors, on a temperature corrected basis it is estimated to have fallen by 0.3%. (**Charts 1.4 & 1.5**)

Net import dependency was 47.2 per cent in 2013, its highest level since 1975, due to the falls in oil and gas production. Imports in 2013 were at a record high, with exports at their lowest level since 1980. Fossil fuel dependency was at a record low in 2013 at 86.1 per cent. (**Charts 1.6 & 1.7**)

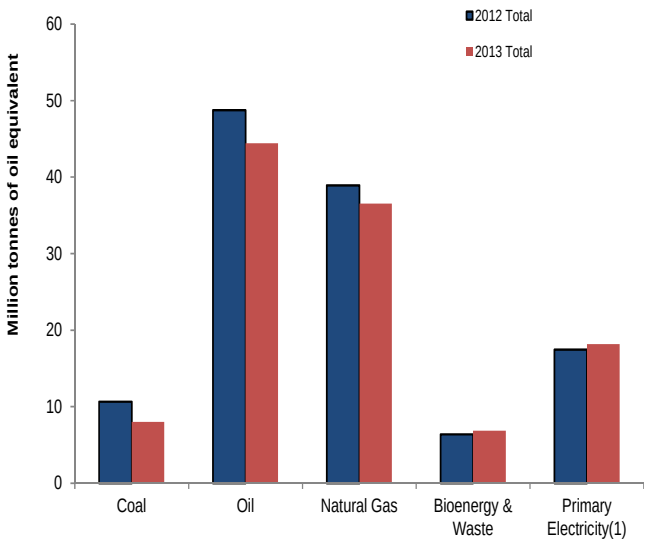
Quarter 4 2013

Total energy production was 0.1 per cent lower than in the fourth quarter of 2012. (**Chart 1.2**)

Total primary energy consumption for energy uses fell by 5.0 per cent. However, when adjusted to take account of weather differences between the fourth quarter of 2012 and the fourth quarter of 2013, primary energy consumption fell by 0.5 per cent. **(Chart 1.3**)

Final energy consumption fell by 5.5 per cent compared to the fourth quarter of 2012, with the warmer weather a significant factor, on a temperature corrected basis it is estimated to have fallen by 0.6%. (**Charts 1.4 & 1.5**)

Chart 1.1 Production of indigenous primary fuels



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

Total production in 2013 was 114.0 million tonnes of oil equivalent, 6.6 per cent lower than in 2012. This decrease was due to record low production levels of coal, due to a number of mine closures, and oil and gas due to the general decline on the UKCS. In Q4 2013 production was 0.1 per cent lower than in Q4 2012, which itself was very low due to maintenance activity.

Production of coal and other solid fell by 24.9 per cent between 2012 and 2013. In Q4 2013 production was 30.3 per cent lower than in Q4 2012.

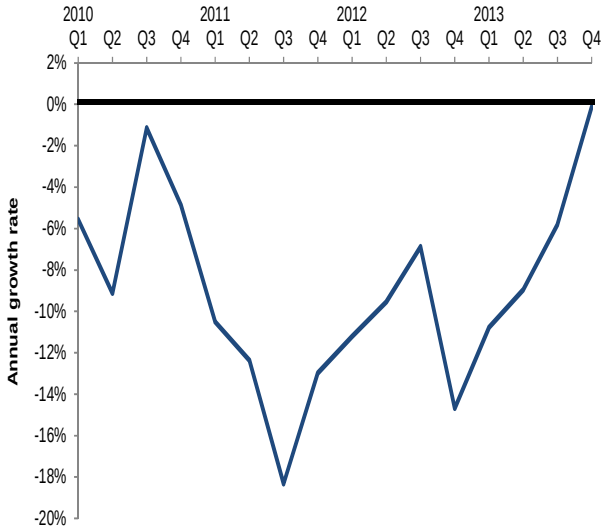
Production of oil fell by 8.8 per cent between 2012 and 2013. In Q4 2013 production was 1.2 per cent higher than in Q4 2012.

Production of natural gas fell by 6.2 per cent between 2012 and 2013. In Q4 2013 production was 2.2 per cent lower than in Q4 2012.

Production of bioenergy & waste rose by 8.0 per cent between 2012 and 2013. In Q4 2013 production was 8.0 per cent higher than in Q4 2012.

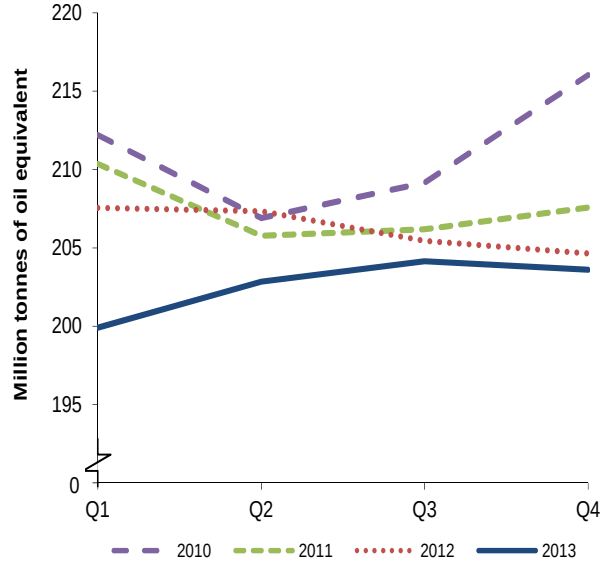
Primary electricity output rose by 4.2 per cent between 2012 and 2013, within which wind and natural flow hydro rose by 31.1 per cent to a record high level. In Q4 2013 primary electricity output was 15.0 per cent higher than in Q4 2012, within which wind and natural flow hydro rose by 45.6 per cent to a record high level.

Chart 1.2 UK production (annual growth rate)



In the fourth quarter of 2013 the annual growth rate of UK production was -0.1 per cent. This relatively strong performance is however a reflection of the particularly low level of production in the fourth quarter of 2012 when a number of issues affected oil and gas production.

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 202.6 million tonnes of oil equivalent in 2013, a fall of 1.8 per cent from 2012. On an unadjusted basis, consumption was down 0.6 per cent. The average temperature in 2013 was slightly cooler than in 2012 by 0.03 degrees Celsius. DECC estimate that the number of heating degree days increased by 3 per cent from 2185 to 2250. This was mainly due to a particularly cold first quarter in 2013.

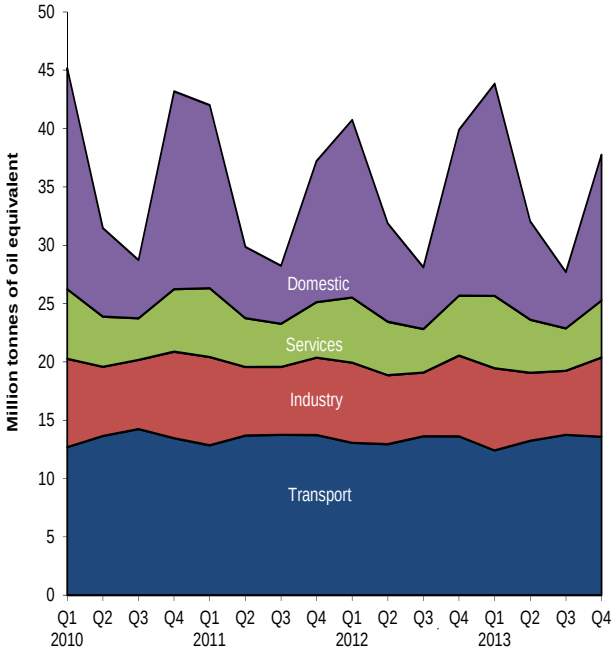
Total inland consumption on a primary fuel input basis (temperature corrected, seasonally adjusted annualised rate), was 203.6 million tonnes of oil equivalent in the fourth quarter of 2013, a fall of 0.5 per cent compared to the fourth quarter of 2012. On an unadjusted basis, consumption was down 5.0 per cent; the average temperature in the fourth quarter of 2013 was 1.4 degrees Celsius warmer than the same period a year earlier.

Between 2012 and 2013 (on a seasonally adjusted and temperature corrected basis) coal and other solid fuel consumption fell by 5.4 per cent. Between the fourth quarter of 2012 and the fourth quarter of 2013 consumption fell by 4.2 per cent.

On the same basis, gas consumption fell by 3.6 per cent between 2012 and 2013 and by 3.5 per cent between the fourth quarter of 2012 and the fourth quarter of 2013, as less gas was used in electricity generation.

Oil consumption fell by 1.7 per cent between 2012 and 2013 and by 0.8 per cent between the fourth quarter of 2012 and the fourth quarter of 2013.

Chart 1.4 Final energy consumption by user



In 2013, total final energy consumption (including non-energy use) was 0.7 per cent higher than in 2012.

Total final energy consumption fell by 5.5 per cent between the fourth quarter of 2012 and the fourth quarter of 2013.

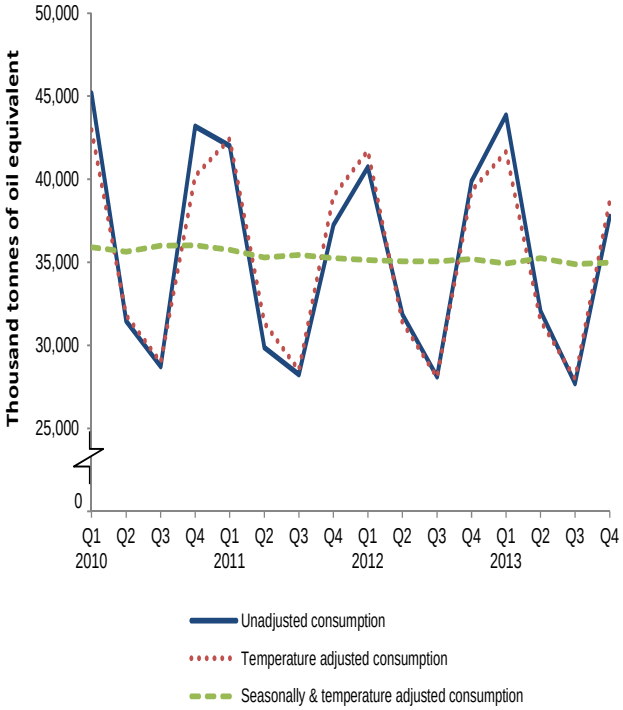
Domestic sector energy consumption fell by 12.1 per cent between the fourth quarter of 2012 and the fourth quarter of 2013, reflecting the warmer weather in Q4 2013; annually it rose by 1.8 per cent reflecting the colder weather in Q1 2013.

Service sector energy consumption fell by 5.0 per cent between the fourth quarter of 2012 and the fourth quarter of 2013; annually it rose by 1.3 per cent.

Industrial sector energy consumption fell by 1.9 per cent between the fourth quarter of 2012 and the fourth quarter of 2013; annually it fell by 0.1 per cent.

Transport sector energy consumption fell by 0.2 per cent between the fourth quarter of 2012 and the fourth quarter of 2013; annually it fell by 0.5 per cent.

Chart 1.5 Seasonally adjusted and temperature corrected final energy consumption



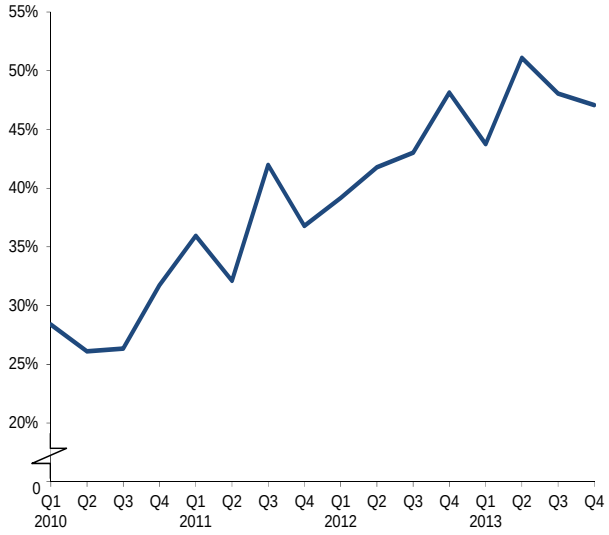
Total unadjusted final energy consumption (excluding non-energy use) rose by 0.5 per cent between 2012 and 2013. On a seasonally and temperature adjusted basis final energy consumption (excluding non-energy use) is estimated to have fallen by 0.3 per cent.

Total unadjusted final energy consumption (excluding non-energy use) fell by 5.4 per cent between the fourth quarter of 2012 and the fourth quarter of 2013.

On a seasonally and temperature adjusted basis final energy consumption (excluding non-energy use) is estimated to have decreased by 0.6 per cent between the fourth quarter of 2012 and the fourth quarter of 2013.

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

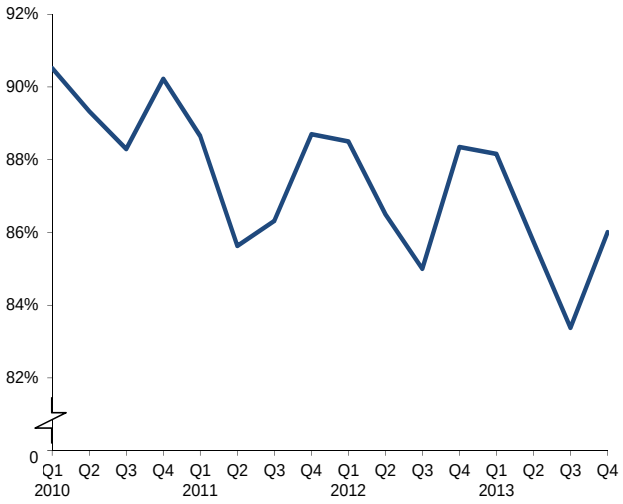
Chart 1.6 Net import dependency



Annually, total imports rose by 2.6 per cent to reach a new record high of 178.2 million tonnes of oil equivalent. Exports were down 5.1 per cent to 76.2 million tonnes of oil equivalent, its lowest annual level since 1980. These divergent trends have resulted in net import dependency increasing by 4.2 percentage points from 2012 to stand at 47.2 per cent, its highest annual level since 1975.

In the fourth quarter of 2013, imports fell by 4.0 per cent, whilst exports rose by 1.7 per cent. As a result, net import dependency fell 1.1 percentage points from the fourth quarter of 2012 to 47.1 per cent.

Chart 1.7 Fossil fuel dependency



Dependency on fossil fuels in the fourth quarter of 2013 was 86.0 per cent, up 2.6 percentage points from the third quarter of 2012, but down 2.3 percentage points from the fourth quarter of 2012. Annually fossil fuel dependency was at a record low of 86.1 per cent, down 1.2 percentage points from 2012.

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]	Bioenergy & waste[4,5]	Nuclear	Wind and natural flow hydro[6]
2011		136.8	11.6	56.9	45.3	5.6	15.6	1.84
2012		122.1	10.6	48.8	38.9	6.4	15.2	2.24
2013 p		114.0r	8.0	44.4	36.5	6.9	15.2	2.94r
Per cent change		*-6.6*	*-24.9*	*-8.8*	*-6.2*	*+8.0*	*+0.3*	*+31.1*
2012	Quarter 4	29.3	2.4	11.4	9.5	1.7	3.6	0.69
2013	Quarter 1	30.3r	2.3	11.6	9.8	1.9	3.9	0.72r
	Quarter 2	28.8r	2.2	11.4	9.7	1.6	3.3	0.69r
	Quarter 3	25.6	1.8	10.0	7.8	1.5	4.0	0.52r
	Quarter 4 p	29.3r	1.7	11.5	9.3	1.9	3.9	1.00r
Per cent change[7]		*-0.1*	*-30.3*	*+1.2*	*-2.2*	*+8.0*	*+9.1*	*+45.6*

1. Includes an estimate of slurry.
2. Crude oil, offshore and land, plus condensates and petroleum gases derived at onshore treatment plants.
3. Includes colliery methane, excludes gas flared or re-injected.
4. Includes solid renewable sources (wood, straw and waste), a small amount of renewable primary heat sources (solar, geothermal etc), liquid biofuels and sewage gas and landfill gas.
5. Bioenergy & waste introduced as a separate category from March 2014 - see special feature article in the March 2014 edition of Energy Trends at: www.gov.uk/government/collections/energy-trends-articles
6. Includes generation by solar PV.
7. Percentage change in the fourth quarter of 2013 compared with a year earlier.

1 TOTAL ENERGY

TABLE 1.2 Inland energy consumption: primary fuel input basis

Million tonnes of oil equivalent

		Unadjusted [7]					Primary electricity			Seasonally adjusted and temperature corrected [8,9] (annualised rates)					Primary electricity		
		Total	Coal[1]	Petroleum[2]	Natural gas[3]	Bioenergy & waste[4, 5]	Nuclear	Wind and natural flow hydro[6]	Net imports	Total	Coal	Petroleum	Natural gas	Bioenergy & waste	Nuclear	Wind and natural flow hydro	Net imports
2011		202.1	32.4	67.1	77.3	7.3	15.6	1.84	0.53	207.5	34.2	67.1	80.9	7.3	15.6	1.84	0.53
2012		206.3	41.1	65.9	73.1	7.8	15.2	2.24	1.04	206.2r	41.0	65.9	73.1	7.8	15.2	2.24	1.04
2013 p		205.1	39.2	64.8	72.5	9.2	15.2	2.94r	1.24	202.6r	38.8	64.8	70.5	9.2	15.2	2.94r	1.24
Per cent change		*-0.6*	*-4.6*	*-1.7*	*-0.8*	*+17.8*	*+0.3*	*+31.1*	*+19.8*	*-1.8*	*-5.4*	*-1.7*	*-3.6*	*+17.8*	*+0.3*	*+31.1*	*+19.8*
2012	Quarter 4	56.8r	11.7	16.7	21.9	2.0	3.6	0.69	0.24	204.7r	39.0	66.9	72.5	8.1	15.0r	2.20r	0.96
2013	Quarter 1	61.6r	11.8	15.5r	26.9	2.4	3.9	0.72r	0.24	199.9r	36.2	62.1r	73.7	9.5	14.8r	2.59r	0.97
	Quarter 2	47.1r	8.8	16.1	15.5	2.4	3.3	0.69r	0.31	202.8r	39.9	64.5r	71.0	9.7	13.2	3.29r	1.23
	Quarter 3	42.4r	8.4	16.5	10.4	2.1	4.0	0.52r	0.40	204.2r	41.7	66.1r	67.2	8.4	16.6r	2.65r	1.60
	Quarter 4 p	54.0r	10.1	16.6	19.8	2.3	3.9	1.00r	0.29	203.6r	37.4	66.3r	70.0	9.1	16.5r	3.21r	1.17
Per cent change [10]		*-5.0*	*-13.5*	*-0.8*	*-9.6*	*+12.3*	*+9.1*	*+45.6*	*+22.1*	*-0.5*	*-4.2*	*-0.8*	*-3.5*	*+12.3*	*+9.7*	*+46.0*	*+22.1*

1. Includes 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 and colliery methane. Excludes gas flared or re-injected and non-energy use of gas.
4. Includes solid renewable sources (wood, straw and waste), a small amount of renewable primary heat sources (solar, geothermal, etc.), liquid biofuels, landfill gas and sewage gas.
5. Bioenergy & waste introduced as a separate category from March 2014 - see special feature article in the March 2014 edition of Energy Trends at:
www.gov.uk/government/collections/energy-trends-articles
6. Includes generation by solar PV. Excludes generation from pumped storage stations.
7. Not seasonally adjusted or temperature corrected.
8. Coal and natural gas are temperature corrected; petroleum, bioenergy and waste, and primary electricity are not temperature corrected.
9. For details of temperature correction see the June and September 2011 editions of Energy Trends; Seasonal and temperature adjustment factors were reassessed in June 2013
https://www.gov.uk/government/collections/energy-trends
10. Percentage change in the fourth quarter of 2013 compared with a year earlier.

1 TOTAL ENERGY

Table 1.3a Supply and use of fuels

Thousand tonnes of oil equivalent

	2012	2013 p	*per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*per cent change* [1]
SUPPLY													
Indigenous production	122,142	114,039	*-6.6*	34,425	33,972	31,581	27,146	29,443	30,277r	28,790r	25,603r	29,369	*-0.3*
Imports	173,797	178,246	*+2.6*	43,326	45,183	42,533	39,771	46,310	47,481r	46,306r	40,003r	44,455	*-4.0*
Exports	-80,286	-76,211	*-5.1*	-22,413	-21,114	-21,375	-20,196	-17,601	-19,349r	-20,660r	-18,295r	-17,906	*+1.7*
Marine bunkers	-3,317	-3,152	*-5.0*	-859	-817	-807	-864	-829	-798	-816	-796r	-741	*-10.6*
Stock change[2]	+1,603	-0		+1,523	+3,410	-2,085	-1,208	+1,486	+5,886r	-4,242r	-2,129r	+485	
Primary supply	213,939	212,922	*-0.5*	56,001	60,635	49,847	44,649	58,809	63,497r	49,378r	44,385r	55,662	*-5.4*
Statistical difference[3]	-372	-47		0	-163	-71.0	-199	61	-248r	-114r	120r	195	
Primary demand	214,312	212,969	*-0.6*	56,002	60,798	49,918	44,848	58,748	63,745r	49,491r	44,266r	55,467	*-5.6*
Transfers[4]	-46	15		-8	-13	-15	-9	-9	4r	2r	-3r	12	
TRANSFORMATION	-49,372	-48,164	*-2.4*	-12,583	-13,352	-11,672	-11,169	-13,179	-13,610r	-11,156r	-11,009r	-12,389	*-6.0*
Electricity generation	-46,005	-44,089	*-4.2*	-11,770	-12,619	-10,775	-10,332	-12,279	-12,651r	-10,104r	-10,048r	-11,286	*-8.1*
Heat generation	-1,130	-1,130	-	-311	-334	-257	-222	-316	-334	-258	-222	-316	-
Petroleum refineries	-26	-181	*(+)*	-1	36	-25	-12	-25	-1r	-97r	-5r	-78	*(+)*
Coke manufacture	-354	-341	*-3.5*	-83	-77	-91	-107	-79	-82r	-59	-117r	-84	*+6.9*
Blast furnaces	-1,830	-2,381	*+30.1*	-404	-337	-519	-489	-485	-531	-627r	-609r	-614	*+26.5*
Patent fuel manufacture	-28	-43	*+52.2*	-14	-20	-5	-8	5	-11	-11	-10r	-11	*-315.8*
Energy industry use	13,065	12,062	*-7.7*	3,309	3,542	3,387	3,121	3,016	3,185r	3,147r	2,909r	2,821	*-6.4*
Losses	3,631	3,576	*-1.5*	944	1,055	896	746	934	1,073	864r	705r	934	*-0.0*
FINAL CONSUMPTION	148,198	149,181	*+0.7*	39,156	42,830	33,952	29,811	41,605	45,874r	34,330r	29,648r	39,330	*-5.5*
Iron & steel	1,196	1,421	*+18.8*	303	278	324	291	302	389	331r	344r	357	*+18.1*
Other industries	23,968	23,726	*-1.0*	6,333	6,592	5,589	5,170	6,617	6,659r	5,496r	5,139r	6,433	*-2.8*
Transport	53,248	52,981	*-0.5*	13,728	13,063	12,945	13,623	13,617	12,409r	13,237r	13,750r	13,585	*-0.2*
Domestic	43,153	43,944	*+1.8*	12,108	15,218	8,426	5,290	14,219	18,186r	8,432r	4,827r	12,499	*-12.1*
Other Final Users	19,027	19,268	*+1.3*	4,758	5,579	4,581	3,729	5,137	6,201r	4,552r	3,637r	4,878	*-5.0*
Non energy use	7,605	7,842	*+3.1*	1,926	2,099	2,087	1,707	1,713	2,030r	2,282	1,951r	1,579	*-7.9*
DEPENDENCY[5]													
Net import dependency	43.0%	47.2%		36.8%	39.2%	41.8%	43.0%	48.1%	43.8%	51.1% r	48.0% r	47.1%	
Fossil fuel dependency	87.3%	86.1%		88.7%	88.5%	86.5%	85.0%	88.3%	88.2% r	85.7% r	83.4%	86.0%	
Low carbon share	11.9%	13.0%		10.8%	10.9%	12.6%	13.8%	10.9%	11.1%	13.2% r	15.2% r	13.1%	

1. Percentage change in the fourth quarter of 2013 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

	2012 Quarter 4									2013 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	2,439	-	11,371	-	9,526	1,822	4,285	-	-	1,700	-	11,499	-	9,314	1,929	4,927	-	-
Imports	7,463	112	14,883	9,109	14,116	373	-	254	-	7,736	119	14,287	9,159	12,312	461	-	381	-
Exports	-101	-31	-9,622	-5,759	-2,008	-66	-	-15	-	-141	-19	-9,329	-6,527	-1,758	-43	-	-89	-
Marine bunkers	-	-	-	-829	-	-	-	-	-	-	-	-	-741	-	-	-	-	-
Stock change[1]	+1,968	-29	-811	-3	+361	-	-	-	-	+747	-4	-217	-69	+28	-	-	-	-
Primary supply	11,769	52	15,821	2,519	21,995	2,128	4,285	239	-	10,043	96	16,240	1,821	19,896	2,347	4,927	292	-
Statistical difference[2]	+269	-8	-124	-25	-55	-2	-	+4	-	+81	-1	+27	+17	+43	-	-	+28	-
Primary demand	11,500	60	15,945	2,543	22,050	2,130	4,285	235	-	9,962	97	16,213	1,804	19,853	2,347	4,927	264	-
Transfers[3]	-	2	-465	+455	-2	-	-690	+690	-	-	+0	-168	+180	-	-	-1,004	+1,004	-
TRANSFORMATION	-11,091	381	-15,480	15,227	-5,127	-1,466	-3,596	7,581	392	-9,551	446	-16,045	15,801	-4,766	-1,605	-3,923	6,862	392
Electricity generation	-9,822	-217	-	-211	-4,585	-1,430	-3,596	7,581	-	-8,081	-202	-	-148	-4,223	-1,570	-3,923	6,862	-
Heat generation	-99	-13	-	-18	-543	-35	-	-	392	-99	-13	-	-18	-543	-35	-	-	392
Petroleum refineries	-	-	-15,480	15,456	-	-	-	-	-	-	-	-16,045	15,967	-	-	-	-	-
Coke manufacture	-895	816	-	-	-	-	-	-	-	-985	901	-	-	-	-	-	-	-
Blast furnaces	-212	-273	-	-	-	-	-	-	-	-303	-310	-	-	-	-	-	-	-
Patent fuel manufacture	-63	68	-	-	-	-	-	-	-	-81	70	-	-	-	-	-	-	-
Energy industry use	0	184	-	1,002	1,189	-	-	598	42	0	202	-	1,029	1,061	-	-	487	42
Losses	-	26	-	-	283	-	-	626	-	-	60	-	-	263	-	-	611	-
FINAL CONSUMPTION	408	234	-	17,223	15,448	664	-	7,282	345	411	282	-	16,756	13,762	741	-	7,033	345
Iron & steel	9	121	-	1	97	-	-	73	-	9	163	-	0	111	-	-	73	-
Other industries	255	47	-	1,107	2,793	148	-	2,069	199	268	55	-	1,006	2,757	147	-	2,001	199
Transport	3	-	-	13,320	-	207	-	88	-	3	-	-	13,196	-	299	-	88	-
Domestic	137	66	-	884	10,063	231	-	2,821	17	128	63	-	799	8,631	218	-	2,643	17
Other final users	4	-	-	327	2,367	78	-	2,231	129	3	-	-	305	2,135	78	-	2,228	129
Non energy use	-	-	-	1,585	128	-	-	-	-	-	-	-	1,451	128	-	-	-	-

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 2013

Overall production in 2013 was 12.8 million tonnes, its lowest on record, and down 25 per cent (-4.2 million tonnes) compared to 2012, with deep-mined output down 34 per cent (-2.1 million tonnes) and surface mined output down 15 per cent (-1.6 million tonnes) due to the closure of a number of mines in 2013 and geological conditions at some of the remaining mines. **(Chart 2.1)**

Coal imports were up 10 per cent (+4.5 million tonnes) on levels in 2012. **(Chart 2.1)**

The demand for coal by electricity generators in 2013, was 8.8 per cent (-4.8 million tonnes) lower than the demand in 2012, reflecting a fall in coal generation. **(Chart 2.3)**

Total stocks at the end of 2013 were 14.4 million tonnes, 11 per cent higher than at the end of 2012 (13.0 million tonnes). **(Chart 2.4)**

Quarter 4 2013

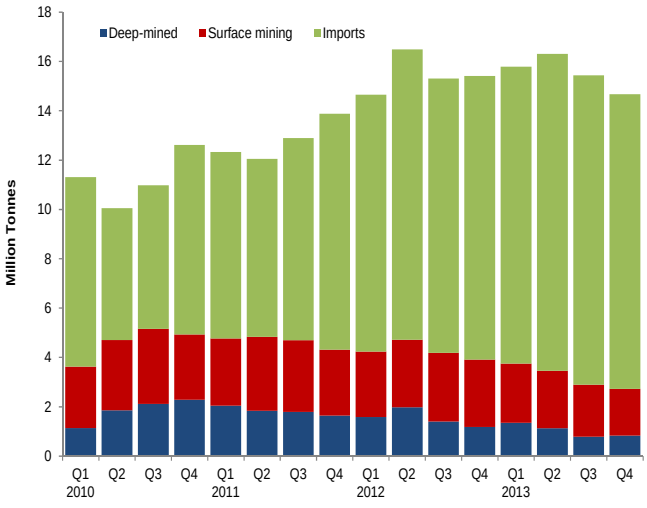
In Q4 2013, overall production was down 30 per cent (-1.2 million tonnes) compared to quarter 4 2012 with deep-mined output down 30.0 per cent (-0.4 million tonnes). **(Chart 2.1)**

Coal imports were up 3.7 per cent (+0.4 million tonnes) on levels shown in quarter 4 2012. **(Chart 2.1)**

The demand for coal by electricity generators in the fourth quarter of 2013 was 18 per cent (-2.8 million tonnes) lower than demand in the fourth quarter of 2012. **(Chart 2.3)**

Total stock levels were up 11 per cent (-1.4 million tonnes) to 14.4 million tonnes compared to quarter 4 2012 but were down by 7.0 per cent (1.1 million tonnes) on quarter 3 2013. **(Chart 2.4)**

Chart 2.1 Coal supply



Provisional figures for 2013, as a whole, show that coal production (including an estimate for slurry) was 25 per cent down on 2012 at 12.8 million tonnes. Deep mined production was down 34 per cent at 4.1 million tonnes, the lowest on record. Surface mine production was down by 15 per cent. Slurry production was down by 78 per cent in 2013 compared to 2012 with no slurry being produced in the first and fourth quarters of 2013.

Provisional figures for the fourth quarter of 2013, show that coal production (including an estimate for slurry) fell to a new record low of 2.7 million tonnes. This was 30 per cent lower than the fourth quarter of 2012. The decrease was due to a number of reasons, but mainly the closure of several collieries/companies in 2013, including, Maltby, Daw Mill, Unity and Scottish Coal Company.

Imports of coal in 2013 as a whole were 10 per cent up on 2012 at 49.4 million tonnes, the highest level since 2006, reflecting the decline in UK production and high demand from electricity generation.

Table 2A Coal imports by origin

Thousand Tonnes

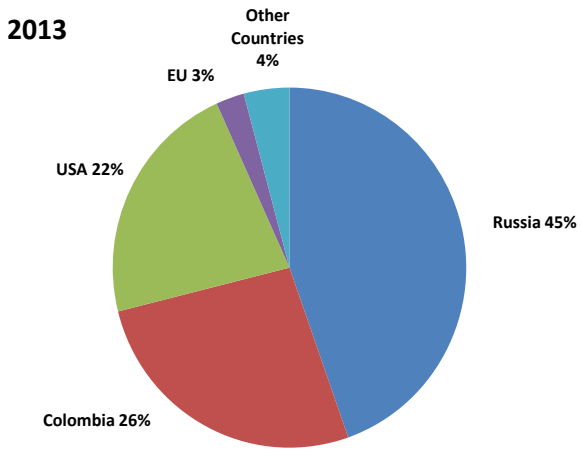
	2012	2013 p	2012 Q4	2013 Q4 p
European Union	693	1,228	172	278
Russia	18,053	20,240	4,446	4,500
Colombia	11,749	11,494	3,247	2,658
USA	10,790	12,173	2,805	2,844
Australia	2,360	2,131	456	765
Other Countries	1,170	2,087	379	890
Total imports	44,815	49,354	11,505	11,935

Total coal imports in Q4 2013 increased by 3.7 per cent to 11.9 million tonnes to meet demand as home coal production fell, with 38 per cent of total coal imports coming from Russia.

Steam coal imports in Q4 2013 rose by 4.2 per cent to 10.6 million tonnes and accounted for 89 per cent of total coal imports.

Coking coal imports in Q4 2013 fell 0.1 per cent to 1.3 million tonnes and accounted for 11 per cent of total coal imports.

Chart 2.2 Steam Coal imports by origin



In 2013, 43.0 million tonnes of the coal imported (87 per cent) was steam coal, largely for the power stations market.

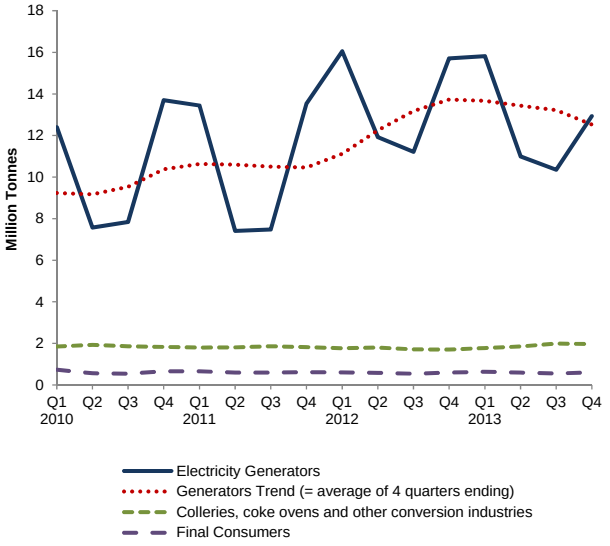
All but 7 per cent of UK steam coal imports in 2013 came from just three countries: Russia (45 per cent), Colombia (26 per cent) and the USA (22 per cent).

Steam coal imports from Russia and USA increased by 9.8 per cent (+1.7 million tonnes) and 7.6 per cent (+0.7 million tonnes) respectively from 2012.

Steam coal imports originating from Colombia fell by 3.1 per cent (-0.4 million tonnes) compared to 2012.

EU sourced steam coal imports almost doubled in 2013 compared to 2012 but were still only 2.5% of total imports.

Chart 2.3: Coal Consumption



Total demand for coal in 2013 was 60.1 million tonnes, 6.5 per cent lower than in 2012, with consumption by electricity generators down by 8.8 per cent (-4.8 million tonnes).

Electricity generators accounted for 83 per cent of total coal use in 2013; compared with 86 per cent in 2012.

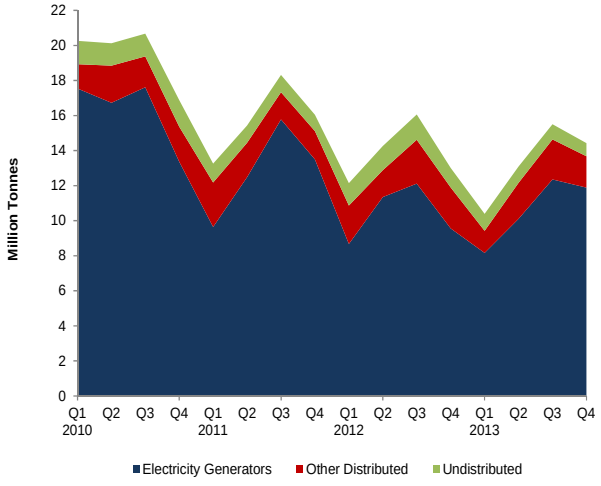
Total demand for coal in the fourth quarter of 2013, at 15.5 million tonnes, was 14 per cent lower than in the fourth quarter of 2012. Consumption by electricity generators was down by 18 per cent to 12.9 million tonnes.

Electricity generators accounted for 83 per cent of total coal use in the fourth quarter of 2013; compared with 87 per cent a year earlier.

Sales to industrial users increased by 4.9 per cent in quarter 4 2013. Sales to final consumers (as measured by disposals to final consumers) were down by 4.9 per cent.

Coal used in blast furnaces was 0.4 million tonnes in the fourth quarter of 2013, an increase of 43.0 per cent compared to the fourth quarter of 2012. This increase was due to the re-opening of Teesside steelworks in April 2012 which has gradually increased operations since and the newly opened furnace at Port Talbot in February 2013.

Chart 2.4 Coal stocks



Coal stocks showed a seasonal fall of 1.1 million tonnes during the fourth quarter of 2013 and stood at 14.4 million tonnes, 1.4 million tonnes higher than at the end of December 2012.

The level of coal stocks at power stations at the end of the fourth quarter of 2013 was 11.9 million tonnes, 2.3 million tonnes higher than at the end of December 2012.

Stocks held by coke ovens were 0.5 million tonnes at the end of quarter 4 2013, this was 0.3 million tonnes lower than stock levels at the end of the fourth quarter of 2012.

Stocks held by producers (undistributed stocks) decreased during the fourth quarter of 2013 to stand at 0.7 million tonnes, 0.4 million tonnes lower than at the end of December 2012.

Relevant tables

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2 SOLID FUEL AND DERIVED GASES

Table 2.1 Supply and consumption of coal

Thousand tonnes

	2012	2013 p	*per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*per cent change*[1]
SUPPLY													
Indigenous production	17,047	12,839	*-24.7*	4,321	4,233	4,717	4,190	3,907	3,754r	3,461r	2,893r	2,731	*-30.1*
Deep mined	6,153	4,089	*-33.6*	1,642	1,585	1,978	1,406	1,184	1,350	1,124	785	829	*-30.0*
Surface mining[2]	10,134	8,584	*-15.3*	2,511	2,458	2,540	2,585	2,550	2,404	2,268r	2,011r	1,902	*-25.4*
Other sources	760	167	*(-)*	167	190	198	198	173	-	69	97r	-	*(-)*
Imports[3]	44,815	49,354	*+10.1*	9,557	10,418	11,775	11,117	11,505	12,035r	12,843r	12,540r	11,935	*+3.7*
Exports[4]	488	593	*+21.5*	135	119	133	102	134	186r	127r	95	185	*+38.6*
Stock change[5]	+2,953	-1,412		+2,279	+3,822	-2,113	-1,799	+3,043	+2,626r	-2,709r	-2,409r	+1,080	
Total supply	64,327	60,187	*-6.4*	16,022	18,354	14,245	13,406	18,322	18,229r	13,468r	12,929r	15,561	*-15.1*
Statistical difference	+120	+130		+64	-71	-58	-60	+309	-0r	+33r	+34r	+62	
Total demand	64,206	60,058	*-6.5*	15,958	18,425	14,303	13,466	18,013	18,229r	13,435r	12,895r	15,499	*-14.0*
TRANSFORMATION	61,886	57,667	*-6.8*	15,344	17,821	13,719	12,927	17,419	17,587	12,841	12,342r	14,897	*-14.5*
Electricity generation	54,906	50,087	*-8.8*	13,523	16,056	11,918	11,217	15,715	15,814	10,990	10,354	12,929	*-17.7*
Heat generation[6]	592	592	-	148	165	140	128	159	165	140	128	159	-
Coke manufacture	5,079	5,150	*+1.4*	1,338	1,328	1,330	1,244	1,177	1,208	1,276	1,370r	1,296	*+10.1*
Blast furnaces	987	1,411	*+43.0*	247	199	253	255	279	294	325	393	399	*+43.0*
Patent fuel manufacture	322	427	*+32.7*	87	72	79	83	88	105	111	97r	114	*+29.6*
Energy industry use	4	3		1	1	1	1	1	1	0	0	0	
FINAL CONSUMPTION	2,317	2,389	*+3.1*	613	603	583	538	593	641r	593r	553r	601	*+1.4*
Iron & steel	51	50		13	13	12	12	13	12	12	12	13	*-3.4*
Other industries	1,552	1,628	*+4.9*	398	410	387	368	386	430r	406r	386r	406	*+5.2*
Domestic	674	673	*-0.2*	188	170	174	146	184	186r	167r	146r	174	*-5.3*
Other final users	40	38	*-5.7*	14	10	10	11	10	13r	8	9r	8	*-16.7*
Stocks at end of period													
Distributed stocks	11,896	13,682	*+15.0*	15,113	10,863	12,887	14,620	11,896	9,420r	12,165r	14,635r	13,682	*+15.0*
Of which:													
Major power producers[7]	9,561	11,886	*+24.3*	13,496	8,676	11,348	12,118	9,561	8,166	10,108	12,351r	11,886	*+24.3*
Coke ovens	846	518	*-38.7*	1,355	1,127	1,018	941	846	558	1,170	952r	518	*-38.7*
Undistributed stocks	1,120	747	*-33.4*	926	1,284	1,374	1,439	1,120	970	934	873r	747	*-33.4*
Total stocks[8]	13,016	14,428	*+10.9*	16,039	12,147	14,260	16,059	13,016	10,390r	13,099	15,508r	14,428	*+10.9*

1. Percentage change in the fourth quarter of 2013 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 2013 heat generation will not be published until the end of July 2014. Therefore, the 2012 figure is used as an estimate for 2013.

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

	2012	2013 p	*per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*per cent change* [3]
SUPPLY													
Indigenous production	4,000	4,136	*+3.4*	1,064	1,040	1,056	956	948	984	1,052	1,053r	1,047	*+10.5*
Coke Oven Coke	3,712	3,769	*+1.5*	993	993	983	884	853	894	958	969r	949	*+11.2*
Coke Breeze	31	32	*+3.2*	8	8	8	8	8	8	8	8	8	*+3.2*
Other MSF	258	336	*+30.4*	63	40	66	65	87	83	87	76r	90	*+3.7*
Imports	207	834	*(+)*	18	11	17	23	156	105	327	235	167	*+6.9*
Exports	552	117	*(-)*	195	325	143	43	42	36	35	20r	26	*-38.0*
Stock change[1]	+93	-122		-112	-68	+150	+52	-41	+91	-98r	-111r	-5	
Transfers	-	-		-	-	-	-	-	-	-	-	-	
Total supply	3,748	4,730	*+26.2*	776r	658	1,080	988	1,022	1,144	1,246r	1,157r	1,184	*+15.8*
Statistical difference	-5	-1		-2r	-1	-	-1	-2r	-1	-	-0	-0	
Total demand	3,753	4,732	*+26.1*	778	659	1,080	990	1,024	1,145	1,246r	1,157r	1,184	*+15.6*
TRANSFORMATION	2,930	3,713	*+26.7*	601	515	848	786	781	851	1,015r	924	922	*+18.2*
Coke manufacture	-	-		-	-	-	-	-	-	-	-	-	
Blast furnaces	2,930	3,713	*+26.7*	601	515	848	786	781	851	1,015r	924	922	*+18.2*
Energy industry use	-	-		-	-	-	-	-	-	-	-	-	
FINAL CONSUMPTION	823	1,019	*+23.8*	177	145	232	203	243	294	230r	233r	262	*+7.6*
Iron & steel	518	626	*+20.8*	94	86	156	132	144	192	128r	148	158	*+9.7*
Other industries	45	83	*+83.2*	11	5	13	12	15	14	25r	22r	23	*+53.7*
Domestic	260	310	*+19.3*	73	53	64	59	84	88	78r	63r	81	*-4.2*
Stocks at end of period[2]	854	521	*+26.2*	1,214	1,016	845	780	854	500	689r	599r	521	*-39.1*

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 2013 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

	2012	2013 p	*per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*per cent change*[1]
SUPPLY													
Indigenous production	21,502	25,619	*+19.1*	5,096	4,663	5,729	5,458	5,651	5,733	6,586r	6,712r	6,588	*+16.6*
Coke oven gas	8,266	8,479	*+2.6*	2,209	2,151	2,105	2,021	1,989	1,872	2,204r	2,253r	2,151	*+8.1*
Blast furnace gas	11,692	15,515	*+32.7*	2,464	2,101	3,224	3,080	3,286	3,466	3,981r	4,042r	4,026	*+22.5*
Benzole & tars	1,543	1,625	*+5.3*	422	411	400	357	375	395	402r	416r	411	*+9.7*
Transfers	56	61	*+8.7*	7	11	4	14	26	29	12	14	5	*(-)*
Total supply	21,557	25,679	*+19.1*	5,103	4,675	5,733	5,472	5,677	5,762	6,598r	6,726r	6,593	*+16.1*
Statistical difference	-157	-24		-28	+72	-93	-62	-73	+7	-16r	-10r	-4	
Total demand	21,714	25,703	*+18.4*	5,131	4,603	5,827	5,534	5,750	5,755	6,614r	6,737r	6,597	*+14.7*
TRANSFORMATION	9,903	10,091	*+1.9*	2,016	1,953	2,677	2,604	2,668	2,382	2,674r	2,538r	2,498	*-6.4*
Electricity generation	9,305	9,494	*+2.0*	1,866	1,804	2,528	2,454	2,519	2,233r	2,524r	2,388r	2,349	*-6.8*
Heat generation[2]	598	598	-	149	149	149	149	149	149	149	149	149	-
Energy industry use	8,145	9,041	*+11.0*	1,875	1,774	2,126	2,104	2,141	1,959	2,340r	2,391r	2,351	*+9.8*
Losses	1,009	2,500	*(+)*	414	178	319	213	300	446	599r	757r	699	*(+)*
FINAL CONSUMPTION	2,657	4,071	*+53.2*	826	699	704	613	642	969	1,002r	1,051r	1,049	*+63.5*
Iron & steel	916	2,272	*(+)*	352	236	253	209	219	521r	567r	593r	592	*(+)*
Other industries	1,741	1,798	*+3.3*	474	463	451	404	423	448	435	459r	457	*+8.0*

1. Percentage change in the fourth quarter of 2013 compared with a year earlier.

2. For Heat generation, the 2013 figures currently shown are the 2012 figures carried forward - these will be updated in July 2014.

Section 3 - Oil and Oil Products

Key results show:

Provisional 2013

UK production of crude and NGL's was 8.8 per cent lower in 2013, despite this imports were 2.3 per cent lower, reflecting lower refinery use, while exports were 0.3 per cent lower. There has been a general decline in oil production since the 1990s. (**Chart 3.1**)

Refinery production in 2013 decreased by 5.2 per cent; this was partly driven by the closure of Coryton in July 2012 as well as disruptions at other refineries. There were large decreases in the production of diesel fuel, gas oil, fuel oil and aviation fuel. (**Chart 3.2**)

In 2013 the UK became a net importer of petroleum products for the first time since 1984. Net imports in 2013 were around 2 million tonnes, in 2012 there were net exports of 1.1 million tonnes. The UK remains a net importer of DERV and aviation turbine fuel but a net exporter of motor spirit. **(Chart 3.3)**

In 2013, net imports of primary oils (Crude, NGL's and process oils) made up 39 per cent of UK supply, broadly the same level as in 2012. **(Chart 3.3)**

In 2013 total deliveries of key transport fuels decreased by 0.9 per cent compared with 2012. motor spirit deliveries decreased by 5.0 per cent, aviation fuel was down by 1.2 per cent, while DERV deliveries increased by 1.8 per cent, all broadly in line with trend. (**Chart 3.5**)

Quarter 4 2013

Total indigenous UK production of crude oil and Natural Gas Liquids (NGL) in Q4 2013 was 1.2 per cent higher than a year ago. Within this, Crude oil production was up 2.4% in Q4 2013 compared to 2012. A key driver was the Buzzard field which was shut for planned maintenance in September 2012, but did not restart production until November 2012. (**Chart 3.1**).

Refinery production in Q4 2013 was up 3.4 per cent higher compared with the same quarter a year earlier. Refinery production was particularly low in Q4 2012 due to planned maintenance. Despite the increase on last year, Q4 2013 has also been a low month for refinery production; this was largely due to disruptions at two major UK refineries during the quarter (**Chart 3.2**)

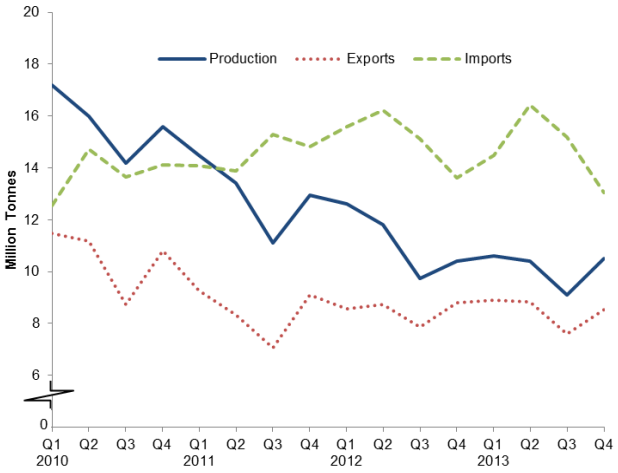
Imports of petroleum products increased by just 0.5 per cent compared with Q4 2012 but exports of petroleum products increased by 12.6 per cent, but from a very low point. The UK was a net importer of petroleum products in Q4 2013 by 2.4 million tonnes, the second largest net import figure on record. **(Chart 3.2)**

Net imports of primary oils (crude oil, NGLs and process oils) in Q4 2013 decreased to 4.5 million tonnes, the lowest quarterly figure for three years (mainly due to lower refinery demand), and met 30.8 per cent of UK's refinery demand. **(Chart 3.3)**

In Q4 2013 total deliveries of key transport fuels decreased by 1.0 per cent compared with Q4 2012. Aviation fuel and DERV were broadly stable but motor spirit deliveries decreased by 4.4 per cent, in line with a long term trend. (**Chart 3.5**)

Total stocks of crude and process oils were 7.0 per cent higher than at the end of 2012. This was mainly the result of a large increase in stocks held abroad for the UK (bilateral agreements). **(Chart 3.7)**

Chart 3.1 Production and trade of crude oil and NGLs



Provisional figures for 2013 show that UK crude oil and NGL production was 8.8 per cent lower than 2012. The decline in 2013 is a continuation of a long term trend. Production was also affected by maintenance and unplanned outages at several oil and NGL fields in 2013, including the Buzzard field which is a key source of oil.

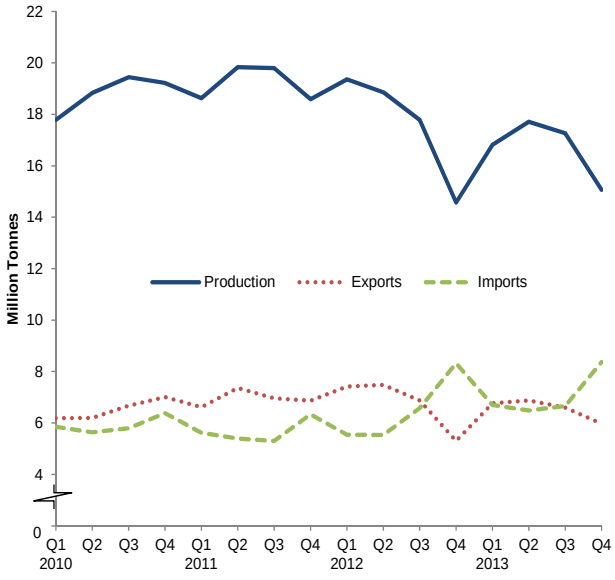
Despite the shortfall of indigenous production, imports of crude oil and NGL's, decreased by 2.3 per cent in 2013. This decrease was partially offset by an increase of feedstock imports. Feedstocks are primarily used by refineries; net imports are back to a similar level to that of 2011 and previous years. 2012 had been a particularly low year, partly due to maintenance activity at refineries.

Total exports of primary oils (crude, NGL's and feedstock's) were virtually unchanged in 2013 compared with 2012.

In Q4 2013, indigenous crude oil production increased by 2.4 per cent compared with Q4 2012. This increase is mainly the result of low production in Q4 2012, which was affected by a shutdown at the large Buzzard field during Q4 2012. Production of Natural Gas Liquids (NGLs) decreased by nearly a fifth (19.3 per cent) in the latest quarter.

In Q4 2013 imports of crude oil and NGL's decreased 11.8 per cent on the previous year to 11.3 million tonnes. This is the lowest quarterly figure since Q1 2010, reflecting lower refinery demand. Exports of crude and NGL's increased by 4.7 per cent.

Chart 3.2 Production and trade of petroleum products



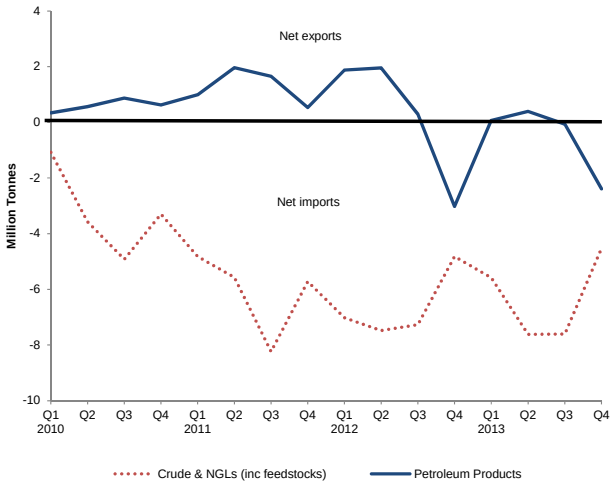
In 2013, production of petroleum products was 5.2 per cent lower compared with 2012. The closure of the Coryton refinery in July 2012 was a contributory factor towards lower production in 2013. Refinery production was also weakened by increasing competition from foreign imports.

The shortfall in production was met by imports, which increased significantly by 8.6 per cent in 2013. In total, imports of petroleum products were over 28 million tonnes, the highest annual figure on record. Exports decreased by 3.2 per cent in 2013 compared with 2012, which is again indicative of lower production.

In Q4 2013, production of petroleum products was up by 3.4 per cent compared with Q4 2012. However, production was still relatively low, being affected by a disruption at a major UK refinery and a technical problem at another. Production in Q4 2012 had been especially low as a result of maintenance. In fact, quarterly refinery production in Q4 2013 was the second lowest on record, after Q4 2012 (quarterly data on the new system is available from 1998).

Imports met the shortfall in production, increasing but only by 0.5 per cent in Q4 2013. Exports increased by 12.6 per cent, reflecting the low refinery production in the same quarter of 2012.

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



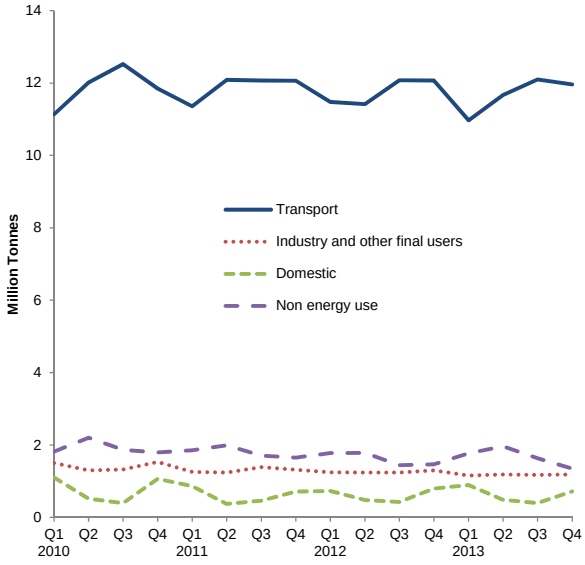
In 2013 the UK became a net importer of petroleum products by 2.0 million tonnes. This is the first time the UK had been a net importer since 1984 when demand for petroleum products increased as a result of industrial action in the coal industry.

In 2013, net imports of primary oils (crude, NGL's and feedstocks) narrowed by 1.3 million tonnes but remain high at 25.3 million tonnes.

Net imports in 2013 met around 25 per cent of UK demand for primary oils, this is unchanged from 2012. Crude oil import dependence has been on an increasing trend as the production from the UK Continental Shelf continues to decline. The decrease in production in 2013 was largely offset by reduced refinery demand which reduced imports of crude oil and NGLs.

The UK was a net importer of petroleum products in Q4 2013 by 2.3 million tonnes. This is the second largest quarterly net margin recorded with our new reporting system, the only quarter being higher was Q4 2012 (quarterly data on the new system is available from 1998).

Chart 3.4 Final consumption of oil



In 2013, overall final consumption of petroleum products was down by 0.6 per cent compared with 2012. Within this:

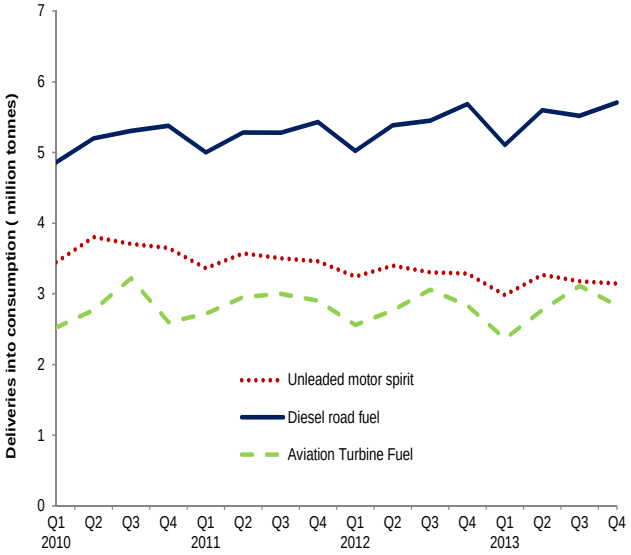
Non energy use was up by 3.8 per cent, partially due to maintenance activity at chemical plants which reduced consumption in 2012.

Domestic consumption, primarily used for heating, was higher by 2.3 per cent, reflecting the cold Q1 2013.

Transport use, which accounts for about three-quarters of UK final consumption, was lower by 0.7 per cent in 2013. (See chart 3.5 for more detail).

In Q4 2013, overall final consumption of petroleum products was down by 2.7 per cent on Q4 2012. Within this, domestic use was 9.6 per cent lower with average temperatures in the fourth quarter being milder than Q4 2012.

Chart 3.5 Demand for key transport fuels



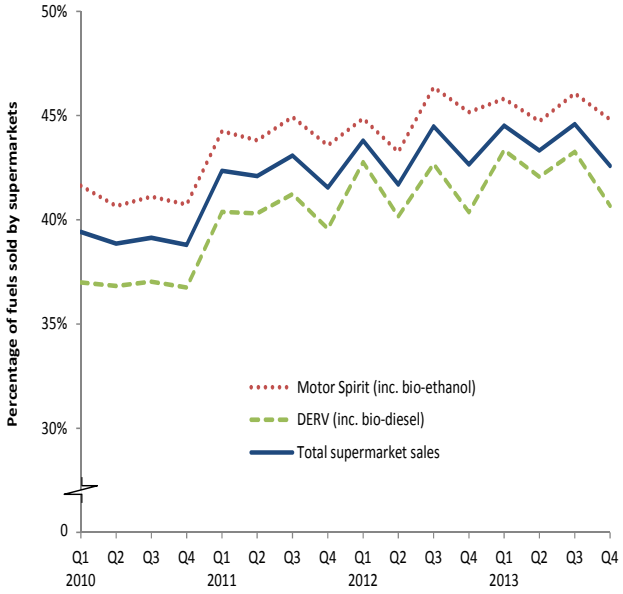
In 2013, total deliveries of key hydrocarbon transport fuels were lower by 0.9 per cent. Within this:

Diesel road fuel (DERV) demand increased by 1.8 per cent whilst motor spirit deliveries fell by 5.0 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 2013, demand for aviation fuels decreased by 1.2 per cent. Whilst passenger numbers remained robust in 2013, 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 2013, total deliveries of key hydrocarbon transport fuels were slightly lower by 1.0 per cent. Within this, demand for aviation fuel was stable, demand for DERV increased slightly, by 0.4 per cent but demand for unleaded motor spirit decreased by 4.4 per cent.

Chart 3.6 Supermarket share of road fuel sales



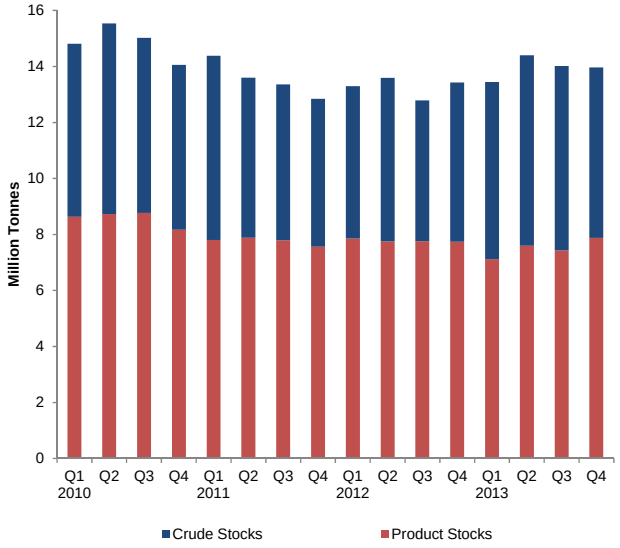
The collection and production of the supermarket sales figures has been reviewed with collaboration from industry. As a result the supermarket sales series in ET 3.5 have been revised back to 1999. Total fuel sales for motor spirit and DERV are unaffected by the revisions.

For a more detailed explanation of how and why the figures have been revised please see the special feature article *'Supermarket share of retail sales'* on page 69.

The proportion of road fuels sold at supermarkets increased in every year since 1999 (the first year that this data was recorded). However, the rate of growth is slowing. In 2013 45.3 per cent of retail sales of motor spirit were at supermarkets compared to 44.9 per cent in 2012. 42.3 per cent of diesel retail sales were at supermarkets compared to 41.5 per cent in 2012.

In Q4 2013 42.6 per cent of road fuels were sold at supermarkets, almost unchanged from the same quarter in 2012 when supermarkets accounted for 42.7 per cent of retail sales.

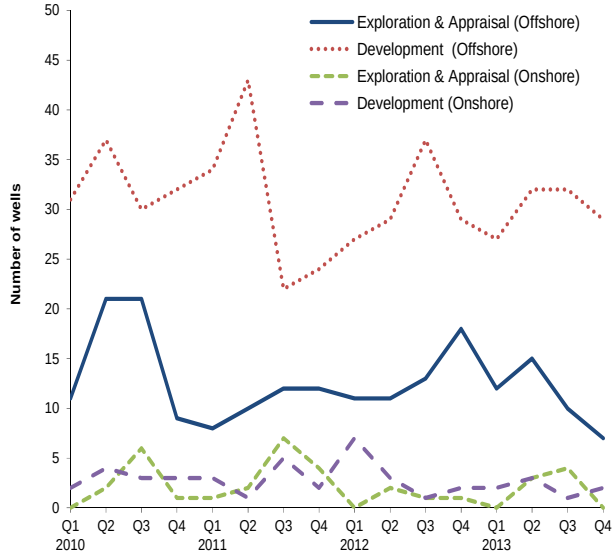
Chart 3.7 UK oil stocks



At the end of 2013, total stocks of crude oil and process oils were 7 per cent (0.4 million tonnes) higher than a year earlier and total stocks of oil products were 3.9 per cent higher. This was the result of a large increase in crude stocks held abroad for the UK (under bilateral agreements). From 2013 onwards, EC Directive 2009/119/EC came into effect and this has led to changes in how petroleum products were defined and what opportunities UK companies have with respect to how they choose to meet their stocking obligations.

Stocks of petroleum products at the end of 2013 were higher by 1.7 per cent (0.1 million tonnes) Initially, the new directive meant that the increase in crude stocks held abroad was at the expense of stocks of petroleum products held abroad but in the last quarter of 2013, these stocks have increased to similar levels as 2012, before the directive came into effect. 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 2013, UK companies held stocks equal to around 76 days of consumption.

Chart 3.8 Drilling activity on the UKCS



There were 44 exploration and appraisal wells started offshore in 2013, compared to 53 in 2012.

There were 120 development wells drilled offshore in 2013, compared to 122 in 2012.

There were 7 exploration and appraisal wells started onshore in 2013, compared to 4 in 2012.

There were 8 development wells drilled onshore in 2013, compared to 13 in 2012.

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

	2012	2013 p	*per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*per cent change*[8]
SUPPLY													
Indigenous production[2]	44,561	40,624	*-8.8*	12,949	12,604	11,812	9,751	10,394	10,600	10,404	9,103r	10,518	*+1.2*
Crude oil	42,052	38,434	*-8.6*	12,095	11,764	11,111	9,361	9,816	10,006	9,735	8,641r	10,051	*+2.4*
NGLs[3]	2,508	2,190	*-12.7*	854	840	701	390	578	594	668	461	466	*-19.3*
Imports[4]	60,559	59,183	*-2.3*	14,820	15,591	16,229	15,120	13,619	14,492	16,440r	15,195r	13,056	*-4.1*
Crude oil & NGLs	55,340	52,414	*-5.3*	13,349	14,090	14,629	13,823	12,798	12,874	14,724r	13,532r	11,284	*-11.8*
Feedstocks	5,218	6,769	*+29.7*	1,470	1,501	1,599	1,297	821	1,618	1,716r	1,662	1,773	*(+)*
Exports[4]	33,961	33,852	*-0.3*	9,101	8,569	8,746	7,848	8,798	8,911	8,823r	7,587r	8,531	*-3.0*
Crude Oil & NGLs	29,939	31,762	*+6.1*	8,170	7,620	7,782	6,815	7,722	8,321	8,316r	7,045r	8,081	*+4.7*
Feedstocks	4,021	2,089	*-48.0*	931	949	964	1,033	1,076	590	507	542	450	*(-)*
Stock change[5]	-486	+750		+85	-197	-223	+673	-740	+555	-229r	+622r	-199	
Transfers[6]	-1,934	-1,642		-451	-655	-582	-306	-391	-459r	-577r	-490	-116	
Total supply	68,738	65,063	*-5.3*	18,301	18,773	18,490	17,390	14,085	16,278	17,215r	16,842r	14,729	*+4.6*
Statistical difference[7]	-124	-65		+125	-11	+102	-114	-101	-99	-54r	+51r	+36	
Total demand	68,862	65,128	*-5.4*	18,176	18,784	18,388	17,504	14,186	16,377	17,268r	16,791	14,692	*+3.6*
TRANSFORMATION	68,862	65,128	*-5.4*	18,176	18,784	18,388	17,504	14,186	16,377	17,268r	16,791	14,692	*+3.6*
Petroleum refineries	68,862	65,128	*-5.4*	18,176	18,784	18,388	17,504	14,186	16,377	17,268r	16,791	14,692	*+3.6*

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 2013 compared with a year earlier.

3 OIL AND OIL PRODUCTS

Table 3.2 Supply and use of petroleum products

Thousand tonnes

	2012	2013 p	*per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*per cent change* [1]
SUPPLY													
Indigenous production [2]	70,572	66,870	*-5.2*	18,585	19,358	18,854	17,785	14,575	16,821r	17,716r	17,265r	15,068	*+3.4*
Imports [3]	25,978	28,221	*+8.6*	6,334	5,541	5,533	6,579	8,325	6,701r	6,490r	6,667r	8,363	*+0.5*
Exports [3]	27,083	26,215	*-3.2*	6,867	7,419	7,486	6,874	5,304	6,764r	6,879	6,600	5,971	*+12.6*
Marine bunkers	3,126	2,958	*-5.4*	817	770	761	814	781	748	769	747r	693	*-11.3*
Stock change [4]	+128	+94		-199	+25	+209	-102	-5	+30	+53	+63	-52	
Transfers [5]	+53	-498		-15	+47	+50	-17	-27	-50r	-29r	-49r	-370	
Total supply	66,522	65,513	*-1.5*	17,023	16,783	16,399	16,557	16,783	15,989r	16,581r	16,598r	16,345	*-2.6*
Statistical difference [6]	-109	-31		-125	-47	-28	-9	-25	-43r	+12r	-13r	+14	
Total demand	66,631	65,544	*-1.6*	17,147	16,830	16,427	16,567	16,808	16,033r	16,569r	16,612r	16,331	*-2.8*
TRANSFORMATION	807	645	*-20.1*	200	231	197	162	217	181	136	174	154	*-29.0*
Electricity generation	739	578	*-21.9*	183	214	180	145	200	164	119	157	137	*-31.5*
Heat generation	68	68	*-0.3*	18	17	17	17	17	17	17	17	17	*-0.6*
Blast furnaces	-	-		-	-	-	-	-	-	-	-	-	
Energy industry use	4,863	4,304	*-11.5*	1,204	1,371	1,311	1,221	960	1,067	1,135	1,135	968	*+0.9*
Petrolem Refineries	4,255	3,697	*-13.1*	1,071	1,219	1,159	1,069	808	915	983	983	817	*+1.0*
Blast Furnaces	-	-		-	-	-	-	-	-	-	-	-	
Others	608	608	*-0.0*	133	152	152	152	152	152	152	152	152	*-0.0*
FINAL CONSUMPTION	60,961	60,595	*-0.6*	15,743	15,228	14,918	15,184	15,631	14,785r	15,299r	15,302r	15,209	*-2.7*
Iron & steel	5	4	*-9.7*	2	1	1	1	1	1	2	1	0	*(-)*
Other industries	3,853	3,584	*-7.0*	963	968	955	929	1,001	898r	895r	885r	906	*-9.5*
Transport	47,039	46,694	*-0.7*	12,062	11,476	11,415	12,078	12,070	10,968r	11,667r	12,099r	11,960	*-0.9*
Domestic	2,433	2,489	*+2.3*	712	733	480	425	795	890r	483	398	719	*-9.6*
Other final users	1,165	1,113	*-4.5*	352	273	284	310	298	256	289	288	279	*-6.4*
Non energy use	6,465	6,710	*+3.8*	1,651	1,777	1,782	1,441	1,465	1,772r	1,963	1,632r	1,344	*-8.3*

1. Percentage change in the fourth quarter of 2013 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

	2012									2013 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]	70,572	17,627	15,772	8,941	5,775	7,164	6,666r	2,268	6,360	66,870	18,103	14,831	8,193	4,527	6,483	6,551r	2,705	5,477
Imports [5]	25,978	4,184	9,541	1,186	7,127	660	293r	702	2,284	28,221	4,472	10,149	589	8,077	626	424r	637	3,246
Exports [5]	27,083	8,561	3,377	4,270	1,320	5,300	1,147	112	2,996	26,215	10,213	2,843	3,302	970	4,586	1,165	381	2,755
Marine bunkers	3,126	-	-	1,644	-	1,483r	-	-	-	2,958	-	-	1,824	-	1,134r	-	-	-
Stock change [6]	+128	+26	-133	+7	+96	+90	+9	+40	-6	+94	-356	+46	+91	-31	+93	+11	+52	188
Transfers [7]	+53	-54	-268	+217	-479	-14	+23	+446	+182	-498	+567	-257	+244	-563	-435	+23	+491	-569
Total supply	66,522	13,222	21,535	4,437	11,199	1,117	5,844	3,343	5,824	65,513	12,574	21,926	3,992	11,040	1,047	5,843	3,505	5,587
Statistical difference [8]	-109	-8	-3	-61	-22	+8	+4	+14	-42	-31	-0	+0	+41	-43	-21	+19	+44	-71
Total demand	66,631	13,231	21,538	4,498	11,221	1,109	5,840	3,329	5,866	65,544	12,574	21,926	3,951	11,083	1,068	5,824	3,460	5,658
TRANSFORMATION	807	-	-	60	-	388	248	-	111	645	-	-	61	-	285	248	-	51
Electricity generation	739	-	-	55	-	335	238	-	111	578	-	-	56	-	232	238	-	51
Heat generation	68	-	-	5	-	53	10	-	-	68	-	-	5	-	53	10	-	-
Petroleum refineries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coke manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patent fuel manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy industry use	4,863	-	-	608	-	348	2,301	-	1,606	4,304	-	-	608	-	298	2,096	-	1,303
FINAL CONSUMPTION	60,961	13,231	21,538	3,830	11,221	373	3,291	3,329	4,150	60,595	12,574	21,926	3,282	11,083	485	3,481	3,460	4,304
Iron & steel	5	-	-	-	-	2	-	-	-	4	-	-	-	-	3	-	-	-
Other industries	3,853	-	-	1,839	-	93	588	1,332	-	3,584	-	-	1,226	-	275	683	1,400	-
Transport	47,039	13,231	21,538	768	11,221	173	93	-	17	46,694	12,574	21,926	886	11,083	116	94	-	16
Domestic	2,433	-	-	140	-	-	297	1,996	-	2,489	-	-	129	-	-	300	2,060	-
Other final users	1,165	-	-	953	-	105	108	-	-	1,113	-	-	921	-	90	102	-	-
Non energy use	6,465	-	-	130	-	-	2,203	-	4,132	6,710	-	-	121	-	-	2,301	-	4,288

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

	2012 4th quarter									2013 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]	14,575	3,477	3,476	1,808	990	1,570	1,223	695	1,336	15,068	4,101	3,243	1,963	852	1,583	1,337	631	1,358
Imports[5]	8,325	1,206	3,129	316	2,504	216	77	295	582	8,363	1,139	3,195	129	2,491	131	82	310	886
Exports[5]	5,304	1,469	854	689	292	1,121	175	45	658	5,971	2,418	689	792	197	954	194	85	642
Marine bunkers	781	-	-	402	-	379	-	-	-	693	-	-	475	-	218	-	-	-
Stock change[6]	-5	+92	-15	-22	-164	+42	+46	-27	+43	-52	-52	+15	-17	-140	+69	+34	-33	+71
Transfers[7]	-27	-18	-52	+39	-207	-30	+4	+200	+35	-370	+375	-57	+53	-193	-330	+3	+183	-404
Total supply	16,783	3,287	5,684	1,050	2,831	298	1,175	1,117	1,339	16,345	3,145	5,706	862	2,813	281	1,260	1,007	1,270
Statistical difference[8]	-25	-0	-1	-2	-3	-1	+6	+6	-30	+14	+1	+0	+17	-21	-3	+4	+13	+4
Total demand	16,808	3,288	5,685	1,052	2,835	299	1,168	1,111	1,369	16,331	3,145	5,706	845	2,835	283	1,257	994	1,266
TRANSFORMATION	217	-	-	17	-	120	62	-	17	154	-	-	15	-	67	62	-	9
Electricity generation	200	-	-	16	-	107	60	-	17	137	-	-	14	-	54	60	-	9
Heat generation	17	-	-	1	-	13	2	-	-	17	-	-	1	-	13	2	-	-
Petroleum refineries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coke manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patent fuel manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy industry use	960	-	-	152	-	77	412	-	320	968	-	-	152	-	44	479	-	294
FINAL CONSUMPTION	15,631	3,288	5,685	884	2,835	101	695	1,111	1,032	15,209	3,145	5,706	678	2,835	172	716	994	963
Iron & steel	1	-	-	-	-	0	-	-	-	0	-	-	-	-	0	-	-	-
Other industries	1,001	-	-	395	-	25	137	444	-	906	-	-	157	-	133	234	383	-
Transport	12,070	3,288	5,685	171	2,835	64	24	-	4	11,960	3,145	5,706	219	2,835	26	26	-	3
Domestic	795	-	-	33	-	-	95	667	-	719	-	-	29	-	-	78	611	-
Other final users	298	-	-	255	-	13	31	-	-	279	-	-	243	-	13	23	-	-
Non energy use	1,465	-	-	30	-	-	407	-	1,028	1,344	-	-	30	-	-	354	-	959

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

	2012	2013 p	*per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*per cent change* [2]
MOTOR SPIRIT													
of which, Hydrocarbon [3]	13,231	12,574	*-5.0*	3,242	3,242	3,396	3,305	3,288	2,983	3,268	3,178	3,145	*-4.4*
of which, Bio-ethanol [4]	569	602	*+5.8*	131	131	145	144	149	140	149	165	149	*-0.5*
Total Motor Spirit including Bio-ethanol	**13,800**	**13,176**	*-4.5*	**3,372**	**3,372**	**3,541**	**3,449**	**3,437**	**3,123**	**3,418**	**3,342**	**3,293**	*-4.2*
of which, sold through Supermarkets [5]	6,196	5,974	*-3.6*	1,513	1,513	1,532	1,599	1,552	1,431	1,528	1,539	1,476	*-4.9*
of which, sold through Refiners, and other traders [6]	7,604	7,202	*-5.3*	1,860	1,860	2,010	1,850	1,885	1,692	1,889	1,803	1,817	*-3.6*
of which, sold via commercial sales [7]	-	-		-	-	-	-	-	-	-	-	-	
DIESEL ROAD FUEL													
Hydrocarbon [8]	21,538	21,926	*+1.8*	5,021	5,021	5,384	5,447	5,685	5,104	5,597	5,518	5,706	*+0.4*
Bio-diesel [9]	531	645	*+21.4*	202	202	144	91	94	108	161	186	190	*(+)*
Total Diesel Road Fuel including Bio-diesel	**22,069**	**22,570**	*+2.3*	**5,223**	**5,223**	**5,528**	**5,538**	**5,779**	**5,211**	**5,758**	**5,704**	**5,896**	*+2.0*
of which, sold through Supermarkets [10]	5,959	6,217	*+4.3*	1,455	1,455	1,446	1,539	1,519	1,471	1,577	1,607	1,562	*+2.8*
of which, sold through Refiners, and other traders [11]	8,413	8,482	*+0.8*	1,947	1,947	2,154	2,067	2,245	1,923	2,173	2,108	2,278	*+1.5*
of which, sold via commercial sales [12]	7,696	7,871	*+2.3*	1,821	1,821	1,928	1,931	2,015	1,817	2,008	1,989	2,056	*+2.0*
Other gas diesel oil [13]	**4,498**	**3,951**	*-12.2*	**1,126**	**1,126**	**1,129**	**1,191**	**1,052**	**952**	**1,070**	**1,088**	**845**	*-19.7*
AVIATION FUELS													
Total sales	11,238	11,099	*-1.2*	2,564	2,564	2,771	3,064	2,839	2,367	2,774	3,119	2,838	-
Aviation spirit	17	16	*-10.3*	3	3	5	5	4	3	4	5	3	*-25.4*
Aviation turbine fuel	11,221	11,083	*-1.2*	2,560	2,560	2,766	3,059	2,835	2,365	2,770	3,114	2,835	-
FUEL OIL													
Total Sales	761	772	*+1.6*	193	193	179	167	222	199	153	179	242	*+9.2*
Light	393	340	*-13.4*	59	59	102	89	143	95	62	98	86	*-40.0*
Medium	118	143	*+20.5*	33	33	21	30	35	32	46	31	33	*-5.0*
Heavy	249	289	*+16.1*	102	102	56	48	44	72	45	49	123	*(+)*

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 2013 compared with a year earlier.
3. Demand excluding bioethanol. Based on HMRC data.
4. Bioethanol based on HMRC data and excludes other renewables
5. Data for sales by supermarkets collected by a monthly reporting system. Includes Asda, Morrisons, Sainsburys and Tesco only.
6. Equals total motor spirit sales minus supermarket and commercial sales.
7. Commercial sales are estimated through returns provided by the UK's refiners
8. Demand excluding biodiesel. Based on HMRC data.
9. Biodiesel based on HMRC data and excludes other renewables.
10. Data for sales by supermarkets collected by a monthly reporting system. Includes Asda, Morrisons, Sainsburys and Tesco only.
11. Equals total diesel sales minus supermarket and commercial sales.
12. Commercial sales are estimated through returns provided by the UK's refiners
13. 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]	Net bilaterals of Crude and Process oil [5]	Total[5]	Motor Spirit[6]	Kerosene[7]	Gas/Diesel Oil[8]	Fuel oils	Other products[9]	Net bilaterals of products [5]	Total products	Total Net bilaterals [5]	Total Stocks in UK[10]	Total stocks
2009		3,848	1,136	682	367	6,033	817	1,633	2,124	690	1,182	2,728	9,173	3,095	12,112	15,206
2010		4,110	1,049	520	210	5,889	797	1,397	1,946	544	917	2,563	8,164	2,773	11,280	14,053
2011		3,889	694	540	151	5,274	696	1,454	1,949	525	845	2,100	7,569	2,251	10,592	12,843
2012		3,829	1,194	473	195	5,690	605	1,427	1,940	491	841	2,441	7,743	2,636	10,798	13,434
2013 p		3,093	1,005	513	1,476	6,087	1,046	1,490	1,849	409	693	2,390	7,876	3,866	10,097	13,964
2011	4th quarter	3,889	694	540	151	5,274	696	1,454	1,949	525	845	2,100	7,569	2,251	10,592	12,843
2012	1st quarter	4,006	861	488	90	5,445	731	1,357	1,934	699	853	2,277	7,851	2,367	10,930	13,296
	2nd quarter	3,825	1,248	522	247	5,843	750	1,171	1,958	595	843	2,431	7,747	2,678	10,912	13,590
	3rd quarter	3,344	988	456	245	5,033	692	1,193	1,954	539	929	2,448	7,756	2,693	10,096	12,788
	4th quarter	3,829	1,194	473	195	5,690	605	1,427	1,940	491	841	2,441	7,743	2,636	10,798	13,434
2013	1st quarter	3,522	858	392	1,565	6,336	1,073	1,103	1,771	477	963	1,727	7,113	3,291	10,158	13,449
	2nd quarter	3,765r	956r	508	1,688	6,917r	992	1,293	1,953	481	872	2,007	7,597	3,694	10,820r	14,515r
	3rd quarter	3,245r	976r	473r	1,904r	6,597r	1,020r	1,334r	1,951r	473r	804r	1,846r	7,430r	3,749r	10,278r	14,027r
	4th quarter p	3,093	1,005	513	1,476	6,087	1,046	1,490	1,849	409	693	2,390	7,876	3,866	10,097	13,964
Per cent change [11]		*-19.2*	*-15.8*	*+8.4*	*(+)*	*+7.0*	*+73.0*	*+4.4*	*-4.7*	*-16.7*	*-17.6*	*-2.1*	*+1.7*	*+46.7*	*-6.5*	*+3.9*

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 fields (UKCS).
5. The difference between stocks held abroad for UK use under approved bilateral agreements and the equivalent stocks held in the UK for foreign use. From 2013 onwards, EU Directive 2009/119/EC came into effect and this has lead to changes in how UK companies manage their stock-holding. The increase in crude stocks held abroad was at the expense of a decrease in product stocks held under similar agreements.
6.Motor spirit and aviation spirit.
7. Aviation turbine fuel and burning oil.
8. Gas oil, DERV fuel, middle distillate feedstock (mdf) and marine diesel oil.
9. Ethane, propane, butane, other petroleum gases, naphtha (ldf), industrial and white spirits, bitumen, petroleum wax, lubricating oil, petroleum coke, and miscellaneous products.
10. Stocks held in the national territory or elsewhere on the UKCS
11. Percentage change from the same quarter last year.

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]
2011		14	28	42	123	14	11
2012		22	31	53	122	4	13
2013 p		15	29	44	120	7	8
Per cent change		*-31.8*	*-6.5*	*-17.0*	*-1.6*	*+75.0*	*-38.5*
2011	4th quarter	4	8	12	24	4	2
2012	1st quarter	5	6	11	27	-	7
	2nd quarter	5	6	11	29	2	3
	3rd quarter	4	9	13	37	1	1
	4th quarter	8	10	18	29	1	2
2013	1st quarter	7	5	12	27	-	2
	2nd quarter	3	12	15	32	3	3
	3rd quarter	3	7	10	32	4	1
	4th quarter p	2	5	7	29	-	2
Per cent change[3]		*-75.0*	*-50.0*	*-61.1*	-	*-100.0*	-

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 2013 compared with a year earlier

Section 4 - Gas

Key results show:

Provisional 2013

In 2013 gross production of natural gas was 6.2 per cent lower than in 2012 and, at around 424 TWh, was the lowest production since 1984. (**Chart 4.1**)

Gas exports and imports were, respectively, 23.9 per cent and 2.5 per cent lower than in 2012. LNG imports were 31.6 per cent lower, whereas pipeline imports were 9.8 per cent higher in 2013 versus 2012. The trade position for 2013 showed net imports to be 5.1 per cent higher in 2013 versus 2012. (**Chart 4.4**)

Gas demand was broadly similar in 2013 versus 2012, having fallen by 0.8 per cent. Gas used for electricity generation continued to fall in 2013 due to the switch away from gas for generation. Domestic and other final users' gas consumption was higher in 2013, driven by a cooler first quarter in 2013 versus 2012. (**Chart 4.6**)

Quarter 4 2013

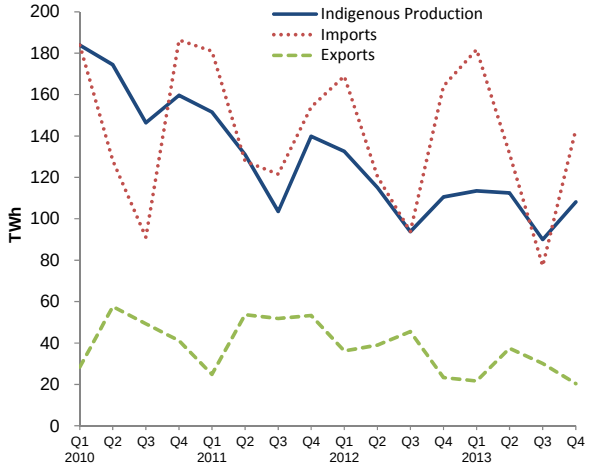
In the fourth quarter of 2013, gross production of natural gas was 2.2 per cent lower than in the same period a year ago. (**Chart 4.1**)

Imports decreased by 12.8 per cent in the fourth quarter of 2013 versus Q4 2012. Exports were 12.4 per cent lower than in quarter 4 2012. (**Chart 4.4**)

The trade position for quarter 4 2013 shows net imports (difference between imports and exports) were 12.8 per cent lower than in the same quarter in 2012. (**Chart 4.4**)

In the fourth quarter of 2013, gas demand fell by 10.0 per cent - driven by a decrease across all sectors, with warmer temperatures a factor. (**Chart 4.6**)

Chart 4.1 Production and imports and exports of natural gas



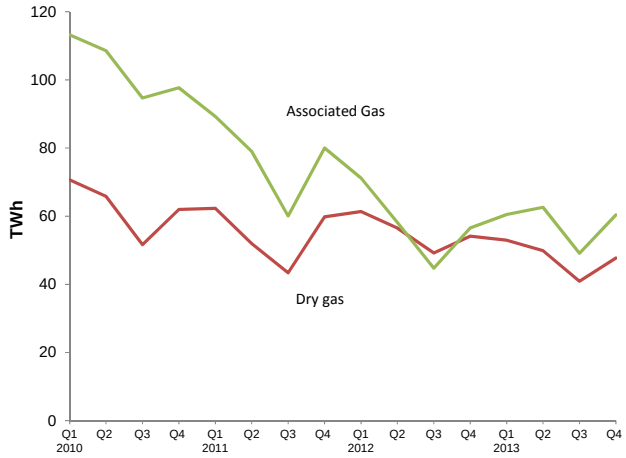
Provisional figures for 2013 show production of natural gas was 6.2 per cent lower than in 2012. This reflects the continuing long-term decline in UK natural gas production.

Gas exports and imports were 23.9 per cent and 2.5 per cent lower respectively than in 2012. The trade position for 2013 showed net imports (difference between imports and exports) were 5.1 per cent higher than in 2012.

In the fourth quarter of 2013, gross production of natural gas was 2.2 per cent lower than in the same period a year ago, with the Elgin field back in operation.

Imports were 12.8 per cent lower in the fourth quarter of 2013 versus quarter 4 2012, whilst exports were 12.4 per cent lower. Although percentage changes were similar, given the greater volumes of imports, net imports for quarter 4 2013 were also 12.8 per cent lower than that in the same quarter in 2012.

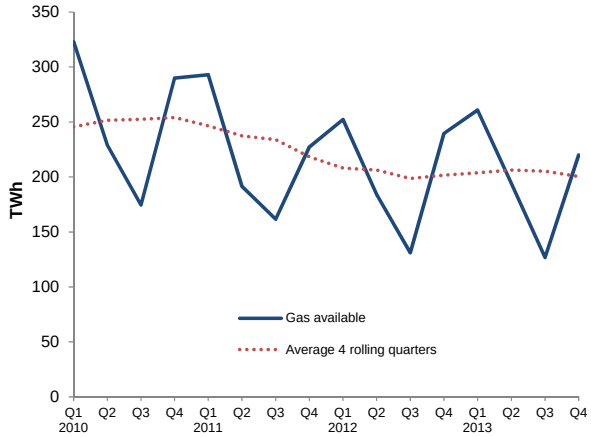
Chart 4.2 Production of dry gas and associated gas.



Associated gas production in 2013 was similar to that in 2012 (0.8% higher). Dry gas production was 13.4 per cent lower in 2013 versus 2012. This reflects the continued long-term decline in UK natural gas production.

Q4 2013 associated gas production increased by 6.8 per cent versus Q4 2012. This increase reflects the resolution of the Elgin gas leak, which impacted on associated gas production from March 2012 until mid-2013. Dry gas production in quarter 4 2013 reflected the annual pattern, with an 11.8 per cent fall versus Q4 2012.

Chart 4.3 Gas availability

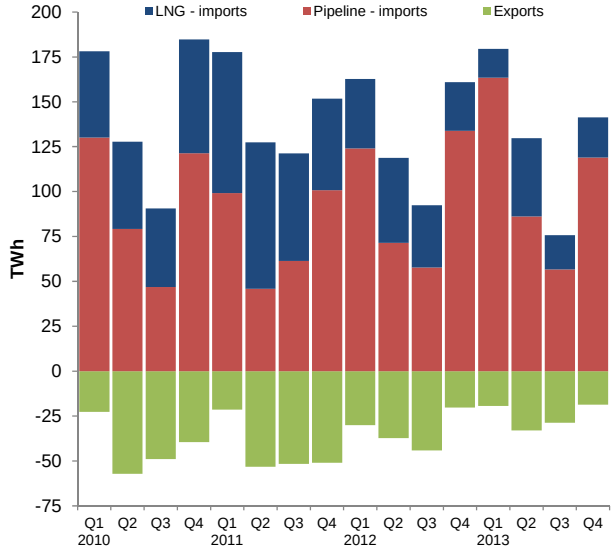


Gas available at terminals is equal to the gross gas production, minus producers own use, plus net imports.

Gas availability is seasonal, mirroring gas demand, and peaks during Q4 and Q1 each year. Gas available in Q4 2013 decreased by 8.3 per cent compared to Q4 2012 to 220TWh. This was largely driven by a decrease in domestic and other final users' consumption, with average temperatures in the fourth quarter of 2013 being warmer than in the same quarter in 2012.

The long-term picture shows that the average availability over 4 rolling quarters had remained fairly constant since the start of 2012.

Chart 4.4 Imports and exports



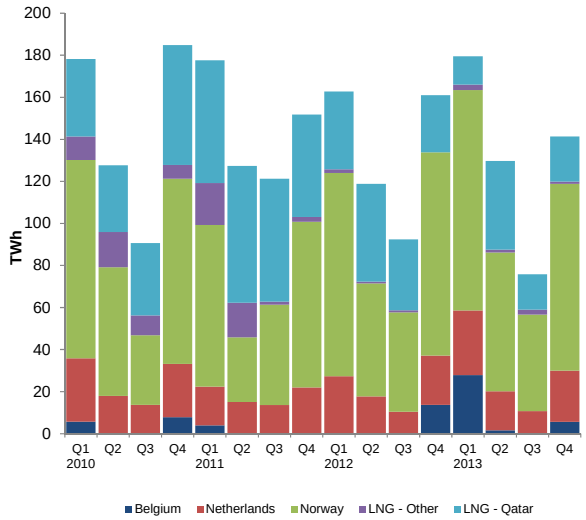
In 2013, exports of natural gas were around a quarter lower compared with 2012 reflecting lower UK production and less imports of gas in 2013. Gas imports were lower by 2.5 per cent in 2013, whilst net imports were 5.1 per cent higher than 2012.

Pipeline imports in 2013 were higher by 9.8 per cent. Liquefied Natural Gas (LNG) imports in 2013 were just over two-thirds of the level of 2012. LNG imports accounted for 18.9 per cent of total imports in 2013 compared with around a quarter of those in 2012 and half of those in 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.

Total imports in Q4 2013 decreased by 12.8 per cent compared with Q4 2012; exports were 12.4 per cent lower than in Q4 2012. The trade position for quarter 4 2013 narrowed and showed net imports (difference between imports and exports) to be 12.8 per cent lower than in the same quarter in 2012.

Pipeline imports in Q4 2013 were 11.2 per cent lower compared with the same quarter a year earlier. Liquefied Natural Gas (LNG) imports in Q4 2013 were 17.4 per cent lower. This reflects the decreased demand in Q4 2013 versus Q4 2012.

Chart 4.5 Imports by origin

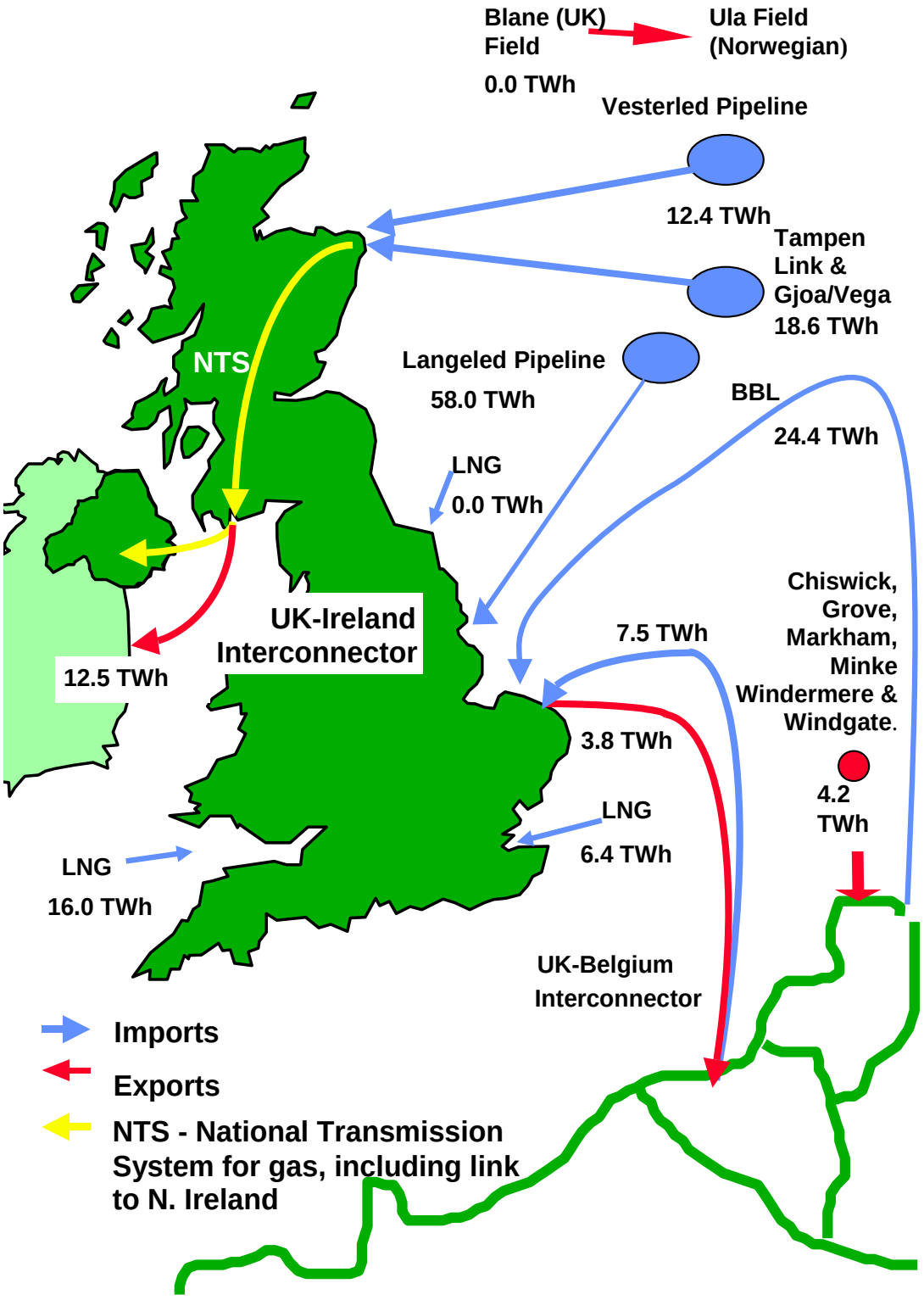


In 2013, the 9.8 per cent increase in pipeline imports was mainly driven by an increase in Belgian pipeline imports in Q1 2013. Imports from Belgium increased by 2.5 times in 2013 compared with 2012; the Bacton to Zeebrugge interconnector switched to import mode in Q4 2012 whereas for most of 2012 the interconnector was mainly in export mode. Imports from the Netherlands and Norway were also higher by 7.6 per cent and 3.7 per cent respectively.

The fall in LNG imports in 2013 were driven by a sharp fall in imports from Qatar, which were lower by 35.0 per cent.

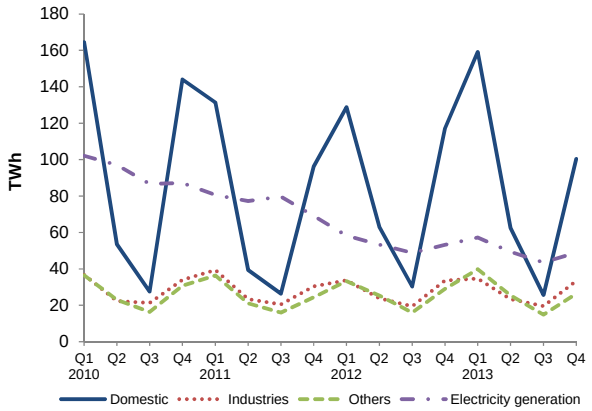
In Q4 2013, imports decreased from all sources except the Netherlands, reflecting the reduced demand seen in Q4 2013 versus Q4 2012.

Map: UK imports and exports of gas Q4 2013 [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 2013, gas demand fell by 0.8 per cent. This small drop reflects a larger reduction in gas used for electricity generation and energy industry use being mostly offset by an increase in gas demand for domestic and other final users. There was a 6.8 per cent reduction in gas used for electricity generation in 2013 versus 2012, reflecting the continued shift away from gas for generation due its relatively higher price.

Other industry use of gas was similar in 2013 compared as in 2012. There was an increase in gas use for both domestic and other final users, up by 2.5 and 2.9 per cent respectively. This was driven by high gas use in Q1 2013 versus Q1 2012. Although mean annual temperatures were similar in 2012 and 2013, Q1 2013 was almost 3 degrees Celsius cooler than Q1 2012.

Gas demand in Q4 2013 was 10.0 per cent lower compared to Q4 2012. A reduction in gas use versus Q4 2012 was seen across all sectors except iron and steel, with electricity generation, domestic and other final use showing larger drops ranging between approximately 8 and 14 per cent. This was driven by a continued shift away from gas to coal for electricity generation, and warmer average temperatures in Q4 2013 versus Q4 2012.

Relevant table

4.1: Natural gas supply and consumption.....Page 38

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4 GAS

Table 4.1. Natural gas supply and consumption

GWh

	2012	2013 p	*per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*per cent change*[1]
SUPPLY													
Indigenous production	452,094	424,152	*-6.2*	139,874	132,563	115,118	93,807	110,606	113,470r	112,494r	90,046r	108,142	*-2.2*
Imports	547,300	533,589	*-2.5*	153,983	168,873	120,478	93,784	164,165	181,732	131,415r	77,259	143,183	*-12.8*
of which LNG	*147,879*	*101,104*	*-31.6*	*50,935*	*38,645*	*47,366*	*34,703*	*27,166r*	*15,986*	*43,543*	*19,140*	*22,434*	*-17.4*
Exports	144,023	109,664	*-23.9*	53,275	36,215	38,953	45,507	23,348	21,692	37,423r	30,106r	20,443	*-12.4*
Stock change[2]	-269	+621		+3,055	+13,504	-9,544	-8,427	+4,198	+40,380	-25,196	-14,890	+327	
Transfers	-56	-61		-7	-11	-4	-14	-26	-29	-12	-14	-5	
Total supply	855,047	848,637	*-0.7*	243,629	278,713	187,095	133,644	255,594	313,861r	181,278r	122,294r	231,205	*-9.5*
Statistical difference	-2,145	-1,458		-1,075	-699	-469	-336	-641	-1,630r	-961r	635r	498	
Total demand	857,191	850,095	*-0.8*	244,704	279,412	187,564	133,979	256,235	315,491r	182,239r	121,659r	230,706	*-10.0*
TRANSFORMATION	235,930	221,454	*-6.1*	75,240	64,933	58,390	53,127	59,481	63,903r	54,454r	47,822r	55,274	*-7.1*
Electricity generation	213,539	199,062	*-6.8*	69,029	58,234	53,320	48,816	53,169	57,205r	49,384r	43,511r	48,962	*-7.9*
Heat generation[3]	22,392	22,392	-	6,211	6,699	5,070	4,311	6,312	6,699	5,070	4,311	6,312	-
Energy industry use	55,622	51,748	*-7.0*	14,768	14,877	14,351	12,586	13,808	14,375r	13,613r	11,438r	12,321	*-10.8*
Losses	12,271	11,849	*-3.4*	3,671	3,719	2,765	2,502	3,286	3,675	2,939r	2,171r	3,064	*-6.8*
FINAL CONSUMPTION	553,368	565,044	*+2.1*	151,025	195,884	112,058	65,765	179,661	233,537r	111,232r	60,228r	160,047	*-10.9*
Iron & steel	4,854	5,209	*+7.3*	1,307	1,346	1,275	1,101	1,132	1,450	1,244r	1,224	1,291	*+14.0*
Other industries	105,851	105,748	*-0.1*	29,038	32,388	22,585	18,404	32,474	33,202r	22,096r	18,389r	32,061	*-1.3*
Domestic	339,080	347,682	*+2.5*	96,240	128,836	62,915	30,293	117,036	159,110r	62,477r	25,716r	100,379	*-14.2*
Other final users	97,634	100,457	*+2.9*	22,952	31,826	23,796	14,480	27,532	38,288r	23,928r	13,411r	24,829	*-9.8*
Non energy use[3]	5,949	5,949	-	1,487	1,487	1,487	1,487	1,487	1,487	1,487	1,487	1,487	-

1. Percentage change in the fourth quarter of 2013 compared with a year earlier.

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

3. For Heat generation and non energy use, the 2013 figures currently shown are the 2012 figures carried forward - these will be updated in July 2014.

Section 5 – Electricity

Key results show:

Provisional 2013
Electricity generated in 2013 fell by 2.0 per cent from 363.8 TWh in 2012 to 356.7 TWh. (**Chart 5.1**)

Low carbon electricity's share of generation increased from 30.7 per cent in 2012 to 34.6 per cent in 2013, due to higher renewables and nuclear generation. (**Chart 5.2**)

Renewables' share of electricity generation increased from 11.3 per cent in 2012 to a record 14.8 per cent in 2013. (**Chart 5.2**)

Gas's share of generation fell from 27.5 per cent to 26.8 per cent, due to high gas prices. It was gas's lowest share since 1996. Coal's share of generation decreased from 39.4 per cent to 36.3 per cent. Despite the decrease in coal use, the contribution of coal to the UKs electricity mix remains high compared to recent years (between 2008-2011 coal provided around 30 per cent of the UK's electricity generation). (**Chart 5.2**)

Net imports of electricity at 14.4 TWh, were up 19.8 per cent from 12.0 TWh in 2012, due mainly to increased imports from France, and at the highest level since 1997. (**Chart 5.4**).

Final consumption of electricity in 2013 was 0.5 per cent lower than in 2012, the lowest level since 1998. Domestic sales fell by 1.3 per cent. (**Chart 5.6**).

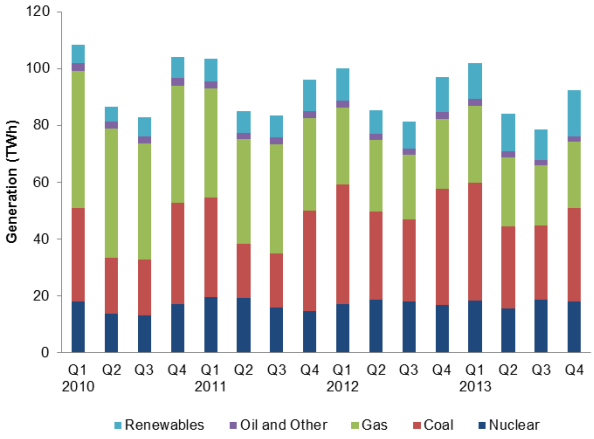
Quarter 4 2013
Electricity generated in the fourth quarter of 2013 fell by 4.9 per cent from 97.0 TWh a year earlier to 92.3 TWh (**Chart 5.1**).

Renewables' share of electricity generation increased from 12.6 per cent in the fourth quarter of 2012 to a record 17.6 per cent in the fourth quarter of 2013. (**Chart 5.2**).

Gas's quarterly share of generation fell from 25.5 per cent to 25.1 per cent, the lowest fourth quarter share for at least 15 years due to high gas prices, while coal's quarterly share fell from 42.3 per cent to 35.6 per cent. Nuclear's share increased from 17.2 per to 19.7 per cent, due to increased availability after outages during 2012. (**Chart 5.2**).

Final consumption in the fourth quarter of 2013 fell by 3.4 per cent on a year earlier, and domestic sales fell by 6.3 per cent, as a result of warmer weather in 2013. **(Chart 5.6)**

Chart 5.1 Electricity generated by fuel type



In 2013, total electricity generated fell 2.0 per cent from 363.8 TWh in 2012 to 356.7 TWh.

In 2013, coal fired generation fell by 9.6 per cent from 143.2 TWh in 2012 to 129.4 TWh. Gas fired generation fell 4.3 per cent from 100.1 TWh to 95.7 TWh, its lowest level since 1996.

Nuclear generation rose 0.3 per cent from 70.4 TWh to 70.6 TWh, the highest level for seven years.

In 2013, wind and solar PV generation rose 41.7 per cent from 20.8 TWh to 29.4 TWh, mainly due to increased capacity compared to 2012 but also higher wind speeds. Hydro generation fell 10.7 per cent from 5.3 TWh to 4.7 TWh, with average rainfall in the main hydro areas 9 per cent lower in 2013 than a year earlier.

Chart 5.2 Shares of electricity generation

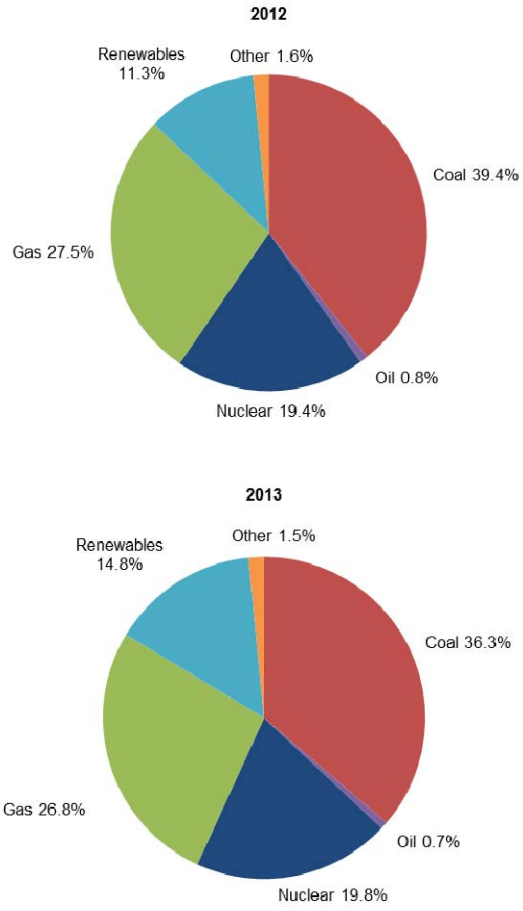
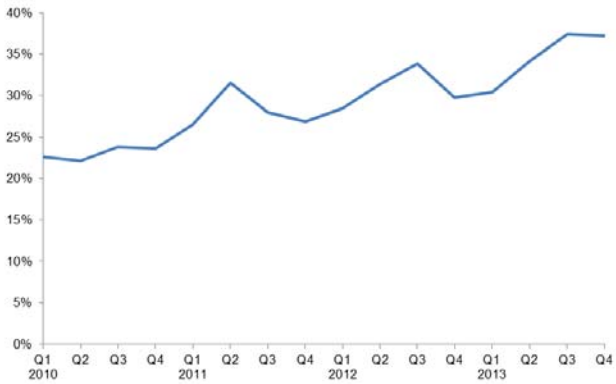


Chart 5.3 Low carbon electricity's share of generation



The share of generation from coal decreased from 39.4 per cent in 2012 to 36.3 per cent in 2013. Gas's share of generation decreased from 27.5 per cent in 2012 to 26.8 per cent in 2013, its lowest share since 1996. Nuclear's share of generation increased from 19.4 per cent in 2012 to 19.8 per cent in 2013.

The share of renewables (hydro, wind and bioenergy) increased from 11.3 per cent in 2012 to 14.8 per cent in 2013. This was mainly due to increased wind and bioenergy generation capacity.

Low carbon electricity's share of generation increased from 30.7 per cent in 2012 to 34.6 per cent in 2013, the highest share in the last seventeen years, due to both higher renewables and nuclear generation.

In 2013 Q4, total electricity generated fell 4.9 per cent from 97.0 TWh in 2012 Q4 to 92.3 TWh.

In 2013 Q4, coal fired generation fell by 20.0 per cent from 41.0 TWh in 2012 Q4 to 32.8 TWh. Gas fired generation fell 6.2 per cent from 24.7 TWh to 23.2 TWh, its lowest fourth quarter level for at least 15 years. Nuclear generation rose 9.1 per cent from 16.7 TWh to 18.2 TWh, due to increased availability after outages a year earlier.

In 2013 Q4, wind and solar PV generation rose 55.5 per cent from 6.4 TWh to 9.9 TWh, due to increased capacity. Hydro generation rose 6.8 per cent from 1.6 TWh to 1.7 TWh. Rainfall in the main hydro areas was 15 per cent higher in the fourth quarter of 2013 compared to the same quarter a year ago.

The share of generation from coal decreased from 42.3 per cent in 2012 Q4 to 35.6 per cent in 2013 Q4. Gas's share of generation decreased from 25.5 per cent in 2012 Q4 to 25.1 per cent in 2013 Q4. Nuclear's share of generation increased from 17.2 per cent in 2012 Q4 to 19.7 per cent in 2013 Q4.

The share of renewables (hydro, wind and bioenergy) increased from 12.6 per cent in 2012 Q4 to 17.6 per cent in 2013 Q4. This was due to increased capacity for wind and bioenergy generation.

Low carbon electricity's share of generation increased from 29.7 per cent in 2012 Q4 to 37.3 per cent in 2013 Q4, due to both higher renewables and nuclear generation.

Chart 5.4 UK trade in electricity

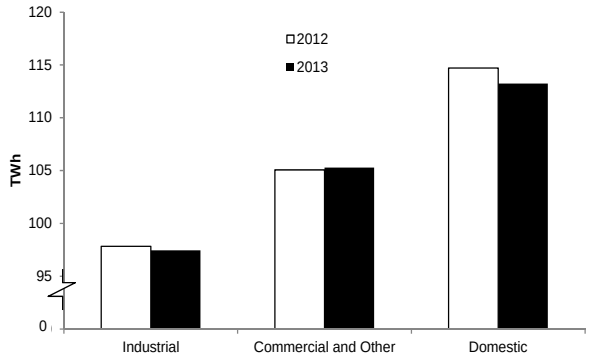
In 2013, imports of electricity rose by 27.1 per cent, whilst exports rose by 77.7 per cent. Net imports of electricity, at 14.4 TWh, were up 19.8 per cent on the 2012 value, the highest level for net imports for at least 13 years, due mainly to increased imports from France via the interconnector.

In 2013, the UK was a net importer from France and the Netherlands with net imports of 10.3 TWh and 6.3 TWh respectively. The UK was a net exporter to Ireland, with net exports of 2.2 TWh.

In 2013 Q4, compared with the same period in 2012, imports of electricity rose by 50 per cent, whilst exports increased by nearly six times the levels in Q4 2012 (0.2 TWh). 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 3.4 TWh, were up 22.1 per cent on the level of 2,782 GWh in 2012 Q4. This represented 3.7 per cent of electricity supplied in 2013 Q4. In 2013 Q4, the UK was a net importer from France and Netherlands with net imports of 2,323 GWh and 1,701 GWh respectively and a net exporter to Ireland with exports of 625 GWh.

Chart 5.5 Electricity final consumption (annual)

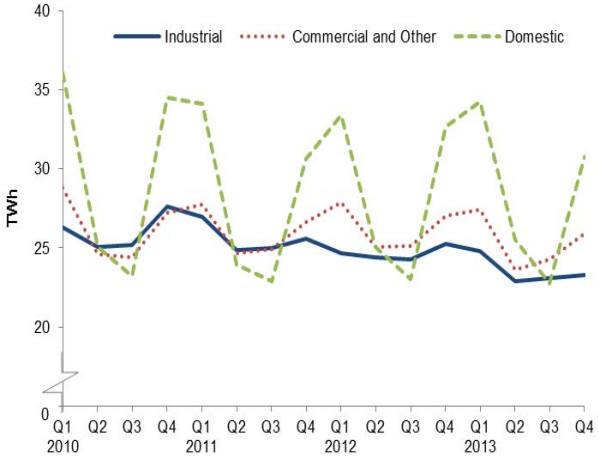


Final consumption of electricity fell by 0.5 per cent in 2013, from 317.6 TWh in 2012, to 316.0 TWh, its lowest level since 1998.

Domestic use fell by 1.3 per cent, from 114.7 TWh in 2012 to 113.2 TWh in 2013. Industrial use of electricity fell 0.4 per cent, from 97.8 TWh to 97.4 TWh, while consumption by commercial and other users [1] rose by 0.2 per cent, from 105.1 TWh to 105.3 TWh.

In 2013, temperatures were on average less than 0.1 degrees cooler than in 2012.[2]

Chart 5.6 Electricity final consumption (quarterly)



Final consumption of electricity fell by 3.4 per cent in 2013 Q4, from 84.7 TWh in 2012 Q4, to 81.8 TWh.

Domestic use fell by 6.3 per cent, from 32.8 TWh in Q4 2012 to 30.7 TWh ino Q4 2013. Industrial use of electricity fell 3.2 per cent, from 24.9 TWh to 24.1 TWh, and consumption by commercial and other users fell by 0.1 per cent, from 27.0 TWh to 26.9 TWh.

In 2013 Q4, temperatures were on average 1.4 degrees warmer than a year earlier.

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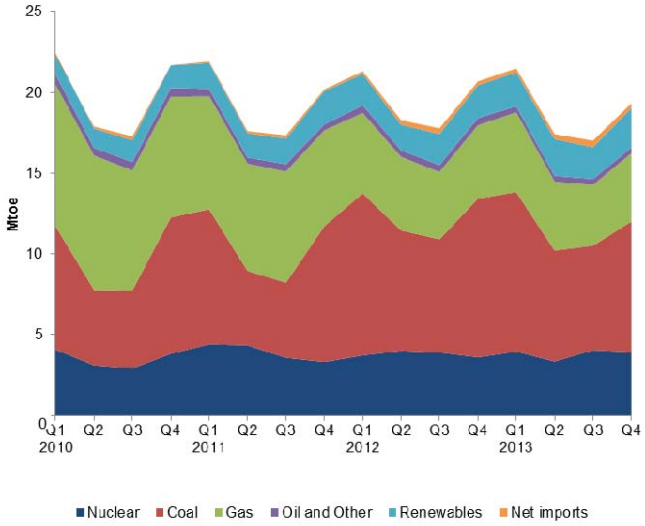
[1] Includes commercial, transport and other final users.
[2] Temperature data comes from table ET 7.1, at: www.gov.uk/government/publications/energy-trends-section-7-weather

Chart 5.7 Fuel used for electricity generation



Fuel used by generators in 2013 fell 4.1 per cent, from 78.4 mtoe in 2012 to 75.2 mtoe.[3]

In 2013, gas use was 6.8 per cent lower than in 2012. Coal use during 2013 was 8.8 per cent lower than a year earlier, while nuclear sources were 0.3 per cent higher.

Fuel used by generators in 2013 Q4 fell 7.2 per cent, from 20.8 mtoe in 2012 Q4 to 19.3 mtoe.

In 2013 Q4, gas use was 8.0 per cent lower than in 2012 Q4, due to higher gas prices. Coal use during the quarter was 17.7 per cent lower than a year earlier, while nuclear sources were 9.1 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

	2012	2013 p	*per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*per cent change* [1]
FUEL USED IN GENERATION													
All generating companies												**Million tonnes of oil equivalent**	
Coal	34.33	31.31	*-8.8*	8.41	10.04	7.45	7.01	9.83	9.88r	6.87	6.47	8.08	*-17.7*
Oil	0.78	0.60	*-22.6*	0.20	0.24	0.19	0.16	0.19	0.16	0.15	0.16	0.14	*-29.5*
Gas	18.41	17.16	*-6.8*	5.91	5.02	4.59	4.21	4.59	4.93r	4.26r	3.75	4.22	*-8.0*
Nuclear	15.21	15.25	*+0.3*	3.31	3.71	4.00	3.89	3.60	3.95	3.34	4.04	3.92	*+9.1*
Hydro	0.45	0.41	*-10.7*	0.17	0.16	0.06	0.09	0.14	0.11	0.08	0.06	0.15	*+6.8*
Wind and Solar [2]	1.79	2.53	*+41.7*	0.49	0.46	0.36	0.42	0.55	0.61r	0.61r	0.46r	0.85	*+55.5*
Bioenergy [3]	5.29	5.86	*+10.9*	1.33	1.30	1.14	1.46	1.38	1.38r	1.59	1.45	1.44	*+4.2*
Other fuels	1.11	0.85	*-23.3*	0.23	0.24	0.25	0.32	0.30	0.21r	0.21r	0.22	0.21	*-29.6*
Net imports	1.04	1.24	*+19.8*	0.11	0.17	0.27	0.35	0.24	0.24	0.31	0.40	0.29	*+22.1*
Total all generating companies	78.40	75.21	*-4.1*	20.16	21.34	18.33	17.91	20.82	21.48r	17.41r	17.01r	19.32	*-7.2*
ELECTRICITY GENERATED													
All generating companies												**TWh**	
Coal	143.18	129.44	*-9.6*	35.27	42.15	31.23	28.79	41.02	41.56	29.04	26.04	32.80	*-20.0*
Oil	3.07	2.54	*-17.0*	0.88	0.85	0.67	0.69	0.87	0.79	0.74r	0.55	0.46	*-46.5*
Gas	100.07	95.72	*-4.3*	32.57	27.20	25.22	22.94	24.72	27.14r	24.15r	21.24r	23.19	*-6.2*
Nuclear	70.41	70.61	*+0.3*	14.62	17.20	18.53	18.03	16.65	18.28	15.47	18.69	18.16	*+9.1*
Hydro (natural flow)	5.28	4.72	*-10.7*	2.01	1.89	0.75	1.02	1.63	1.26r	0.97	0.75	1.74	*+6.8*
Wind and Solar [2]	20.78	29.43	*+41.7*	5.72	5.31	4.19	4.87	6.39	7.11r	7.04r	5.34r	9.94	*+55.5*
- of which, Offshore	7.46	10.88	*+45.8*	1.92	1.49	1.64	1.69	2.64	2.85	2.47	1.82	3.74	*+41.5*
Bioenergy [3]	15.20	18.66	*+22.8*	3.59	4.07	3.29	3.67	4.17	4.33r	5.20r	4.60r	4.53	*+8.7*
Pumped Storage	2.97	2.90	*-2.1*	0.78	0.79	0.67	0.71	0.79	0.74	0.69	0.71	0.76	*-3.8*
Other fuels	2.89	2.62	*-9.3*	0.68	0.65	0.72	0.76	0.76	0.65r	0.65r	0.66r	0.66	*-12.9*
Total all generating companies	363.84	356.65	*-2.0*	96.11	100.11	85.27	81.47	96.98	101.87r	83.96r	78.57r	92.25	*-4.9*
ELECTRICITY SUPPLIED [4]													
All generating companies												**TWh**	
Coal	135.89	124.38	*-8.5*	33.49	40.01	29.64	27.33	38.91	39.43	27.55	25.45r	31.95	*-17.9*
Oil	2.74	2.31	*-15.5*	0.79	0.76	0.60	0.61	0.76	0.72	0.68r	0.50	0.42	*-44.9*
Gas	98.17	93.93	*-4.3*	31.97	26.67	24.76	22.50	24.24	26.63r	23.69r	20.86r	22.75	*-6.1*
Nuclear	63.95	64.13	*+0.3*	13.28	15.62	16.83	16.38	15.12	16.61	14.05	16.97	16.50	*+9.1*
Hydro	5.25	4.69	*-10.7*	1.99	1.87	0.75	1.01	1.62	1.25r	0.97	0.74	1.73	*+6.8*
Wind and Solar [2]	20.78	29.43	*+41.7*	5.72	5.31	4.19	4.87	6.39	7.11r	7.04r	5.34r	9.94	*+55.5*
- of which, Offshore	7.46	10.88	*+45.8*	1.92	1.49	1.64	1.69	2.64	2.85	2.47	1.82r	3.74	*+41.5*
Bioenergy [3]	13.40	16.50	*+23.2*	3.20	3.60	2.89	3.23	3.68	3.82r	4.61r	4.07r	4.00	*+8.8*
Pumped Storage (net supply) [5]	-1.02	-1.03		-0.24	-0.26	-0.24	-0.25	-0.27	-0.27	-0.26	-0.26	-0.25	
Other fuels	2.71	2.46	*-9.3*	0.64	0.61	0.68	0.71	0.71	0.61r	0.61r	0.62r	0.62	*-12.9*
Net imports	12.04	14.43	*+19.8*	1.27	1.99	3.19	4.08	2.782	2.816	3.56	4.65r	3.398	*+22.1*
Total all generating companies	353.90	351.24	*-0.8*	92.10	96.19	83.28	80.48	93.94	98.73r	82.50r	78.95r	91.05	*-3.1*

1. Percentage change in the fourth quarter of 2013 compared with a year earlier.

2. Includes wave and 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

	2012	2013 p	*Per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*Per cent change* [1]
SUPPLY													
Indigenous production	363,836	356,649	*-2.0*	96,107	100,110	85,275	81,466	96,985	101,869r	83,963r	78,569r	92,248	*-4.9*
Major power producers [2] [3]	325,139	318,857	*-1.9*	86,191	89,980	75,893	72,123	87,144	92,496r	74,354r	69,475	82,533	*-5.3*
Auto producers	35,730	34,889	*-2.4*	9,136	9,337	8,707	8,638	9,048	8,632r	8,918r	8,387r	8,952	*-1.1*
Other sources [4]	2,966	2,903	*-2.1*	780	794	675	705	793	741	692	708	763	*-3.8*
Imports	13,791	17,533	*+27.1*	2,192	3,169	3,352	4,311	2,958	3,354	4,340	5,402r	4,436	*+50.0*
Exports	1,746	3,103	*+77.7*	922	1,182	162	227	176	538	777	751r	1,038	*(+)*
Transfers	-	-		-	-	-	-	-	-	-	-	-	
Total supply	375,880	371,078	*-1.3*	97,376	102,098	88,465	85,550	99,767	104,685r	87,527r	83,220r	95,646	*-4.1*
Statistical difference	-361	632		83	-460	-330	380	49	202r	285r	-182r	327	
Total demand	376,241	370,447	*-1.5*	97,293	102,557	88,795	85,171	99,718	104,483r	87,242r	83,402r	95,319	*-4.4*
TRANSFORMATION	-	-		-	-	-	-	-	-	-	-	-	
Energy industry use [5]	29,720	27,252	*-8.3*	7,258	7,843	7,105	7,030	7,742	7,820r	6,845r	6,162r	6,425	*-17.0*
Losses	28,946	27,240	*-5.9*	6,889	8,367	7,333	5,963	7,282	8,360r	6,507r	5,270r	7,103	*-2.5*
FINAL CONSUMPTION	317,575	315,955	*-0.5*	83,147	86,346	74,357	72,178	84,694	88,304r	73,891r	71,970r	81,791	*-3.4*
Iron & steel	3,366	3,393	*+0.8*	949	820	840	857	848	848	848	848	848	-
Other industries	94,454	94,038	*-0.4*	24,856	24,193	23,087	23,109	24,066	24,787	22,906r	23,076r	23,268	*-3.3*
Transport	4,089	4,089	-	1,021	1,022	1,022	1,022	1,022	1,022	1,022	1,022	1,022	-
Domestic	114,698	113,242	*-1.3*	30,644	33,518	25,206	23,169	32,805	34,243r	25,509r	22,752r	30,738	*-6.3*
Other final users	100,968	101,193	*+0.2*	25,677	26,793	24,202	24,021	25,952	27,403	23,605	24,271r	25,914	*-0.1*
Non energy use	-	-		-	-	-	-	-	-	-	-	-	

1. Percentage change in the fourth quarter of 2013 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 2013 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.,

Dong Energy Burbo UK Ltd., Drax Power Ltd., EDF Energy plc., Eggborough Power Ltd., E.On UK plc., Energy Power Resources, Falck Renewables Ltd., GDF Suez Teesside Power Ltd.,

Immingham CHP, Infinis plc, International Power Mitsui, London Waste Ltd., Magnox North Ltd., Peel Energy Ltd., Premier Power Ltd., RGS Energy Ltd, Riverside Resource Recovery 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 2013
In 2013, on the 2009 Renewable Energy Directive basis, normalised renewable generation was 13.8 per cent of gross electricity consumption, an increase of 3.0 percentage points on 2012's share. **(Table 6A)**

Renewables' share of electricity generation was a record 14.8 per cent in 2013, an increase of 3.5 percentage points on the 11.3 per cent in 2012. **(Chart 6.1)**

Renewable electricity generation was 52.8 TWh in 2013, an increase of 28 per cent on the 41.3 TWh in 2012, with wind generation up 40 per cent. **(Chart 6.2)**

Renewable electricity capacity was 19.4 GW at the end of 2013, a 25 per cent increase (3.9 GW) on a year earlier. **(Chart 6.3)**

Quarter 4 2013
Renewables' share of electricity generation was a record 17.6 per cent, up 5.0 percentage points on the share in 2012 Q4, reflecting high renewable generation**. (Chart 6.1)**

Renewable electricity generation was a record 16.2 TWh in 2013 Q4, an increase of 33 per cent on the 12.2 TWh in 2012 Q4, due to increased capacity and high wind speeds. **(Chart 6.2)**

In 2013 Q4, 154 MW of installed capacity was confirmed on the Feed in Tariff scheme, increasing the total confirmed to 2,241 MW, across 448,160 installations. **(Chart 6.5)**

Table 6A Renewable electricity shares – 2012 and 2013 *(provisional)*

	2012	2013
Renewable Generation (TWh)	41.3	52.8
Total Electricity Generation (TWh)	363.8	356.6
International Basis:	11.3%	14.8%
Normalised Renewable Generation (TWh)	40.2	51.0
Gross Electricity Consumption (TWh)	372.9	368.2
2009 Renewable Energy Directive Basis:	10.8%	13.8%

In 2013, renewables' share of electricity generation increased to 14.8 per cent, from 11.3 per cent in 2012, due to increased capacity. Overall electricity generation fell 2.0 per cent, as a result of lower overall demand; this reduction contributed around 0.3 percentage points of the 3.5 percentage point increase in renewables' share.

Total electricity generated from renewables in 2013 was up by 28 per cent on 2012, from 41.3 TWh to a record 52.8 TWh. *Normalised* renewable generation rose from 40.2 TWh in 2012 to 51.0 TWh in 2013.

On the 2009 Renewable Energy Directive (RED) basis, the electricity share was 13.8 per cent, compared with 10.8 per cent in 2012. The RED measure uses normalised wind and hydro generation, to account for variable generation due to weather conditions. Under this measure, wind generation was reduced (due to higher than average load factors in 2013); this was partially offset by increased hydro generation (due to lower than average load factors in 2013). [1]

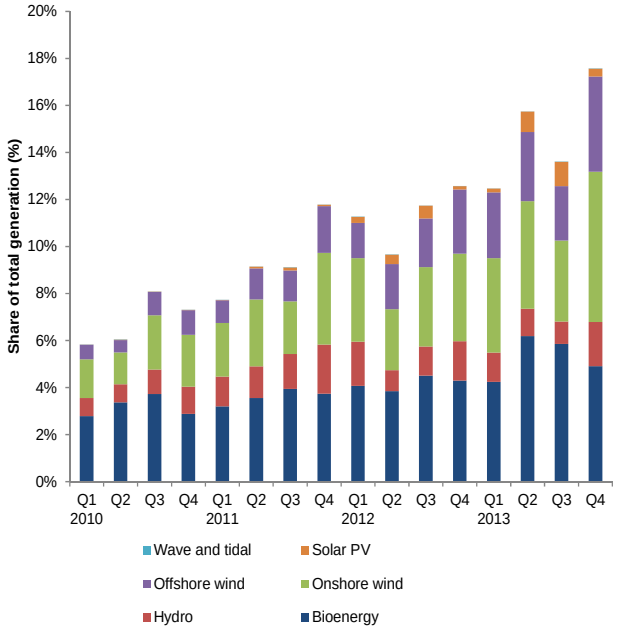
In 2013 Q4, renewables' share of electricity generation increased by 5.0 percentage points to a record 17.6 per cent, from 12.6 per cent in 2012 Q4. [2] The increase reflects increased capacity, particularly in plant biomass, onshore and offshore wind, as well as very high wind speeds.

Overall quarterly electricity generation in 2013 Q4 (92.2 TWh) was down by 4.9 per cent on a year earlier (as a result of lower demand, due to higher temperatures); this had a 0.9 percentage point contribution to the 5.0 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/collections/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/publications/electricity-section-5-energy-trends

Chart 6.1 Renewables' share of electricity generation



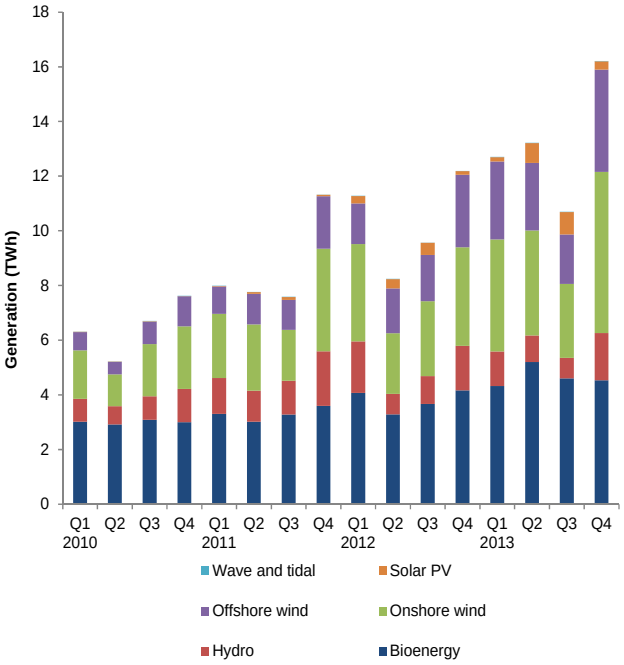
In 2013, generation from offshore wind rose by 46 per cent, from 7.5 TWh in 2012 to 10.9 TWh. Onshore wind generation rose by 36 per cent, from 12.1 TWh to 16.5 TWh. Both increases were mainly due to increased capacity, but also due to higher wind speeds (0.4 knots higher than in 2012).

Hydro generation fell by 11 per cent on a year earlier, from 5.3 TWh to 4.7 TWh, with rainfall levels (in the main hydro areas) in 2013 8.8 per cent lower than those of 2012, and the lowest for three years.

In 2013, generation from bioenergy [3] increased by 23 per cent, from 15.2 TWh in 2012 to a record 18.7 TWh. Within this figure, generation from plant biomass more than doubled (due to the conversions of Drax Unit 1 and Ironbridge power stations to biomass), from 4.1 TWh to 9.0 TWh; however, as a result of these conversions, generation from co-firing fell by 84 per cent.

In 2013, 35 per cent of renewables generation was from bioenergy, 31 per cent from onshore wind, 21 per cent from offshore wind, and 8.9 per cent from hydro. Despite a large increase in capacity, just 3.8 per cent of generation was from solar PV.

Chart 6.2 Renewable electricity generation



Total electricity generated from renewables in 2013 Q4 was up by 33 per cent on 2012 Q4, from 12.2 TWh to a record high of 16.2 TWh.

Due to much increased capacity, offshore wind generation, in 2013 Q4, increased by 42 per cent on a year earlier, from 2.6 TWh to 3.7 TWh. Onshore wind generation in 2013 Q4 rose by 63 per cent on 2012 Q4, from 3.6 TWh to 5.9 TWh, due to higher wind speeds (1.8 knots) than a year earlier, as well as increased capacity.[4] Average wind speeds in December 2013 were the highest in the last 13 years (12.5 knots), while Q4 as a whole was the windiest quarter for two years.

Generation from bioenergy rose by 8.7 per cent, from 4.2 TWh in 2012 Q4 to 4.5 TWh, with the impact of the new conversions out-weighing that of Tilbury's closure in August 2013 (see below).

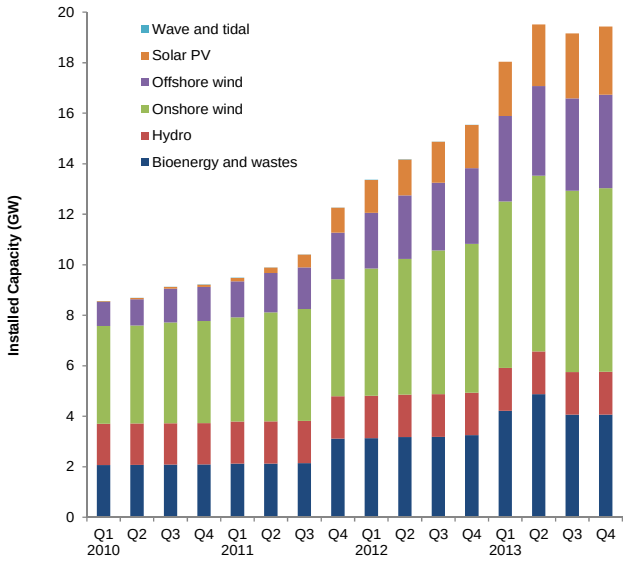
In 2013 Q4, hydro generation rose by 6.6 per cent on a year earlier, from 1.6 TWh to 1.7 TWh, due to 15 per cent more rainfall (in the main hydro areas) than a year earlier.

In 2013 Q4, bioenergy had the largest share of generation (28 per cent), with 36 per cent from onshore wind, 23 per cent from offshore wind, and 11 per cent from hydro.

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

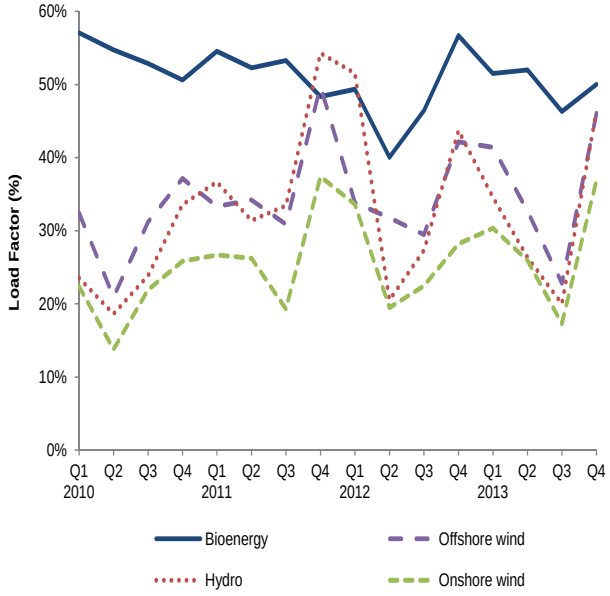
[4] Statistics on weather (temperature, wind speeds, rainfall and sun levels) can be found in tables ET 7.1 – 7.4, at: www.gov.uk/government/publications/energy-trends-section-7-weather

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 2013 Q4, the UK's renewable electricity capacity totalled 19.4 GW, an increase of 25 per cent (3.9 GW) on that installed at the end of 2012 Q4, and 1.4 per cent (0.3 GW) on that installed at the end of the previous quarter. At the end of 2013 Q4, onshore wind had the highest share of capacity (37 per cent), followed by bioenergy (21 per cent), offshore wind (19 per cent), solar PV (14 per cent), and hydro (8.7 per cent).

During 2013, onshore wind capacity increased by 1.4 GW, while offshore wind increased by 0.7 GW, with several large wind farms opening, or continuing to expand, during the year, including Fallago Rig (144 MW) onshore wind farm, and the completion of the London Array and Lincs offshore sites. Solar PV capacity increased by 1.0 GW during 2013, as a result of continued uptake of the GB Feed in Tariff scheme, as well as increased deployment of larger-scale sites under the Renewables Obligation.

Bioenergy capacity increased by 25 per cent (0.8 GW) during 2013, with the conversions of Drax Unit 1 and Ironbridge power stations more than compensating for the closure of Tilbury (having exhausted its hours under the Large Combustion Plant Directive) during the year. In 2013 Q4, onshore wind capacity increased by 103 MW, due to the opening of several new wind farms. Offshore wind capacity increased by 39 MW, with the Gwynt y Mor wind farm continuing to expand. Solar PV capacity increased by 129 MW during the quarter.

In 2013, onshore wind's load factor averaged 28.7 per cent, a 2.4 percentage point increase on 2012's 26.2 per cent, due to higher wind speeds, particularly in the second and final quarters. Offshore wind's load factor also rose, by 2.0 percentage points, from 35.2 per cent to 37.1 per cent. [5] With 8.8 per cent less rainfall (in the main hydro areas) on average than a year earlier, hydro's load factor in 2013 fell by 3.9 percentage points, from 35.8 per cent in 2012 to 31.9 per cent.

Hydro's load factor in 2013 Q4 was 46.4 per cent, a 2.7 percentage point increase on a year earlier, due to higher rainfall. This was also a large increase from the 20.0 per cent a quarter earlier, with rainfall more than double in the final quarter. Onshore wind's load factor in 2013 Q4 of 36.9 per cent was the highest in three years, and 8.7 percentage points higher than a year earlier. Offshore wind's load factor also rose, to 46.1 per cent, from 2012 Q4's 42.2 per cent, and was up by 23 percentage points on the previous quarter. Average wind speeds in the final quarter were 39 per cent (2.8 knots) higher than in the previous quarter.

Bioenergy's load factor fell to 50.0 per cent, from 56.7 per cent in 2012 Q4 and 46.3 per cent in 2013 Q3.

[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 period when new capacity came online. The 2012 plant biomass load factor was reduced due to Tilbury opening at the end of the year; in 2013 it was increased due to Drax Unit 1 and Ironbridge opening at the start of the year. Load factors on an unchanged configuration basis, which consider just capacity operational throughout the year, will be published in June.

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

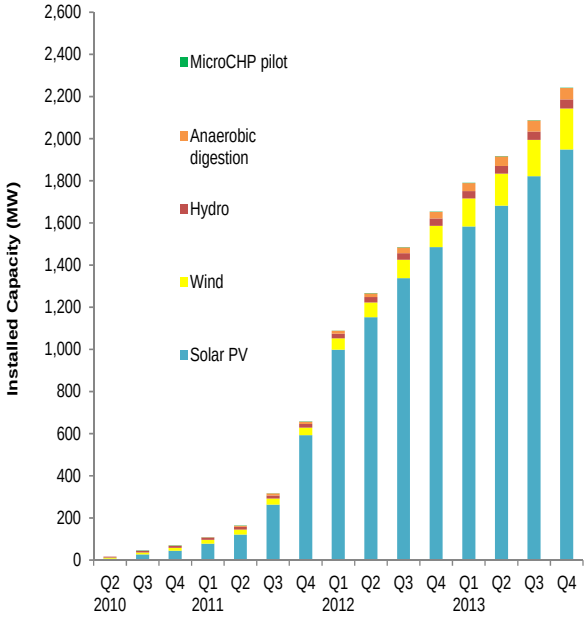
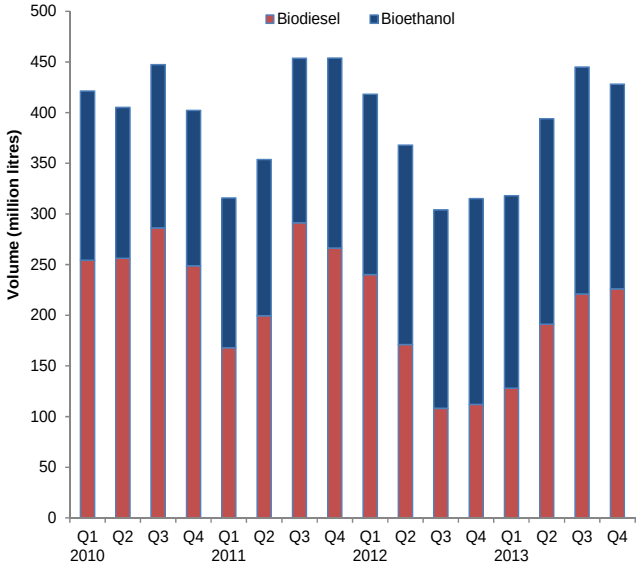


Chart 6.6 Liquid biofuels for transport consumption



At the end of 2013 Q4, 2,241 MW of capacity was confirmed on the GB Feed in Tariff (FiT) scheme. This was an increase of 7.4 per cent (154 MW) on that confirmed at the end of 2013 Q3, and 36 per cent higher than the amount confirmed at the end of 2012 Q4 (588 MW). [6] [7]

In terms of number of installations, at the end of 2013 Q4, there were 448,000 confirmed on the FiT scheme, a 5.7 per cent increase on the 424,000 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 87 per cent of the total. The majority of solar PV installations are sub-4 kW retrofitted schemes, which increased by 22,000 (72 MW), to 413,000 (1,245 MW) in 2013 Q4.

Renewable installations confirmed on FiTs (all except MicroCHP) represented 12 per cent of all renewable installed capacity.

In 2013, 1,585 million litres of liquid biofuels were consumed in transport, a rise of 13 per cent on 2012's 1,405 million litres. Bioethanol consumption rose by 5.8 per cent, from 774 million litres to 819 million litres. Biodiesel consumption rose by 21 per cent, from 631 million litres in 2012 to 766 million litres in 2013.

After six years of biodiesel contributing the largest share of biofuels consumption, 2012 saw a reversal. This has continued in 2013, with bioethanol representing 52 per cent of biofuels consumption, and biodiesel's share 48 per cent.

In 2013, bioethanol accounted for 4.5 per cent of motor spirit, and biodiesel 2.8 per cent of diesel; the combined contribution was 3.5 per cent, 0.4 percentage points higher than in a year earlier.

In 2013 Q4, 428 million litres of liquid biofuels were consumed in transport, a rise of 36 per cent on the 315 million litres in 2012 Q4. Biodiesel consumption rose by 102 per cent, from 112 million litres to 226 million litres. Bioethanol consumption fell by 0.5 per cent, from 203 million litres to 202 million litres.

In 2013 Q4, biodiesel accounted for 3.2 per cent of diesel, and bioethanol 4.5 per cent of motor spirit. The combined contribution of the two fuels was 3.7 per cent, a rise from 2.7 per cent a year earlier.

In 2013 Q4, the largest share of consumption was from biodiesel (53 per cent), with 47 per cent from bioethanol.

[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/collections/feed-in-tariff-statistics

Chart 6.7 Renewable electricity capacity, by UK country

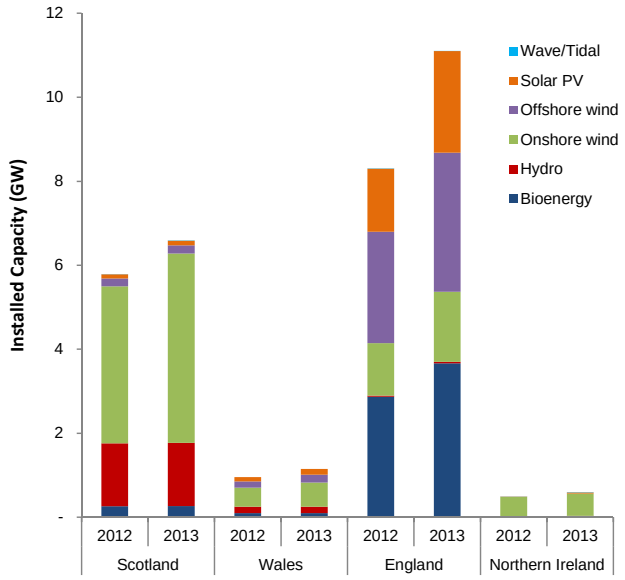
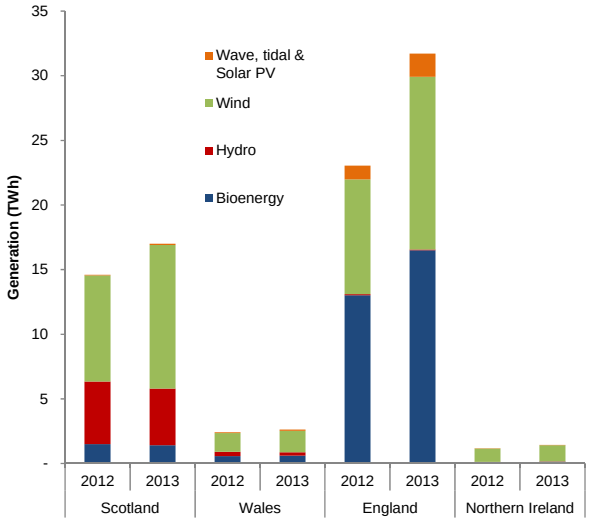


Chart 6.8 Renewable electricity generation, by UK country



At the end of 2013, England's renewable electricity capacity was 11.0 GW, an increase of 34 per cent (2.8 GW) on that at the end of 2012, with solar (0.9 GW) and plant biomass (0.8 GW) the main contributors to the increase. Scotland's capacity was 6.6 GW, an increase of 14 per cent (0.8 GW), almost all due to increased onshore wind capacity.

Wales's capacity was 1.2 GW, an increase of 20 per cent (0.2 GW), with around half due to onshore wind. Northern Ireland's capacity was 0.6 GW, an increase of 20 per cent (0.1 GW).[8]

At the end of 2013, England accounted for 57 per cent of UK renewable electricity capacity, Scotland's share was 34 per cent, Wales 5.9 per cent and Northern Ireland 3.1 per cent.

In 2013, renewable electricity generation in England was 32 TWh, an increase of 38 per cent (8.7 TWh) on 2012, with wind and bioenergy (mainly due to the conversions) the main contributors. Generation in Scotland was 17 TWh, an increase of 16 per cent (2.4 TWh); wind increased by over one third, but was offset slightly by reduced hydro and biomass generation.

Generation in Wales was 2.6 TWh, an increase of 8.6 per cent (0.2 TWh); again with an increase in wind generation offset slightly by a fall in hydro generation. Generation in Northern Ireland was 1.4 TWh, an increase of 22 per cent (0.3 TWh), mainly from (onshore) wind.

In 2013, England accounted for 60 per cent of UK renewable electricity generation, Scotland's share was 32 per cent, Wales 5.0 per cent and Northern Ireland 2.7 per cent.

Relevant tables

6.1: Renewable electricity capacity and generation…….....Page 50
6.2: Liquid biofuels for transport consumption…….....Page 51

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[8] Quarterly renewable electricity statistics by UK country can be found in the electronic version of table ET 6.1, at: www.gov.uk/government/publications/renewables-section-6-energy-trends

6 RENEWABLES

Table 6.1. Renewable electricity capacity and generation

	2012	2013 p	per cent change	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	per cent change
Cumulative Installed Capacity [1]												**MW**	
Onshore Wind	5,893	7,280	*+23.5*	4,638	5,040	5,371	5,697	5,893	6,597r	6,963r	7,177r	7,280	*+23.5*
Offshore Wind	2,995	3,696	*+23.4*	1,838	2,200	2,516	2,682	2,995	3,381	3,544	3,657	3,696	*+23.4*
Shoreline wave / tidal	7	8	*+15.0*	3	5	7	7	7	7	7	8r	8	*+15.0*
Solar photovoltaics	1,706	2,698	*+58.2*	993	1,305	1,422	1,620	1,706	2,151r	2,440r	2,569r	2,698	*+58.2*
Small scale Hydro	215	222	*+3.3*	204	206	215	216	215	220r	222r	222r	222	*+3.3*
Large scale Hydro	1,471	1,471	-	1,471	1,471	1,471	1,471	1,471	1,471	1,471	1,471	1,471	-
Landfill gas	1,036	1,049	*+1.2*	1,050	1,034	1,034	1,035	1,036	1,049r	1,049r	1,049r	1,049	*+1.2*
Sewage sludge digestion	199	207	*+4.1*	198	198	198	199	199	206	206	207r	207	*+4.1*
Energy from waste	593	576	*-2.8*	544	588	588	588	593	570r	576r	576r	576	*-2.8*
Animal Biomass (non-AD) [2]	111	111	-	111	111	111	111	111	111	111	111	111	-
Anaerobic Digestion	110	129	*+17.6*	66	71	84	91	110	123r	125r	128r	129	*+17.6*
Plant Biomass [3]	1,203	1,992	*+65.6*	1,149	1,136	1,159	1,161	1,203	2,163r	2,810r	1,992	1,992	*+65.6*
Total	15,538	19,438	*+25.1*	12,264	13,363	14,175	14,877	15,538	18,047r	19,523r	19,166r	19,438	*+25.1*
Co-firing [4]	204	32	*-84.2*	338	204	204	204	204	32r	32r	32r	32	*-84.2*
Generation [5]												**GWh**	
Onshore Wind [6]	12,121	16,533	*+36.4*	3,747	3,555	2,215	2,743	3,608	4,097r	3,840r	2,703r	5,892	*+63.3*
Offshore Wind [6, 7]	7,463	10,879	*+45.8*	1,916	1,493	1,637	1,691	2,642	2,852	2,472	1,816	3,740	*+41.5*
Shoreline wave / tidal [6]	4	6	*+74.6*	0	1	1	1	1	2	2	1	2	*+25.5*
Solar photovoltaics [6]	1,188	2,015	*+69.6*	57	265	341	440	141	163r	727r	819r	306	*(+)*
Hydro [6]	5,284	4,719	*-10.7*	2,005	1,886	754	1,017	1,627	1,262r	974r	748r	1,735	*+6.6*
Landfill gas [6]	5,154	5,162	*+0.2*	1,247	1,299	1,278	1,280	1,297	1,301r	1,295r	1,271r	1,295	*-0.1*
Sewage sludge digestion [6]	720	809	*+12.5*	191	188	181	173	178	193r	215r	196	205	*+15.3*
Energy from waste [8]	2,279	2,070	*-9.1*	686	536	560	599	584	515r	504r	528r	524	*-10.4*
Co-firing with fossil fuels	1,783	282	*-84.2*	787	703	530	410	140	170	36	33r	44	*-68.4*
Animal Biomass (non-AD) [2, 6]	643	666	*+3.6*	148	177	141	144	180	179r	178	153r	156	*-13.3*
Anaerobic Digestion	523	676	*+29.3*	101	105	124	140	153	161	167r	175r	173	*+12.8*
Plant Biomass [3, 6]	4,098	8,992	*(+)*	435	1,065	475	922	1,635	1,809r	2,804r	2,246r	2,134	*+31*
Total	41,258	52,810	*+28.0*	11,321	11,274	8,236	9,560	12,188	12,702r	13,213r	10,689r	16,206	*+33.0*
Non-biodegradable wastes [9]	1,311	1,192	*-9.1*	394	308	322	344	336	296r	290r	304r	301	*-10.4*
Load Factors [10]													
Onshore Wind	26.2%	28.7%		37.4%	33.6%	19.5%	22.4%	28.2%	30.4%	25.9%	17.3%	36.9%	
Offshore Wind	35.2%	37.1%		49.8%	33.9%	31.8%	29.5%	42.2%	41.4%	32.7%	22.8%	46.1%	
Hydro	35.8%	31.9%		54.3%	51.5%	20.5%	27.3%	43.7%	34.6%	26.4%	20.0%	46.4%	
Landfill gas	56.2%	56.5%		53.7%	57.1%	56.6%	56.0%	56.7%	57.8%	56.6%	54.9%	55.9%	
Sewage sludge digestion	41.3%	45.6%		43.9%	43.5%	42.0%	39.5%	40.6%	44.2%	47.9%	43.0%	45.0%	
Energy from waste	45.6%	40.4%		64.8%	43.4%	43.6%	46.1%	44.8%	41.0%	40.2%	41.5%	41.1%	
Animal Biomass (non-AD)	66.2%	68.8%		60.7%	73.3%	58.5%	59.1%	74.0%	74.8%	73.8%	62.7%	64.1%	
Anaerobic Digestion	67.6%	64.5%		77.5%	70.4%	73.1%	72.4%	69.0%	64.0%	61.6%	62.8%	61.0%	
Plant Biomass	39.7%	64.3%		26.8%	42.7%	19.0%	36.0%	62.6%	49.8%	51.6%	42.4%	48.5%	
Total (excluding co-firing and non-biodegradable wastes)	32.3%	34.3%		42.1%	37.8%	25.6%	28.5%	35.9%	34.6%	32.1%	24.9%	37.9%	

1. Cumulative capacity at the end of the quarter/year
2. Includes the use of poultry litter and meat and bone.
3. Includes the use of straw and energy crops.
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. Non-biodegradable part of municipal solid waste plus waste tyres, hosptal waste and general industrial waste.
10. Load factors are calculated based on installed capacity at the beginning and the end of the quarter/year. These can be influenced by the time in the period when new capacity came online. Load factors on an *unchanged configuration* basis, which consider just those sites operational throughout the year, are available annually in table DUKES 6.5, at: https://www.gov.uk/government/publications/renewable-sources-of-energy-chapter-6-digest-of-united-kingdom-energy-statistics-dukes

6 RENEWABLES

Table 6.2. Liquid biofuels for transport consumption

	2012	2013 p	*per cent change*	2011 4th quarter	2012 1st quarter	2012 2nd quarter	2012 3rd quarter	2012 4th quarter	2013 1st quarter	2013 2nd quarter	2013 3rd quarter	2013 4th quarter p	*per cent change*
Volume													**Million litres**
Bioethanol	774	819	*+5.8*	188	178	197	196	203	190	203	224	202	*-0.5*
Biodiesel	631	766	*+21.4*	266	240	171	108	112	128	191	221	226	*(+)*
Total biofuels for transport	1,405	1,585	*+12.8*	454	418	368	304	315	318	394	445	428	*35.9*
Energy													**Thousand tonnes of oil equivalent**
Bioethanol	436	462	*+5.8*	106	100	111	110	114	107	114	126	114	*-0.5*
Biodiesel	518	629	*+21.4*	219	197	141	89	92	105	157	182	186	*(+)*
Total biofuels for transport	955	1,091	*+14.3*	325	298	252	199	206	212	271	308	300	*+45.1*
Shares of road fuels													
Bioethanol as per cent of Motor Spirit	4.1%	4.5%		3.8%	3.9%	4.1%	4.2%	4.3%	4.4%	4.3%	4.9%	4.5%	
Biodiesel as per cent of DERV	2.4%	2.8%		4.0%	3.8%	2.6%	1.6%	1.6%	2.1%	2.8%	3.2%	3.2%	
Total biofuels as per cent of road fuels	3.1%	3.5%		3.9%	3.9%	3.2%	2.7%	2.7%	3.0%	3.4%	3.9%	3.7%	

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

Revisions to DECC domestic energy bill estimates

Background

DECC published a special feature article in Energy Trends December 2013 proposing to change the consumption levels used in bills.[1] This article requested user's views on the proposals. The feedback received was supportive of revising consumption levels in light of changes in recent years, whilst some also requested that DECC align consumption levels with Ofgem, who publish bills using both median and mean consumption.

Historically DECC have used mean household consumption levels of 3,300kWh/year for electricity, and 18,000kWh/year for gas. The exact source for these initial estimates is unclear, as they have been used by DECC and its predecessor Departments since at least the early 1990's, but until the past few years have been reasonable estimates of annual use.

Consumption levels

Average consumption levels by fuel are shown below in table 1. The data are taken from a variety of statistical sources: data on total domestic consumption are taken from Energy Trends (based on survey data of energy companies, grossed up to compensate for coverage), and the Digest of UK Energy Statistics (DUKES), which provides data on the Standard Electricity and Economy 7 split)[2]. Volume data are temperature and seasonally adjusted using the X12ARIMA program and the methodology described in earlier Energy Trends articles[3],[4].

The denominator of electricity and gas accounts is taken from National Statistics data on the number of households for electricity and from grossed up survey data from suppliers on their number of customer accounts for gas. This data is published in Energy Consumption in the UK (ECUK) table 3.07[5].

Table 1 – Estimated mean household energy consumption in kWh

	Electricity		Gas	
Year	Unadjusted	Temperature adjusted	Unadjusted	Temperature adjusted
2008	4,509	4,536	16,546	16,976
2009	4,443	4,480	15,217	15,608
2010	4,419	4,322	17,774	15,656
2011	4,126	4,231	13,282	14,948
2012	4,220	4,217	15,281	15,263
2013	4,136	4,119	15,656	14,952

Figures for 2013 are provisional at this stage and will be revised in July's edition of DUKES when more complete data becomes available, with new survey data from small gas suppliers and revised data likely to be received from some electricity suppliers. Data for earlier years are also subject to small revisions.

[1] Energy Trends-www.gov.uk/government/publications/energy-trends-december-2013-special-feature-articles
[2] Energy Trends – table 1.3c - www.gov.uk/government/publications/total-energy-section-1-energy-trends
DUKES – table 5.3 - www.gov.uk/government/publications/electricity-chapter-5-digest-of-united-kingdom-energy-statistics-dukes
[3] www.gov.uk/government/uploads/system/uploads/attachment_data/file/65732/2089-ons-paper-temp-correction-of-energy-stat.pdf
[4] http://webarchive.nationalarchives.gov.uk/20130109092117/http://decc.gov.uk/assets/decc/11/stats/publications/energy-trends/articles/2878-temperature-adjustment-articles.pdf
[5] ECUK table 3.07 - www.gov.uk/government/publications/energy-consumption-in-the-uk

However, in the electricity market and tariffs are split between consumers using standard tariffs and those using special off-peak tariffs (Economy 7), where electricity consumed at off-peak periods are priced differently to standard tariffs. Using round numbers, approximately 4 million consumers are on Economy 7 type tariffs with the majority of around 23 million on standard tariffs. Please note that all tariff types are generally available on all payment methods – direct debit, credit or pre-payment.

For headline comparison purposes DECC estimates bills for those on standard electricity tariffs rather than those on off-peak tariffs. Annual survey data is received from electricity suppliers that split out their total consumption between the two types of tariff styles. This breakdown is published by DECC in DUKES each July. The main DECC temperature adjustment is only performed for the total electricity series – a rough split has been produced splitting the temperature adjustment between the standard electricity and Economy 7 series. This estimated series of average electricity consumption is shown in table 2 below.

Table 2 – Estimated mean household electricity consumption in kWh by tariff type

	Standard Electricity		Economy 7	
Year	Unadjusted	Temperature adjusted	Unadjusted	Temperature adjusted
2008	4,133	4,158	6,429	6,468
2009	4,127	4,161	6,176	6,227
2010	4,092	4,002	6,229	6,092
2011	3,827	3,925	5,851	6,001
2012	3,886	3,883	6,088	6,083
2013	3,798	3,782	5,979	5,955

Based on the information available, in tables 1 and 2, there is a distinct trend that can be observed in the past six years of decreasing electricity and gas consumption. This can be understood in the context of increasing household thermal efficiency (better insulation, more efficient boilers) and appliance efficiency, but other factors will come into play including the effect of price increases.

A number of other data sets are also available that could be used, which would provide different average consumption levels. DECC collect meter point data from the data aggregators on behalf of the energy companies which provides alternative estimates of both consumption and number of households using that fuel.

For electricity there are particular difficulties in using the data, as a number of households will have two rate (Economy 7) meters but are purchasing their electricity on standard tariffs. The energy company just adds together the two meter reads and applies one price (in general two rate tariffs are much cheaper for the off peak periods but are more expensive if the bulk of consumption is during the day). DECC estimate that there are around 4 million households on Economy 7 tariffs compared to around 5 million households with Economy 7 meters. For gas there are difficulties with the meter point data in deciding whether the meter belongs to a household or a lower consuming business. The headline results from the meter point data are published in December each year, with the 2012 data published in December 2013. These suggest average consumption levels of 4,014 kWh/year for electricity[6] (3,670 kWh/year for standard meters & 5,628 kWh/year for E7 meters) and 14,080 for gas[7].

[6] www.gov.uk/government/collections/sub-national-electricity-consumption-data

[7] www.gov.uk/government/statistical-data-sets/gas-sales-and-numbers-of-customers-by-region-and-local-authority

The data is then subsequently used in NEED (National Energy Efficiency Data-Framework), which combines the meter point data with data from other sources including the VOA (Valuations Office Agency), with extreme consumption values and non-household data removed from the dataset. NEED data is typically published in June, with 2012 analysis to be published in June 2014. The latest NEED[8] data is for 2011 and shows averages of 4,200 kWh/year for electricity and 14,100 kWh/year for gas. This publication also reports median consumption levels which fall to 3,400 kWh/year for electricity and 12,900 kWh/year for gas.

The meter point data are particularly useful for providing small area estimates, with NEED providing estimates for different type of households and properties, and assessing the uptake of insulation measures, so both are very important in their own right – but they are not considered the best source for national estimates.

Results

In light of the available data on consumption, table 3 shows the consumption levels that DECC will use in its bill estimates of Quarterly Energy Prices:

Table 3 – Revised mean household consumption levels to use in bill estimates, kWh

	Previous	Current
Standard Electricity	3,300	**3,800**
Economy 7	6,600	**6,000**
Gas	18,000	**15,000**

Despite electricity consumption going down in recent years, the average consumption figure has been revised upwards as comparing now and when it was set in the 1990's households on average own more appliances and use more electricity.

The Economy 7 split used previously was 3,600 kWh off peak and 3,000 kWh on peak. There is limited data available in this area, but data for more recent years suggest that the split has moved away from 55/45 off peak/on peak and closer to a 50/50 split, and this is what DECC will use going forwards.

The average gas consumption levels have likely fallen due to the improved standards for boilers and greater insulation levels as evidenced by the increase in average SAP ratings (a measure of the energy efficiency) for houses, which have increased from 45 in 1996 to 59 in 2012 for England[9], suggesting houses have become more energy efficient.

These chosen revisions to average consumption are broadly in line with revisions made by Ofgem for their Supply Market Indicators.[10] Following their consultation, Ofgem decided that they would change their mean consumption levels in September 2013 to 3,800 kWh for standard electricity, and to 15,300 kWh for gas.

DECC consumption levels differ to Ofgem's as provisional data is now available for 2013, whilst 2012 data was the latest data available at the time Ofgem revised the consumption levels used. It is anticipated that Ofgem's mean consumption levels will be updated annually with DECC's updated less frequently.

Tables 4 and 5 show the impact of changing the consumption levels used on the estimated average electricity and gas bills.

[8] www.gov.uk/government/publications/national-energy-efficiency-data-framework-need-report-summary-of-analysis-2013-part-1

[9] EHS - www.gov.uk/government/publications/english-housing-survey-2012-to-2013-headline-report

[10] www.ofgem.gov.uk/gas/retail-market/monitoring-data-and-statistics/electricity-and-gas-supply-market-indicators

Table 4 – Comparison of mean 2013 UK electricity bills by payment type, using previous and current consumption levels, £/year[11]

	Standard Credit	Direct Debit	Prepayment	Overall
Previous consumption (3,300 kWh)	532	491	534	510
Current consumption (3,800 kWh)	602	557	605	577
Change (%)	13%	13%	13%	13%

Table 5 – Comparison of mean 2013 GB gas bills by payment type, using previous and current consumption levels, £/year [14]

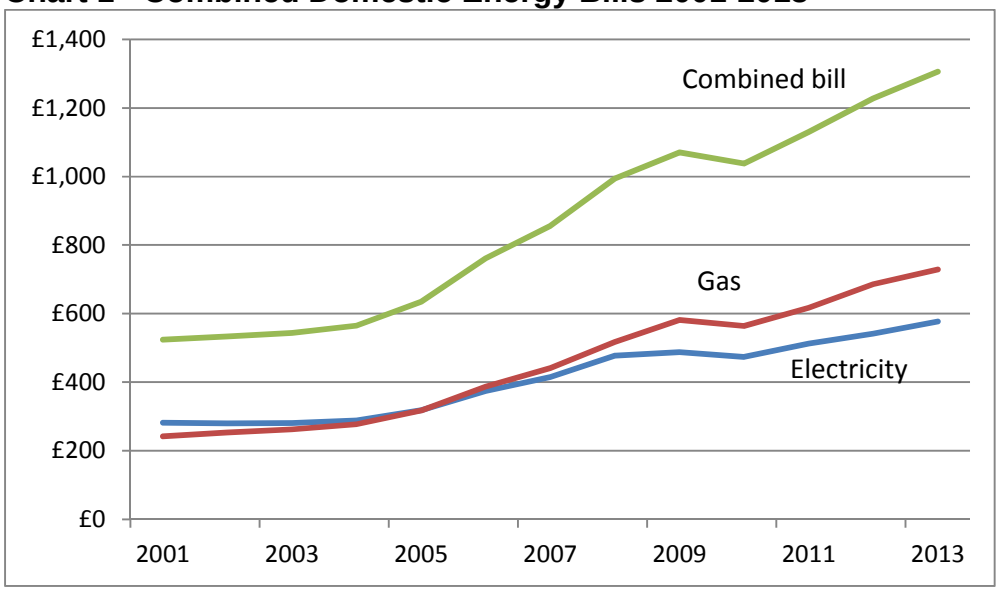
	Standard Credit	Direct Debit	Prepayment	Overall
Previous consumption (18,000 kWh)	900	823	890	854
Current consumption (15,000 kWh)	767	701	758	729
Change (%)	-15%	-15%	-15%	-15%

The overall average combined bill has thus fallen slightly by 4 per cent, from £1,364 per annum to £1,306 per annum as a consequence of this change.

Time series of bills

A time series of bill estimates based on the latest consumption estimates are published for electricity in table 2.2.1 by payment type, in table 2.2.2 for the UK countries, and in table 2.2.3 for regions. Similarly data for gas is presented in tables 2.3.1, 2.3.2 and 2.3.3. All back data have been revised based on the 3,800 kWh/year consumption level for electricity and the 15,000 kWh/year consumption level for gas. Chart 1 below shows the time series of electricity and gas bills back to 2001. The benefit of this approach is that these bill tables provide an estimate of changes in the price levels without the potentially distorting effects of weather on the annual bills. Each year an article is published in the March edition of Energy Trends that considers the actual estimated energy spend in the previous and preceding years.

Chart 1 - Combined Domestic Energy Bills 2001-2013



The time series of bill estimates based on the previous consumption estimates were published in the table series 2.2 for electricity and 2.3 for gas as previously mentioned. These estimates will remain available on the DECC web site – though "hidden" in the Excel workbooks that contain the data. To access these data open the latest Excel workbook and follow the instruction on the highlights page to unhide these series.

[11] www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics

Future publications

Energy bill estimates using both sets of consumption levels will be available in the March 2013 version of Quarterly Energy Prices.[12] Going forwards bills will only be published on the new consumption basis.

DECC plan to conduct a full scale review of the consumption levels used every five years, with an expectation that changes will be made at this stage. DECC will however, review the levels on an annual basis, but with an expectation that changes at this still stage will not be made – unless there is significant evidence that the current levels are no longer appropriate.

User views

DECC is interested in users' views on these changes, and in particular comments on welcome on how frequently DECC should update these estimates and whether users wish to see the complete time series revised in line with the latest consumption levels. Please contact either of the articles authors using the contact details below.

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[12] www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics

Domestic energy bills in 2013: 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 now calculated using standard annual consumption assumptions of 3,800kWh for standard electricity, 6,000kWh for Economy 7 electricity, and 15,000kWh for gas (see earlier article on page 52 in this edition of Energy Trends). 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 revised fixed consumption levels 2010-2013[1]

	Standard Electricity	Gas	Combined Bill
2010	£474	£564	£1,038
2011	£513	£617	£1,130
2012	£542	£686	£1,228
2013	£577	£729	£1,306
Growth 2012-2013	6.5%	6.3%	6.4%

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 update these bills based on the provisional 2013 data.

The key advantage of presenting bills with a fixed consumption level is that users can see the effects of price changes in the table. Also estimates can be produced in advance of detailed consumption information being made available. The first estimates of energy bills are published in December of the year, whilst estimates of domestic consumption are first published in March of the following year, with data subsequently being revised in the July edition of DUKES (Digest of UK Energy Statistics).

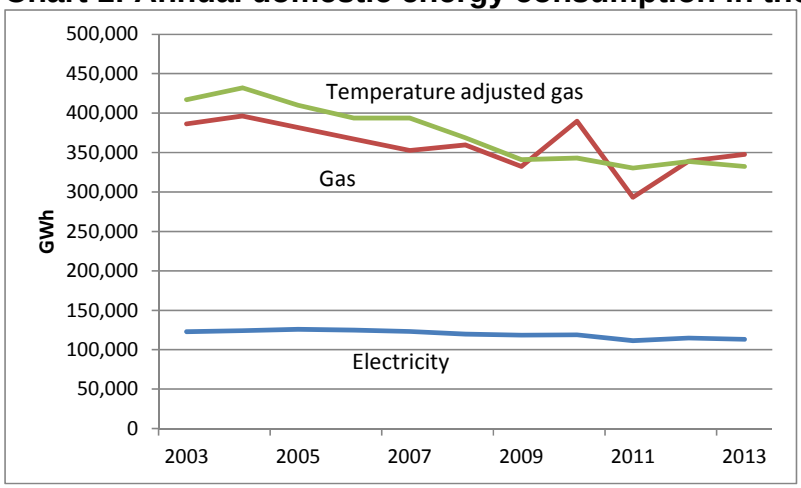
Annual Domestic Energy Consumption

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 2003 to 2013. Data are temperature and seasonally adjusted by DECC so that a better idea of the underlying trend can be observed. In the past 10 years the temperature fluctuations have had a significant effect on gas demand with actual consumption either up or down by up to 13 per cent in the particularly cold or warm years of 2010 and 2011 respectively. The fluctuations in electricity demand are much lower with temperature effects limited to around 2 per cent per year even with the recent extreme temperatures.

Although this period has seen some large fluctuations in annual energy consumption (particularly for gas), the trend is of generally falling consumption between 2003 and 2013. 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.

Chart 1: Annual domestic energy consumption in the UK: 2003-2013 (GWh) [2]



Price Changes

CPI data shows that gas and electricity prices have been rising in both current and real terms almost every year between 2003 and 2013.

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. Bills in 2013 rose as a result of this last increase, with a further round of price rises commencing in November, though some reductions have subsequently occurred. 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

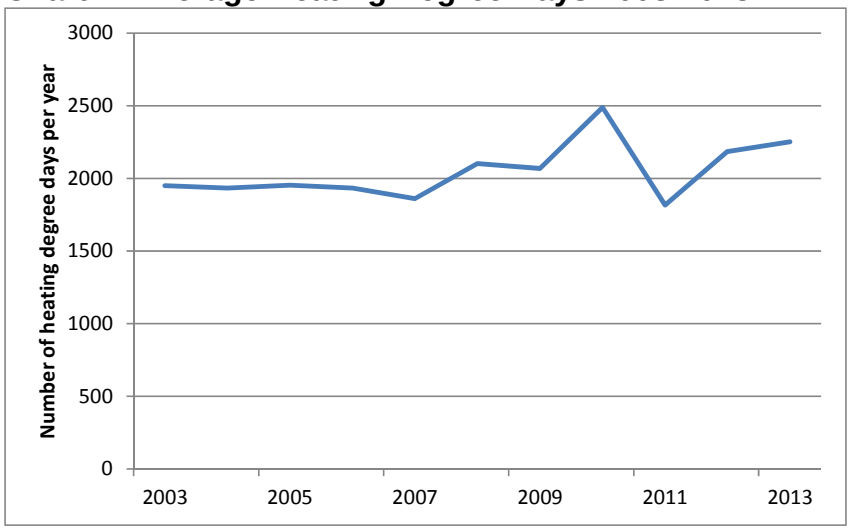
Annual changes in consumption figures have been greater for gas than electricity as a result of annual variation in the demand for heating. DECC estimates that in 2012, 77 per cent of domestic gas use was for space heating, compared to only 21 per cent for electricity.[3] As a result, the degree to which 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.

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.

[2] Electricity consumption figures include both Standard Electricity and Economy 7 Electricity customers.
[3] Energy Consumption in the UK: Table 3.05

Chart 2: Average Heating Degree Days 2003-2013



Average 2013 temperatures were slightly cooler than in 2012, with the number of Heating Degree Days rising by 3 per cent compared to 2012. This led to an increase in demand for gas for heating resulting in slightly higher consumption of gas by the domestic sector in 2013 than in 2012.

Annual Domestic Energy Bills based on Actual Consumption

Table 2 shows estimates of annual household consumption of gas and electricity for 2010 – 2013. 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 2010-2013[5]

	Standard electricity	E7 electricity	Total electricity	Gas
2010	4,090	6,230	4,420	17,770
2011	3,830	5,850	4,130	13,280
2012	3,890	6,090	4,220	15,280
2013	3,800	5,980	4,140	15,660
Growth 2012-2013	-2.3%	-1.8%	-2.0%	2.5%

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 two-tier 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 2010-2013 can be seen in table 3 below:

[4] DECC estimates that in 2013 there were 23.3 million domestic Standard electricity customers and 3.9 million Economy 7 electricity customers in the UK, and 22.1 million domestic Gas customers in Great Britain. These figures are based on DCLG household numbers published in Table 3.07 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).

Table 3: Average prices based on standard and actual consumption (pence/kWh)[6] [7]

	Using standard volume assumptions		Using actual volume assumptions	
	Std electricity	Gas	Std electricity	Gas
2010	12.47	3.76	12.39	3.66
2011	13.50	4.11	13.49	4.21
2012	14.26	4.57	14.22	4.56
2013	15.20	4.86	15.20	4.83
% change	6.6%	6.2%	6.8%	6.0%

Combining the actual consumption estimates with the prices above suggests that average bills by consumers dual fuel electricity and gas were as follows:

Table 4: Average energy bills on actual consumption

	Electricity	Gas	Total
2010	£507	£651	£1,158
2011	£516	£559	£1,075
2012	£553	£697	£1,249
2013	£577	£756	£1,332
Change	£25	£60	£84
% change	4.4%	8.6%	6.7%

Between 2010 and 2013, 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, whilst electricity has continued to grow, there is more variation for gas.

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

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[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.

Physical gas flows across Europe and diversity of gas supply in 2012

Background

This article has two main purposes. The first is to illustrate physical gas flows at the European level using 2012[1] data published by the International Energy Agency (IEA)[2], with the aim to improve gas data transparency and quality. The second is to attempt to compare the resilience of the UK's supply infrastructure with that of other EU Member States.

European Physical Gas Flows

European Gas Production

The total EU-27[3] gas production in 2012 was 182 billion cubic metres (bcm), which equals 2,004 TWh[4], with the Netherlands and the UK accounting for 44 per cent and 26 per cent of this total respectively. Out of all EU-27 countries, only the Netherlands and Denmark produced more gas than they consumed.

European Gas Consumption

The greatest demand among EU-27 countries came from Germany, the United Kingdom and Italy. These countries together accounted for nearly 50 per cent of EU-27 consumption. Germany remained the largest net importer in Europe in 2012 at 70 bcm, followed by Italy at 68 bcm and then France at 43 bcm.

Natural gas consumption in the EU-27 decreased slightly in 2012 compared to 2011, from 489 bcm to 477 bcm. In particular, countries such as Italy, Spain, the Netherlands and the UK have seen a reduction in gas demand. This reflected the slower economic growth in 2012, warmer temperatures and a continuing shift in electricity generation away from natural gas and in to coal.

Sources of Gas

Thirty eight per cent of EU-27 consumption in 2012 was met by indigenous production, with production from Netherlands and UK meeting 17 and 10 per cent of total EU demand respectively.

The Russian Federation remained the largest single supplier of gas to the EU-27, delivering around 116 bcm, or 24 per cent, of total EU-27 gas demand in 2012. The European pipeline infrastructure means that Central and Eastern European countries receive almost all of their natural gas supply from Russia. It should be noted that the origin of all of this gas is not necessarily Russian, since Russia acts as a transit country for gas from Kazakhstan and Turkmenistan to reach European markets.

Norwegian exports to the EU-27 increased by 10 per cent between 2011 and 2012, to around 102 bcm or 21 per cent of total EU-27 gas consumption; 21 per cent of Norwegian exports were directed to the UK in 2012.

North African pipelines via Spain and Italy provided 40 bcm, or 8.4 per cent, of EU-27 demand. Algerian gas, coming direct from Algeria and also via Morocco and Tunisia, accounted for 84 per cent of North African gas delivered to the EU-27, with Libya supplying the remainder.

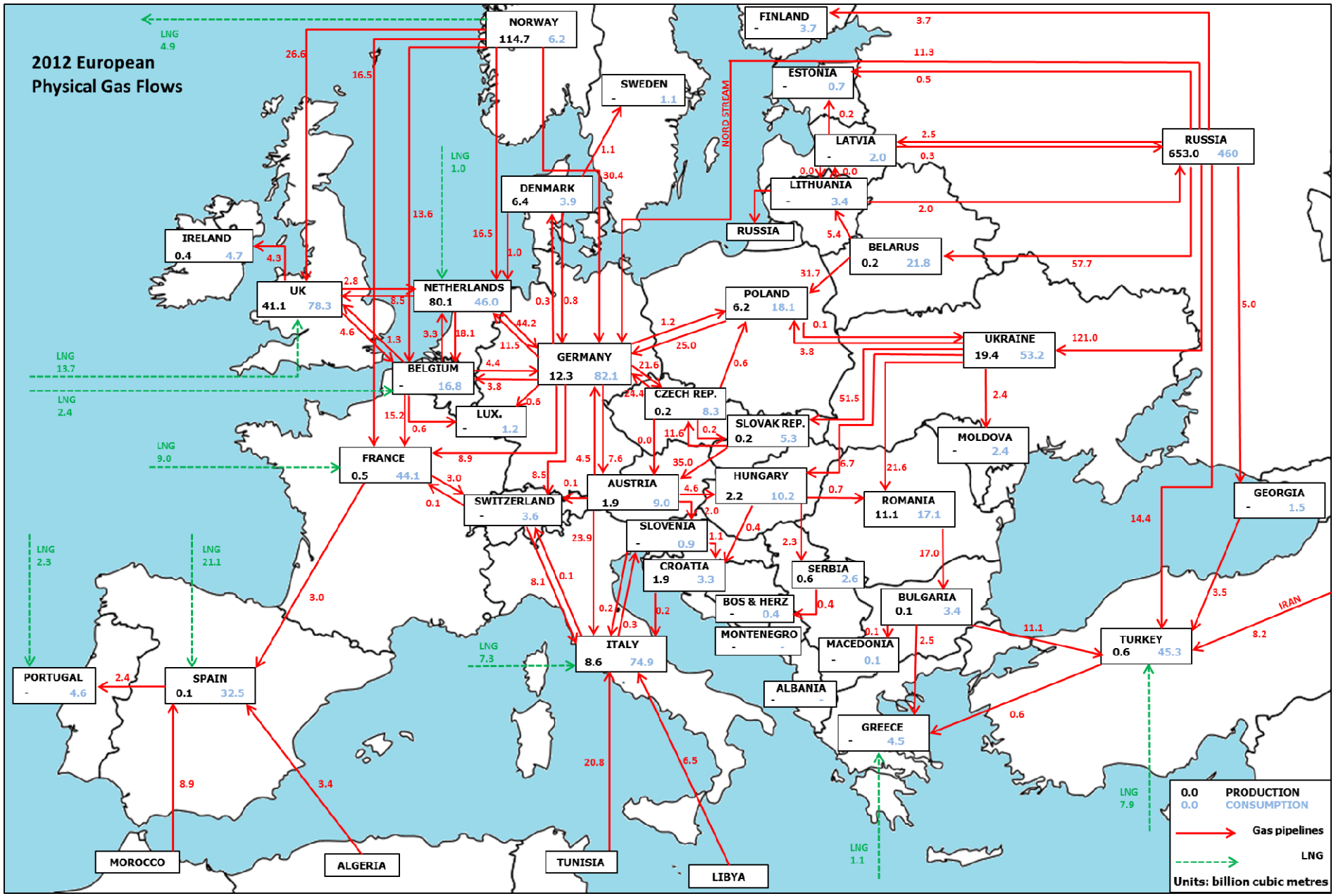
EU-27 imports of LNG were 58.1 bcm in 2012 versus 76.8 bcm in 2011, reflecting increased demand from Asia in 2012 (and henceforth higher prices relative to the previous year). LNG met 12 per cent of EU-27 demand and, in particular, 65 per cent of Spanish gas consumption. The largest suppliers of LNG to the EU-27 were Qatar, Nigeria and Algeria, who supplied 48, 18 and 17 per cent of total EU-27 LNG imports respectively.

[1] January 1st 2012 to December 31st 2012 data

[2] Please note that the analysis shows some differences with IEA data in order to provide a coherent view of gas flows. The supply for some countries may appear unbalanced as stock changes are not shown. Data were calculated primarily from 2012 monthly pipeline gas flows, with 2012 annual imports, exports, production and consumption used for quality assurance amendments.

[3] EU-27 as based on 2012 data, prior to Croatia officially joining EU.

[4] 1 bcm = 11.012 Terawatt hours (TWh)


2012 European
Physical Gas Flows
NORWAY 114.7 6.2
FINLAND - 3.7
SWEDEN - 1.1
ESTONIA - 0.7
LATVIA - 2.0
LITHUANIA - 3.4
RUSSIA 653.0 460
DENMARK 6.4 3.9
RUSSIA
IRELAND 0.4 4.7
UK 41.1 78.3
NETHERLANDS 80.1 46.0
BELARUS 0.2 21.8
POLAND 6.2 18.1
UKRAINE 19.4 53.2
GERMANY 12.3 82.1
BELGIUM - 16.8
LUX. - 1.2
CZECH REP. 0.2 8.3
SLOVAK REP. 0.2 5.3
MOLDOVA - 2.4
FRANCE 0.5 44.1
AUSTRIA 1.9 9.0
HUNGARY 2.2 10.2
ROMANIA 11.1 17.1
GEORGIA - 1.5
SWITZERLAND - 3.6
SLOVENIA - 0.9
CROATIA 1.9 3.3
SERBIA 0.6 2.6
BOS & HERZ - 0.4
BULGARIA 0.1 3.4
MONTENEGRO - -
MACEDONIA - 0.1
TURKEY 0.6 45.3
ITALY 8.6 74.9
ALBANIA - -
GREECE - 4.5
PORTUGAL - 4.6
SPAIN 0.1 32.5
MOROCCO
ALGERIA
TUNISIA
LIBYA
NORD STREAM
IRAN
LNG 4.9
LNG 1.0
LNG 13.7
LNG 2.4
LNG 9.0
LNG 2.3
LNG 21.1
LNG 7.3
LNG 7.9
LNG 1.1
0.0 PRODUCTION
0.0 CONSUMPTION
Gas pipelines
LNG
Units: billion cubic metres

UK imports in 2012

Total imports to the UK were 49.1 bcm in 2012, with pipelines accounting for 35.4 bcm (72 per cent) and LNG accounting for 13.7 bcm (18 per cent) of all imports. Although UK imports of LNG decreased by 45 per cent, from 24.8 bcm in 2011, the data showed the UK to be the second largest importer of LNG in 2012, behind Spain. 97 per cent of UK imports of LNG came from Qatar in 2012, up from 85 per cent in 2011.

Further data

For readers wanting a greater level of detail, the IEA have made available an interactive gas map, based on entry and exit points throughout Europe. This map is available free of charge at: www.iea.org/gtf/index.asp

EU-27 Infrastructure peak daily gas supply in 2012

There are four generic sources of gas supply available to EU Member States: indigenous production, gas storage facilities, imports via LNG terminal and imports via pipeline, with the potential of multiple sources within each of these categories. This article uses the peak flow (i.e. the maximum gas deliverable in billion cubic metres per day) as a comparative measure of gas supply for each individual source for each country. For pipeline and LNG terminal, peak flow data were extracted from IEA physical gas flows data[5]. Similarly, peak outputs for storage facilities were extracted from the IEA Natural Gas Information 2013[6]. Storage facilities are assumed to be capable of working at peak capacity during times of peak demand. Although this is susceptible to inaccuracies, as peak capacity from storage facilities may not indeed be achievable by the point of peak demand in EU member states, it does allow a consistent metric across all storage facilities. Data for peak outputs for production had to be estimated, by taking the maximum monthly production (bcm) in 2012[5] for each gas-producing member state and dividing this by the number of days in that month.

Chart 1 shows peak gas supply for each individual country as a stacked bar chart, with different colours representing different categories of gas supply. Stacks were arranged with indigenous categories (production and storage facilities) stacked at the base of the chart and external categories (imports via LNG terminals and pipelines) stacked above. For these external sources, data were divided within categories by individual source (represented by horizontal lines within an individual bar colour).

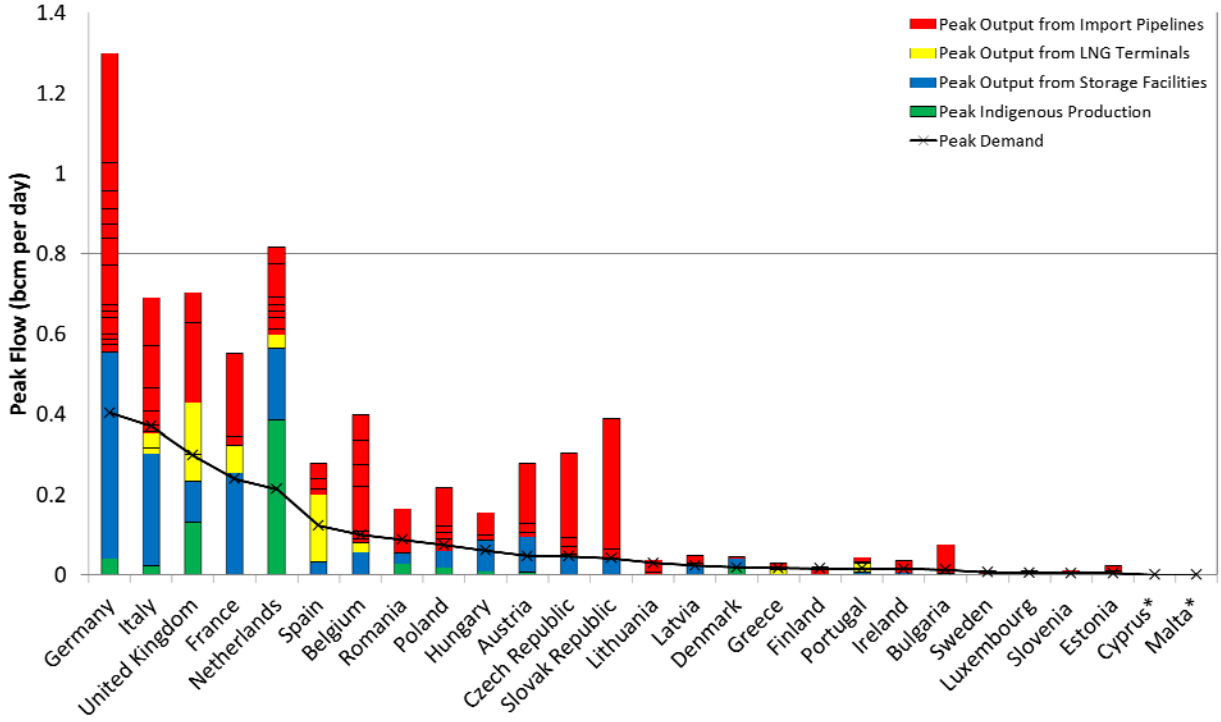
Chart 1 also shows all EU-27 member states in order of peak gas demand. Peak gas demand data (bcm per day) are included within Chart 1 as a single line-and-cross plot running across the graph. Peak gas demand acts as a comparator for peak gas supply, and was estimated for each country by taking the maximum monthly demand in 2012 (bcm) divided by the number of days within that month. Data for peak flows are provided in the table in Annex 1.

Chart 1 shows that in all EU countries for which data were available, maximum gas supply exceeded peak demand. According to the data, Germany had the highest peak demand in 2012, but also had the largest potential peak supply from both indigenous storage facilities and import pipelines. The data indicated that only two member states had sufficient indigenous production capacities to meet peak daily demand: the Netherlands and Denmark. The majority of countries had a peak supply more than double that of peak demand, with the exception of Italy, Romania, Lithuania, Greece, Finland and Sweden.

The UK had the third largest peak demand of the EU member states. The UK also had the most diverse category breakdown for gas supplies, with each of the four potential gas sources making up at least 15 per cent of peak supply.

[5] www.iea.org/gtf/index.asp
[6] Natural Gas Information 2013, International Energy Agency, ISBN 9789264203143

Chart 1: Peak outputs for gas supply sources versus peak demand for EU-27 Member States



Source: DECC analysis of IEA data. *Cyprus and Malta have no consumption and are included for completeness only. For import data, stacks are further divided by number/volume of pipelines/terminals. Data are provided in table in Annex 1.

Looking at the pipeline import data in Chart 1 (red stacks), it is clear that the five member states with the largest peak demand have a diverse range of import pipelines. Germany in particular has a large number of import pipelines, 23 in total. There are substantially fewer import pipelines in EU countries east of Germany. Although the Slovak Republic appeared to have a peak supply that far exceeded demand, almost all of this came via a single pipeline. Only Spain (six), the UK (four) and Italy (two), had more than one LNG terminal (most member states do not have any), highlighting that this method of gas supply is still in its infancy.

EU-27 Gas Infrastructure Resilience 2012

In order to give an indication of the resilience of the gas supply infrastructure, we have developed a simple methodology that takes the sum of all gas supplies coming into a country running at maximum capacity (*PF*, peak flow), removes the largest supply route, and looks at the remaining percentage supply relative to peak demand. The equation below indicates *PF* as:

$$PF - 1[\%] = \frac{EP_{\max} + P_{\max} + S_{\max} + LNG_{\max} - I_{\max}}{D_{\max}} \qquad \text{Equation 1}$$

Where:

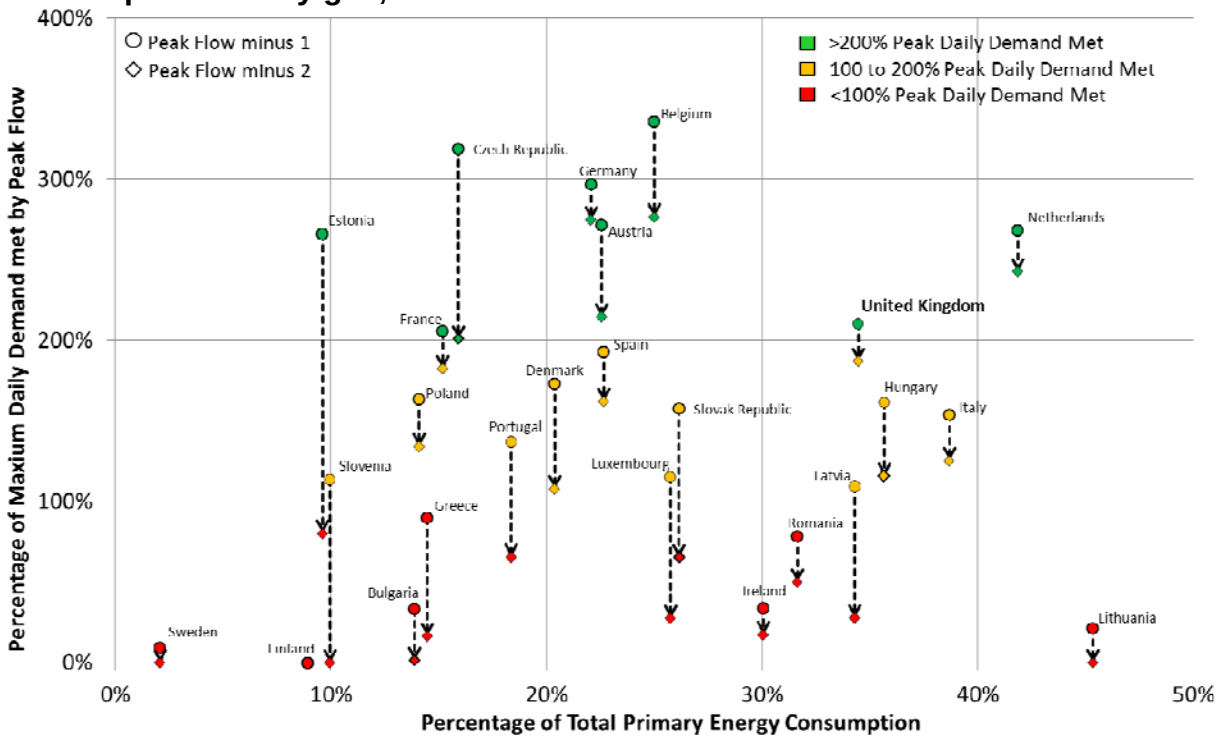
PF = Peak Flow (bcm/day)
EP_{max} = Peak capacity of entry points (bcm/day)
P_{max} = Peak capacity for each indigenous production pipeline (bcm/day)
S_{max} = Peak output for each storage facility (bcm/day)
LNG_{max} = Peak output for each LNG terminal (bcm/day)
D_{max} = Average 2012 peak gas demand (bcm/day)
I_{max} = Peak daily capacity of single largest supply route (bcm/day)

This formula is similar to a more widely-used metric - the 'N-1' measure of supply outlined in the EU Regulation No. 994/2010 - but differs to that due to the historical nature of the data used here. Additionally, in the EU regulation, peak demand (D_{max}) is defined as the total daily gas demand of the country during a day of exceptionally high gas demand occurring with a statistical probability of

once in 20 years. In this report, because we are calculating resilience for 2012, we use the peak gas demand in each country for 2012 (January 1st 2012 to December 31st 2012), taking the maximum monthly demand in 2012 (bcm) and dividing this by the number of days within that month. Beyond *PF*-1, *PF*-2 was also calculated using the same methodology but removing the two largest supply routes as a more rigorous test of infrastructure resilience. Limitations to this technique are discussed at the end of this report.

As well as considering infrastructure resilience, it is also important to consider the extent to which each EU-27 country relies on gas to meet its primary energy demand. If the *PF*-1 score is less than 100 per cent, it could have considerable consequences for a country that relies on gas for a large proportion of its primary energy demand, compared to a country that mainly uses other energy sources. We therefore plotted out *PF*-1 and *PF*-2 against the percentage of total primary energy demand met by gas for each EU Member State (Chart 2). In Chart 2, the top circle shows *PF*-1 for each member state, with the vertical arrow indicating the loss of demand between *PF*-1 and *PF*-2 (diamond). The chart uses a red-amber-green as an indication of resilience, using less than 100 per cent and 100 to 200 per cent and greater than 200 per cent as arbitrary measures of resilience.

Chart 2: EU-27* gas infrastructure resilience versus percentage of primary energy consumption met by gas, 2012



*Data for Cyprus and Malta not available. Peak flow minus 1 = total gas supply capacity minus largest gas supply route (*PF*-1). Peak flow minus 2 = total gas supply capacity minus two largest gas supply routes (*PF*-2). For each member state, top circle represents *PF*-1 and bottom diamond represents *PF*-2. Red-amber-green are illustrative, and do not reflect any pre-defined or standard resilience metric.

Chart 2 shows Belgium, Germany, the Netherlands, Austria and the Czech Republic have particularly resilient gas infrastructure, according to this analysis. In all five countries, the gas infrastructure was able to provide more than double the peak gas demand in 2012, even with the loss of their two largest gas supply routes. Resilience in France and the UK also appears robust. Finland, Sweden, Lithuania, Ireland, Bulgaria, Romania and Greece appeared particularly vulnerable to infrastructure disruptions, with these seven countries unable to meet peak daily demand after the loss of the largest gas supply route. Lithuania, Romania and Ireland seemed particularly vulnerable, given that they relied on gas for more than 30 per cent of their primary energy demand. For these seven countries most at risk (*PF*-1 and *PF*-2 both less than 100% in Chart 2), all have plans in place to increase their gas infrastructure[7].

[7] www.entsog.eu/maps/transmission-capacity-map

Including both *PF*-1 and *PF*-2 scores in Chart 2 gives further insight into infrastructure resilience which would not be captured by the *PF*-1 score alone. For example, the data indicate that Estonia clearly has two major supply routes: although resilient to a single supply disruption (meeting 266 per cent of peak demand), Estonia becomes vulnerable after the loss of these two main routes. This is also the case for Latvia, Slovenia, Luxembourg, Portugal and the Slovak Republic.

According to the data, the UK was resilient to infrastructure disruptions in 2012, with 211 and 187 per cent of peak demand met with the loss of the largest and second largest gas supply routes respectively. Overall, according to the peak flow metric and data used in this report, the UK was the sixth most resilient Member State to gas supply infrastructure disruptions, and was the fifth most dependent on gas for primary energy demand in 2012. From a UK perspective, there are a diverse range of gas sources, including pipeline and LNG imports, storage and indigenous production, with good resilience to disruption of major supply sources.

EU regulations, enforcing that all Member States must have an *N*-1 score of greater than 100 per cent (using the larger value of peak gas demand based on a statistical probability of once in 20 years), comes into force from 3rd December 2014. Given the similarity between the EU *N*-1 methodology and the *PF*-1 methodology used here, the UK appears well-placed to meet this requirement.

Limitations

It is important to note that these data were collected from IEA sources and thus our analysis may not accurately reflect each country's position if these data were not accurately recorded within the IEA data set at the time of collection. Additional data may be available in statistical publications for individual Member States.

This report shows the physical flow of natural gas around Europe and resilience of the EU Member States to infrastructure disruption. It has built on a previous report, published in Energy Trends June 2013[8], which examined diversity of pipeline and LNG import countries only, without considering number of pipelines/terminals or indigenous gas sources. Importantly, this report has focussed on within-country infrastructure disruptions, and not considered the more complex issue of supply disruptions impacting on the entire EU-27 infrastructure, such as difficulties in gas supply from major gas-supplying countries such as Russia or Norway. We aim to build on this report to consider these wider-ranging supply difficulties in future reports.

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[8] www.gov.uk/government/uploads/system/uploads/attachment_data/file/208560/et_june_2013.PDF

Annex 1: Table of key data for gas use in the EU-27* countries, 2012

EU-27 MS	Peak daily [X] (Billion cubic metres per day)					*PF*-1 score	*PF*-2 score	Natural Gas Consumption (Mtoe)	Total Primary Energy Consumption (Mtoe)
	Demand **	Indigenous production **	Import pipelines	Storage output	LNG output				
Austria	0.047	0.007	0.185	0.087	-	272%	215%	7.42	32.90
Belgium	0.100	-	0.317	0.057	0.023	336%	277%	14.32	57.29
Bulgaria	0.013	0.000	0.071	0.004	-	33%	1%	30.2	21.76
Cyprus*	-	-	-	-	-	-	-	-	3.57
Czech Republic	0.047	0.001	0.258	0.045	-	319%	201%	6.81	42.82
Denmark	0.018	0.021	0.005	0.020	-	173%	108%	3.47	17.04
Estonia	0.004	-	0.022	-	-	266%	80%	0.55	5.72
Finland	0.016	-	0.019	-	-	0%	0%	2.99	33.48
France	0.240	0.001	0.229	0.252	0.067	206%	183%	38.23	251.71
Germany	0.403	0.040	0.745	0.513	-	297%	275%	67.78	307.38
Greece	0.017	-	0.015	-	0.013	90%	17%	3.76	25.99
Hungary	0.061	0.008	0.068	0.079	-	162%	116%	8.38	23.50
Ireland	0.015	0.003	0.030	0.003	-	34%	17%	4.01	13.35
Italy	0.370	0.023	0.034	0.280	0.048	154%	125%	61.34	158.62
Latvia	0.023	-	0.025	0.022	-	110%	28%	1.56	4.56
Lithuania	0.029	-	0.037	-	-	21%	0%	3.36	7.41
Luxembourg	0.005	-	0.011	-	-	115%	28%	1.05	4.08
Malta*	-	-	-	-	-	-	-	-	2.83
Netherlands	0.214	0.385	0.218	0.178	0.035	269%	243%	32.74	78.22
Poland	0.746	0.018	0.157	0.042	-	164%	134%	13.60	96.54
Portugal	0.016	-	0.014	0.007	0.022	137%	66%	4.03	21.95
Romania	0.088	0.027	0.110	0.028	-	78%	50%	13.62	43.04
Slovak Republic	0.041	0.000	0.349	0.038	-	158%	65%	4.36	16.68
Slovenia	0.003	-	0.011	-	-	114%	0%	0.71	7.14
Spain	0.123	0.000	0.078	0.032	0.167	193%	162%	28.24	124.68
Sweden	0.006	-	0.009	0.001	-	10%	0%	1.01	48.88
United Kingdom	**0.300**	**0.130**	**0.275**	**0.103**	**0.194**	**211%**	**187%**	**66.29**	**192.38**

Source: DECC analysis of IEA data. *No data available for Cyprus and Malta **Calculated by peak month divided by number of days in that month.

Annex 2: Table of *PF*-1 and *PF*-2 values for EU-27* countries, 2012

EU-27 MS	*PF* (bcm/day)	*PF*-1 (bcm/day)	Nature of the largest supply source	*PF*-2 (bcm/day)	Nature of the second largest supply souce
Austria	0.279	0.128	Import pipeline	0.101	Storage
Belgium	0.397	0.335	Import pipeline	0.276	Import pipeline
Bulgaria	0.075	0.004	Import pipeline	0.000	Storage
Cyprus*	-	-	-	-	-
Czech Republic	0.303	0.149	Import pipeline	0.094	Import pipeline
Denmark	0.046	0.032	Indigenous production	0.020	Storage
Estonia	0.022	0.010	Import pipeline	0.003	Import pipeline
Finland	0.019	0.000	Import pipeline	-	-
France	0.550	0.493	Storage	0.437	Import pipeline
Germany	1.298	1.197	Import pipeline	1.108	Import pipeline
Greece	0.028	0.015	LNG	0.003	Import pipeline
Hungary	0.155	0.099	Import pipeline	0.071	Storage
Ireland	0.035	0.005	Import pipeline	0.003	Storage
Italy	0.689	0.569	Import pipeline	0.464	Import pipeline
Latvia	0.047	0.025	Storage	0.006	Import pipeline
Lithuania	0.037	0.006	Import pipeline	0.000	Import pipeline
Luxembourg	0.011	0.006	Import pipeline	0.001	Import pipeline
Malta*	-	-	-	-	-
Netherlands	0.816	0.574	Indigenous production	0.519	Storage
Poland	0.217	0.122	Import pipeline	0.100	Storage
Portugal	0.043	0.022	LNG	0.010	Import pipeline
Romania	0.165	0.069	Import pipeline	0.044	Storage
Slovak Republic	0.388	0.065	Import pipeline	0.027	Storage
Slovenia	0.011	0.004	Import pipeline	0.000	Import pipeline
Spain	0.278	0.231	LNG	0.193	Import pipeline
Sweden	0.009	0.0006	Import pipeline	0.000	Storage
United Kingdom	**0.702**	**0.628**	**Import pipeline**	**0.559**	**Import pipeline**

Source: DECC analysis of IEA data. *PF* = peak flow (defined in Equation 1 in report). *No data available for Cyprus and Malta.

Supermarket share of retail sales

Background

DECC has published a series showing the volume of fuel sold through supermarkets since 1999. As part of a methodological review we have worked with industry to revise how we collect and report on the volume of fuel sold through retailers, both supermarkets and other traders, and commercially (including, for example, fuel sold to HGVs through truck stops and fuel sold to bus and coach operators).

This paper describes the changes in the data collection and methodology used and our plans for further developing this series.

Current data collection methodology

Table 3.5 of Energy Trends provides quarterly information on the volume of fuel sold in the UK, broken down by the volume sold through supermarket chains, by roadside forecourts and by 'commercial' outlets (the latter being the volumes sold through truck stops and other sales outside of the UK's retail forecourt network). To do this we need to determine or estimate the total volumes sold through all parts of the fuel supply chain, some of which are more readily available, transparent, and accurate than other parts.

The total volume of road fuel sold in the UK is robust and well established. Whilst DECC monitor sales of road fuels from oil refiners, we also match our delivered volumes with the road fuels consumption reported in HMRC's Hydrocarbon Oils Duty bulletin[1].

Data on the volume of sales sold through supermarket chains is collected through a DECC survey which requires the major supermarket chains to report the volume of fuel sold, historically this has been split by hydrocarbon fuels and biofuel.

Data on both the remaining retail sales and the commercial sales are both estimated rather than surveyed. Commercial sales are estimated through returns provided by the UK's refiners. With many refiners increasingly selling fuel to third parties who then sell onto final consumers this survey is becoming less comprehensive as the final destination of the fuel is often not known to the refiner. The final piece of the data in the supply chain – the volume sold through other retailers - is the total volume of sales, minus the sales through commercial outlets and supermarkets. As such, retail sales are critically dependent on the data accuracy in other parts of the fuel supply chain and in particular the accuracy of the commercial volumes.

Revised data collection methodology

Following consultation with industry, we have introduced a number of changes;

Firstly, whilst previous surveys have attempted to separately estimate the volume of hydrocarbons and biofuel sold through supermarkets, the new survey requires the total volume of fuel sold, regardless of proportion of biofuel within that. This simplifies the return and will increase consistency and accuracy. The volume of biofuels consumed will still be shown in Chapter 6 of the Digest of UK Energy Statistics and Energy Trends.

Secondly, we have changed which supermarket chains are included in the survey. Previously, the 'hypermarket' share included the 'big four'[2] retailers alongside a number of relatively small local co-operatives and the fuel sold through the retail sites operated by the Co-Operative Group. Many of these small chains did not have a full national coverage and many of them were located at the road-side rather than alongside a supermarket, as are (predominantly) the retail forecourts operated by the Co-Operative Group. In order to provide greater clarity and consistency in understanding the proportion of fuel sold through supermarkets, the new survey includes only i.)

[1] www.hmrc.gov.uk/statistics/hydro-oils.htm

[2] Asda, Morrisons, Sainsbury's and Tesco.

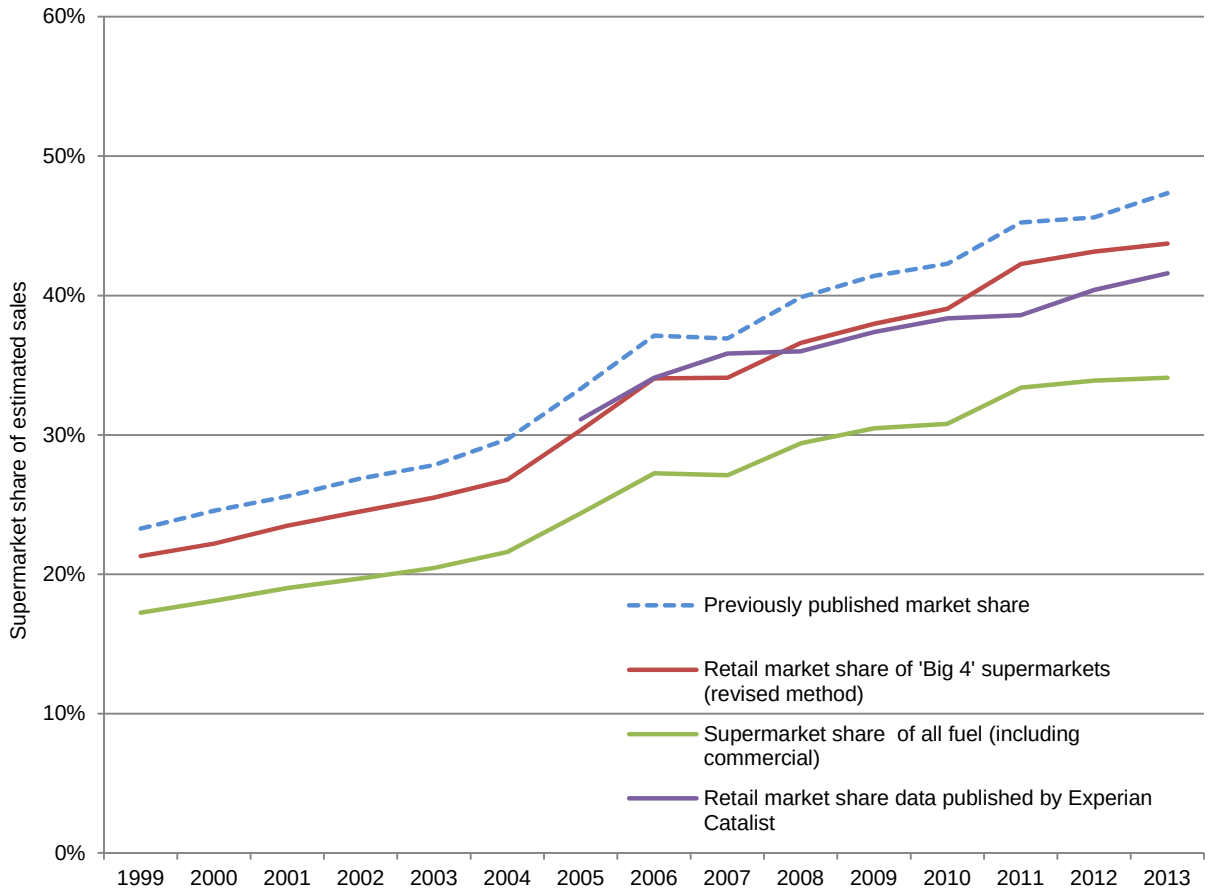
grocers with a substantial national presence that ii.) buy and sell fuel through iii.) their own-brand label. This means that the supermarket share data now comprises sales of the 'big four' only. The individual market shares of companies remain commercially sensitive.

Thirdly, as noted above, data on the volume of product sold outside of the retail network is declining in accuracy. Whilst DECC aims to develop better data collection for commercial sales, as an interim measure we have estimated the volumes sold through commercial sites by reference to the types of vehicles on the UK's roads (see Annex 1 for the volumes delivered). In this estimation, we assume that there is no petrol sold through commercial outlets, but that the vast bulk of buses and Heavy Goods Vehicles (c 80 per cent) buy their fuel at non-retail sites. We also assume that fuel used for off-road machinery (e.g. tractors) and inland navigation by water is also sourced outside of the retail network.

Impact of revisions

The overall impact of the three revisions is to reduce the share of retail fuel sold by supermarkets by around 3 percentage points from the current series as shown in the graph below. The overall direction of the trend has not changed with supermarket sales comprising a larger proportion of the road fuel markets on a year-by-year basis.

Chart 1: cumulative impact of changes in the data collection



The chart also shows two other comparisons. Firstly, the chart shows the market share data provided by Experian Catalist who conduct surveys of retail sites across the UK and estimate fuel volumes sold through the retail network, including the share of fuel sold by supermarkets. Whilst the market shares differ slightly from those published by DECC – as we would expect given the different methodologies - they are broadly in line over time.

The chart also shows the total share of all road fuels consumed in the UK. Whilst this does not represent a share of the retail market, it has the advantage of being based on two figures – the total volume of road fuel sales and the volumes sold by supermarkets – that are not estimated but calculated from a census.

Further developments

The new methodology increases consistency by more clearly specifying which supermarkets are included in the sample and we have also removed a potential source of inaccuracy and inconsistency with respect to biofuel content. Additionally, our estimation of the commercial sales (and hence the overall retail sales) is now based on a transparent methodology which allows users of these data to alter our assumptions should they see fit.

In the medium term, we hope to further improve the series by considering options for additional surveys or better techniques for estimating commercial sales and/or the total volume of retails sales.

As ever, DECC welcome comments on the methodology and suggestions for its improvement.

Acknowledgements

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Annex 1: Estimated volume of fuel sold through commercial outlets.

Million tonnes

MODELLED CONSUMPTION OF DIESEL FUEL BY VEHICLE TYPE (including bio-diesel)__

	Buses and coaches	Heavy goods vehicles	Light goods vehicles	Cars & taxis	Off Road Machinery	Inland Navigation	Total DERV
1999	1.242	7.433	3.007	3.657	0.271	0.052	15.662
2000	1.266	7.191	3.231	3.876	0.273	0.056	15.892
2001	1.233	6.918	3.363	4.034	0.265	0.057	15.870
2002	1.266	6.998	3.494	4.380	0.261	0.060	16.459
2003	1.389	7.076	3.777	4.807	0.263	0.065	17.377
2004	1.397	7.238	4.078	5.375	0.281	0.070	18.438
2005	1.453	7.527	4.244	5.827	0.279	0.074	19.405
2006	1.481	7.686	4.435	6.329	0.291	0.079	20.301
2007	1.557	7.977	4.661	6.746	0.302	0.084	21.327
2008	1.513	7.339	4.672	7.326	0.299	0.090	21.240
2009	1.509	7.133	4.581	7.402	0.266	0.096	20.986
2010	1.502	7.702	4.621	7.401	0.297	0.098	21.620
2011	1.389	7.599	4.692	7.687	0.302	0.099	21.768
2012 (est)	1.408	7.705	4.756	7.794	0.306	0.100	22.069
2013 (est)	1.440	7.880	4.865	7.971	0.313	0.102	22.570

ESTIMATED SALES THROUGH COMMERCIAL SITES

	Buses and coaches (0.8* consumption)	Heavy goods vehicles (0.8* consumption)	Light goods vehicles (0 * consumption)	Cars & taxis (0* consumption)	Off road machinery(1* consumption)	Inland Navigation(1* consumption)	Total Commercial DERV
1999	0.993	5.946	0.000	0.000	0.271	0.052	7.263
2000	1.013	5.752	0.000	0.000	0.273	0.056	7.093
2001	0.987	5.535	0.000	0.000	0.265	0.057	6.843
2002	1.013	5.598	0.000	0.000	0.261	0.060	6.932
2003	1.111	5.661	0.000	0.000	0.263	0.065	7.100
2004	1.117	5.790	0.000	0.000	0.281	0.070	7.258
2005	1.163	6.022	0.000	0.000	0.279	0.074	7.538
2006	1.185	6.149	0.000	0.000	0.291	0.079	7.705
2007	1.246	6.382	0.000	0.000	0.302	0.084	8.013
2008	1.211	5.871	0.000	0.000	0.299	0.090	7.471
2009	1.207	5.707	0.000	0.000	0.266	0.096	7.275
2010	1.202	6.161	0.000	0.000	0.297	0.098	7.758
2011	1.111	6.080	0.000	0.000	0.302	0.099	7.591
2012 (est)	1.126	6.164	0.000	0.000	0.306	0.100	7.696
2013 (est)	1.152	6.304	0.000	0.000	0.313	0.102	7.871

Seasonal variations in electricity demand

Introduction

This article outlines how demand for electricity in Great Britain differs between a summer's day and a winter's day and the differences in the fuel used for electricity generation between the two seasons. DECC's energy volume statistics cover electricity demand on a monthly aggregated basis. However, to examine demand trends on a more detailed basis, data of a higher frequency is required. Half hourly generation data for Great Britain is available from the National Grid (NG) via Elexon. NG runs the Great Britain electricity transmission system, balancing supply with demand[1]. To assist with balancing the system, NG measure generation connected to the high voltage transmission system in real time from operational metering.

Aside from covering Great Britain only, NG's operational metering does not apply to all power plants (it is required for all plants over 100 MW in England and Wales, and over 5 MW and 30 MW in the Scottish and Southern Energy and Scottish Power areas respectively). As such, the coverage differs to that reported in DECC's monthly electricity statistics (which also cover smaller stations and Northern Ireland)[2]. The difference is greater for wind data where the operational metering requirements mean that currently only around 70 per cent of the installed capacity is included in the half hourly data. More information on the data coverage and definitions of the half hourly data can be found on the following website: www.bmreports.com/bsp/bsp_home.htm

The sum of all the National Grid half hourly data is called the total Transmission System Demand (TSD) – this includes all demand met by the transmission system, including exports, pumping and power station demand. This measure is used as an indicator of demand.

Background

Electricity demand is subject to fluctuations on a seasonal basis, across the week, and during the day. Demand can also be influenced by irregular events, such as particularly extreme weather conditions. They can also be swayed by television programmes or televised events, known as "TV pick-ups". These demand peaks and troughs are met by different types of generation, according to their different characteristics.

Electricity demand

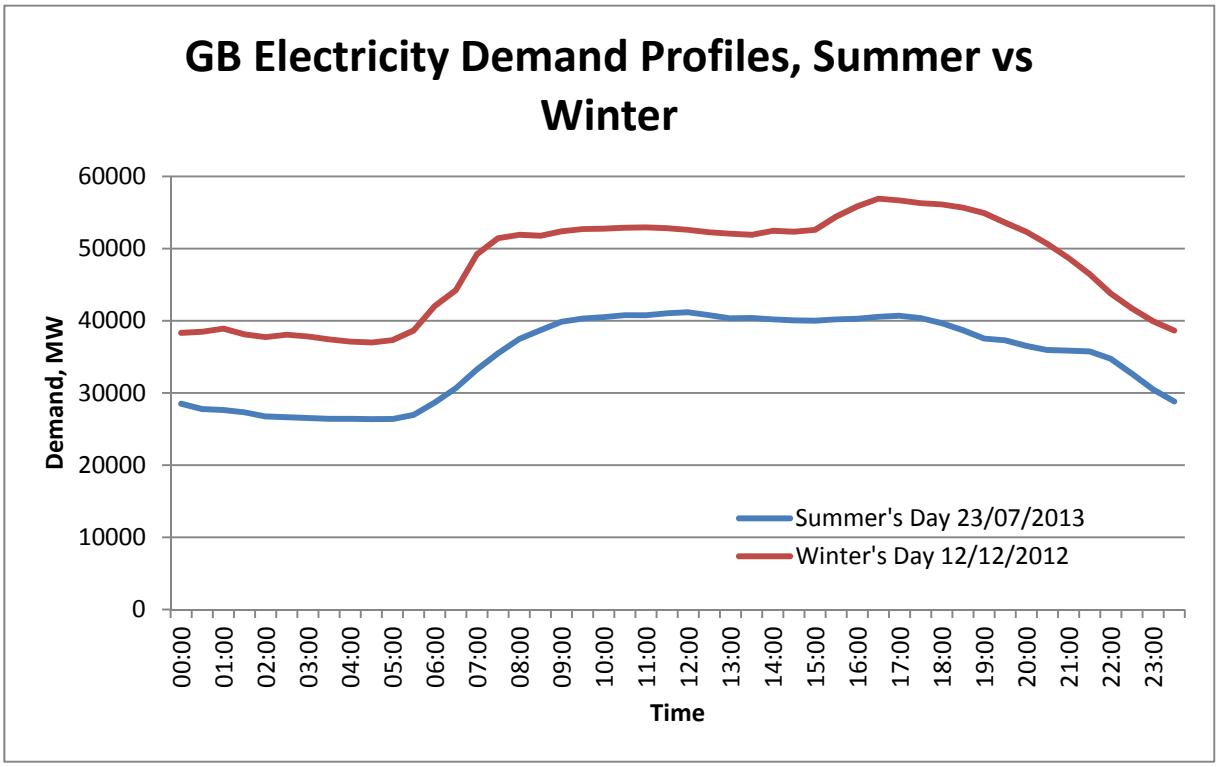
Typically, demand is higher in the winter than in the summer. The peak demands in the summer are usually lower when compared to the peak demands of the winter and the low demands of the summer are low when compared to the low demands of the winter. Demand for electricity tends also to fluctuate over the course of the day, determined by human activity. This is demonstrated in Chart 1[3], which compares demand profiles on a winter's day and a summer's day. The two lines both show a similar trend, but with the winter's day showing a higher demand for all of the 48 half-hour periods. On average, the demand on the winter's day was 36% higher than on a summer's day.

[1] For Northern Ireland, the transmission system is part of an all-Ireland electricity network operated by the Single Electricity Market operator (SEMO)

[2] An article summarising the main differences between the two data sources can be found here www.gov.uk/government/uploads/system/uploads/attachment_data/file/65923/6487-nat-grid-metering-data-et-article-sep12.pdf

[3] Chart 1 compares demand profiles on a winter's day, Wednesday 12th December 2012, to a summer's day, Tuesday 23rd July 2013. This is comparing the day with the highest total daily demand for Winter 2012/13 to the day with the highest total daily demand for summer 2013, with winter classified as December, January and February and summer classified as June, July and August.

Chart 1



Electricity demand is usually lower during the night hours, with little domestic or commercial consumption. In both seasons, there is a visible surge in demand in the morning, when people wake-up and begin using electrical appliances such as kettles, toasters and power showers, but this surge increases more rapidly over a shorter space of time during the winter.

Demand continues to rise but then starts to stabilize at around 9:00am as offices and shops open and electrical equipment such as computers are increasingly utilized.

In the winter a second surge then occurs later in the day, between 3:30pm and 5:30pm, as school children begin to return home and the working day starts to come to an end. As people return home they will be turning on electrical equipment – lighting, televisions, and kettles and begin to start cooking dinner. Demand then begins to fall and drops off as people begin to retire to bed.

This evening surge is not evident in summer, as people return home when it is still light and perhaps a preference for cold beverages/food in the warmer weather. As well as evening domestic electricity use being lower in the summer any use at home in the evening will be counteracted by the switching off of air conditioning units in shops and offices.

Generation used to meet demand

Chart 2 shows the pattern of demand and component generation technologies, across the whole of a winter's week, Monday 10th December 2012 to Sunday 16th December 2012, with the graph beginning at 00:00 hours (midnight) on Monday 10th December and ending at 23:30 hours on Sunday 16th December. Chart 3 represents the equivalent for a summer's week, Monday 22nd July 2012 to Sunday 28th July 2013.

Chart 2

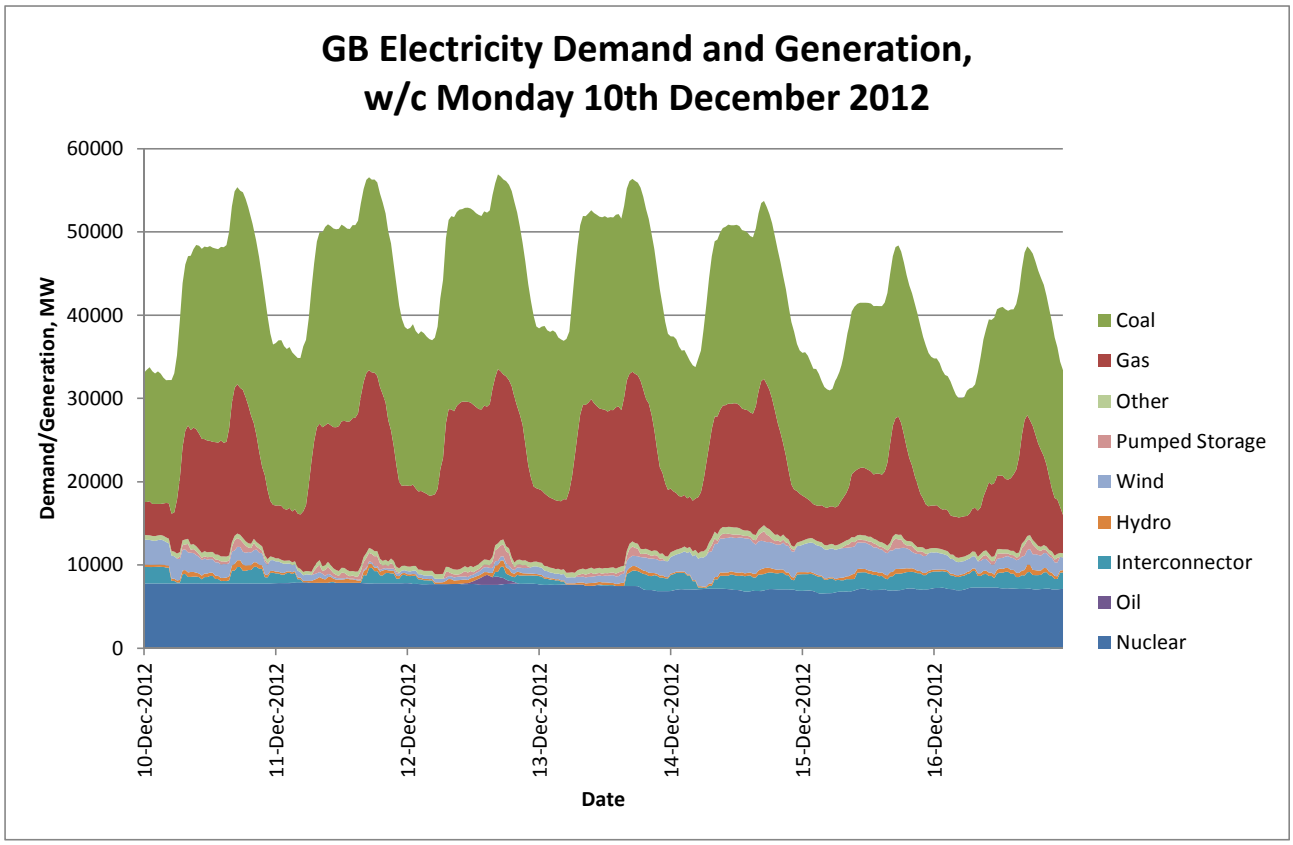
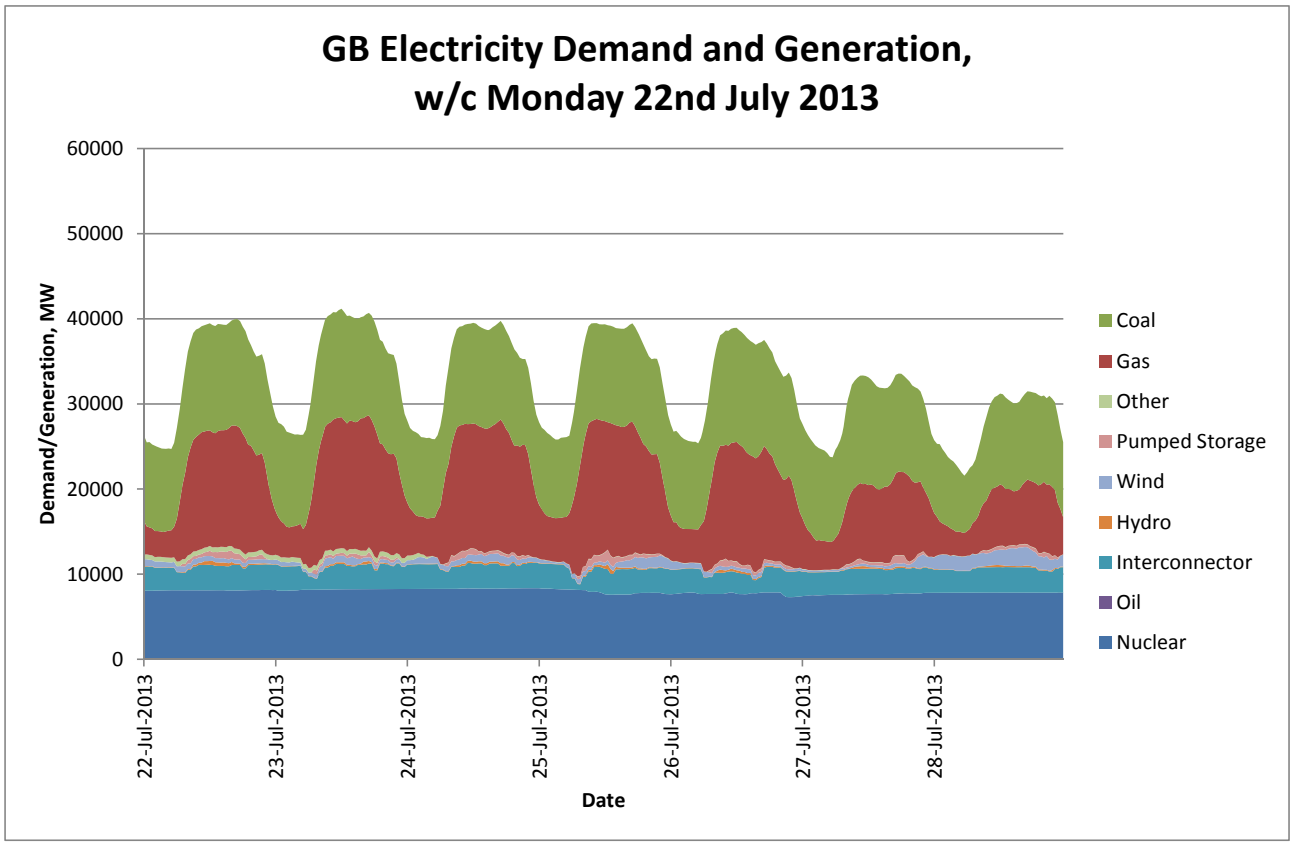


Chart 3



With long start-up times, low marginal costs, and little flexibility in adjusting output, nuclear stations to generate continuously, regardless of time, day or season. This accounts for the virtually constant amount of nuclear generation across the week visible in both Charts 2 and 3.

Coal and gas generation is, however, more flexible and will adjust according to the level of demand and thus price. Coal generation is particularly responsive due to limited running hours available under the Large Combustion Plant Directive, making it economical to only generate at higher wholesale prices. However, in 2012 and 2013 coal prices were relatively low in comparison to gas prices. Chart 2 shows that in the winter week almost twice as much coal generation took place compared to gas generation, in the summer week coal and gas operated at similar levels. This has not always been the case, for example during 2006-2009.

Wind generation is utilised whenever it is available; however, its intermittency due to its reliance on weather conditions means its output varies, particularly during summer months when it is typically less windy. December 2012 saw an average wind speed of 9.3 knots, similar to the long term mean. However, July 2013 had an average wind speed of 6.4 knots, lower than the long term average and also noticeably lower in comparison to the winter month of December. The effect of these lower wind speeds can be seen in Chart 3 where there is less wind generation present than in Chart 2.

Hydro generation is particularly flexible and can start generation quickly, so long as there is water available in the reservoirs. December 2012 had an average rainfall of 188.1 mm, which was higher than the long term average. This was comparatively a lot higher than the 62.8 mm seen in the summer month of July 2013. July 2013's rainfall was lower than the long term average and also the driest July since 2005. When comparing Chart 2 to Chart 3, there is less hydro generation in Chart 3 (summer's week) to Chart 2 (winter's week).

The supply through interconnectors is dependent on the price differential between the UK and the market at the other end of the interconnector. When wholesale prices are high in the UK, there will be more supply from this route, whatever the time of day. When they are lower, or an interconnector is undergoing maintenance, supply will be lower or in the opposite direction. The UK currently has interconnectors with France and the Netherlands, as well as an interconnector between Wales and Ireland. There is also the additional Moyle interconnector between Scotland and Ireland. However, this is not included in the National Grid's half hourly data. There is more electricity supplied in the summer's week in Chart 3 when compared to the winter's week in Chart 2. This could be explained by the aforementioned weather conditions effecting hydro and wind generation in the summer's week, wholesale prices, and the generation mix in continental Europe.

Pumped storage generation is extremely responsive, and is used to meet demand peaks. This is illustrated in both Chart 2 and Chart 3, where pumped storage generation is almost always present at times of high demand and absent at times of low demand, when prices are low and electricity is used for pumping water uphill. Despite lower overall electricity demand in summer and the lack of an evening peak, pumped storage is still utilised on a daily basis.

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Changes to total energy tables in Energy Trends

Introduction

This article gives details of changes that have been made to the Energy Trends total energy tables 1.1, indigenous production of primary fuels, and 1.2, inland energy consumption: primary fuel input basis, with effect from March 2014.

Background

The Energy Trends total energy section consists of three tables, 1.1. 1.2 and 1.3, supply and use of fuels. Within the tables bioenergy and waste (solid and gaseous renewables) have previously been treated differently in that in tables 1.1 and 1.2 solid and liquid renewables (wood, straw, waste and bioethanol etc) have been included within the coal data series, whilst gaseous renewables (landfill gas and sewage gas) have been included in the gas data series, whereas in tables 1.3 bioenergy and waste is shown as a separate data series.

Given the growth in renewables as part of the UK energy mix and in order to make the presentation of data in all of the total energy tables consistent, from March 2014 onwards tables 1.1 and 1.2 will each show bioenergy and waste as a separate data series.

Detail

DECC have revised all data in tables 1.1 and 1.2.

For 2013, DECC provisionally estimate that production of bioenergy and waste was 6,881 tonnes of oil equivalent, with consumption at 9,180 tonnes of oil equivalent which includes an estimate of net trade.

The data tables will continue to be published as now at:
www.gov.uk/government/publications/total-energy-section-1-energy-trends

Similarly chart 1.1 of Energy Trends has been amended to show bioenergy and waste as a separate category.

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UKCS capital expenditure survey 2013

A survey of activity relating to oil and gas fields and associated infrastructure on the UK Continental Shelf (UKCS) was conducted in autumn 2013. 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. The survey excluded exploration and appraisal activity. This note is restricted to development capital expenditure in the period up to 2018.[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 £14.4 billion in 2013. The reported survey data suggest that expenditure will be at around the same level in 2014 but fall back in 2015. Much uncertainty applies to such projections but DECC's central estimates are for spend of £14 billion in 2014 and £12 billion in 2015 (both in 2013 prices).

After 2015, 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 on the scale and at the time reported by the operators though it is likely that at least some of the less-certain projects will slip or even not materialise. The table also includes weighted totals which reflect the probabilities assigned by the operators. The resultant profile for total

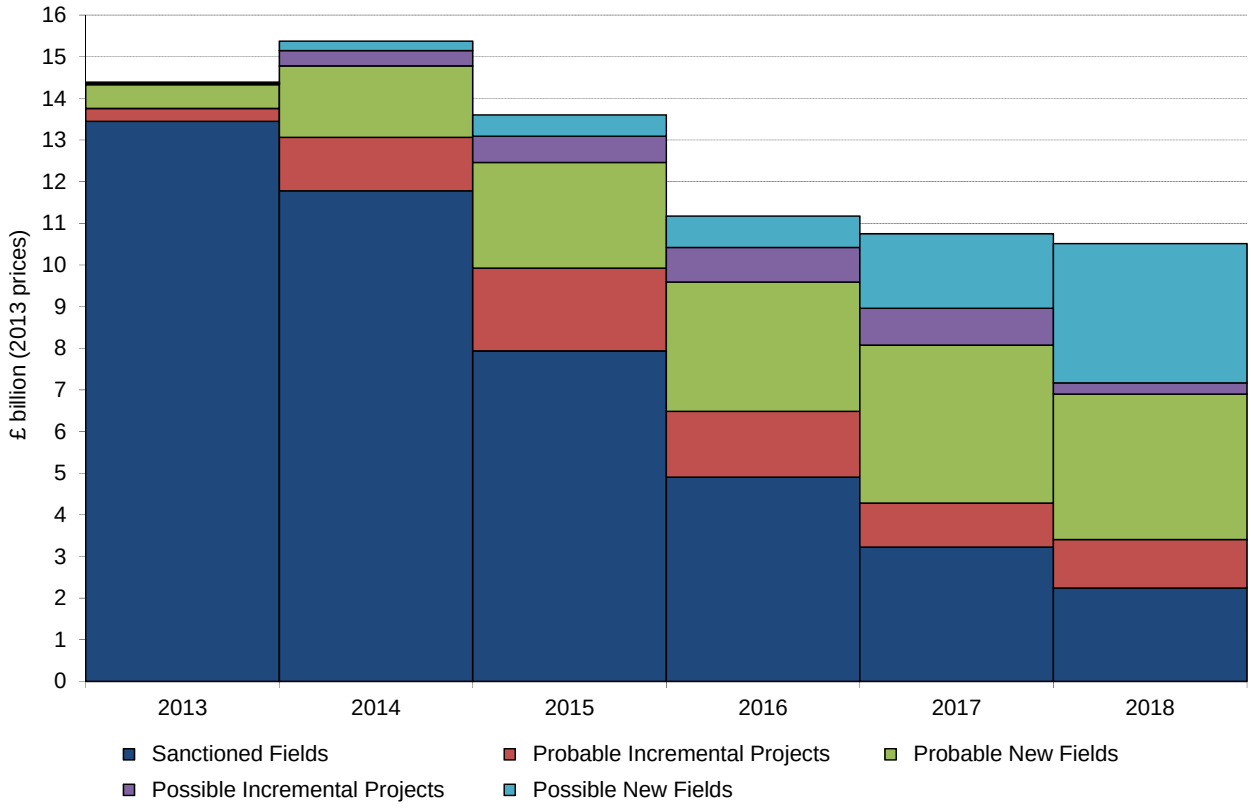
1. A report by Oil & Gas UK on the full range of findings from the survey and a parallel survey of exploration and appraisal activity, *Activity Survey 2014*, was published in February 2014 and is available online at www.oilandgasuk.co.uk/.

development capital expenditure is close to but generally below that for sanctioned fields plus probable projects.

Table 1: Total development capital expenditure plans by category

(£ billion, 2013 prices)	2013	2014	2015	2016	2017	2018	Total for 2014–2018
Sanctioned Fields	**13.4**	**11.8**	**7.9**	**4.9**	**3.2**	**2.2**	**30.1**
Probable Incremental Projects	0.3	1.3	2.0	1.6	1.1	1.2	7.1
Probable New Fields	0.6	1.7	2.5	3.1	3.8	3.5	14.6
Sanctioned plus Probable	**14.3**	**14.8**	**12.5**	**9.6**	**8.1**	**6.9**	**51.8**
Possible Incremental Projects	0.0	0.4	0.6	0.8	0.9	0.3	3.0
Possible New Fields	0.0	0.2	0.5	0.8	1.8	3.3	6.6
Sanctioned plus Probable plus Possible	**14.4**	**15.4**	**13.6**	**11.2**	**10.7**	**10.5**	**61.4**
Weighted Total	**14.4**	**14.3**	**11.7**	**8.9**	**7.7**	**7.0**	**49.7**

Chart 1: Total development capital expenditure plans by category



Compared with the intentions over the five years following the survey conducted in 2012, the 2013 survey indicates slightly lower expenditure with a very similar distribution between sanctioned, probable and possible spend.

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Recent and forthcoming publications of interest to users of energy statistics

International comparisons of energy efficiency indicators: revisions

Revisions have been made to the data published in the December 2013 Energy Trends article 'International Comparisons of Energy Indicators', as there were errors in the UK data used in ODYSSEE. DECC has provided revised data using improved methodology for obtaining 'real GVA' figures. Previously the value of GVA was over-estimated for the manufacturing industry and the service industry. In the revised methodology we use the ONS blue book chained volume indices for these sectors to obtain the 'real GVA' values. This provides a more accurate view of UK performance. This correction has increased our energy intensity in manufacturing and services as the new methodology reduces GVA. The revised version of the article is available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/281411/international_comparisons_energy_efficiency.pdf

Electricity and gas consumption at middle layer super output area (MSOA), lower layer super output area (LSOA) and intermediate geography zone (IGZ) level during 2012

On 27 March 2014, DECC released 2012 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 2011 and are classed as National Statistics. MSOAs are a statistical geography developed by the Office for National Statistics (ONS) as part of the 2011 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 27 March 2014, DECC released 2012 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 2011 following a successful pilot carried out when the 2007 data were published for around 40 local authorities.

LSOAs are a statistical geography developed for the 2001 and 2011 Census by the ONS. The 34,753 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 LSOA statistics are currently classified as Experimental National Statistics.

These datasets complement the local authority based data sets released in December 2013.

These data can be accessed on the DECC section of the gov.uk website at: www.gov.uk/government/collections/mlsoa-and-llsoa-electricity-and-gas-estimates

The MSOA, LSOA and IGZ geography boundaries have been updated by the Office for National Statistics following the 2011 census; these updates have resulted in property coverage changes to around 2½ per cent of LSOAs, and around 2 per cent of MSOAs since the 2001 Census. 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

Annual Statistics Report on Fuel Poverty and sub-regional data

This annual Internet only publication, published in support of the UK Fuel Poverty Strategy, details the latest statistics on fuel poverty. The 2014 edition, detailing the 2012 statistics, will be released on 12 June 2014, along with a series of appendices, at: www.gov.uk/government/collections/fuel-poverty-statistics. Data for 2012 at sub-regional level will also be available at: www.gov.uk/government/collections/fuel-poverty-sub-regional-statistics

List of special feature articles published in Energy Trends in 2013

Energy

March 2013	Long term mean temperatures 1981-2010
	DECC and the new Government website
September 2013	Running hours during winter 2012/13 for plants opted-out of the Large Combustion Plant Directive (LCPD)
	Estimates of heat use in the United Kingdom in 2012
	DECC report on surveys of businesses and local authorities - 2012/13

Coal

March 2013	Coal in 2012

Combined Heat and Power (CHP)

September 2013	Combined Heat and Power in Scotland, Wales, Northern Ireland and the regions of England in 2012

Electricity

December 2013	Electricity generation and supply figures for Scotland, Wales, Northern Ireland and England, 2009 to 2012

Energy efficiency

June 2013	National Energy Efficiency Data-Framework analysis
December 2013	Areas and types of properties off the gas grid
	International comparisons of energy efficiency indicators

Energy prices

March 2013	Domestic energy bills in 2012: The impact of variable consumption
	Petrol and diesel prices
June 2013	Electricity bill variations by tariff type
	The effect of the cold 2012/13 winter on energy bills
December 2013	Proposed changes to DECC domestic energy bills estimates

Feed-in Tariffs

December 2013	Small scale solar PV cost data
	Estimating generation from Feed in Tariff installations

Fuel Poverty

September 2013	Fuel Poverty levels in England, 2011
December 2013	Modelling the likelihood of being fuel poor

Gas

June 2013	Physical gas flows across Europe and security and diversity of gas supply in 2011

Petroleum (oil and oil products)

September 2013	Diversity of supply for oil and oil products in OECD countries

Renewables

June 2013	Renewable energy in 2012
September 2013	Renewable electricity in Scotland, Wales, Northern Ireland and the regions of England in 2012
	New Solar Photovoltaics deployment table

UK Continental Shelf (UKCS)

March 2013	UKCS capital expenditure survey 2012

PDF versions of the special feature articles appearing in Energy Trends since 2012 can be accessed on the DECC section of the gov.uk website at:
www.gov.uk/government/collections/energy-trends-articles

Articles published before 2012 can be accessed via 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 section of the gov.uk website.

Symbols used in the tables

.. not available
- nil or not separately available
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.

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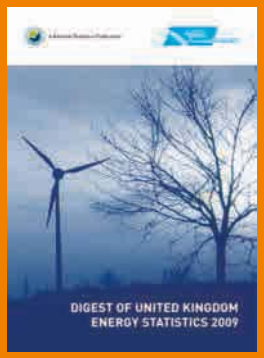
Price £40 per annum UK
www.gov.uk/government/organisations/department-of-energy-climate-change/series/quarterly-energy-prices
and
www.gov.uk/government/organisations/department-of-energy-climate-change/series/energy-trends
Single copies available from the Publications Orderline
priced £6 for Energy Trends 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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