ystadegau ar gyfer cymru statistics for wales

Statistical Bulletin
Bwletin Ystadegol

SB/11/2015 **25 February 2015**

Energy generation and consumption for Wales, 2013

This is a statistical bulletin on energy generation and consumption in Wales. The bulletin presents an overview of current and historic energy production/generation and consumption. It also looks at the different sources used in energy generation, with particular focus on renewable energy sources used in Wales and the rest of the UK. The information presented within the bulletin is based on the statistics collated and published by the Department of Energy and Climate Change (DECC), which publishes a range of energy statistics on a regular basis (monthly, quarterly and annually).

These statistics allow the Welsh Government, energy producers and consumers to monitor trends, as well as providing an overall picture of energy production and consumption in recent years. The information is also used to monitor the effectiveness of current policy, particularly progress against the Programme for Government 2011 -2016 objectives and for future policy development.

For the most part, this bulletin looks at changes in energy generation and consumption between 2004 and 2013; however, some information on consumption is only available from 2005 to 2012. For more information on the quality of the statistics and the definitions used, please refer to the 'Key Quality Information' and 'Glossary' sections towards the end of the bulletin.

Key Results

- The total amount of electricity generated in Wales has continued to fall since 2010, but much more gradually in each successive year, decreasing by 0.8 per cent between 2012 and 2013. This downward trend is mainly due to the decline in electricity generated from gas.
- The total amount of electricity generated from renewable resources in Wales has been steadily increasing, rising by 9 per cent between 2012 and 2013, which is mainly due to the increase in wind generation.
- The percentage of electricity generated in Wales from renewable sources has also continued to increase since 2004, reaching 10 per cent in 2013. This is lower than the UK average of 15 per cent and the lowest of the UK countries.
- Total energy consumption has been falling since 2005, though more so since 2007, which coincides with the economic downturn. The industry and commercial sector accounts for a large proportion of this decline.

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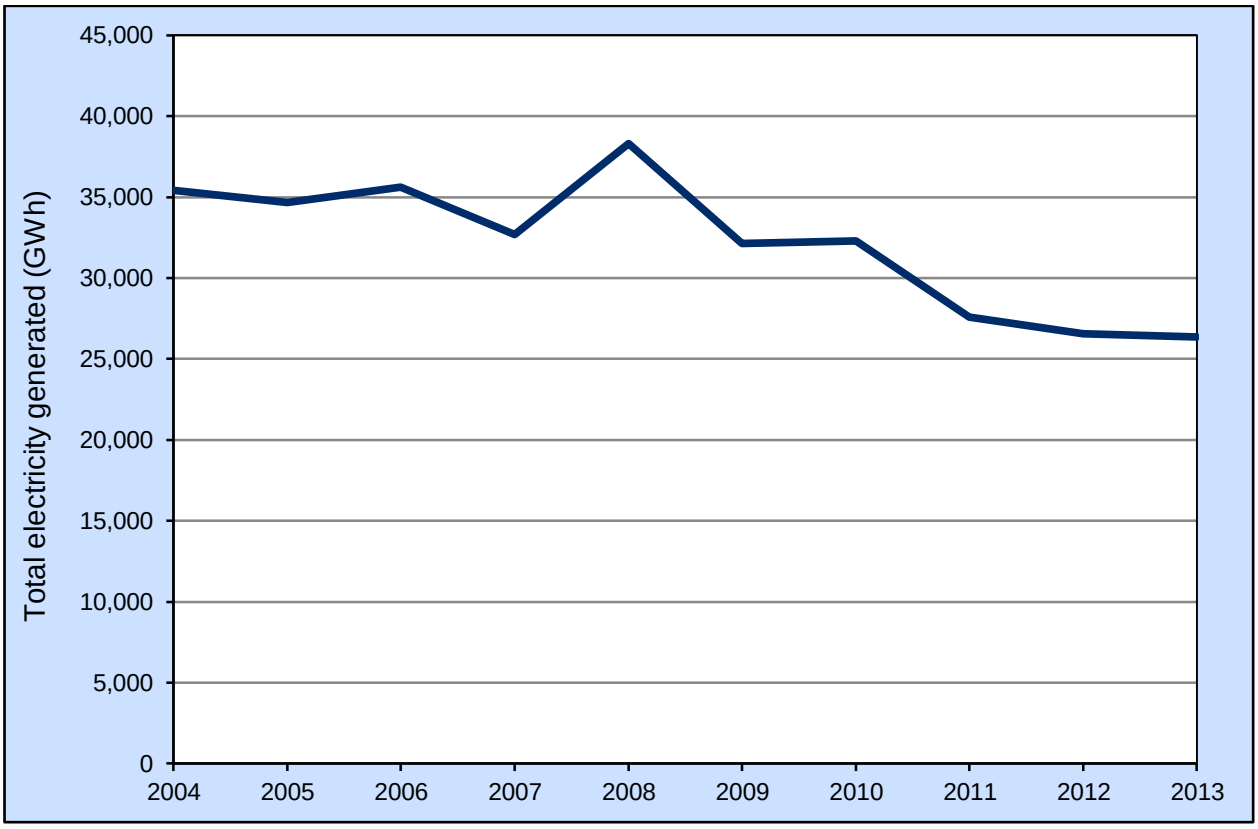
1. Electricity generation

Energy can be generated from various sources of natural fuel, such as gas, coal and oil. The majority of energy generated from these fuels is electric power (i.e. electricity generation). This section looks at the amount of electricity generated in Wales on an annual basis and how this has changed over time. It also looks at the different fuels that have been used to generate the electricity and the amount that is exported from Wales. The standard approach to measuring electricity generation on a national scale is in gigawatt hours (GWh), which is how the statistics in the section of this report are presented.

Prior to 2008, the amount of electricity generated in Wales remained relatively stable, with around 35,000 GWh generated each year. However, in recent years the amount of electricity generated in Wales has been falling, with 26,351 GWh generated in 2013. It is noticeable that this change in trend occurred during a time when the country was in an economic downturn. Since 2011, the fall in total electricity generation has been very gradual, almost levelling off between 2012 and 2013.

Across the UK as a whole and amongst the devolved administrations (with the exception of Scotland), electricity generation has also been generally falling in recent years. This may be due to reduced demand, possibly as a result of the economic climate, introduction of energy efficiency measures or milder winters. A more detailed look at energy consumption, later in this report, shows there has also been a considerable decrease in consumption (18 per cent in Wales between 2005 and 2012).

Chart 1 – Total electricity generated in Wales



Source: Department of Energy & Climate Change (DECC)

The fall in electricity generation is primarily due to the decline in generation from gas, which has fallen substantially since 2010. In contrast, there has been a sizeable increase in the amount of electricity generated from coal. This has resulted in coal replacing gas as the main fuel used to generate electricity in Wales. These changes may be as a result of increased gas prices and reduced coal prices.

Table 1 – Generation of electricity in Wales, by fuel

Gigawatt hours

	2004	2005	2006	2007	2008	2009		2010		2011		2012	2013
Coal	7,234	6,772	8,859	5,121	9,364	6,547		5,929		6,170		10,824	11,478
Gas	17,363	15,926	14,940	17,182	16,546	14,580		16,033		10,806	(r)	6,292	4,956
Nuclear	7,388	7,842	7,010	5,684	7,080	6,122		5,532		5,364		4,141	4,326
Oil	39	42	15	91	62	64		173		121		56	49
Renewables	1,029	1,196	1,404	1,371	1,711	1,761	(r)	1,731	(r)	2,330	(r)	2,434	2,664
Other (a)	2,370	2,872	3,316	3,239	3,527	3,066		2,883		2,809		2,810	2,877
Total	**35,422**	**34,653**	**35,636**	**32,688**	**38,291**	**32,141**	(r)	**32,281**	(r)	**27,601**	(r)	**26,558**	**26,351**

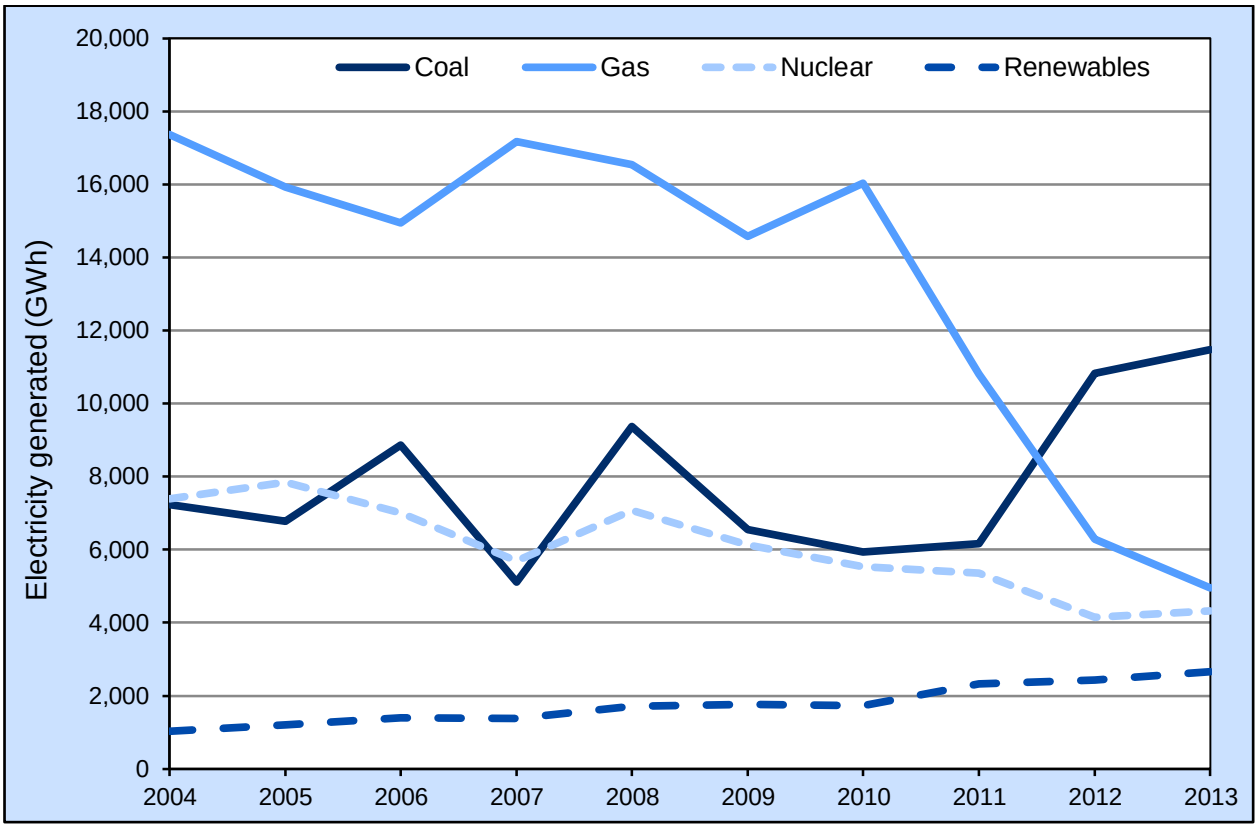
Source: Department of Energy & Climate Change (DECC)

(a) Includes hydro-pumped storage, other (non-renewable) thermal and wastes

(r) Revised since last published.

The amount of electricity generated by renewable sources has been steadily increasing; 2,664 GWh was generated in 2013, which is more than double that generated in 2004 (1,029 GWh).

Chart 2 – Generation of electricity in Wales, by fuel (a)

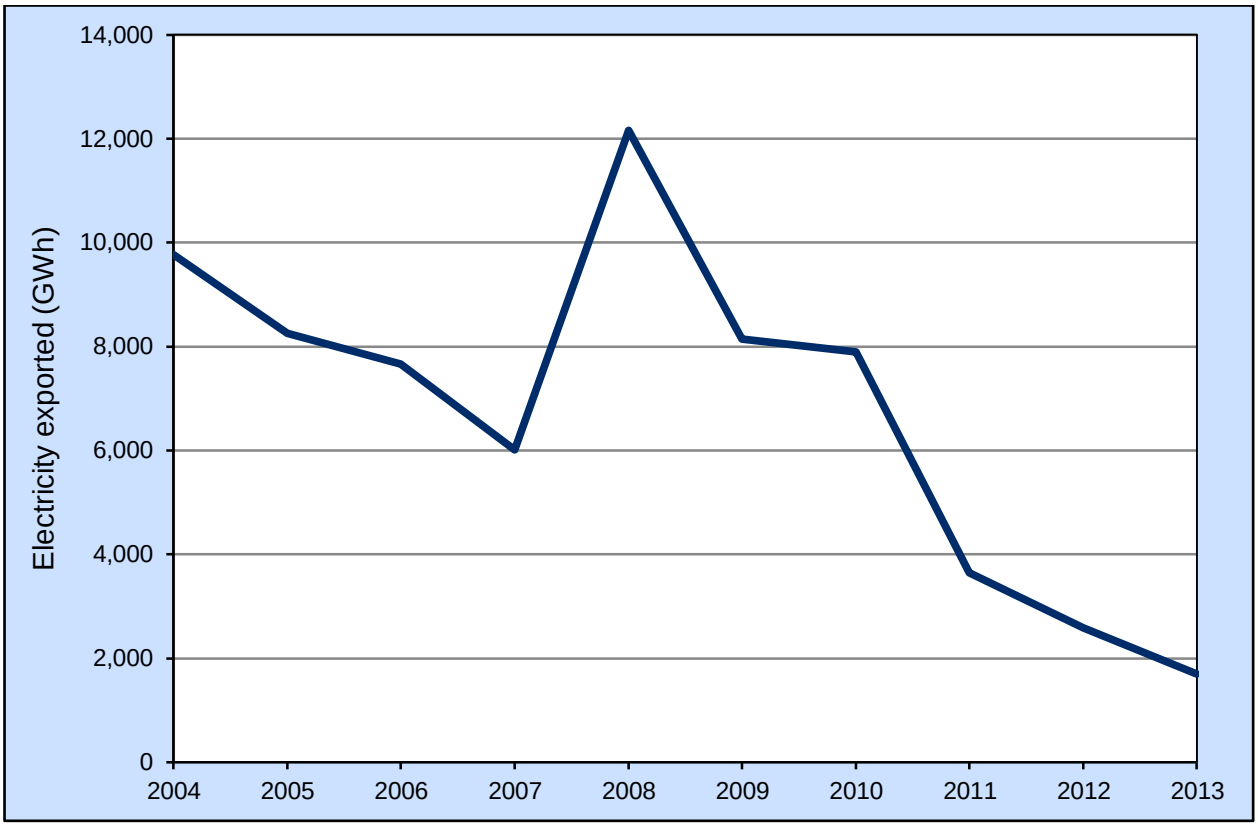


Source: Department of Energy & Climate Change (DECC)

(a) Oil is not shown as values are too low for meaningful display on the above scale (see Table 1).

Wales is a net exporter of the electricity it generates, differing from England (which imports electricity from Wales, Scotland and continental Europe). This means that Wales exports electricity generated here to consumers elsewhere in the UK. Wales has more generation capacity than it uses.

Chart 3 – Electricity exported from Wales



Source: Department of Energy & Climate Change (DECC)

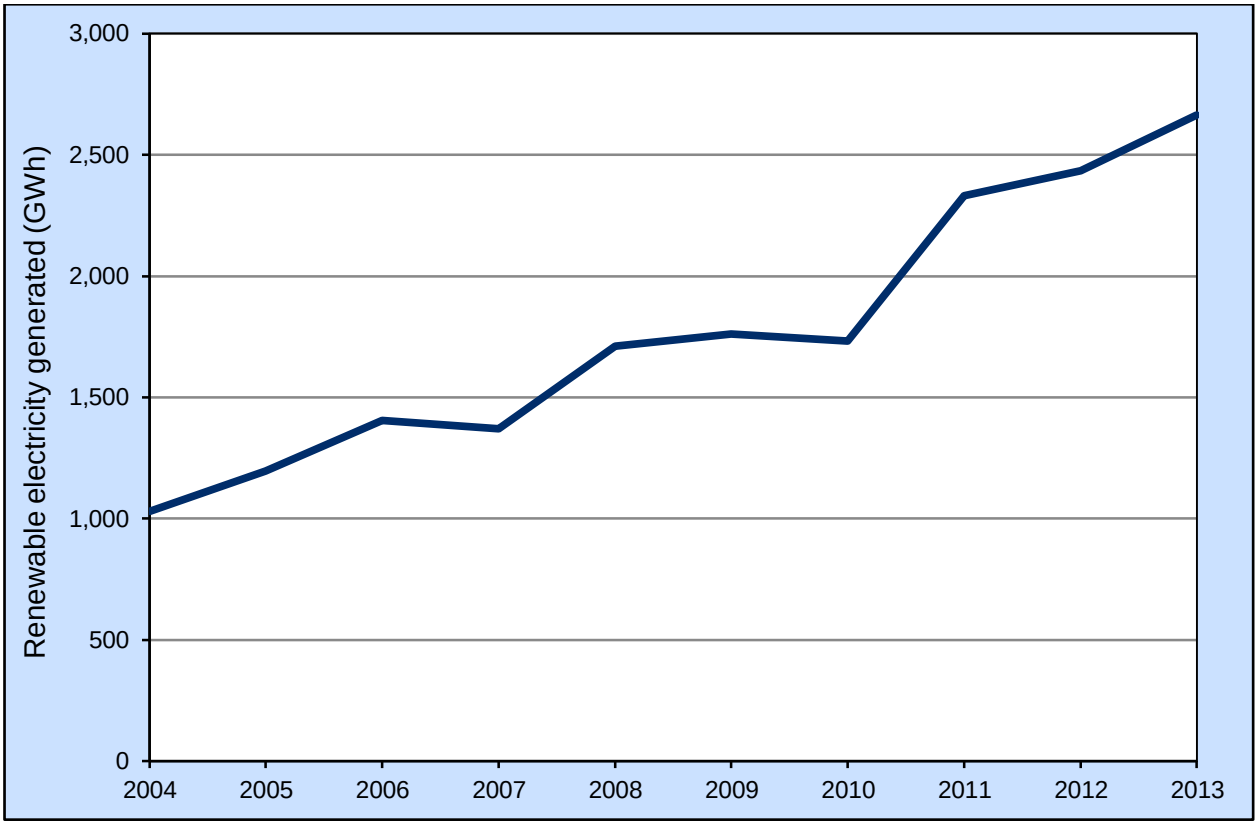
Generally, the amount of electricity exported from Wales (Chart 3) follows the same trend as the amount of electricity generated in Wales (Chart 1); both the amount of electricity generated and exported have fallen since peaking in 2008. Between 2012 and 2013, exported electricity fell by 34 per cent to a record low of 1,696 GWh. During 2013, the amount of electricity exported from Wales was equivalent to 6 per cent of total electricity generated in Wales. This has been falling since a peak in 2008 (32 per cent), which coincided with the peak in total electricity generation.

2. Electricity generated from renewable sources

To ensure sustainability and reduce emissions, there is a growing need to generate electricity from renewable sources. This is emphasised by the UK's target of generating 15 per cent of its energy from renewable sources by 2020.

As for the rest of the UK, the amount of electricity generated from renewable sources in Wales has been steadily increasing. Since 2004, generation from renewable sources has more than doubled. Renewable generation continued to increased, by 9 per cent (230 GWh) from 2012 to 2013, when it reached 2,664 GWh.

Chart 4 – Total renewable generation in Wales



Source: Department of Energy & Climate Change (DECC)

The vast majority of additional renewable electricity generated in recent years is due to an increase in wind generation. The number of sites generating electricity from wind in Wales has been increasing, reaching 140 in 2010 and 388 in 2013. Electricity generation from bioenergy has also increased (with slight fluctuation), likely reflecting capacity, as the number of bioenergy sites in Wales increased from 4 in 2008 to 11 in 2013.

Table 2 – Renewable generation in Wales, by source

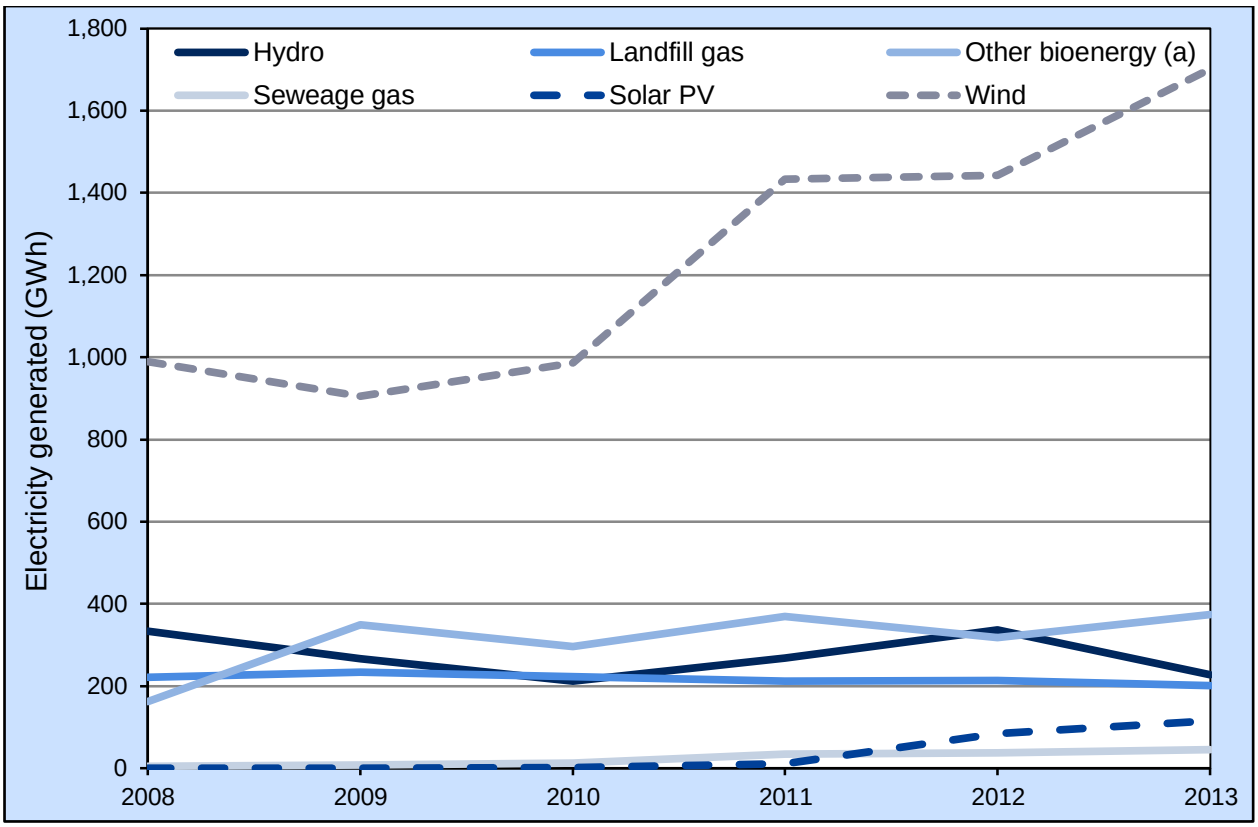
Gigawatt hours

	2008	2009	2010	2011	2012	2013
Hydro	334	266	213	268	337	228
Landfill gas	221	234	223	212	214	201
Other bioenergy (a)	162	349	296	370	318	373
Sewage gas	5	7	13	35	38	45
Solar photovoltaic (PV	-	-	1	12 (r)	84	115
Wind (b)	989	905	986	1,434	1,443	1,702
Total	**1,711**	**1,762** (r)	**1,731** (r)	**2,330** (r)	**2,434**	**2,664**

Source: Department of Energy & Climate Change (DECC)
(a) Includes bioenergy sources co-fired with fossil fuels.
(b) Wind offshore is allocated to regions/countries according to where the cabling comes ashore.
(r) Revised since last published.

Whilst solar generation accounted for less than 1 per cent of renewable electricity generation in 2011, it has increased to account for 4 per cent in 2013. The rise in generation from solar energy is influenced by the rapid fall in costs of solar panels and government-led feed-in tariff subsidy. The number of solar generation sites increased rapidly from 190 in 2009 to 33,065 in 2013.

Chart 5 – Renewable generation in Wales, by source

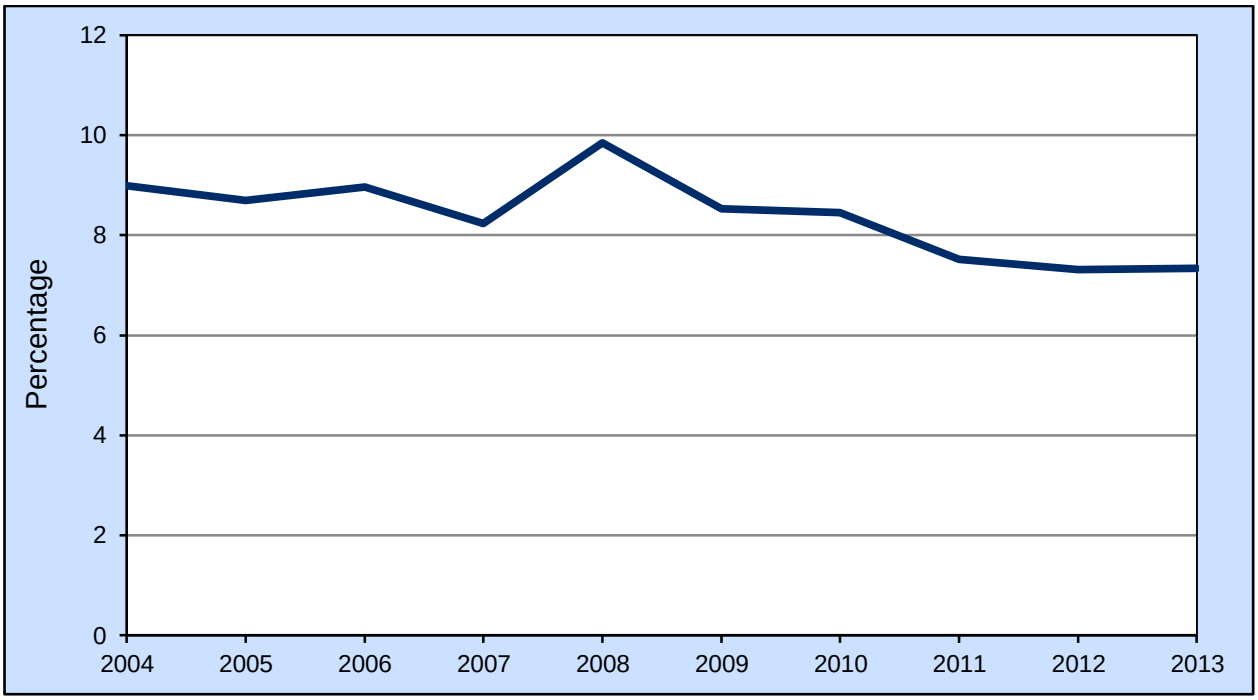


Source: Department of Energy & Climate Change (DECC)
(a) Includes bioenergy source co-fired with fossil fuels.

3. Electricity generation within the UK

Due to the fall in electricity generation in Wales, the proportion of the UK's electricity generated in Wales has also declined since 2008. In 2013, Wales' contribution was just over 7 per cent of the total electricity generated in the UK, compared to almost 10 per cent in 2008.

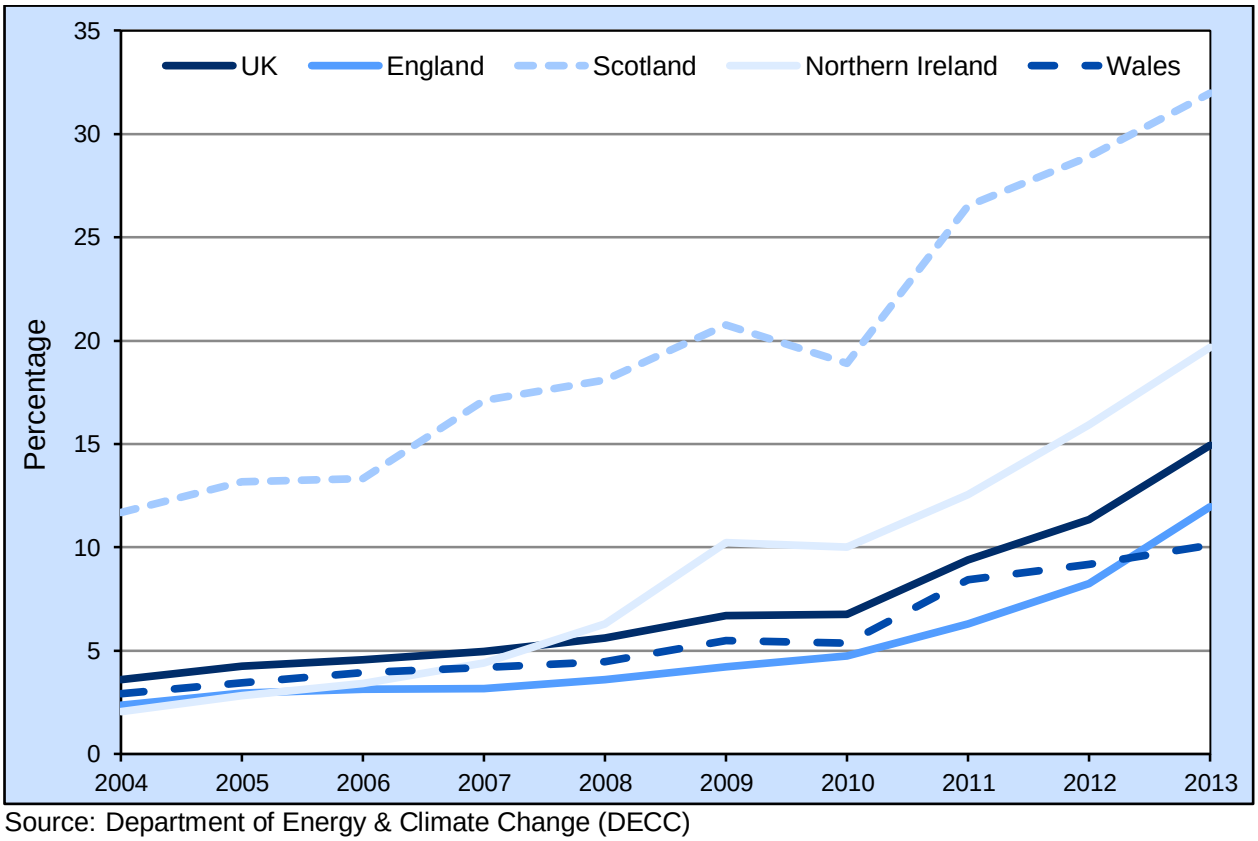
Chart 6 – Percentage of UK electricity generated in Wales



Source: Department of Energy & Climate Change (DECC)

Across the UK, the amount and the proportion of electricity generated from renewable sources has been steadily increasing and in Scotland has risen to almost a third of total electricity generation.

Chart 7 – Percentage of electricity generated from renewable sources, by UK country



Source: Department of Energy & Climate Change (DECC)

As with the rest of the UK, the percentage of electricity generated from renewable sources in Wales has increased since 2004, increasing to 10.1 per cent in 2013. Whilst the percentage has continued to increase, in 2013 Wales generated the lowest percentage of electricity from renewable sources within the UK. This follows a larger increase in the percentage of electricity generated from renewable sources in England. Whilst the amount of electricity generated from non-renewable sources decreased and renewable generation increased in Wales during 2013 (resulting in an increased percentage of electricity generated from renewable sources), these changes were greater in England over the same period, resulting in a larger percentage increase.

Table 3 – Percentage of electricity generated from renewable sources, by UK country

Percentage (a)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
England	2.9	3.1	3.2	3.6	4.2 (r)	4.8 (r)	6.3 (r)	8.2	12.0
Northern Ireland	2.8	3.4	4.4	6.3	10.2 (r)	10.0 (r)	12.6	15.9	19.7
Scotland	13.2	13.3	17.1	18.1	20.8 (r)	18.9 (r)	26.5 (r)	28.9	32.0
Wales	3.5	3.9	4.2	4.5	5.5 (r)	5.4 (r)	8.4 (r)	9.2	10.1
UK	**4.3**	**4.6**	**5.0**	**5.6**	**6.7** (r)	**6.8**	**9.4**	**11.3**	**14.9**

Source: Department of Energy & Climate Change (DECC)

(a) Renewable electricity generation as a percentage of total electricity generation for the country.

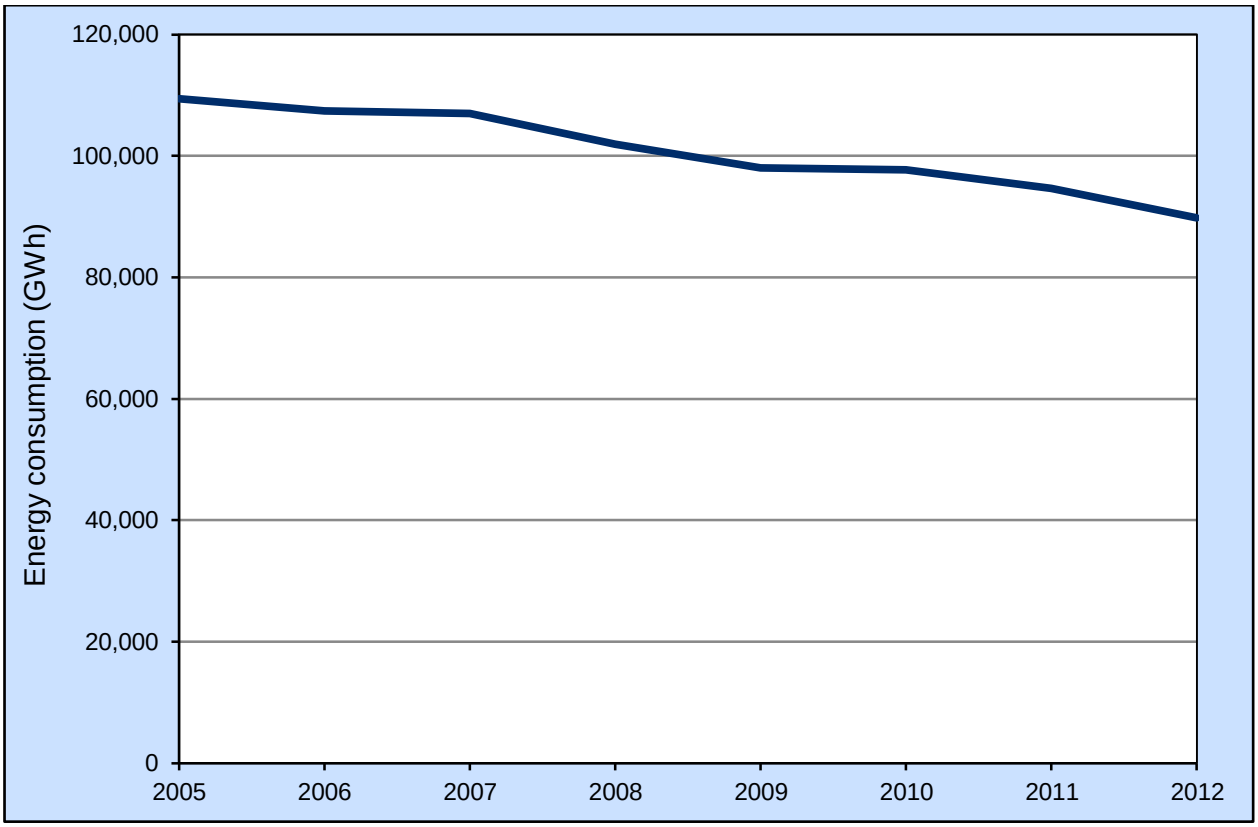
(r) Revised since last published.

4. Energy consumption

This section provides an overview of total energy consumption in Wales, broken down by fuel types and sector. Energy consumption figures are provided, not only for the domestic (household) sector, but also for the industry and commercial and transport sectors. Consumption data for gas and electricity are obtained from meter readings, and data collected for these and other fuel types, such as petroleum, are converted into gigawatt hours (GWh) to allow comparison.

It should be noted that consumption levels are affected by weather conditions; for example, a colder year will generally result in higher consumption levels for heating. The statistics for gas consumption are temperature adjusted to account for this and allow for fairer year-on-year comparison. However, temperature adjusted statistics for other fuels are not currently available.

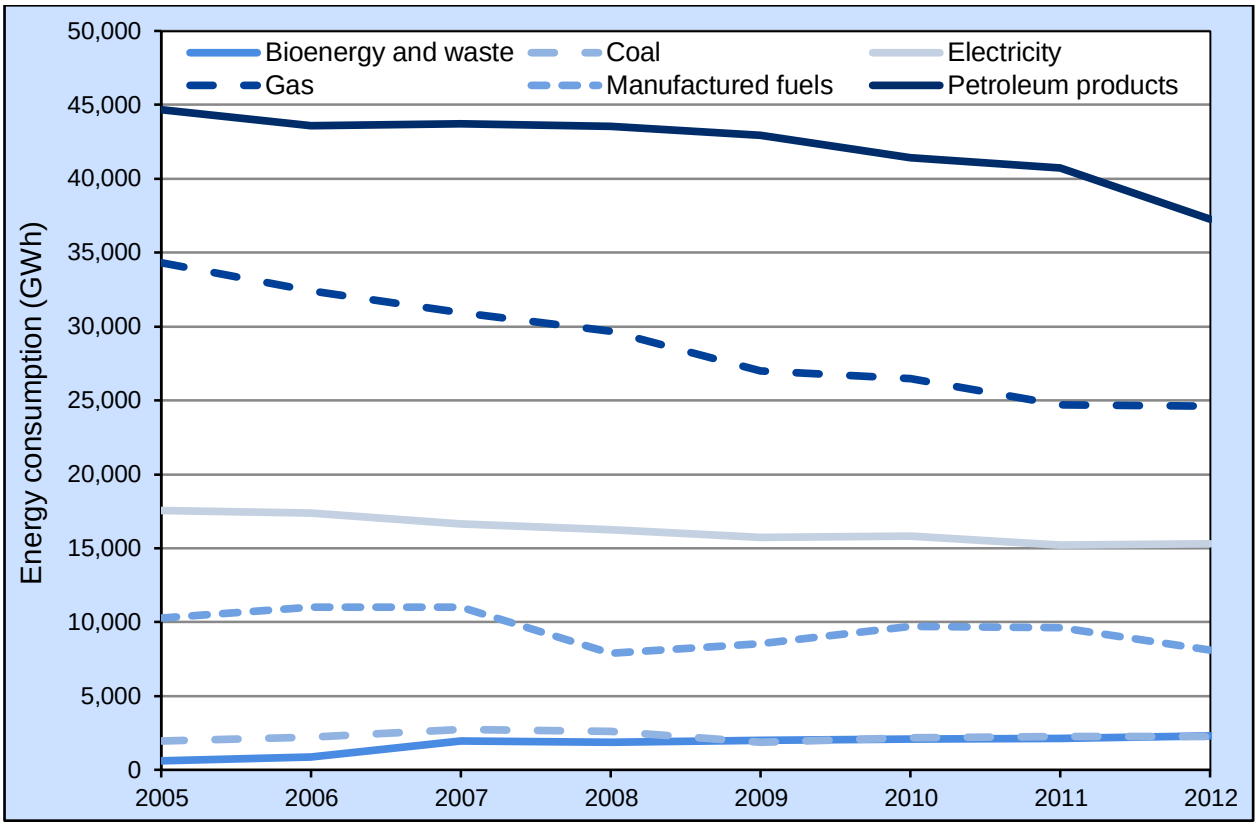
Chart 8 – Total energy consumption in Wales (a)



Source: Department of Energy & Climate Change (DECC)
(a) Total energy consumption figures currently only available up to 2012.

Total energy consumption has been falling since 2005. However, it can be seen from Chart 8 that the decline was slightly sharper from 2007 onwards. As a result, overall energy consumption fell to a low of 89,820 GWh in 2012. This downward trend may be due, in part, to the economic downturn. It is also possible that improved energy efficiency measures may have had some impact in more recent years, although it is not possible to separately identify the impact of these factors.

Chart 9 – Total energy consumption in Wales, by fuel (a)



Source: Department of Energy & Climate Change (DECC)
(a) All fuels apart from gas and electricity are reported per calendar year. Figures for gas are from 1st October of the year previous to the labelled year to 30th September of the labelled year; and for electricity, the end of January of the labelled year to the end of January of the next year (the beginning/end year date varies slightly annually). For example, the year labelled as 2010 is gas data from 1st October 2009 to 30th September 2010 and electricity data from the end of January 2010 to the end of January 2011.

Petroleum is the most consumed fuel type in Wales, followed by gas and then electricity. Consumption of this fuel decreased more during 2012 than during previous years, likely due to increased petroleum prices. Over half of petroleum (58 per cent) is consumed in the transport sector (including rail travel) and a large proportion (34 per cent) is also consumed in the industry and commercial sector.

With the exception of bioenergy and waste and coal, the consumption of all fuel types has generally decreased since 2005. As mentioned, this overall drop may due, in part, to the economic downturn. Of the different fuel types, gas consumption has decreased the most (by 28 per cent) between 2005 and 2012. The rising market price of gas relative to several other fuels is likely to be a key driver behind this drop. During this time period, there has also been a move to encouraging the use of renewable fuels. This may also have contributed to the increase in the consumption of bioenergy and waste, although these fuel types still only account for a small proportion of total energy consumption.

Table 4 – Total energy consumption in Wales, by fuel

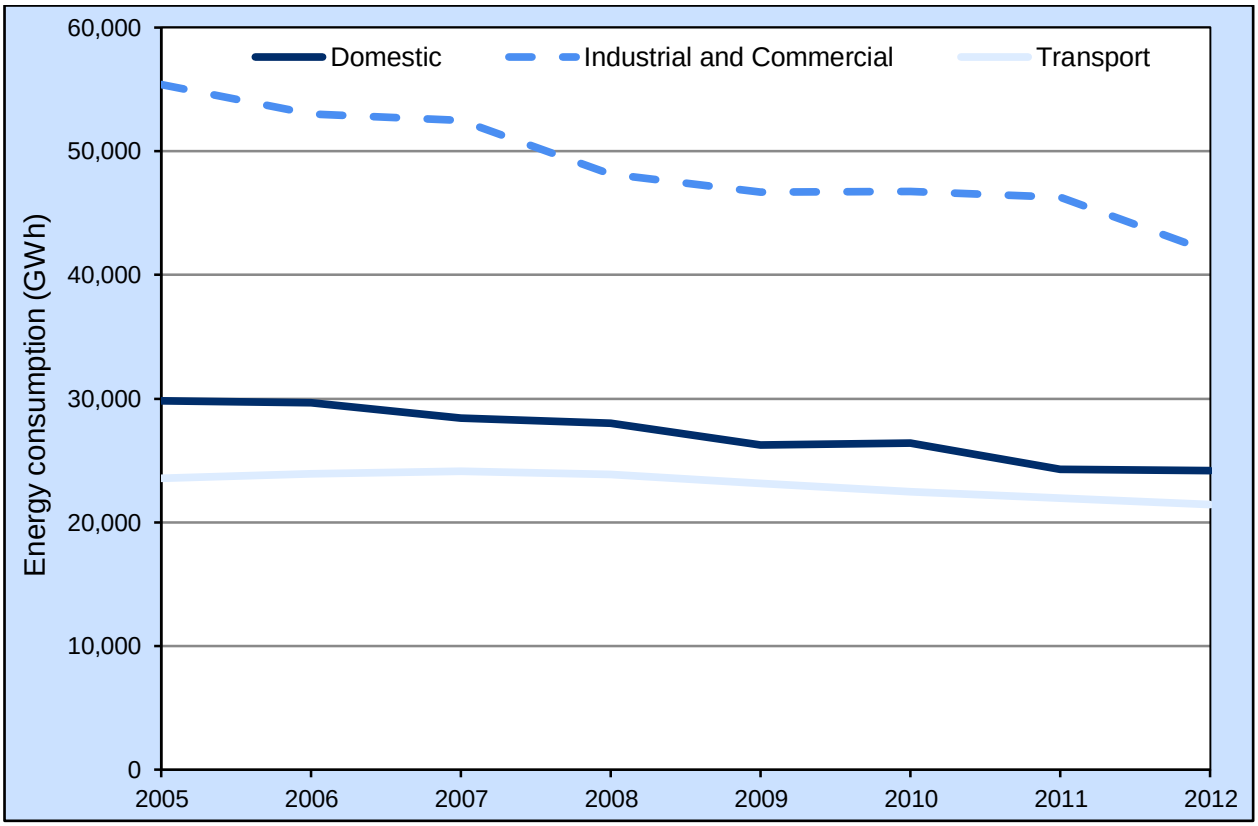
Gigaw att hours

	2005	2006	2007	2008	2009	2010	2011	2012
Bioenergy and waste	620 (r)	863	1,955 (r)	1,877 (r)	2,007 (r)	2,103 (r)	2,152	2,326
Coal	1,950 (r)	2,210 (r)	2,721 (r)	2,622 (r)	1,877 (r)	2,179 (r)	2,267	2,246
Electricity	17,567	17,394	16,633	16,267	15,720	15,818	15,226	15,285
Gas	34,311	32,401	30,938	29,684	26,989	26,469	24,688	24,607
Manufactured fuels	10,285 (r)	11,016 (r)	11,029 (r)	7,916 (r)	8,559 (r)	9,703 (r)	9,614	8,098
Petroleum products	44,678 (r)	43,572 (r)	43,705 (r)	43,565 (r)	42,924 (r)	41,433 (r)	40,712	37,257
Total	**109,410** (r)	**107,456** (r)	**106,980** (r)	**101,931** (r)	**98,075** (r)	**97,705** (r)	**94,659**	**89,820**

Source: Department of Energy & Climate Change (DECC)
(r) Revised since last published.

Chart 10 shows the industry and commercial sector accounted for nearly half of all energy consumption (48 per cent) in 2012. Energy consumption declined across all sectors (i.e. industry and commercial, domestic and transport sectors) between 2005 and 2012. The largest part of the decline in the industry and commercial sector occurred after 2007, which coincides with the economic downturn. High energy costs in the industry and commercial sector may have encouraged businesses to make improvements in energy efficiency in recent years, which in turn may have affected consumption levels. Consumption in the domestic and transport sectors is also likely to be have been affected by the economic downturn, though to a lesser degree.

Chart 10 – Total energy consumption in Wales, by sector



Source: Department of Energy & Climate Change (DECC)

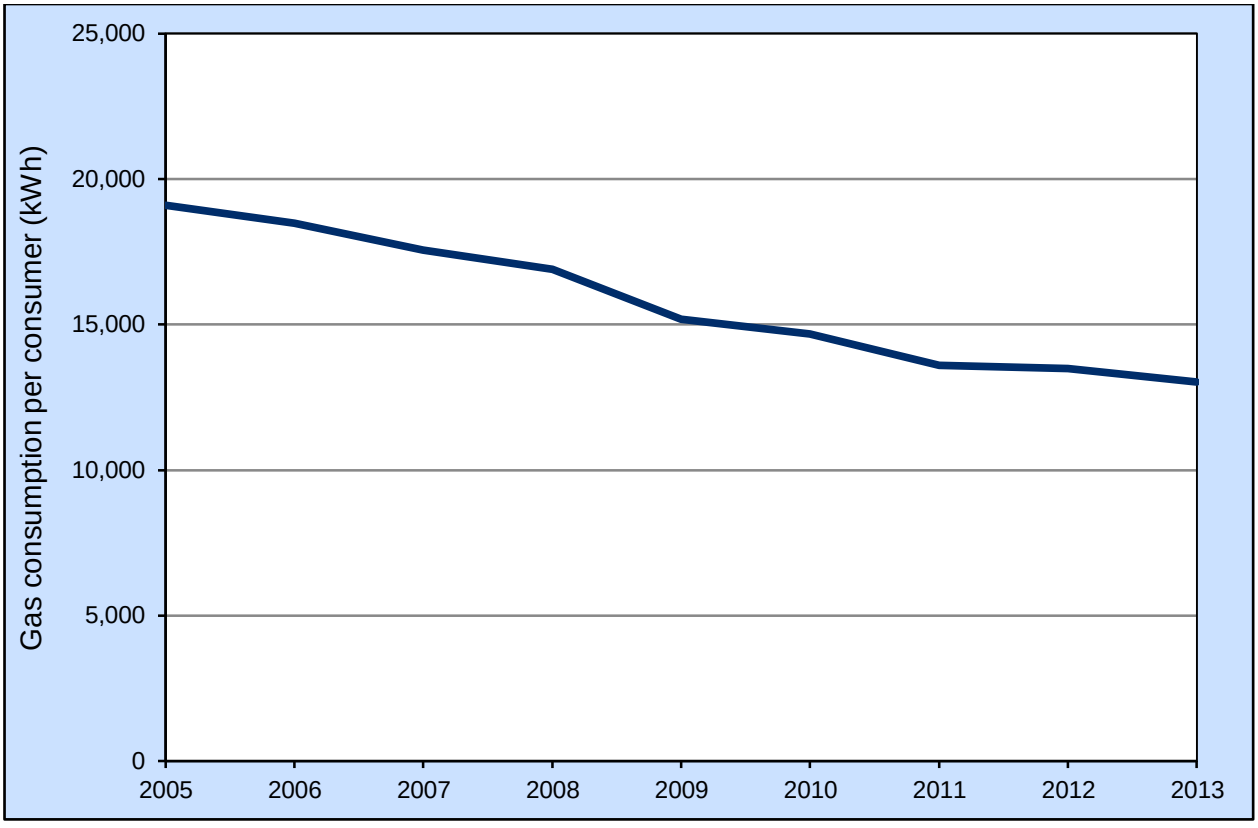
4.1 Domestic energy consumption

This section provides an overview of the domestic consumption of gas and electricity in Wales. The consumption of gas and electricity can serve both similar and different domestic uses. For example, gas can be used for heating and cooking appliances, whilst electricity can be used for these, as well as for lighting and electrical appliances. The domestic consumption of gas is significantly higher than that of electricity.

Although total energy consumption statistics in the previous section are currently only available up to 2012, the gas and electricity domestic consumption statistics in this section are available and presented up to 2013. In addition, data in this section are shown in kilowatt hours (kWh) to reflect that consumption will be lower on a per consumer scale.

The amount of gas used per consumer fell annually from 2005, reaching a low of 13,029 kWh in 2013. As previously mentioned, this fall may be due, in part, to both the economic downturn and energy efficiency measures; either taken by individuals or as a result of various Government energy efficiency programmes and higher quality standards for housing. Increased energy prices may also have influenced consumer behaviour, particularly during the economic downturn.

Chart 11 – Average domestic gas consumption per consumer (a)

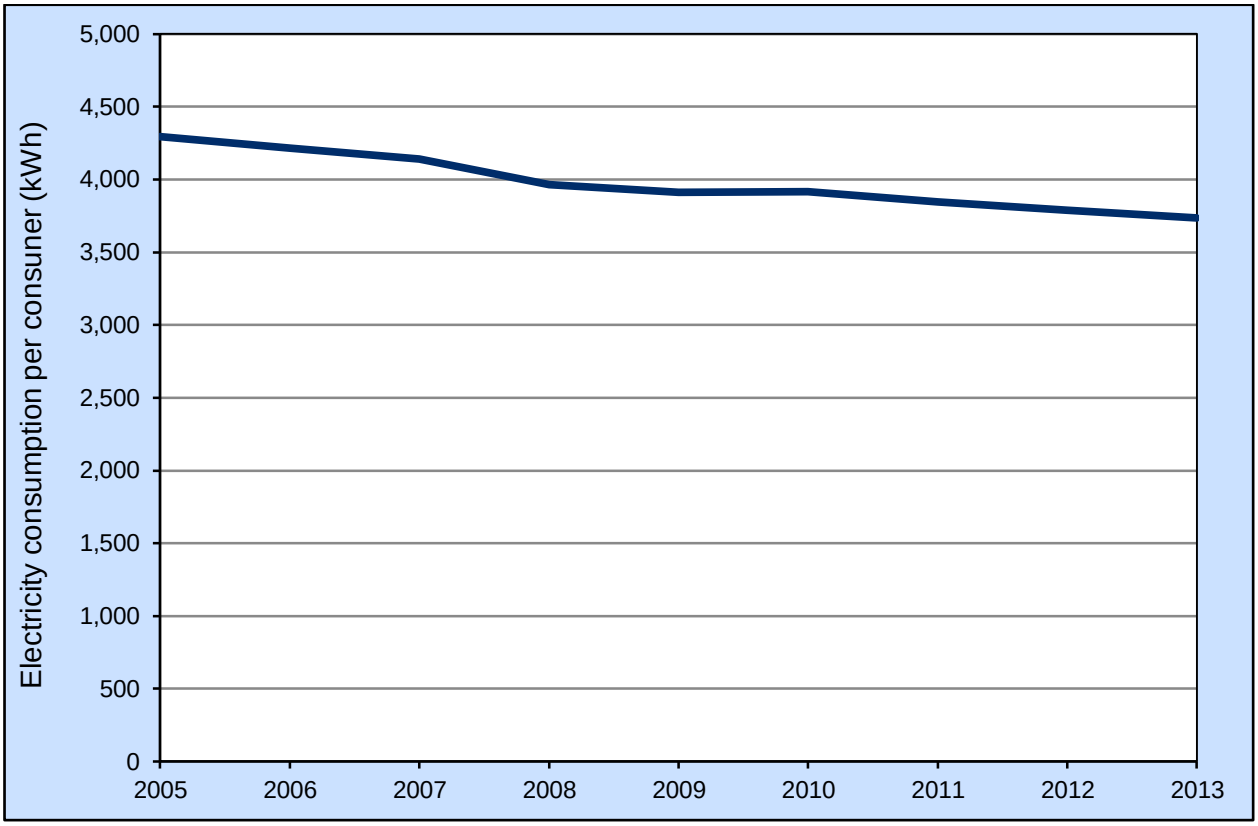


Source: Department of Energy & Climate Change (DECC)
(a) Figures for gas are from 1st October of the year previous to the labelled year to 30th September of the labelled year. For example, the year labelled as 2010 is gas data from 1st October 2009 to 30th September 2010.

It should be noted that a limitation of the gas consumption data is that it is not possible to accurately determine which consumers are domestic. It is assumed that all consumers using less than 73,200 kWh are domestic consumers. However, some small businesses may be classified as domestic if their consumption is low, whilst some dwellings may be classified as non-domestic, such as flats, where there is a communal gas supply.

As can be seen in Chart 12 below, the amount of electricity used per consumer in Wales has also been steadily decreasing, though at a slower rate than gas consumption. The reasons for this downward trend may be similar to those for the fall in gas consumption.

Chart 12 – Average domestic electricity consumption per consumer (a)



Source: Department of Energy & Climate Change (DECC)
(a) Figures are from the end of January of the labelled year to the end of January of the next year (the beginning/end year date varies slightly annually). For example, the year labelled as 2010 is data from the end of January 2010 to the end of January 2011.

The 2011 Census estimated that nearly a fifth (23.7 per cent) of households in Wales used a main heating fuel other than gas. This is particularly prevalent in rural local authorities, which have a much higher percentage of households with no mains gas connection. To take account of this issue, the domestic consumption information is presented per consumer, enabling comparisons between local authorities.

Table 5 shows average domestic gas and electricity consumption per consumer, for each local authority. During 2013, domestic gas consumption per consumer fell across all local authorities. The largest percentage decrease was seen in Flintshire (4.2 per cent), followed by Torfaen and Bridgend (both 4.0 per cent). Domestic electricity consumption per customer fell during 2013, for thirteen local authorities. The largest percentage decreases were in Ceredigion (5.1 per cent), Isle of Anglesey (5.0 per cent) and Gwynedd (4.6 per cent).

Eight local authorities had an increase in domestic electricity consumption per consumer during 2013. Although many of these increases were very small, they generally occurred in local authorities identified as having amongst the lowest deployment of renewable energy generation in Wales[1]. The largest increases in average domestic electricity consumption per consumer were in Blaenau Gwent (1.7 per cent) and Merthyr Tydfil (1.4 per cent), although Blaenau Gwent continued to have the lowest consumption per consumer (3,300 kWh) amongst all local authorities. These two local authorities contain the fewest onshore wind and solar photovoltaic (PV) sites.

[1] See research report entitled 'Low Carbon Energy Generation in Wales', published by Welsh Government in June 2014

Table 5 – Local authority average domestic gas and electricity consumption per consumer

Sales per consumer (kWh)

	Gas			Electricity		
	2012	2013	Percentage change (2012 to 2013)	2012	2013	Percentage change (2012 to 2013)
Isle of Anglesey	12,143	11,801	-2.8	4,708	4,472	-5.0
Gwynedd	11,903	11,714	-1.6	4,514	4,307	-4.6
Conwy	13,144	12,646	-3.8	3,909	3,783	-3.2
Denbighshire	13,048	12,589	-3.5	4,185	4,060	-3.0
Flintshire	13,415	12,856	-4.2	4,090	3,992	-2.4
Wrexham	12,972	12,620	-2.7	3,925	3,850	-1.9
Powys	13,038	12,597	-3.4	4,490	4,331	-3.5
Ceredigion	12,758	12,372	-3.0	5,066	4,810	-5.1
Pembrokeshire	12,359	11,918	-3.6	4,114	4,006	-2.6
Carmarthenshire	13,524	13,119	-3.0	3,851	3,815	-0.9
Swansea	13,562	13,128	-3.2	3,413	3,419	0.2
Neath Port Talbot	13,573	13,039	-3.9	3,358	3,368	0.3
Bridgend	13,836	13,283	-4.0	3,501	3,504	0.1
Vale of Glamorgan	13,860	13,432	-3.1	3,824	3,806	-0.5
Cardiff	13,209	12,769	-3.3	3,588	3,548	-1.1
Rhondda Cynon Taf	14,043	13,567	-3.4	3,325	3,341	0.5
Merthyr Tydfil	14,841	14,328	-3.5	3,294	3,341	1.4
Caerphilly	14,277	13,759	-3.6	3,442	3,484	1.2
Blaenau Gwent	14,850	14,299	-3.7	3,244	3,300	1.7
Torfaen	13,163	12,635	-4.0	3,409	3,416	0.2
Monmouthshire	13,984	13,558	-3.0	4,149	4,099	-1.2
Newport	12,933	12,603	-2.6	3,532	3,533	0.0
Wales	**13,484**	**13,029**	**-3.4**	**3,787**	**3,736**	**-1.3**

Source: Department of Energy & Climate Change (DECC)

Key Quality Information

1. Official Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political reference.

Users and Uses

2. Energy statistics are important for policy development and planning the delivery of public services. Some of the uses include:

   - Monitoring of progress towards renewable targets
   - Policy development
   - Advice to Ministers
   - Informing debate in the National Assembly for Wales and beyond
   - Geographic profiling, comparisons and benchmarking

   There is a variety of users of energy statistics including national and local government, energy suppliers, researchers, students, individual citizens and those with an interest in energy costs and environmental concerns.

3. The Programme for Government 2011-2016, which is the current government programme, outlines the Welsh Government's commitment to creating a sustainable, low-carbon economy as well as living within environmental limits and acting on climate change. As such, there are both outcome and tracking indicators within the Programme for Government, looking at the amount and percentage of electricity generated from renewable sources.

Electricity data

4. The electricity industry itself is a key user of electricity data, including the National Grid and the electricity generators, distributors and suppliers.

5. Central and regional government, academics, consultants, policy groups, the media, overseas energy institutions, and the general public are all users of the electricity data.

Renewables

6. The growing importance of renewable energy makes gathering such statistics an even more important activity than in the past. They provide a means of monitoring progress against the UK target of achieving 15 per cent of energy from renewable sources by 2020, and give an indication of how Wales is helping the UK achieve this target.

Data Quality

7. The 2005 consumption data, which are classed as National Statistics, should ideally be used as the baseline when making historical comparisons of the electricity and/or gas data. Data from 2005 onwards are significantly more robust than earlier data, reflecting the improvement in the quality of the postcode address file from Gemserv for the electricity data for that year.

8. In tables where figures have been rounded, the sum of the individual figures may not equal the total shown.

9. Percentage values reported in the text are rounded to the nearest whole integer, except when quoting values presented in a table to one decimal place.

Data Source and Coverage

10. All data in this report were obtained from and are publicly available on the DECC website: https://www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics. However, further detail on how DECC collect this information can be found below.

Electricity:

11. Each year, three main electricity surveys are carried out: a detailed survey of the major power producers (MPPs); a survey of the major suppliers; and a less detailed survey of electricity distributors. These are supplemented with additional data from the electricity autogenerators survey, the National Grid, Iron and Steel Statistics Bureau, AEA Technology, as well as internal analysis. The annual statistics are published one year in arrears (t-1), but revisions are typically carried out to the previous two years (t-2 and t-3), where revised data has been received. Further detail can be found on the DECC website: https://www.gov.uk/government/publications/electricity-statistics-data-sources-and-methodologies

Renewables:

12. RESTATS, the UK's Renewable Energy Statistics database, is a project that has been running for more than 20 years and over this period has become the primary source of accurate, up-to-date statistics of UK renewable energy sources. These cover active solar heating, solar photovoltaics, onshore and offshore wind power, wave power, large- and small-scale hydro, biofuels (biomass and biowastes, including co-firing) and geothermal aquifers. Data are gathered on project details (where known), technology type, installed capacity, generation (electricity and/or heat), fuel-type and biofuels for transport.

13. Data on the performance of renewable energy schemes in the UK are collected from a number of sources and are used to update a database of renewables schemes (known as the "RESTATS Database"), maintained by AEA technology plc on behalf of DECC. The main sources and details on how the data is collected and collated can be found in the following document: https://www.gov.uk/government/publications/renewable-energy-statistics-data-sources-and-methodologies

Consumption:

14. In 2005 Xoserve agreed with DECC to take on the responsibility for producing annualised gas consumption estimates for all MPRNs (meter point reference numbers or gas meters), subject to permissions being provided by the four major gas transporters in Great Britain- National Grid, Scotia, Wales and West Utilities and Northern Gas Networks. Xoserve provide annualised estimates of consumption for all the MPRNs, based on an Annual Quantity (AQ). An AQ is an estimate of an annualised consumption using consumption recorded between two meter readings at least six months apart. The estimate is then adjusted to reflect a 17 year weather correction factor. The AQ for each MPRN represents consumption relating to the gas year, the period covering 1 October through to the following 30 September, rather than the calendar year. The purpose of temperature correction is to help users better understand underlying trends in energy consumption, which can be affected by fluctuations in temperature. Changes in the series from one year to the next do not then reflect changes in temperature.

15. The electricity consumption data are collected by obtaining the full co-operation of the electricity industry. Annualised consumption data are generated by the data aggregators, agents of the electricity suppliers, who collate/aggregate electricity consumption levels for each customer meter or MPAN (meter point administration number).

16. The DECC statistics do not cover all the gas and electricity consumption within the UK.

17. More details relating to collection, coverage and quality of regional consumption statistics can be found in the following document 'Guidance Note for Regional Energy Data': https://www.gov.uk/government/publications/regional-energy-data-guidance-note

18. Electricity generation statistics are available from 2004 as National Statistics, whereas energy consumption statistics are available from 2005 as National Statistics.

Calculations

19. Average domestic consumption per consumer is calculated by dividing total domestic consumption by the total number of meters, which does not equate exactly to the total number of dwellings in Wales as not all dwellings are on the grid. For example, the number of dwellings in 2011-12 was 1.38 million; and there were 1.37 million electricity meters and 1.10 million gas meters

Symbols

20. The following symbols may have been used in this release:
    . = not applicable
    .. = not available
    ~ = not yet available
    * = disclosive or not sufficiently robust for publication
    p = provisional
    r = revised

Comparability

21. The aggregate and average electricity consumption data are more reliable for the domestic sector than for the industrial and commercial sector, as the postal address information held on the Gemserv postcode address file is more complete for the former (i.e. domestic meters are more likely to have full and valid postcodes rather than incomplete, invalid or partial postcodes). However, more recently the quality of the industrial and commercial Gemserv data has improved at a faster rate than the domestic data, inevitably leading to more variability in the annual consumption estimates for the industrial and commercial sector.

22. The energy generation and consumption data presented in this bulletin are considered fully comparable at level A*, across the UK nations. Figures for the UK nations are collected, produced and available for all four nations separately, from the same producer.

Revisions

23. Where there are revisions, revised data will be marked with an (r). Revisions will usually reflect the receipt of validated amendments from the data suppliers. Further information on revisions can be found in the DECC Energy Revision Policy, available at: https://www.gov.uk/government/statistics/energy-statistics-revisions-policy

24. We follow the Welsh Government's statistical revisions policy, details of which are available at: http://wales.gov.uk/statistics-and-research/about/statement-of-compliance/revisions-errors-postponements/?lang=en

Coherence with Other Statistics

25. The Programme for Government 2011-2016, which is the current government programme, outlines the Welsh Government commitment to 'Living within environmental limits and acting on climate change'. A number of indicators have been established to assist in measuring the progress made in achieving this commitment, including 'Percentage of electricity generated from renewable sources' and 'Amount of electricity produced that is generated from renewable sources'. The latest published

data for this indicator covers 2013 and is available at the following link: http://wales.gov.uk/about/programmeforgov/environment/performance?lang=en

Related Statistics for Other UK Countries

26. More information on energy statistics for England, Scotland, Northern Ireland and the UK as a whole is available on the DECC website: https://www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics
27. More information on energy statistics for Scotland is available on the Scottish Government website: http://www.scotland.gov.uk/Topics/Statistics/Browse/Business/Energy
28. More information on energy statistics for Northern Ireland is available on the Department of Enterprise, Trade and Investment website: http://www.detini.gov.uk/index/what-we-do/deti-stats-index/energy_statistics.htm
29. More information on energy statistics for the European Union is available on the Eurostat website: http://ec.europa.eu/eurostat/web/energy
30. More information on energy statistics for the rest of the world is available on the United Nations Statistical Directorate website: http://unstats.un.org/unsd/energy/default.htm.

Glossary

Bioenergy
Renewable energy made from material of recent biological origin, derived from plant or animal matter, known as biomass.

Biomass
Renewable organic materials, such as wood, agricultural crops or wastes, and municipal wastes. Biomass can be burned directly or processed into biofuels, such as ethanol and methane

Consumption
The amount of energy consumed in Wales, and the rest of the UK.

Generation
The process of generating energy from various sources of natural fuel, such as gas, coal and oil. Most energy is generated from these sources as electric power.

Gigawatt-hour (GWh)
Quantity of energy consumed or produced in one hour; 1 GWh = 1,000,000 kWh.

Hydro
Electricity generated by hydro-power; the generation of electrical power through the use of the gravitational force of falling or flowing water.

Kilowatt-hour (kWh)
Quantity of energy consumed or produced in one hour; 1 kWh = 1000 watt hours (Wh).

Major Power Producers (MPPs)
Major Power Producers (MPPs) are those companies whose prime purpose is the generation of electricity.

Natural gas
Methane-rich gas burned to drive turbines for electricity generation.

Nuclear
Electricity generated from the heat produced from the nuclear fission of uranium.

Other generators
The term 'other generators' refers to companies who produce electricity as part of their industrial or commercial activities, but whose main business is not electricity generation. The majority of electricity produced by these schemes is consumed on the site, but some producers also transfer electricity to the public supply system. A number of renewable electricity generators (e.g. small wind farms) are also included under the term 'other generators', due to their comparatively small size. Less than 11 per cent of the UK's electricity is generated by 'other generators'.

Renewable energy sources
Renewable energy includes solar power, wind, wave and tide, and hydro-electricity. Solid renewable energy sources consist of wood, straw, short rotation coppice, other biomass and the biodegradable fraction of wastes. Gaseous renewables consist of landfill gas and sewage gas.

Thermal renewables
This includes energy produced from landfill gas and other bioenergy, including bioenergy sources co-fired with fossil fuels.

Wind
Electricity produced from natural wind flows over turbines.

Further information

Further information is available from the Energy statistics pages of the web site:
http://wales.gov.uk/statistics-and-research/?topic=Environment+and+countryside&lang=en#/statistics-and-research/?topics=Environment+and+countryside&subtopics=Energy&view=Search+results&lang=en

Welsh Government – research report 'Low Carbon Energy Generation in Wales':
http://wales.gov.uk/docs/desh/publications/140605low-carbon-baseline-survey-en.pdf

Department of Energy and Climate Change – Energy Statistics:
https://www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics

Energy Wales: A low Carbon Transition.
http://wales.gov.uk/topics/environmentcountryside/energy/energywales/?lang=en

'Programme for Government 2011-2016' - current government strategy:
http://wales.gov.uk/about/programmeforgov/?lang=en

Welsh Government - Energy efficiency
http://wales.gov.uk/topics/environmentcountryside/energy/efficiency/?lang=en

Meteorological Office
http://www.metoffice.gov.uk/weather/uk/

We actively encourage feedback from our users. If you have comments on any issues relating to this statistical bulletin please complete our feedback form
https://secure.wales.gov.uk/topics/statistics/contacts/?lang=en

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