

# Chapter 1

## Energy

### Key points

- In 2010 UK energy production was down 5.3 per cent on a year earlier, in line with the general trend seen over the last decade. Oil and gas accounted for 80 per cent of UK production (Tables 1.1 and 1.2).
- Primary energy consumption was up 3.2 per cent. Final energy consumption rose by 4.4 per cent with more energy used for heating (more details are available in Energy Consumption in the UK [www.decc.gov.uk/en/content/cms/statistics/publications/ecuk/ecuk.aspx](http://www.decc.gov.uk/en/content/cms/statistics/publications/ecuk/ecuk.aspx)).
- On a temperature adjusted basis, primary energy consumption was down 0.4 per cent continuing the downward trend of the last five years. In 2010 the average UK temperature was 9.0 degrees Celsius, 1.1 degrees lower than in 2009, and 0.7 degrees lower than the average temperature between 1971 and 2000 (Table 1.1.7).
- The UK remained a net importer of energy, with a dependency level of 28 per cent. Fossil fuels remain the dominant source, accounting for 90 per cent of supply. Supply from renewables increased, with its contribution accounting for 3.3 per cent of consumption on the EU agreed basis (see chapter 7).
- In 2010 there were large increases in imports of LNG (liquefied natural gas), and reduced nuclear output due to outages, more details are available in chapters 4 and 5 respectively.

### Introduction

1.1 This chapter presents figures on overall energy production and consumption. Figures showing the flow of energy from production, transformation and energy industry use through to final consumption are presented in the format of an energy balance based on the individual commodity balances presented in Chapters 2 to 5 and 7.

1.2 The chapter begins with aggregate energy balances covering the last three years (Tables 1.1 to 1.3) starting with the latest year, 2010. Energy value balances then follow this for the same years (Tables 1.4 to 1.6) and Table 1.7 shows sales of electricity and gas by sector in value terms. Table 1.8 covers final energy consumption by the main industrial sectors over the last five years, followed by Table 1.9, which shows the fuels used for electricity generation by these industrial sectors. The explanation of the principles behind the energy balance and commodity balance presentations, and how this links with the figures presented in other chapters, is set out in Annex A. Information on long term trends (Tables 1.1.1 to 1.1.8) for production, consumption, and expenditure on energy, as well as long term temperature data and analyses such as the relationship between energy consumption and the economy of the UK are available on DECC's energy statistics web site at: [www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx](http://www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx)

### Calorific values when producing energy statistics

1.3 In this publication Gross Calorific Values (GCVs) are used to convert fuel from their original units to tonnes of oil equivalent (toe). An alternative is to use Net Calorific Values (NCVs) as detailed in paragraph XVII of the introduction. The fuel specific NCVs are shown at Annex A. However, as the EU renewables target is calculated on data converted using net calorific values, aggregate energy balances for the most recent years have been calculated using NCVs; these are used in table 7.7, and are available on the internet version, Annex I, of this publication at: [www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx](http://www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx).

## The energy industries

1.4 The energy industries in the UK play a central role in the economy by producing, transforming and supplying energy in its various forms to all sectors. They are also major contributors to the UK's Balance of Payments through the exports of crude oil and oil products. The box below summarises the energy industries' contribution to the economy in 2010:

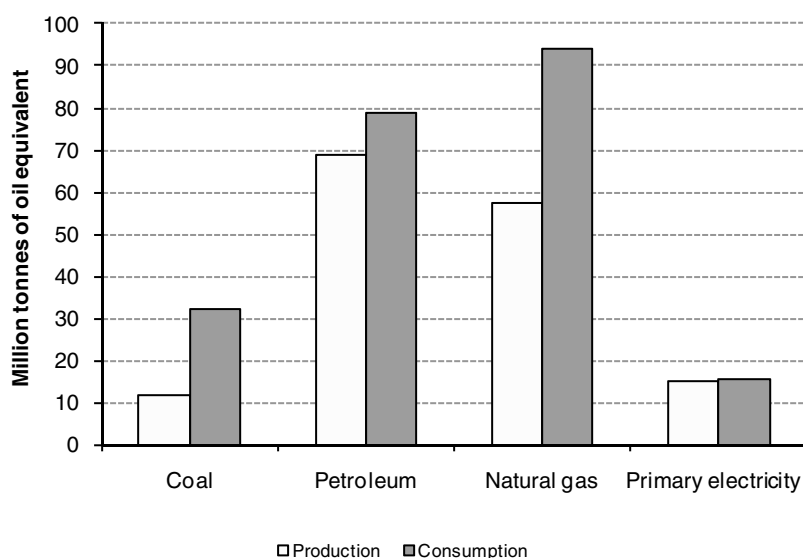
- 3.9 per cent of GDP;
- 9.9 per cent of total investment;
- 51.8 per cent of industrial investment;
- 173,000 people directly employed (7 per cent of industrial employment);
- Many others indirectly employed (eg an estimated 207,000 in support of UK Continental Shelf activities).

## Aggregate energy balance (Tables 1.1, 1.2 and 1.3)

1.5 These tables show the flows of energy in the United Kingdom from production to final consumption through conversion into secondary fuels such as coke, petroleum products, secondary electricity and heat sold. The figures are presented on an energy supplied basis, in tonnes of oil equivalent (toe), a unit of energy where 1 toe = 41.868 GJ, see also paragraph 1.26.

1.6 In 2010, the primary supply of fuels was 227.7 million tonnes of oil equivalent, a 3.4 per cent increase compared to 2009. Indigenous production in 2010 was 5.3 per cent lower than in 2009, with output falling in each year since 1999. Chart 1.1 illustrates the figures for the production and consumption of individual primary fuels in 2010. In 2010, aggregate primary fuel consumption was not met by indigenous production; this continues the trend since 2004 when the UK became a net importer of fuel. However, as explained in subsequent chapters, the UK has traded fuels such as oil and gas regardless of whether it has been a net exporter or importer. In 2010 the UK imported more coal, crude oil, electricity and gas than it exported; however, the UK remained a net exporter of petroleum products. There was particularly large growth in gas imports in 2010, particularly of Liquefied Natural Gas (LNG), following the expansion of import facilities in 2009, and an increase in gas exports.

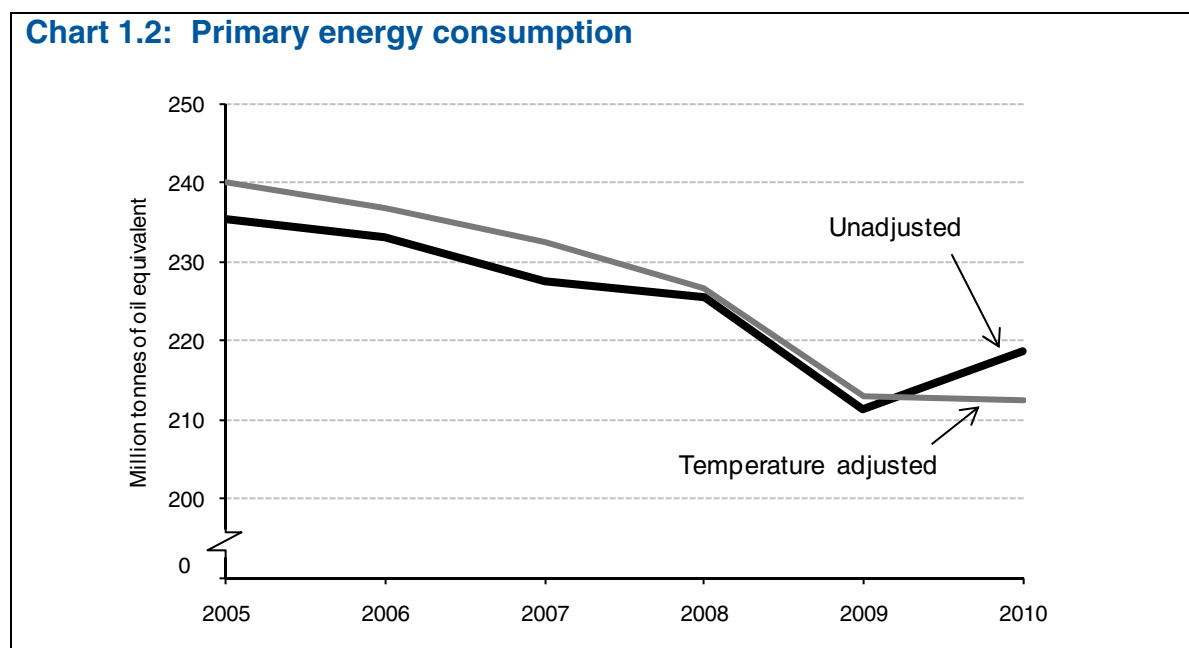
**Chart 1.1: Production and consumption of primary fuels 2010**



*Note: Includes non-energy use of petroleum and gas. Differences between consumption and production are made up by foreign trade, marine bunkers and stock changes.*

1.7 Total primary energy demand was 3.2 per cent higher in 2010 than in 2009 at 227.5 million tonnes of oil equivalent. The very small difference between demand and supply is classed as the statistical difference, which is explained in paragraph 1.62. The increase in demand, follows falls in each of the previous four years. This rise was due to the colder weather in 2010, with the average annual temperature in 2010 of 9.0 degrees being 1.1 degree colder than in 2009, and the coldest annual average since 1987. The winter months were particularly cold, with the average temperatures in January – March and October – December 2010 down 2.3 degrees per day on 2009 levels. On a temperature corrected basis, primary energy consumption (primary demand less non-energy use) was estimated to have fallen by 0.4 per cent. A table showing temperature corrected demand is shown in table 1.1.4 in the internet annex on long term trends, with chart 1.2 shown below. Chart 1.3 shows the composition of primary demand in 2010.

**Chart 1.2: Primary energy consumption**



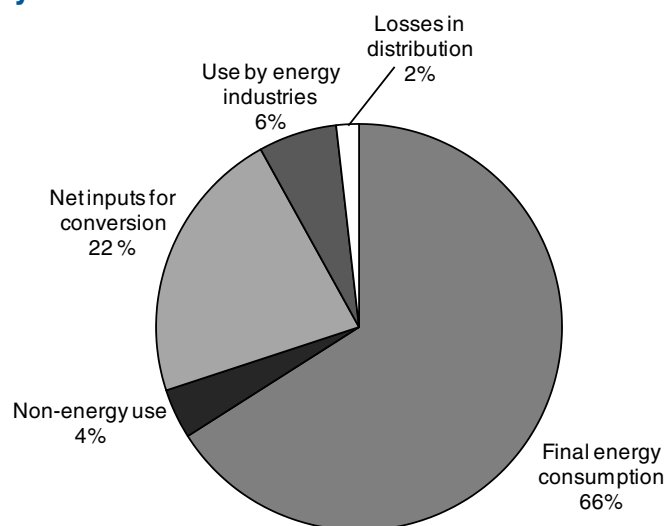
1.8 The transfers row in Tables 1.1 to 1.3 should ideally sum to zero with transfers from primary oils to petroleum products amounting to a net figure of zero. Similarly the manufactured gases and natural gas transfers should sum to zero. However differences in calorific values between the transferred fuels can result in non-zero values.

1.9 The transformation section of the energy balance shows, for each fuel, the net inputs for transformation uses. For example, Table 1.1 shows that 4,124 thousand tonnes of oil equivalent of coal feeds into the production of 3,764 thousand tonnes of oil equivalent of coke, representing a loss of 360 thousand tonnes of oil equivalent in the manufacture of coke in 2010. In 2010, energy losses during the production of electricity and other secondary fuels amounted to just over 50 million tonnes of oil equivalent, shown in the transformation row in Table 1.1.

1.10 In 2010, generation by gas and coal plants both increased, making up for the decline in nuclear production. Generation from coal-fired stations was 3.5 per cent higher in 2010 than in 2009, but was down nearly 30 per cent on levels in 2006. Generation from gas in 2010, was also 3.5 per cent up in 2010, and was just 1.3 per cent below its 2008 peak levels. Generation from nuclear sources decreased by 8.4 per cent due to maintenance outages at several stations. Generation from wind increased marginally despite low average wind speeds, reflecting capacity increases, though hydro output was down sharply due to the low rainfall in 2010.

1.11 The switch from nuclear to more gas and coal fired electricity generation contributed to the increase in carbon dioxide emissions between 2009 and 2010. Provisional DECC estimates suggest that emissions rose by 18 million tonnes of carbon dioxide (MtCO<sub>2</sub>) (3.8 per cent) to 492 MtCO<sub>2</sub> between 2009 and 2010. The main factor contributing to the rise was increased domestic gas use reflecting the colder weather in 2010. More details of carbon dioxide emissions are available in a press notice, published in March, which is available on the DECC website at: [www.decc.gov.uk/en/content/cms/statistics/climate\\_stats/gg\\_emissions/uk\\_emissions/2010\\_prov/2010\\_prov.aspx](http://www.decc.gov.uk/en/content/cms/statistics/climate_stats/gg_emissions/uk_emissions/2010_prov/2010_prov.aspx)

**Chart 1.3: Primary demand 2010**



**Primary demand: 227.5 million tonnes of oil equivalent**

1.12 The energy industry use section of the table represents use of fuels by the energy industries themselves. This section also includes consumption by those parts of the iron and steel industry which behave like an energy industry i.e. they are involved in the transformation processes (see paragraph A.29 of Annex A). In 2010, energy industry use amounted to 14.2 million tonnes of oil equivalent of energy, broadly unchanged on 2009 levels.

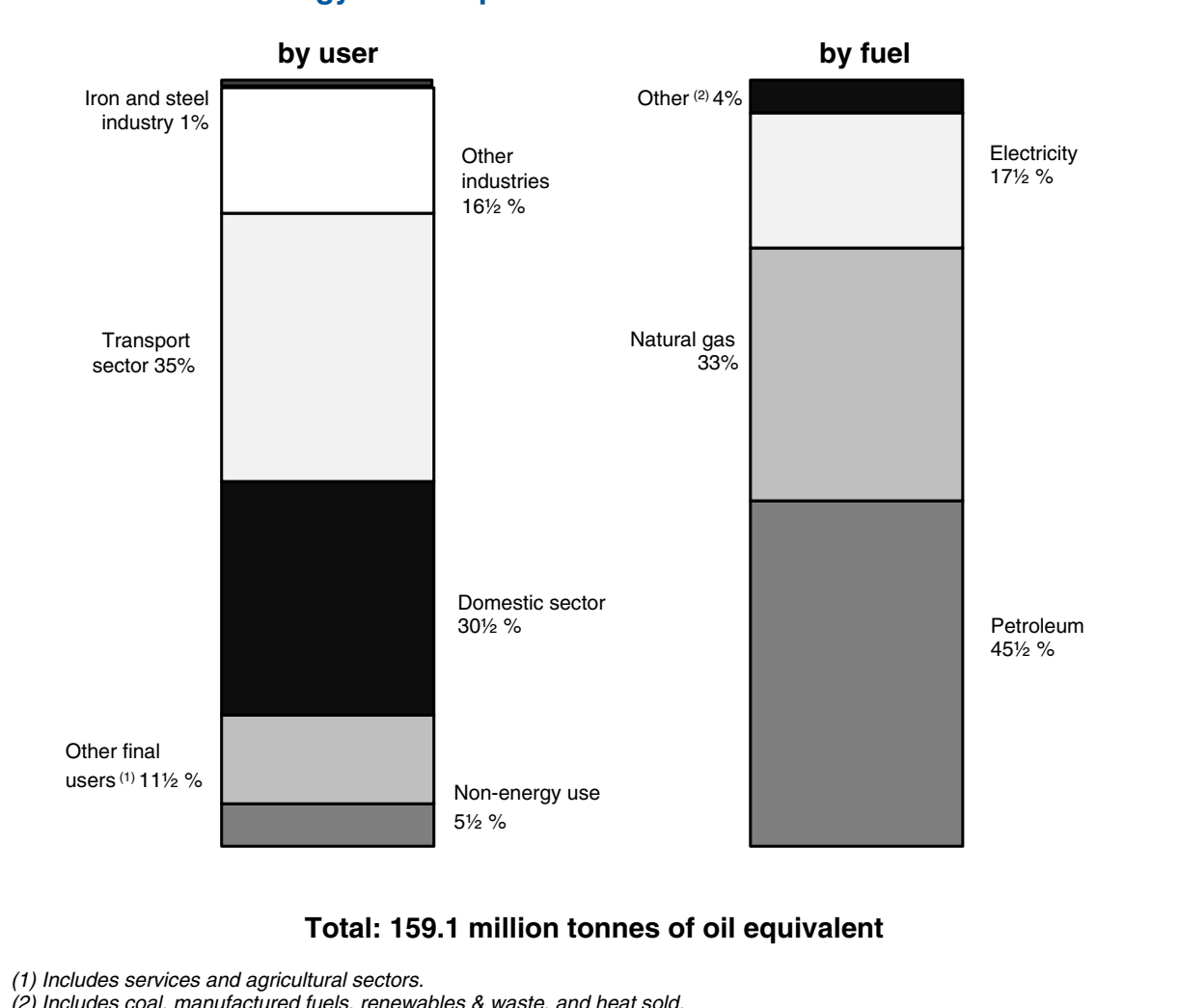
1.13 Losses presented in the energy balance include distribution and transmission losses in the supply of manufactured gases, natural gas, and electricity. Recorded losses increased by 7.9 per cent between 2009 and 2010, driven by an increase in gas losses; this is currently being investigated. Losses in North Sea gas production are no longer separately identified in the simplified Petroleum Product Reporting System, which was introduced in January 2001. This has improved the quality of production data and reduced reported losses. Further details can be found in paragraphs 4.58 in Chapter 4.

1.14 Total final consumption, which includes non-energy use of fuels, in 2010 was 159.1 million tonnes of oil equivalent; this is a 6.8 million tonnes of oil equivalent increase, 4.4 per cent, on the consumption in 2009. The majority of this increase was from the domestic sector, where consumption increased by 12.6 per cent. This sharp rise in consumption was due to the colder weather in 2010, with temperatures on average 1.1 degree Celsius below those of 2009; 2010 was the coldest year since 1987. Final energy consumption in 2010 was mainly accounted for by the transport sector (35.0 per cent), the domestic sector (30.5 per cent), the industrial sector (17.3 per cent), the commercial sector (6.2 per cent) and non-energy use (5.7 per cent). These figures are illustrated in Chart 1.4. Recent trends in industrial consumption are shown in Table 1.8 and are discussed in paragraphs 1.24 to 1.26.

1.15 The main fuels used by final consumers in 2010 were petroleum products (45.3 per cent), natural gas (32.9 per cent) and electricity (17.7 per cent). The amount of heat that was bought for final consumption accounted for 0.8 per cent of the total final energy consumption.

1.16 Of the petroleum products consumed by final users 11.5 per cent was for non-energy purposes; for natural gas 1.4 per cent was consumed for non-energy purposes. Non-energy use of fuels includes use as chemical feedstocks and other uses such as lubricants. Non-energy use of fuels for 2010 are shown in Table 1A. Further details of non-energy use are given in Chapter 3, paragraph 3.40 and Chapter 4, paragraph 4.50.

**Chart 1.4: Final energy consumption 2010**



**Table 1A: Non-energy use of fuels 2010**

	Thousand tonnes of oil equivalent	
	Petroleum	Natural gas
Petrochemical feedstocks	4,769	731
Other	3,527	-
<b>Total</b>	<b>8,296</b>	<b>731</b>

1.17 The data in the energy balances (Table 1.1), can be viewed in a number of ways, with a number of other statistics derived to produce different descriptions of the UK energy market. Recently greater focus has been given to looking at import dependency and also on fossil fuel dependency. Import dependency is calculated by looking at net imports divided by adjusted primary demand (Table 1B). Net imports is simply imports less exports. This amount is then normally considered as its share of energy demand, however, as energy supplied to marine bunkers may have been imported, this amount is added to the demand figure.

**Table 1B: Net import dependency 2008 to 2010**

	Thousand tonnes of oil equivalent		
	2008	2009	2010
Net imports	62,376	59,464	65,451
Primary energy demand + bunkers	237,899	223,045	229,775
<b>Net import dependency</b>	<b>26.2%</b>	<b>26.7%</b>	<b>28.5%</b>

1.18 The energy used in the UK can also be classified by whether its source was from fossil fuels, low-carbon sources or other (Table 1C). The main fossil fuel sources in the UK are coal, gas and oil. The low carbon sources include nuclear and renewables such as wind; hydro; and biofuels. The largest component of this series is currently nuclear; the share of nuclear fell from 7.2 per cent to 6.4 per cent, masking the increase in shares from renewables. The other category, shown for completeness includes net imports of electricity, as imports and exports could come from either of the previous categories, and non-biodegradable wastes. Headline data, taken from Table 7.7 later in this publication, show that renewables had a 3.3 per cent share of energy consumption in 2010. There are a range of measures of renewables contribution to energy and these are discussed in more detail in Chapter 7.

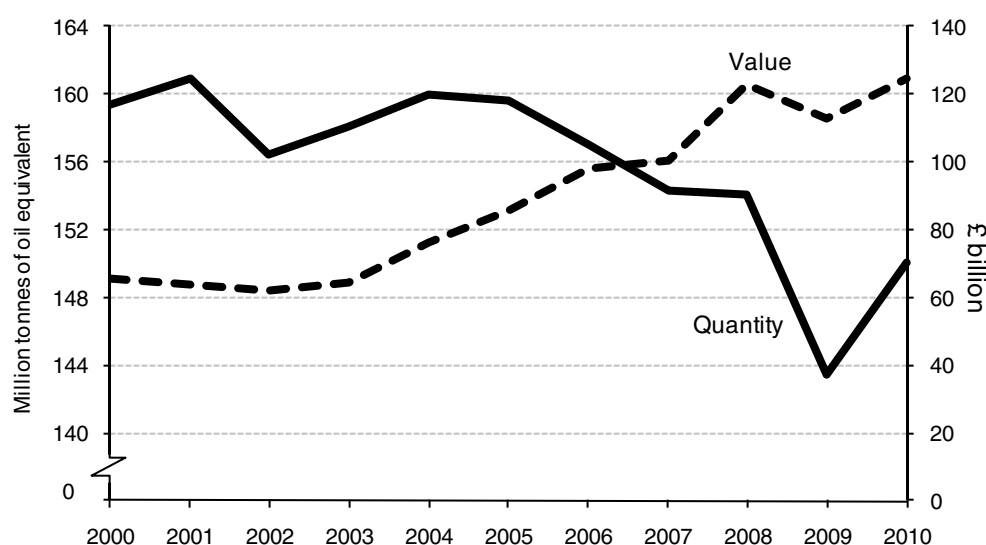
**Table 1C: Fossil fuel and low carbon dependencies 2008 to 2010**

	Per cent		
	2008	2009	2010
Fossil fuel	91.4%	89.2%	89.8%
Low-carbon	8.0%	10.5%	9.9%
Other	0.6%	0.4%	0.3%

### Value balance of traded energy (Tables 1.4, 1.5 and 1.6)

1.19 Tables 1.4 to 1.6 present the value of traded energy in a similar format to the energy balances. The balance shows how the value of inland energy supply is made up from the value of indigenous production, trade, tax and margins (profit and distribution costs). The lower half of the table shows how this value is generated from the final expenditure on energy through transformation processes and other energy sector users as well as from the industrial and domestic sectors. The balances only contain values of energy which are traded, ie where a transparent market price is applicable. Further technical notes are given in paragraphs 1.28 to 1.62. In keeping with the energy balances, the value balances, since 2000, have included data on heat generation and heat sold. Additionally, an estimate of the amount of Climate Change Levy paid is included in Tables 1.4, 1.5 and 1.6. This levy was introduced in April 2001 and is payable by non-domestic final consumers of gas, electricity, coal, coke and LPG.

**Chart 1.5: Energy consumption and estimated expenditure on energy by final users**



1.20 Total expenditure by final consumers in 2010 is estimated at £124,930 million, (£124,165 million shown as actual final consumption and £765 million of coal consumed by the iron and steel sector in producing coke for their own consumption). This is up by 10.6 per cent on 2009, reflecting a steady increase in energy prices. In 2010, crude oil prices averaged around \$80 per barrel, compared to an average price of just over \$60 per barrel in 2009. Chart 1.5 shows energy consumption and expenditure by final users.

1.21 The value balance provides a guide on how the value chain works in the production and consumption of energy. For example, in 2010, £23,110 million of crude oil was indigenously produced, of which £14,930 million was exported, and £19,680 million of crude oil was imported. Allowing for stock changes, this provides a total value of UK inland crude oil supply of £27,920 million. This fuel was then completely consumed within the petroleum industry in the process of producing £38,500 million of petroleum products. Again some external trade and stock changes took place before arriving at a basic value of petroleum products of £35,280 million. In supplying the fuel to final consumers distribution costs were incurred and some profit was made amounting to £2,625 million, whilst duty and tax meant a further £37,765 million was added to the basic price to arrive at the final market value of £75,675 million. This was the value of petroleum products purchased, of which industry purchased £2,445 million, domestic consumers for heating purposes purchased £1,730 million, with the vast majority purchased within the transportation sector, £67,680 million.

1.22 Of the total final expenditure on energy in 2010 (£124,930 million), the biggest share, 56 per cent, fell to the transport sector. Of the remaining 44 per cent, industry purchased around a quarter or £13,720 million, with the domestic sector purchasing around a half or £30,575 million.

### Sales of electricity and gas by sector (Table 1.7)

1.23 Table 1.7 shows broad estimates for the total value of electricity and gas to final consumption. Net selling values provide some indication of typical prices paid in broad sectors and can be of use to supplement more detailed and accurate information contained in the rest of this chapter. More detailed information on energy prices is available in Quarterly Energy Prices, available on DECC's energy statistics web site at: [www.decc.gov.uk/en/content/cms/statistics/publications/prices/prices.aspx](http://www.decc.gov.uk/en/content/cms/statistics/publications/prices/prices.aspx)

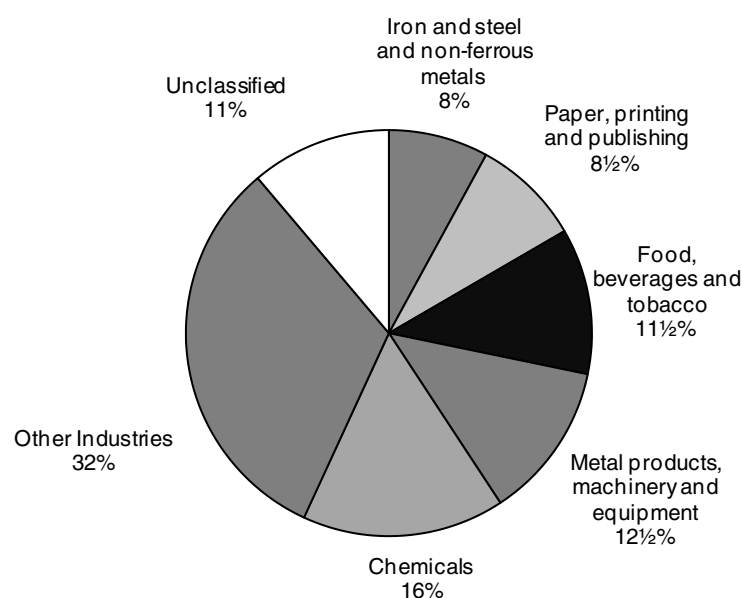
## Energy consumption by main industrial groups (Table 1.8)

1.24 This table presents final energy consumption for the main industrial sub-sectors over the last five years.

1.25 So far as is practicable, the user categories have been regrouped this year on the basis of the 2007 Standard Industrial Classification (see paragraphs 1.56 to 1.60). However, some data suppliers have difficulty in classifying consumers to this level of detail and the breakdown presented in these tables must therefore be treated with caution. The groupings used are consistent with those used in Table 1.9 which shows industrial sectors' use of fuels for generation of electricity (autogeneration).

1.26 In 2010, 27.5 million tonnes of oil equivalent were consumed by the main industrial groups. The largest consuming groups were chemicals (16.1 per cent), metal products, machinery and equipment (12.5 per cent), food, beverages and tobacco (11.6 per cent), iron and steel and non-ferrous metals (8.0 per cent), and paper, printing and publishing (8.7 per cent). The figures are illustrated in Chart 1.6. The large other industries sector includes mineral products (10.3 per cent) as well as a number of the smaller energy consuming sectors.

**Chart 1.6: Energy consumption by main industrial groups 2010**



**Total final energy consumption by industry  
27.5 million tonnes of oil equivalent**

## Fuels consumed for electricity generation by main industrial groups (autogeneration) (Table 1.9)

1.27 This table gives details of the amount of each fuel consumed by industries in order to generate electricity for their own use. Fuel consumption is consistent with the figures given for "other generators" in Table 5.4 of Chapter 5. The term autogeneration is explained further in paragraphs 1.33 and 1.34. Electricity produced via autogeneration is included within the figures for electricity consumed by industrial sectors in Table 1.8. Table 1.9 has been produced using the information currently available and shows the same sector detail as Table 1.8, data cannot be given in as much detail as in the individual commodity balances and the energy balance because it could disclose information about individual companies. Table 1.9 allows users to allocate the fuel used for autogeneration to individual industry groups in place of the electricity consumed. Further information on the way Table 1.9 links with the other tables is given in paragraph 1.34.



## Technical notes and definitions

### I Units and measurement of energy

#### Units of measurement

1.28 The original units of measurement appropriate to each fuel are used in the individual fuel chapters. A common unit of measurement, the tonne of oil equivalent (toe), which enables different fuels to be compared and aggregated, is used in Chapter 1. In common with the International Energy Agency and with the Statistical Office of the European Communities, the tonne of oil equivalent is defined as follows:

1 tonne of oil equivalent	= $10^7$ kilocalories
	= 396.83 therms
	= 41.868 Gigajoules (GJ)
	= 11,630 Kilowatt hours (kWh)

1.29 This unit should be regarded as a measure of energy content rather than a physical quantity. One tonne of oil is not equal to one tonne of oil equivalent.

#### Thermal content - energy supplied basis of measurement

1.30 Tables 1.1 to 1.3, 1.8 and 1.1.1 to 1.1.5 (available on DECC's energy statistics site at [www.decc.gov.uk/en/content/cms/statistics/source/total/total.aspx](http://www.decc.gov.uk/en/content/cms/statistics/source/total/total.aspx)) are compiled on an energy-supplied basis. Detailed data for individual fuels are converted from original units to tonnes of oil equivalent using gross calorific values and conversion factors appropriate to each category of fuel. The results are then aggregated according to the categories used in the tables. Gross calorific values represent the total energy content of the fuel, including the energy needed to evaporate the water present in the fuel (see also paragraph 1.52).

1.31 Estimated gross and net calorific values for 2010 are given on page 231. Calorific values are reviewed each year in collaboration with the fuel industries, and figures for earlier years can be found in Table A.2 and A.3 on pages 232 and 233. This year, some revisions have been made to the net calorific values for certain waste and biofuels. To construct energy balances on an energy supplied basis calorific values are required for production, trade, and stocks, as follows:

**Coal** The weighted average gross calorific value of all indigenous coal consumed is used to derive the thermal content of coal production and undistributed stocks. Thermal contents of imports and exports allow for the quality of coal. Thermal contents of changes in coal stocks at secondary fuel producers are the average calorific values of indigenous coal consumed.

**Petroleum** Work carried out in 1997 to revise calorific values for petroleum products did not find any recent work on the subject. In the absence of such work, the gross calorific values, included in Annex A, and used in the construction of these energy balances from 1990 onwards have been calculated using a formula derived by the US Bureau of Standards. This formula estimates the gross calorific value of products according to their density as follows:

$Gj = 51.83 - 8.78 \times d^2$ , where  $d$  is the density of the product in terms of kilograms per litre.

For crude petroleum and refinery losses, the weighted average calorific value for all petroleum products from UK refineries is used. A notional figure of 42.9 GJ per tonne is used for non-energy petroleum products (industrial and white spirits, lubricants, bitumen, petroleum coke, waxes and miscellaneous products).

**Gases** Although the original unit for gases is the cubic metre, figures for gases are generally presented in the fuel sections of this Digest in gigawatt hours (GWh), having been converted from cubic metres using gross calorific values provided by the industries concerned. Conversion factors between units of energy are given on the flap inside the back cover and on page 229.

**Electricity and heat** Unlike other fuels, the original unit used to measure electricity and heat is a measure of energy. The figures for electricity and heat can therefore be converted directly to toe using the conversion factors on the flap inside the back cover and on page 229.

**Primary electricity** Hydro electricity and net imports of electricity are presented in terms of the energy content of the electricity produced (the energy supplied basis). This is consistent with international practice. Primary inputs for nuclear electricity assume the thermal efficiencies at nuclear stations given in Chapter 5, Table 5.10 (38.3 per cent in 2010). (See Chapter 5, paragraphs 5.74 and 5.81).

### **Non-energy uses of fuel**

1.32 Energy use of fuel mainly comprises use for lighting, heating, motive power and power for appliances. Non-energy use includes use as chemical feedstocks, solvents, lubricants and road making material. It should be noted that the amounts of non-energy use of natural gas included in the Digest are approximate. Further discussion of non-energy uses of lubricating oils and petroleum coke appears in Chapter 3, paragraph 3.40.

### **Autogeneration of electricity**

1.33 Autogeneration is defined as the generation of electricity by companies whose main business is not electricity generation, the electricity being produced mainly for that company's own use. Estimated amounts of fuel used for thermal generation of electricity by such companies, the output of electricity and the thermal losses incurred in generation are included within the Transformation sector in the energy balances shown in Tables 1.1 to 1.3. Electricity used in the power generation process by autogenerators is shown within the Energy Industry Use section. Electricity consumed by industry and commerce from its own generation is included as part of Final consumption. This treatment is in line with the practice in international energy statistics.

1.34 Figures on total amount of fuel used and electricity generated by autogenerators, and the amount of electricity for own consumption is shown in Tables 1.9, 5.1, 5.3 to 5.6. Table 1.9 summarises the figures by broad industrial groups. Much of the power generated is from combined heat and power (CHP) plants and data from Chapter 6 are included within Table 1.9. Differences will occur where CHP plants are classified to major power producers, and this mainly affects the chemicals sector. The method of allocating fuel used in CHP plants between electricity production and heat production is described in Chapter 6 paragraphs 6.35 to 6.37. This method can give rise to high implied conversion efficiencies in some sectors, most notably in the iron and steel sector.

### **Final consumption, deliveries, stock changes**

1.35 Figures for final consumption relate to deliveries, if fuels can be stored by users and data on actual consumption are not available. Final consumption of petroleum and solid fuels is on a deliveries basis throughout, except for the use of solid fuels by the iron and steel industry. Figures for domestic use of coal are based on deliveries to merchants. Figures for stock changes in Tables 1.1 to 1.3 cover stocks held by primary and secondary fuel producers, major distributors of petroleum products, and stocks of coke and breeze held by the iron and steel industry; for coal they also include an estimate of volumes in transit. Figures for stock changes in natural gas represent the net amount put into storage by gas companies operating pipelines.

1.36 Figures for final consumption of electricity include sales by the public distribution system and consumption of electricity produced by generators other than the major electricity producing companies. Thus electricity consumption includes that produced by industry and figures for deliveries of other fuels to industry exclude amounts used to generate electricity (except for years prior to 1987, shown in tables giving long term trends).

### **Heat sold**

1.37 Heat sold is defined as heat that is produced and sold under the provision of a contract. The heat sold figures have been derived from two sources covering CHP plants and community heating schemes without CHP plants. Data for heat sold were supplied by CHP plants to the Combined Heat and Power Quality Assurance Programme and were processed by AEA. Data for heat consumption from community heating schemes were derived from the Building Research Establishment's (BRE) 'Nationwide Survey of Community Heating' that was carried out in 1997, a database of community heating schemes in social housing in 2000, and Community Heating Sales Surveys undertaken between 2003 and 2005. The estimates from these sources have been used to derive heat sold

figures since 1999. When information about where the heat was generated was not available from the BRE sources, it was assumed that domestic sector heat consumption was provided by the commercial sector, public sector heat consumption was provided by the public administration and industrial sectors (using proportions derived from CHP statistics) and that industrial sector heat consumption was provided by the industrial sector. The introduction of heat sold into the energy balances has not affected the individual fuel totals, since the energy used to generate the heat has been deducted from the final consumption section of the energy balance and transferred to the transformation section. The figures that are included in the balances should be treated as indicative of the amount of heat sold. Annex J of the Digest, at [www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx](http://www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx), shows the quantity of fuel by consuming sector used to produce heat that is subsequently sold.

## II Energy balances (Tables 1.1, 1.2 and 1.3)

1.38 Tables 1.1, 1.2 and 1.3 show the energy flows as the primary fuels are processed (or used) and as the consequent secondary fuels are used. The net inputs to transformation are shown in the transformation rows and hence outputs from transformation processes into which primary fuels are input (such as electricity generation, heat generation or petroleum refining) appear as positive figures under the secondary product's heading in the tables. Similarly the net inputs are shown as negative figures under the primary fuel headings.

## III Value balances (Tables 1.4, 1.5 and 1.6)

### Valuation of energy purchases

1.39 In common with the rest of the chapter, these tables covering energy expenditure follow a balance format. While a user may derive data on a similar basis as that previously published, the balance table allows for more varied use and interpretation of traded energy value data. That said, the table continues to only show values for energy that has to be purchased and therefore does not include estimated values of a sector's internal consumption, such as coal used in the process of coal extraction.

### The value balance

1.40 The table balances around **market value of inland consumption**, with the lower half of the table showing the total value of consumption by end users, sub divided into energy sector users and final users both for energy and non-energy use. The top half of the table shows the supply components that go to make up the final market value of inland consumption, namely upstream cost of production, imports, taxes and the margins and costs of delivering and packaging the fuel for the final consumer. The total final consumers' value of energy consumption is represented by the lines 'total non energy sector use' and iron and steel sectors purchases of coal for use in solid fuel manufacture.

1.41 All figures are estimates and have been rounded to the nearest £5 million.

### Fuel definitions in value balances

1.42 **Crude oil** includes NGLs (Natural Gas Liquids) and refinery feedstocks. **Natural gas** does not include colliery methane. **Electricity** only includes electricity delivered via the public distribution system and therefore does not value electricity produced and consumed by autogenerators, however the fuels used by autogenerators are included under Transformation. **Manufactured solid fuels** includes coke, breeze and other solid manufactured fuels, mainly products from patent fuel and carbonisation plants. **Other fuels** includes all other fuels not separately listed, where they can be clearly considered as traded and some reasonable valuation can be made. Fuels mainly contributing to this year's values are wood, coke oven and colliery methane gases sold on to other industrial users and some use of waste products such as poultry litter.

### Energy end use

1.43 Values represent the cost to the final user including transportation of the fuel. They are derived, except where actual values are available, from the traded element of the volumes presented in aggregate energy balance and end user prices collected from information supplied by users or energy suppliers. The **energy sector** consists of those industries engaged in the production and sale of

energy products, but values are not given for consumption of self-generated fuels eg coke oven gas used by coke producers. Many of the processes in the **iron and steel** industry are considered to be part of the energy sector in the energy balances, but for the purposes of this economic balance their genuine purchases are treated as those of final consumers, except for purchases of coal directly used in coke manufacture, which is shown separately as part of manufacture of solid fuel. Coal used directly in or to heat blast furnaces is shown as iron and steel final use. **Transformation** includes those fuels used directly in producing other fuels eg crude oil in petroleum products. **Electricity generators** keep and use significant stocks of coal, and the stocks used in consumption each year are shown separately. The value and margins for these being assumed to be the same as other coal purchased in the year. **Road transport** includes all motor spirit and DERV use. **Commercial and other users** includes public administration and miscellaneous uses not classified to the industrial sector.

## Supply

1.44 The supply side money chain is derived using various methods. **Indigenous production** represents the estimated basic value of in-year sales by the upstream producers. This value is gross of any taxes or cost they must meet. The valuation problems in attributing network losses in gas and electricity between upstream and downstream within this value chain means any costs borne are included in the production value. **Imports and exports** are valued in accordance with data published by HM Revenue and Customs, contained in Annex G (which can be found on the Internet at [www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx](http://www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx)). However, crude oil is treated differently, where the value is formed from price data taken from a census survey of refiners and volume data taken from Table 3.1. These values are considered to reflect the complete money chain more accurately than Tables G.1 to G.4. **Stock changes** are those for undistributed stocks except for coal where coke oven and generators stocks are included. A stock increase takes money out of the money chain and is therefore represented as a negative. **Distribution costs** are arrived at by removing an estimate of producers' value along with any taxes from the end user values shown. For most fuels, the estimate of producer value is derived from the consumption used for end use and the producer price taken from survey of producers. No sector breakdown is given for gas and electricity margins because it is not possible to accurately measure delivery costs for each sector. **Taxes** include VAT where not refundable and duties paid on downstream sales. Excluded are the gas and fossil fuel levies, petroleum revenue tax and production royalties and licence fees. The proceeds from the fossil fuel levy are redistributed across the electricity industry, whilst the rest are treated as part of the production costs.

## Sales of electricity and gas by sector (Table 1.7)

1.45 This table provides data on the total value of gas and electricity sold to final consumers. The data are collected from the energy supply companies. The data are useful in indicating relative total expenditure between sectors, but the quality of data provided in terms of industrial classification has been worsening in recent years. Net selling values provide an indication of typical prices paid in broad sectors.

# IV Measurement of energy consumption

## Primary fuel input basis

1.46 Energy consumption is usually measured in one of three different ways. The first, known as the primary fuel input basis, assesses the total input of primary fuels and their equivalents. This measure includes energy used or lost in the conversion of primary fuels to secondary fuels (for example in power stations and oil refineries), energy lost in the distribution of fuels (for example in transmission lines) and energy conversion losses by final users. Primary demands as in Table 1.1, 1.2 and 1.3 are on this basis.

## Final consumption - energy supplied basis

1.47 The second method, known as the energy supplied basis, measures the energy content of the fuels, both primary and secondary, supplied to final users. Thus it is net of fuel industry own use and conversion, transmission and distribution losses, but it includes conversion losses by final users. Table 1D presents shares of final consumption on this basis. The final consumption figures are presented on this basis throughout Chapter 1.

1.48 Although this is the usual and most direct way to measure final energy consumption, it is also possible to present final consumption on a primary fuel input basis. This can be done by allocating the conversion losses, distribution losses and energy industry use to final users. This approach can be used to compare the total primary fuel use which each sector of the economy accounts for. Table 1E presents shares of final consumption on this basis.

### Final consumption - useful energy basis

1.49 Thirdly, final consumption may be expressed in the form of useful energy available after deduction of the losses incurred when final users convert energy supplied into space or process heat, motive power or light. Such losses depend on the type and quality of fuel and the equipment used and on the purpose, conditions, duration and intensity of use. Statistics on useful energy are not sufficiently reliable to be given in this Digest; there is a lack of data on utilisation efficiencies and on the purposes for which fuels are used.

### Shares of each fuel in energy supply and demand

1.50 The relative importance of the energy consumption of each sector of the economy depends on the method used to measure consumption. Shares of final consumption on an energy supplied basis (that is in terms of the primary and secondary fuels directly consumed) in 2010 are presented in Table 1D. For comparison, Table 1E presents shares of final consumption on a primary fuel input basis.

**Table 1D: Primary and secondary fuels consumed by final users in 2010 – energy supplied basis**

Percentage of each fuel						Percentage of each sector						
	Industry	Transport	Domestic	Others	Total		Solid fuels	Petrol-eum	Gas	Secondary electricity	Bio-mass	Total
Solid fuels	68	1	30	1	100	Industry	7	19	39	34	2	100
Petroleum	8	85	5	2	100	Transport	-	97	-	1	2	100
Gas	20	-	65	15	100	Domestic	2	7	69	21	1	100
Electricity	32	1	36	31	100	Others	-	7	42	48	2	100
Biomass	19	47	20	14	100							
All fuels	18	37	33	12	100	All users	2	43	35	19	2	100

**Table 1E: Total primary fuel consumption by final users in 2010 - primary input basis**

Percentage of each fuel						Percentage of each sector						
	Industry	Transport	Domestic	Others	Total		Coal	Petrol- eum	Gas	Primary electricity	Bio- mass	Total
Coal	34	1	36	29	100	Industry	24	12	50	10	4	100
Petroleum	8	83	6	3	100	Transport	1	96	1	-	2	100
Gas	26	-	53	21	100	Domestic	16	6	68	8	3	100
Primary electricity	32	1	36	31	100	Others	25	5	53	13	5	100
Biomass	27	18	30	25	100							
<b>All fuels</b>	<b>22</b>	<b>28</b>	<b>33</b>	<b>17</b>	<b>100</b>	<b>All users</b>	<b>15</b>	<b>32</b>	<b>43</b>	<b>7</b>	<b>3</b>	<b>100</b>

1.51 In 2010, every 1 toe of secondary electricity consumed by final users required, on average, 0.8 toe of coal, 1.0 toe of natural gas, 0.4 toe of primary electricity (nuclear, wind, natural flow hydro and imports) and 0.2 toe of oil and renewables combined. The extent of this primary consumption is hidden in Table 1D, which presents final consumption only in terms of the fuels directly consumed. When all such primary consumption is allocated to final users, as in Table 1E, the relative importance of fuels and sectors changes; the transport sector, which uses very little electricity, declines in importance, whilst the true cost of final consumption in terms of coal use can now be seen.

1.52 Another view comes from shares of users' expenditure on each fuel (Table 1F based on Table 1.4). In this case the importance of fuels which require most handling by the user (solids and liquid

fuels) is slightly understated, and the importance of uses taxed at higher rates (transport) is overstated in the “All users” line.

**Table 1F: Value of fuels purchased by final users in 2010**

	Percentage of each sector					
	Solid fuels	Petroleum	Gas	Secondary electricity	Heat	Biofuels
Industry	8	18	15	57	1	-
Transport	-	97	-	-	-	3
Domestic	1	6	47	46	-	-
Others	-	6	19	74	1	-
<b>All users</b>	<b>1</b>	<b>58</b>	<b>15</b>	<b>24</b>	<b>0</b>	<b>2</b>

## Systems of measurement - international statistics

1.53 The systems of energy measurement used in various international statistics differ from the methods of the Digest as follows:

### Net calorific values

1.54 Calorific values (thermal contents) used internationally are net rather than gross. The difference between the net and gross thermal content is the amount of energy necessary to evaporate the water present in the fuel or formed during the combustion process. The differences between gross and net values are generally taken to be 5 per cent for liquid and solid fuels (except for coke and coke breeze where there is no difference), 10 per cent for gases (except for blast furnace gas, 1 per cent), 15 per cent for straw, and 16 per cent for poultry litter. The calorific value of wood is highly dependent on its moisture content. In Annex A, the gross calorific value is given as 10 GJ per tonne at 50 per cent moisture content and this rises to 14.5 GJ at 25 per cent moisture content and 19 GJ for dry wood (equivalent to a net calorific value). Both gross and net calorific values are shown in Annex A. DECC and the Iron and Steel Statistics Bureau are currently reviewing the relationship between net and gross calorific values for fuels used by the Iron and Steel industry.

## V Definitions of fuels

1.55 The following paragraphs explain what is covered under the terms “primary” and “secondary” fuels.

### Primary fuels

**Coal** - Production comprises all grades of coal, including slurry.

**Primary oils** - This includes crude oil, natural gas liquids (NGLs) and feedstock.

**Natural gas liquids** - Natural gas liquids (NGLs) consist of condensates (C<sub>5</sub> or heavier) and petroleum gases other than methane C<sub>1</sub>, that is ethane C<sub>2</sub>, propane C<sub>3</sub> and butane C<sub>4</sub>, obtained from the onshore processing of associated and non-associated gas. These are treated as primary fuels when looking at primary supply but in the consumption data presented in this chapter these fuels are treated as secondary fuels, being transferred from the primary oils column in Tables 1.1, 1.2 and 1.3.

**Natural gas** - Production relates to associated or non-associated methane C<sub>1</sub> from land and the United Kingdom sector of the Continental Shelf. It includes that used for drilling production and pumping operations, but excludes gas flared or re-injected. It also includes colliery methane piped to the surface and consumed by collieries or others.

**Nuclear electricity** - Electricity generated by nuclear power stations belonging to the major power producers. See Chapter 5, paragraphs 5.66 to 5.72.

**Natural flow hydro-electricity** - Electricity generated by natural flow hydroelectric power stations, whether they belong to major power producers or other generators. Pumped storage stations are not included (see under secondary electricity below).

**Renewable energy sources** - In this chapter figures are presented for renewables and waste in total. Further details, including a detailed breakdown of the commodities and technologies covered are in Chapter 7.



## Secondary fuels

**Manufactured fuel** - This heading includes manufactured solid fuels such as coke and breeze, other manufactured solid fuels, liquids such as benzole and tars and gases such as coke oven gas and blast furnace gas. Further details are given in Chapter 2, Tables 2.4, 2.5 and 2.6.

**Coke and breeze** – Coke, oven coke and hard coke breeze. Further details are given in Chapter 2, Tables 2.4, 2.5 and 2.6.

**Other manufactured solid fuels** – Manufactured solid fuels produced at low temperature carbonisation plants and other manufactured fuel and briquetting plants. Further details are given in Chapter 2, Tables 2.4, 2.5 and 2.6.

**Coke oven gas** - Gas produced at coke ovens, excluding low temperature carbonisation plants. Gas bled or burnt to waste is included in production and losses. Further details are given in Chapter 2, Tables 2.4, 2.5 and 2.6.

**Blast furnace gas** - Blast furnace gas is mainly produced and consumed within the iron and steel industry. Further details are given in Chapter 2, Tables 2.4, 2.5 and 2.6.

**Petroleum products** - Petroleum products produced mainly at refineries, together with inland deliveries of natural gas liquids.

**Secondary electricity** - Secondary electricity is that generated by the combustion of another fuel, usually coal, natural gas, biofuels or oil. The figure for outputs from transformation in the electricity column of Tables 1.1, 1.2 and 1.3 is the total of primary and secondary electricity, and the subsequent analysis of consumption is based on this total.

**Heat sold** – Heat sold is heat that is produced and sold under the provision of a contract.

## VI Classification of consumers

1.56 The Digest has been prepared, as far as is practicable, on the basis of the *Standard Industrial Classification (SIC)2007* ([www.statistics.gov.uk/STATBASE/Product.asp?vlnk=14012](http://www.statistics.gov.uk/STATBASE/Product.asp?vlnk=14012)). SIC(2007) replaced SIC(2003) on 1 January 2008, with energy statistics being compiled on the new basis from 2010. SIC(2003) was introduced at the start of 2003; the previous classification SIC(1992) was used from 1995. Between 1986 and 1994 data in the Digest were prepared on the basis of SIC(1980). The changes in classification between SIC(1992), SIC(2003) and SIC(2007) are mainly in the very detailed classifications at the four or five digit level. As such the classifications used for energy statistics are unaffected by these changes.

1.57 Table 1G shows the categories of consumers together with their codes in SIC 2007. The coverage varies between tables (eg in some instances the 'other' category is split into major constituents, whereas elsewhere it may include transport). This is because the coverage is dictated by what data suppliers can provide. The table also shows the disaggregation available within industry. This disaggregation forms the basis of virtually all the tables that show a disaggregated industrial breakdown.

**Table 1G: SIC 2007 classifications**

Fuel producers	05-07, 09, 19, 24.46, 35
Final consumers:	
<b>Industrial</b>	
Unclassified	See paragraph 1.58
Iron and steel	24, ( <i>excluding</i> 24.4, 24.53, 24.54)
Non-ferrous metals	24.4, ( <i>excluding</i> 24.46), 24.53, 24.54
Mineral products	08, 23
Chemicals	20-21
Mechanical engineering and metal products	25, 28
Electrical and instrument engineering	26-27
Vehicles	29-30
Food, beverages & tobacco	10-12
Textiles, clothing, leather, & footwear	13-15
Paper, printing & publishing	17-18
Other industries	16, 22, 31-33, 36-39
Construction	41-43
<b>Transport</b>	49-51
<b>Other final users</b>	
Domestic	Not covered by SIC 2007
Public administration	84-88
Commercial	45-47, 52-53, 55-56, 58-66, 68-75, 77-82
Agriculture	01-03
Miscellaneous	90-99

1.58 There is also an 'unclassified' category in the industry sector (see Table 1G). In cases where the data supplier has been unable to allocate an amount between categories, but the Department of Energy and Climate Change has additional information, from other data sources, with which to allocate between categories, then this has been done. Where such additional information is not available the data are included in the 'unclassified' category, enabling the reader to decide whether to accept a residual, pro-rate, or otherwise adjust the figures. The 'miscellaneous' category also contains some unallocated figures for the services sector.

1.59 In Tables 6.8 and 6.9 of Chapter 6 the following abbreviated grouping of industries, based on SIC 2003, is used in order to prevent disclosure of information about individual companies.

**Table 1H: Abbreviated grouping of Industry**

Iron and steel and non-ferrous metal	24
Chemicals	20-21
Oil refineries	19.2
Paper, printing and publishing	17-18
Food, beverages and tobacco	10-12
Metal products, machinery and equipment	25, 26, 27, 28, 29, 30
Mineral products, extraction, mining and agglomeration of solid fuels	05, 06, 08, 23
Sewage Treatment	(parts of 36 and 37)
Electricity supply	35.1
Other industrial branches	07, 13, 14, 15, 16, 19.1, 24.46, 22, 31, 32, 33, 35.2, 36 & 37 (remainder) 41, 42, 43
Transport, commerce, and administration	1, 2, 3, 45 to 99 (except 93)
Other	35.3, 93



1.60 In Tables 1.8 and 1.9 the list above is further condensed and includes only manufacturing industry and construction as follows.

**Table 11: Abbreviated grouping of Industry for Tables 1.8 and 1.9**

Iron and steel and non-ferrous metals	24
Chemicals	20-21
Paper, printing and publishing	17-18
Food, beverages and tobacco	10-12
Metal products, machinery and equipment	25-30
Other (including construction)	08, 13-16, 19, 22-23, 31-33, 36-39, 41-43

## VII Monthly and quarterly data

1.61 Monthly and quarterly data on energy production and consumption (including on a seasonally adjusted and temperature corrected basis) split by fuel type are provided on the DECC website at [www.decc.gov.uk/en/content/cms/statistics/source/total/total.aspx](http://www.decc.gov.uk/en/content/cms/statistics/source/total/total.aspx). Quarterly figures are also published in DECC's quarterly statistical bulletin *Energy Trends* and *Quarterly Energy Prices*. See Annex C for more information about these bulletins.

## VIII Statistical differences

1.62 Tables 1.1 to 1.3 each contain a statistical difference term covering the difference between recorded supply and recorded demand. These statistical differences arise for a number of reasons. The data within each table are taken from varied sources, as described above and in later chapters, for example producers, intermediate consumers (such as electricity generators), final consumers and HM Revenue and Customs. Also, some of the figures are estimated either because data in the required detail are not readily available within the industry or because the methods of collecting the data do not cover the smallest members of the industry. Typically, the supply of fuels is easier to measure than demand, and thus greater reliance can be made of these numbers.

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# 1.1 Aggregate energy balance 2010

## Gross calorific values

Thousand tonnes of oil equivalent

	Coal	Manufactured fuel(1)	Primary oils	Petroleum products	Natural gas(2)	Renewable & waste(3)	Primary electricity	Electricity	Heat sold	Total
<b>Supply</b>										
Indigenous production	11,470	-	68,983	-	57,187	5,345	15,134	-	-	158,120
Imports	17,401	80	59,613	26,405	50,688	1,744	-	614	-	156,546
Exports	-537	-365	-46,153	-28,381	-15,168	-105	-	-385	-	-91,095
Marine bunkers	-	-	-	-2,251	-	-	-	-	-	-2,251
Stock change(4)	+4,605	-142	-41	+655	+1,313	-	-	-	-	+6,390
<b>Primary supply</b>	<b>32,939</b>	<b>-428</b>	<b>82,402</b>	<b>-3,572</b>	<b>94,020</b>	<b>6,984</b>	<b>15,134</b>	<b>229</b>	<b>-</b>	<b>227,710</b>
<b>Statistical difference(5)</b>	<b>+282</b>	<b>-15</b>	<b>+10</b>	<b>-132</b>	<b>+59</b>	<b>-</b>	<b>-</b>	<b>-18</b>	<b>-</b>	<b>+185</b>
<b>Primary demand</b>	<b>32,657</b>	<b>-413</b>	<b>82,393</b>	<b>-3,440</b>	<b>93,961</b>	<b>6,984</b>	<b>15,134</b>	<b>247</b>	<b>-</b>	<b>227,525</b>
Transfers	-	-77	-2,484	+2,478	-23	-	-1,188	+1,188	-	-106
<b>Transformation</b>	<b>-30,941</b>	<b>2,222</b>	<b>-79,909</b>	<b>78,310</b>	<b>-34,018</b>	<b>-4,426</b>	<b>-13,946</b>	<b>31,312</b>	<b>1,378</b>	<b>-50,018</b>
Electricity generation	-25,561	-673	-	-1,165	-31,964	-4,426	-13,946	31,312	-	-46,422
Major power producers	-24,775	-	-	-629	-29,420	-1,013	-13,946	28,710	-	-41,072
Autogenerators	-786	-673	-	-536	-2,544	-3,413	-	2,602	-	-5,350
Heat generation	-291	-51	-	-66	-2,054	-	-	-	1,378	-1,084
Petroleum refineries	-	-	-79,909	79,687	-	-	-	-	-	-222
Coke manufacture	-4,124	3,764	-	-	-	-	-	-	-	-360
Blast furnaces	-714	-1,065	-	-147	-	-	-	-	-	-1,925
Patent fuel manufacture	-253	247	-	-	-	-	-	-	-	-5
Other	-	-	-	-	-	-	-	-	-	-
<b>Energy industry use</b>	<b>3</b>	<b>680</b>	<b>-</b>	<b>5,258</b>	<b>5,973</b>	<b>-</b>	<b>-</b>	<b>2,192</b>	<b>93</b>	<b>14,199</b>
Electricity generation	-	-	-	-	-	-	-	1,359	-	1,359
Oil and gas extraction	-	-	-	529	5,256	-	-	48	-	5,833
Petroleum refineries	-	-	-	4,728	366	-	-	431	93	5,618
Coal extraction	3	-	-	-	7	-	-	82	-	93
Coke manufacture	-	395	-	-	-	-	-	8	-	403
Blast furnaces	-	285	-	-	55	-	-	25	-	366
Patent fuel manufacture	-	-	-	-	-	-	-	-	-	-
Pumped storage	-	-	-	-	-	-	-	91	-	91
Other	-	-	-	-	288	-	-	148	-	436
<b>Losses</b>	<b>-</b>	<b>168</b>	<b>-</b>	<b>-</b>	<b>1,611</b>	<b>-</b>	<b>-</b>	<b>2,325</b>	<b>-</b>	<b>4,104</b>
<b>Final consumption</b>	<b>1,712</b>	<b>885</b>	<b>-</b>	<b>72,090</b>	<b>52,337</b>	<b>2,558</b>	<b>-</b>	<b>28,230</b>	<b>1,285</b>	<b>159,098</b>
<b>Industry</b>	<b>1,135</b>	<b>635</b>	<b>-</b>	<b>4,972</b>	<b>10,487</b>	<b>484</b>	<b>-</b>	<b>8,985</b>	<b>841</b>	<b>27,539</b>
Unclassified	-	200	-	2,392	2	484	-	-	-	3,078
Iron and steel	43	435	-	58	501	-	-	298	-	1,335
Non-ferrous metals	15	-	-	35	225	-	-	580	-	855
Mineral products	702	-	-	164	1,356	-	-	627	-	2,849
Chemicals	51	-	-	130	2,272	-	-	1,563	423	4,439
Mechanical engineering etc	9	-	-	79	559	-	-	661	-	1,308
Electrical engineering etc	3	-	-	37	292	-	-	574	-	907
Vehicles	36	-	-	92	651	-	-	449	-	1,228
Food, beverages etc	29	-	-	234	1,946	-	-	992	1	3,202
Textiles, leather etc	47	-	-	85	455	-	-	263	-	850
Paper, printing etc	70	-	-	49	1,283	-	-	983	1	2,388
Other industries	127	-	-	1,489	755	-	-	1,854	415	4,641
Construction	3	-	-	128	188	-	-	141	-	460
<b>Transport (6)</b>	<b>14</b>	<b>-</b>	<b>-</b>	<b>54,140</b>	<b>-</b>	<b>1,214</b>	<b>-</b>	<b>335</b>	<b>-</b>	<b>55,704</b>
Air	-	-	-	12,288	-	-	-	-	-	12,288
Rail	14	-	-	644	-	-	-	334	-	992
Road	-	-	-	39,739	-	1,214	-	2	-	40,955
National navigation	-	-	-	1,469	-	-	-	-	-	1,469
Pipelines	-	-	-	-	-	-	-	-	-	-
<b>Other</b>	<b>563</b>	<b>250</b>	<b>-</b>	<b>4,682</b>	<b>41,120</b>	<b>860</b>	<b>-</b>	<b>18,910</b>	<b>445</b>	<b>66,828</b>
Domestic	536	250	-	3,426	33,499	504	-	10,205	52	48,471
Public administration	19	-	-	312	3,301	121	-	1,614	383	5,751
Commercial	2	-	-	379	2,731	59	-	6,744	9	9,926
Agriculture	1	-	-	312	169	176	-	346	-	1,005
Miscellaneous	4	-	-	252	1,419	-	-	-	-	1,676
<b>Non energy use</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8,296</b>	<b>731</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>9,027</b>

(1) Includes all manufactured solid fuels, benzole, tars, coke oven gas and blast furnace gas.

(2) Includes colliery methane.

(3) Includes geothermal and solar heat.

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

(5) Primary supply minus primary demand.

(6) See paragraphs 5.11 regarding electricity use in transport and 7.28 regarding renewables use in transport.

## 1.2 Aggregate energy balance 2009

### Gross calorific values

Thousand tonnes of oil equivalent

	Coal	Manufactured fuel(1)	Primary oils	Petroleum products	Natural gas(2)	Renewable & waste(3)	Primary electricity	Electricity	Heat sold	Total
<b>Supply</b>										
Indigenous production	11,039r	-	74,739	-	59,737r	4,992r	16,484	-	-	166,990r
Imports	24,679r	127	59,395r	24,445r	39,191	1,235r	-	568	-	149,641r
Exports	-489r	-122	-49,452	-27,998r	-11,788	-5r	-	-322	-	-90,177r
Marine bunkers	-	-	-	-2,615r	-	-	-	-	-	-2,615r
Stock change(4)	-4,208r	-11r	+594r	+365r	-419	-	-	-	-	-3,679r
<b>Primary supply</b>	<b>31,020r</b>	<b>-6r</b>	<b>85,276r</b>	<b>-5,802r</b>	<b>86,720r</b>	<b>6,222r</b>	<b>16,484</b>	<b>246</b>	<b>-</b>	<b>220,160r</b>
<b>Statistical difference(5)</b>	<b>-467r</b>	<b>-12r</b>	<b>+73r</b>	<b>+113r</b>	<b>+7r</b>	<b>-</b>	<b>-</b>	<b>+16r</b>	<b>-</b>	<b>-270r</b>
<b>Primary demand</b>	<b>31,487r</b>	<b>6r</b>	<b>85,204r</b>	<b>-5,915r</b>	<b>86,713r</b>	<b>6,222r</b>	<b>16,484</b>	<b>230r</b>	<b>-</b>	<b>220,430r</b>
Transfers	-	-63	-3,088r	+3,089r	-30	-	-1,254	+1,254	-	-92r
<b>Transformation</b>	<b>-29,751r</b>	<b>1,603r</b>	<b>-82,116</b>	<b>80,102r</b>	<b>-32,851r</b>	<b>-4,007r</b>	<b>-15,229</b>	<b>30,823r</b>	<b>1,301r</b>	<b>-50,125r</b>
Electricity generation	-24,697r	-772	-	-1,513r	-30,894r	-4,007r	-15,229	30,823r	-	-46,290r
Major power producers	-23,825r	-	-	-1,014r	-28,224r	-744r	-15,229	28,169r	-	-40,868r
Autogenerators	-872	-772	-	-499r	-2,670r	-3,263r	-	2,654r	-	-5,422
Heat generation	-296r	-51	-	-65r	-1,957r	-	-	-	1,301r	-1,068r
Petroleum refineries	-	-	-82,116	81,848r	-	-	-	-	-	-268r
Coke manufacture	-3,847r	3,441r	-	-	-	-	-	-	-	-406r
Blast furnaces	-664r	-1,250r	-	-168	-	-	-	-	-	-2,082r
Patent fuel manufacture	-247	236	-	-	-	-	-	-	-	-11
Other	-	-	-	-	-	-	-	-	-	-
<b>Energy industry use</b>	<b>3</b>	<b>699r</b>	<b>-</b>	<b>5,112r</b>	<b>5,938r</b>	<b>-</b>	<b>-</b>	<b>2,229r</b>	<b>94r</b>	<b>14,077r</b>
Electricity generation	-	-	-	-	-	-	-	1,419r	-	1,419r
Oil and gas extraction	-	-	-	486r	5,255	-	-	51r	-	5,792r
Petroleum refineries	-	-	-	4,626r	337	-	-	389r	94r	5,446r
Coal extraction	3	-	-	-	8	-	-	80r	-	91r
Coke manufacture	-	378r	-	-	-	-	-	8	-	385r
Blast furnaces	-	321r	-	-	39	-	-	40	-	400r
Patent fuel manufacture	-	-	-	-	-	-	-	-	-	-
Pumped storage	-	-	-	-	-	-	-	100	-	100
Other	-	-	-	-	301	-	-	144r	-	445r
<b>Losses</b>	<b>-</b>	<b>69r</b>	<b>-</b>	<b>-</b>	<b>1,406</b>	<b>-</b>	<b>-</b>	<b>2,329r</b>	<b>-</b>	<b>3,804r</b>
<b>Final consumption</b>	<b>1,733r</b>	<b>778r</b>	<b>-</b>	<b>72,164r</b>	<b>46,487r</b>	<b>2,216r</b>	<b>-</b>	<b>27,749r</b>	<b>1,206r</b>	<b>152,333r</b>
<b>Industry</b>	<b>1,152r</b>	<b>561r</b>	<b>-</b>	<b>4,948r</b>	<b>10,009r</b>	<b>447r</b>	<b>-</b>	<b>8,671r</b>	<b>763r</b>	<b>26,550r</b>
Unclassified	-	206	-	2,368r	2	447r	-	-	-	3,024r
Iron and steel	44r	354r	-	54	433	-	-	311r	-	1,196r
Non-ferrous metals	17	-	-	44r	214r	-	-	548	-	823r
Mineral products	711r	-	-	171r	1,302r	-	-	603r	-	2,788r
Chemicals	49r	-	-	140r	2,205r	-	-	1,523r	347r	4,263r
Mechanical engineering etc	10	-	-	87r	552r	-	-	661r	-	1,310r
Electrical engineering etc	3	-	-	41	281r	-	-	555r	-	880r
Vehicles	32	-	-	102r	623r	-	-	431r	-	1,189r
Food, beverages etc	33r	-	-	241r	1,805r	-	-	924r	1	3,004r
Textiles, leather etc	49	-	-	91r	446r	-	-	258r	-	844r
Paper, printing etc	71	-	-	59r	1,239r	-	-	951r	-	2,319r
Other industries	130	-	-	1,412r	723r	-	-	1,771r	415	4,451r
Construction	3	-	-	138r	183r	-	-	136r	-	461r
<b>Transport (6)</b>	<b>13r</b>	<b>-</b>	<b>-</b>	<b>54,760r</b>	<b>-</b>	<b>1,038r</b>	<b>-</b>	<b>336r</b>	<b>-</b>	<b>56,148r</b>
Air	-	-	-	12,751r	-	-	-	-	-	12,751r
Rail	13r	-	-	641r	-	-	-	334r	-	989r
Road	-	-	-	39,743r	-	1,038r	-	2r	-	40,783r
National navigation	-	-	-	1,625r	-	-	-	-	-	1,625r
Pipelines	-	-	-	-	-	-	-	-	-	-
<b>Other</b>	<b>568r</b>	<b>217</b>	<b>-</b>	<b>4,254r</b>	<b>35,790r</b>	<b>730r</b>	<b>-</b>	<b>18,742r</b>	<b>444r</b>	<b>60,745r</b>
Domestic	514r	217	-	3,012r	28,590r	465r	-	10,193r	52	43,043r
Public administration	17	-	-	370r	3,189r	97r	-	1,672r	382r	5,727r
Commercial	35	-	-	359r	2,520r	32r	-	6,551r	9	9,505r
Agriculture	-	-	-	285r	160r	136	-	327r	-	908r
Miscellaneous	2	-	-	228	1,331r	-	-	-	-	1,562r
<b>Non energy use</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8,202r</b>	<b>688r</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8,890r</b>

(1) Includes all manufactured solid fuels, benzole, tars, coke oven gas and blast furnace gas.

(2) Includes colliery methane.

(3) Includes geothermal and solar heat.

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

(5) Primary supply minus primary demand.

(6) See paragraphs 5.11 regarding electricity use in transport and 7.28 regarding renewables use in transport.

# 1.3 Aggregate energy balance 2008

## Gross calorific values

Thousand tonnes of oil equivalent

	Coal	Manufactured fuel(1)	Primary oils	Petroleum products	Natural gas(2)	Renewable & waste(3)	Primary electricity	Electricity	Heat sold	Total
<b>Supply</b>										
Indigenous production	11,305r	-	78,580	-	69,681r	4,516r	12,965	-	-	177,046r
Imports	28,410	500	65,575	26,374r	35,000	980r	-	1,057	-	157,897r
Exports	-457	-142	-52,984	-31,281r	-10,548	-	-	-109	-	-95,521r
Marine bunkers	-	-	-	-2,728r	-	-	-	-	-	-2,728r
Stock change(4)	-1,971r	+162r	+259	+162r	-265	-	-	-	-	-1,653r
<b>Primary supply</b>	<b>37,287r</b>	<b>520r</b>	<b>91,430</b>	<b>-7,472r</b>	<b>93,868r</b>	<b>5,496r</b>	<b>12,965</b>	<b>948</b>	<b>-</b>	<b>235,041r</b>
<b>Statistical difference(5)</b>	<b>-203r</b>	<b>-7r</b>	<b>+196</b>	<b>-124r</b>	<b>+1r</b>	<b>-</b>	<b>-</b>	<b>+7r</b>	<b>-</b>	<b>-130r</b>
<b>Primary demand</b>	<b>37,490r</b>	<b>527r</b>	<b>91,235</b>	<b>-7,348r</b>	<b>93,867r</b>	<b>5,496r</b>	<b>12,965</b>	<b>941r</b>	<b>-</b>	<b>235,171r</b>
Transfers	-	-126	-3,098	+3,106r	-6	-	-1,056	+1,056	-	-124r
<b>Transformation</b>	<b>-35,641r</b>	<b>1,671</b>	<b>-88,136</b>	<b>85,820r</b>	<b>-34,586r</b>	<b>-3,530r</b>	<b>-11,909</b>	<b>32,014r</b>	<b>1,537r</b>	<b>-52,760r</b>
Electricity generation	-29,943r	-858	-	-1,697r	-32,400	-3,530r	-11,909	32,014r	-	-48,324r
Major power producers	-28,972	-	-	-1,207r	-29,618	-803r	-11,909	29,377r	-	-43,132r
Autogenerators	-971	-858	-	-490	-2,782	-2,727r	-	2,637r	-	-5,192r
Heat generation	-314r	-51	-	-66r	-2,186r	-	-	-	1,537r	-1,080r
Petroleum refineries	-	-	-88,136	87,800r	-	-	-	-	-	-336r
Coke manufacture	-4,280	4,064	-	-	-	-	-	-	-	-217
Blast furnaces	-852	-1,718	-	-217	-	-	-	-	-	-2,787
Patent fuel manufacture	-251	235	-	-	-	-	-	-	-	-16
Other	-	-	-	-	-	-	-	-	-	-
<b>Energy industry use</b>	<b>4</b>	<b>849</b>	<b>-</b>	<b>5,546r</b>	<b>6,215</b>	<b>-</b>	<b>-</b>	<b>2,221</b>	<b>72</b>	<b>14,906r</b>
Electricity generation	-	-	-	-	-	-	-	1,399	-	1,399
Oil and gas extraction	-	-	-	510r	5,270	-	-	51	-	5,831r
Petroleum refineries	-	-	-	5,036	427	-	-	374	72	5,909
Coal extraction	4	-	-	-	8	-	-	84	-	96
Coke manufacture	-	429	-	-	-	-	-	7	-	436
Blast furnaces	-	420	-	-	62	-	-	39	-	521
Patent fuel manufacture	-	-	-	-	-	-	-	-	-	-
Pumped storage	-	-	-	-	-	-	-	110	-	110
Other	-	-	-	-	447	-	-	156	-	604
<b>Losses</b>	<b>-</b>	<b>236</b>	<b>-</b>	<b>-</b>	<b>1,171r</b>	<b>-</b>	<b>-</b>	<b>2,369r</b>	<b>-</b>	<b>3,776r</b>
<b>Final consumption</b>	<b>1,845r</b>	<b>986r</b>	<b>-</b>	<b>76,033r</b>	<b>51,888r</b>	<b>1,966r</b>	<b>-</b>	<b>29,421r</b>	<b>1,465r</b>	<b>163,605r</b>
<b>Industry</b>	<b>1,296r</b>	<b>748r</b>	<b>-</b>	<b>5,567r</b>	<b>11,925r</b>	<b>449r</b>	<b>-</b>	<b>9,846r</b>	<b>1,021r</b>	<b>30,852r</b>
Unclassified	-	239	-	2,383r	3	449r	-	-	-	3,074r
Iron and steel	49r	509r	-	62	595	-	-	402r	-	1,617r
Non-ferrous metals	20	-	-	47	257	-	-	636r	-	959r
Mineral products	759	-	-	222r	1,579	-	-	682r	-	3,242r
Chemicals	65	-	-	175r	2,681	-	-	1,745r	592	5,258r
Mechanical engineering etc	10	-	-	98	662	-	-	741r	4	1,515r
Electrical engineering etc	4	-	-	46r	335	-	-	635r	-	1,021r
Vehicles	35r	-	-	115r	741	-	-	500r	-	1,390r
Food, beverages etc	28r	-	-	292r	2,095	-	-	1,054r	10r	3,478r
Textiles, leather etc	53	-	-	104	524	-	-	291r	-	973r
Paper, printing etc	105	-	-	65	1,428r	-	-	1,106r	1	2,704r
Other industries	142	-	-	1,801r	815	-	-	1,899r	413r	5,069r
Construction	27	-	-	158r	211r	-	-	156r	-	552r
<b>Transport (6)</b>	<b>14r</b>	<b>-</b>	<b>-</b>	<b>57,277r</b>	<b>-</b>	<b>845r</b>	<b>-</b>	<b>338r</b>	<b>-</b>	<b>58,474r</b>
Air	-	-	-	13,507r	-	-	-	-	-	13,507r
Rail	14r	-	-	639r	-	-	-	337r	-	989r
Road	-	-	-	41,374r	-	845r	-	2r	-	42,220r
National navigation	-	-	-	1,757r	-	-	-	-	-	1,757r
Pipelines	-	-	-	-	-	-	-	-	-	-
<b>Other</b>	<b>536r</b>	<b>238</b>	<b>-</b>	<b>4,446r</b>	<b>39,139</b>	<b>672r</b>	<b>-</b>	<b>19,237r</b>	<b>445r</b>	<b>64,713r</b>
Domestic	515	238	-	3,032r	30,916	431r	-	10,301r	52	45,485r
Public administration	9	-	-	470r	3,660	89r	-	1,750r	387r	6,365r
Commercial	7	-	-	399r	2,868	16r	-	6,836r	6r	10,134r
Agriculture	3r	-	-	304r	186	134	-	350	-	977r
Miscellaneous	1	-	-	241r	1,509	-	-	-	-	1,752r
<b>Non energy use</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8,743r</b>	<b>824r</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>9,567r</b>

(1) Includes all manufactured solid fuels, benzole, tars, coke oven gas and blast furnace gas.

(2) Includes colliery methane.

(3) Includes geothermal and solar heat.

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

(5) Primary supply minus primary demand.

(6) See paragraphs 5.11 regarding electricity use in transport and 7.28 regarding renewables use in transport.

## 1.4 Value balance of traded energy in 2010<sup>(1)</sup>

	£million								
	Coal	Manufactured solid fuels	Crude oil	Petroleum products	Natural gas	Electricity	Heat sold	Other fuels	Total
<b>Supply</b>									
Indigenous production	915	330	23,110	38,500	7,590	15,015	270	285	86,020
Imports	2,050	20	19,680	12,290	6,650	325	-	510	41,525
Exports	-85	-110	-14,930	-14,950	-1,990	-205	-	-	-32,275
Marine bunkers	-	-	-	-860	-	-	-	-	-860
Stock change	360	-15	65	300	200	-	-	-	905
<b>Basic value of inland consumption</b>	<b>3,240</b>	<b>225</b>	<b>27,920</b>	<b>35,280</b>	<b>12,450</b>	<b>15,135</b>	<b>270</b>	<b>800</b>	<b>95,315</b>
<b>Tax and margins</b>									
<b>Distribution costs and margins</b>	<b>725</b>	<b>25</b>	<b>-</b>	<b>2,625</b>	<b>11,100</b>	<b>14,200</b>	<b>-</b>	<b>100</b>	<b>28,775</b>
Electricity generation	350	-	-	30	-	-	-	-	380
Solid fuel manufacture	200	-	-	-	-	-	-	-	200
of which iron & steel sector	175	-	-	-	-	-	-	-	175
Iron & steel final use	35	5	-	35	-	-	-	-	75
Other industry	-	5	-	440	-	-	-	-	445
Air transport	-	-	-	180	-	-	-	-	180
Rail and national navigation	-	-	-	80	-	-	-	-	80
Road transport	-	-	-	1,240	-	-	-	100	1,340
Domestic	140	15	-	240	-	-	-	-	395
Agriculture	-	-	-	15	-	-	-	-	15
Commercial and other services	-	-	-	50	-	-	-	-	50
Non energy use	-	-	-	315	150	-	-	-	460
<b>VAT and duties</b>	<b>10</b>	<b>5</b>	<b>-</b>	<b>37,765</b>	<b>680</b>	<b>675</b>	<b>-</b>	<b>1,255</b>	<b>40,395</b>
Electricity generation	-	-	-	65	-	-	-	-	65
Iron & steel final use	-	-	-	-	-	-	-	-	-
Other industry	-	-	-	295	-	-	-	-	295
Air transport	-	-	-	10	-	-	-	-	10
Rail and national navigation	-	-	-	240	-	-	-	-	240
Road transport	-	-	-	36,925	-	-	-	1,255	38,180
Domestic	10	5	-	105	680	675	-	5	1,475
Agriculture	-	-	-	20	-	-	-	-	20
Commercial and other services	-	-	-	110	-	-	-	-	110
<b>Climate Change Levy</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>180</b>	<b>485</b>	<b>-</b>	<b>-</b>	<b>670</b>
<b>Total tax and margins</b>	<b>740</b>	<b>30</b>	<b>-</b>	<b>40,390</b>	<b>11,960</b>	<b>15,360</b>	<b>-</b>	<b>1,355</b>	<b>69,840</b>
<b>Market value of inland consumption</b>	<b>3,980</b>	<b>255</b>	<b>27,920</b>	<b>75,675</b>	<b>24,405</b>	<b>30,495</b>	<b>270</b>	<b>2,155</b>	<b>165,185</b>
<b>Energy end use</b>									
<b>Total energy sector</b>	<b>3,470</b>	<b>-</b>	<b>27,920</b>	<b>675</b>	<b>5,885</b>	<b>330</b>	<b>20</b>	<b>90</b>	<b>38,390</b>
<b>Transformation</b>	<b>3,470</b>	<b>-</b>	<b>27,920</b>	<b>465</b>	<b>5,770</b>	<b>-</b>	<b>-</b>	<b>90</b>	<b>37,720</b>
Electricity generation	2,570	-	-	435	5,425	-	-	90	8,520
of which from stocks	85	-	-	-	-	-	-	-	85
Heat Generation	30	-	-	25	350	-	-	-	405
Petroleum refineries	-	-	27,920	-	-	-	-	-	27,920
Solid fuel manufacture	875	-	-	-	-	-	-	-	875
of which iron & steel sector	765	-	-	-	-	-	-	-	765
<b>Other energy sector use</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>210</b>	<b>110</b>	<b>330</b>	<b>20</b>	<b>-</b>	<b>670</b>
Oil & gas extraction	-	-	-	210	-	40	-	-	255
Petroleum refineries	-	-	-	-	60	220	20	-	300
Coal extraction	-	-	-	-	-	70	-	-	70
Other energy sector	-	-	-	-	50	-	-	-	50
<b>Total non energy sector use</b>	<b>505</b>	<b>255</b>	<b>-</b>	<b>72,545</b>	<b>18,375</b>	<b>30,170</b>	<b>250</b>	<b>2,060</b>	<b>124,165</b>
<b>Industry</b>	<b>250</b>	<b>130</b>	<b>-</b>	<b>2,455</b>	<b>2,125</b>	<b>7,875</b>	<b>165</b>	<b>25</b>	<b>13,030</b>
Iron & steel final use	150	115	-	95	105	85	-	-	545
Other industry	105	15	-	2,365	2,020	7,790	165	25	12,480
<b>Transport</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>67,680</b>	<b>-</b>	<b>280</b>	<b>-</b>	<b>1,985</b>	<b>69,945</b>
Air	-	-	-	5,940	-	-	-	-	5,940
Rail and national navigation	-	-	-	1,100	-	280	-	-	1,380
Road	-	-	-	60,640	-	-	-	1,985	62,625
<b>Other final users</b>	<b>255</b>	<b>125</b>	<b>-</b>	<b>2,410</b>	<b>16,250</b>	<b>22,015</b>	<b>85</b>	<b>55</b>	<b>41,190</b>
Domestic	250	125	-	1,730	14,250	14,155	10	55	30,575
Agriculture	-	-	-	150	55	420	-	-	625
Commercial and other services	5	-	-	530	1,945	7,440	75	-	9,995
<b>Total value of energy end use</b>	<b>3,980</b>	<b>255</b>	<b>27,920</b>	<b>73,220</b>	<b>24,260</b>	<b>30,495</b>	<b>270</b>	<b>2,155</b>	<b>162,555</b>
<b>Value of non energy end use</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,450</b>	<b>150</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,600</b>
<b>Market value of inland consumption</b>	<b>3,980</b>	<b>255</b>	<b>27,920</b>	<b>75,675</b>	<b>24,405</b>	<b>30,495</b>	<b>270</b>	<b>2,155</b>	<b>165,155</b>

(1) For further information see paragraphs 1.39 to 1.45.

## 1.5 Value balance of traded energy in 2009<sup>(1)</sup>

	£million								
	Coal	Manufactured solid fuels	Crude oil	Petroleum products	Natural gas	Electricity	Heat sold	Other fuels	Total
<b>Supply</b>									
Indigenous production	560r	200	19,095r	28,970r	7,230r	14,205r	205r	235r	70,705r
Imports	2,710	35	15,055	9,470	4,775	260	-	320r	32,615r
Exports	-85r	-30	-12,220r	-11,375r	-1,420r	-160	-	-	-25,295r
Marine bunkers	-	-	-	-760r	-	-	-	-	-760r
Stock change	-295	10r	115	90	-60r	-	-	-	-130r
<b>Basic value of inland consumption</b>	<b>2,890r</b>	<b>215</b>	<b>22,040</b>	<b>26,395r</b>	<b>10,525r</b>	<b>14,305r</b>	<b>205r</b>	<b>555r</b>	<b>77,135r</b>
<b>Tax and margins</b>									
<b>Distribution costs and margins</b>	<b>620</b>	<b>30</b>	-	<b>3,200r</b>	<b>11,275r</b>	<b>16,695r</b>	-	<b>70</b>	<b>31,885r</b>
Electricity generation	250r	-	-	30	-	-	-	-	280
Solid fuel manufacture	200	-	-	-	-	-	-	-	200
of which iron & steel sector	175	-	-	-	-	-	-	-	175
Iron & steel final use	30	5	-	35	-	-	-	-	75
Other industry	-	10	-	435r	-	-	-	-	445r
Air transport	-	-	-	235	-	-	-	-	235
Rail and national navigation	-	-	-	85r	-	-	-	-	85r
Road transport	-	-	-	1,795	-	-	-	70	1,865
Domestic	135	10	-	225	-	-	-	-	370
Agriculture	-	-	-	15	-	-	-	-	15
Commercial and other services	-	-	-	50	-	-	-	-	50
Non energy use	-	-	-	300r	150r	-	-	-	450r
<b>VAT and duties</b>	<b>10</b>	<b>5</b>	-	<b>34,285r</b>	<b>600r</b>	<b>690r</b>	-	<b>930r</b>	<b>36,520r</b>
Electricity generation	-	-	-	80r	-	-	-	-	80r
Iron & steel final use	-	-	-	-	-	-	-	-	-
Other industry	-	-	-	280r	-	-	-	-	280r
Air transport	-	-	-	10	-	-	-	-	10
Rail and national navigation	-	-	-	245r	-	-	-	-	245r
Road transport	-	-	-	33,470	-	-	-	925r	34,395r
Domestic	10	5	-	75	600r	690r	-	-	1,385r
Agriculture	-	-	-	20	-	-	-	-	20
Commercial and other services	-	-	-	105	-	-	-	-	105
<b>Climate Change Levy</b>	<b>5</b>	-	-	-	<b>170</b>	<b>530</b>	-	-	<b>705</b>
<b>Total tax and margins</b>	<b>635</b>	<b>35</b>	-	<b>37,485r</b>	<b>12,045r</b>	<b>17,915r</b>	-	<b>1,000r</b>	<b>69,110r</b>
<b>Market value of inland consumption</b>	<b>3,530r</b>	<b>250</b>	<b>22,040</b>	<b>63,880r</b>	<b>22,570r</b>	<b>32,220r</b>	<b>205r</b>	<b>1,550r</b>	<b>146,245r</b>
<b>Energy end use</b>									
<b>Total energy sector</b>	<b>3,035r</b>	-	<b>22,040</b>	<b>590r</b>	<b>5,455r</b>	<b>390</b>	-	<b>80</b>	<b>31,590r</b>
<b>Transformation</b>	<b>3,035r</b>	-	<b>22,040</b>	<b>440r</b>	<b>5,350r</b>	-	-	<b>80</b>	<b>30,950r</b>
Electricity generation	2,130r	-	-	425r	5,030r	-	-	80	7,665r
of which from stocks	45	-	-	-	-	-	-	-	45
Heat Generation	25	-	-	20r	320r	-	-	-	365r
Petroleum refineries	-	-	22,040	-	-	-	-	-	22,040
Solid fuel manufacture	880	-	-	-	-	-	-	-	880
of which iron & steel sector	770	-	-	-	-	-	-	-	770
<b>Other energy sector use</b>	-	-	-	<b>150r</b>	<b>105</b>	<b>390</b>	-	-	<b>640r</b>
Oil & gas extraction	-	-	-	150r	-	45	-	-	195r
Petroleum refineries	-	-	-	-	55	275	-	-	330
Coal extraction	-	-	-	-	-	70	-	-	70
Other energy sector	-	-	-	-	50	-	-	-	50
<b>Total non energy sector use</b>	<b>490r</b>	<b>250</b>	-	<b>60,975r</b>	<b>16,960r</b>	<b>31,830r</b>	<b>205r</b>	<b>1,470r</b>	<b>112,185r</b>
<b>Industry</b>	<b>245r</b>	<b>140</b>	-	<b>2,025r</b>	<b>2,225r</b>	<b>8,385r</b>	<b>130r</b>	<b>20r</b>	<b>13,170r</b>
Iron & steel final use	140	120	-	80	95	105r	-	-	540r
Other industry	105	20	-	1,945r	2,130r	8,280r	130r	20r	12,630r
<b>Transport</b>	-	-	-	<b>57,140r</b>	-	<b>325r</b>	-	<b>1,405r</b>	<b>58,870r</b>
Air	-	-	-	4,425r	-	-	-	-	4,425r
Rail and national navigation	-	-	-	970r	-	325r	-	-	1,295r
Road	-	-	-	51,745	-	-	-	1,405r	53,150r
<b>Other final users</b>	<b>245</b>	<b>105</b>	-	<b>1,810</b>	<b>14,735r</b>	<b>23,120r</b>	<b>75</b>	<b>50</b>	<b>40,145r</b>
Domestic	245r	105	-	1,245	12,605r	14,535r	10	50	28,795r
Agriculture	-	-	-	120r	55r	440r	-	-	615r
Commercial and other services	5	-	-	445r	2,075r	8,145r	65	-	10,730r
<b>Total value of energy end use</b>	<b>3,530r</b>	<b>250</b>	<b>22,040</b>	<b>61,565r</b>	<b>22,415r</b>	<b>32,220r</b>	<b>205r</b>	<b>1,550r</b>	<b>143,775r</b>
<b>Value of non energy end use</b>	-	-	-	<b>2,315r</b>	<b>150r</b>	-	-	-	<b>2,470r</b>
<b>Market value of inland consumption</b>	<b>3,530r</b>	<b>250</b>	<b>22,040</b>	<b>63,880r</b>	<b>22,570r</b>	<b>32,220r</b>	<b>205r</b>	<b>1,550r</b>	<b>146,245r</b>

(1) For further information see paragraphs 1.39 to 1.45.

## 1.6 Value balance of traded energy in 2008<sup>(1)</sup>

	£million								
	Coal	Manufactured solid fuels	Crude oil	Petroleum products	Natural gas	Electricity	Heat sold	Other fuels	Total
<b>Supply</b>									
Indigenous production	385r	110r	26,645r	39,985r	9,755r	10,015r	400r	310	87,605r
Imports	3,545r	165	21,720	13,255	6,425	485	-	300	45,890r
Exports	-55	-30	-17,080r	-14,735	-1,945	-110	-	-	-33,960r
Marine bunkers	-	-	-	-900	-	-	-	-	-900
Stock change	-160	-10	105	10r	-45r	-	-	-	-100r
<b>Basic value of inland consumption</b>	<b>3,715</b>	<b>235</b>	<b>31,385</b>	<b>37,625r</b>	<b>14,190</b>	<b>10,390r</b>	<b>400r</b>	<b>610</b>	<b>98,545r</b>
<b>Tax and margins</b>									
<b>Distribution costs and margins</b>	<b>690</b>	<b>30</b>	-	<b>3,465r</b>	<b>9,330r</b>	<b>19,975r</b>	-	<b>65</b>	<b>33,555r</b>
Electricity generation	360	-	-	30	-	-	-	-	385
Solid fuel manufacture	190	-	-	-	-	-	-	-	190
of which iron & steel sector	170	-	-	-	-	-	-	-	170
Iron & steel final use	35	10	-	15	-	-	-	-	60
Other industry	5	10	-	435r	-	-	-	-	450r
Air transport	-	-	-	125r	-	-	-	-	125r
Rail and national navigation	-	-	-	30	-	-	-	-	30
Road transport	-	-	-	2,095	-	-	-	65	2,155
Domestic	100	10	-	325	-	-	-	-	440
Agriculture	-	-	-	15	-	-	-	-	15
Commercial and other services	-	-	-	65	-	-	-	-	65
Non energy use	-	-	-	335r	205r	-	-	-	540r
<b>VAT and duties</b>	<b>10</b>	<b>5</b>	-	<b>33,560r</b>	<b>575r</b>	<b>680r</b>	-	<b>740</b>	<b>35,565r</b>
Electricity generation	-	-	-	90	-	-	-	-	90
Iron & steel final use	-	-	-	-	-	-	-	-	-
Other industry	-	-	-	320r	-	-	-	-	320r
Air transport	-	-	-	15	-	-	-	-	15
Rail and national navigation	-	-	-	240r	-	-	-	-	240r
Road transport	-	-	-	32,665	-	-	-	740	33,405
Domestic	10	5	-	100	575r	680r	-	-	1,370r
Agriculture	-	-	-	20	-	-	-	-	20
Commercial and other services	-	-	-	115	-	-	-	-	115
<b>Climate Change Levy</b>	<b>5</b>	-	-	-	<b>180</b>	<b>540</b>	-	-	<b>730</b>
<b>Total tax and margins</b>	<b>705</b>	<b>35</b>	-	<b>37,025r</b>	<b>10,085r</b>	<b>21,195r</b>	-	<b>805</b>	<b>69,850r</b>
<b>Market value of inland consumption</b>	<b>4,420</b>	<b>270</b>	<b>31,385</b>	<b>74,650r</b>	<b>24,275r</b>	<b>31,585r</b>	<b>400r</b>	<b>1,410r</b>	<b>168,395r</b>
<b>Energy end use</b>									
<b>Total energy sector</b>	<b>3,950</b>	-	<b>31,385</b>	<b>760r</b>	<b>6,770r</b>	<b>360</b>	-	<b>70</b>	<b>43,290r</b>
<b>Transformation</b>	<b>3,950</b>	-	<b>31,385</b>	<b>510r</b>	<b>6,605r</b>	-	-	<b>70</b>	<b>42,510r</b>
Electricity generation	3,080	-	-	490r	6,185r	-	-	70	9,825r
of which from stocks	70	-	-	-	-	-	-	-	70
Heat Generation	35	-	-	20	420r	-	-	-	470r
Petroleum refineries	-	-	31,385	-	-	-	-	-	31,385
Solid fuel manufacture	835	-	-	-	-	-	-	-	835
of which iron & steel sector	740	-	-	-	-	-	-	-	740
<b>Other energy sector use</b>	-	-	-	<b>255r</b>	<b>165</b>	<b>360</b>	-	-	<b>780r</b>
Oil & gas extraction	-	-	-	255r	-	45	-	-	300r
Petroleum refineries	-	-	-	-	80	240	-	-	320
Coal extraction	-	-	-	-	-	75	-	-	75
Other energy sector	-	-	-	-	85	-	-	-	85
<b>Total non energy sector use</b>	<b>475</b>	<b>270</b>	-	<b>71,160r</b>	<b>17,300r</b>	<b>31,225r</b>	<b>400r</b>	<b>1,340r</b>	<b>122,170r</b>
<b>Industry</b>	<b>275</b>	<b>170</b>	-	<b>2,735r</b>	<b>2,945</b>	<b>8,750r</b>	<b>280r</b>	<b>30</b>	<b>15,180r</b>
Iron & steel final use	155	145	-	95	155	185	-	-	730
Other industry	115	25	-	2,640r	2,790	8,565r	280r	30	14,445r
<b>Transport</b>	-	-	-	<b>65,950r</b>	-	<b>290r</b>	-	<b>1,260</b>	<b>67,505r</b>
Air	-	-	-	7,640r	-	-	-	-	7,640r
Rail and national navigation	-	-	-	1,200r	-	285r	-	-	1,490r
Road	-	-	-	57,115	-	-	-	1,260	58,375
<b>Other final users</b>	<b>200</b>	<b>100</b>	-	<b>2,470</b>	<b>14,360r</b>	<b>22,185r</b>	<b>120</b>	<b>50</b>	<b>39,490r</b>
Domestic	200	100	-	1,695	12,070r	14,245r	15	50	28,380r
Agriculture	-	-	-	145	65	415	-	-	625
Commercial and other services	-	-	-	630	2,225	7,525r	105	-	10,485r
<b>Total value of energy end use</b>	<b>4,420</b>	<b>270</b>	<b>31,385</b>	<b>71,920r</b>	<b>24,070r</b>	<b>31,585r</b>	<b>400r</b>	<b>1,410r</b>	<b>165,460r</b>
<b>Value of non energy end use</b>	-	-	-	<b>2,730r</b>	<b>205r</b>	-	-	-	<b>2,935r</b>
<b>Market value of inland consumption</b>	<b>4,420</b>	<b>270</b>	<b>31,385</b>	<b>74,650r</b>	<b>24,275r</b>	<b>31,585r</b>	<b>400r</b>	<b>1,410r</b>	<b>168,395r</b>

(1) For further information see paragraphs 1.39 to 1.45.



## 1.7 Sales of electricity and gas by sector

### United Kingdom

	2006	2007	2008	2009	2010
<b>Total selling value (£ million)<sup>(1)</sup></b>					
Electricity generation - Gas	3,966	4,391	6,185r	5,032r	5,422
Industrial - Gas	2,735	2,020	3,165r	2,288r	2,272
- Electricity	7,071	7,292	9,108r	8,774r	8,202
of which:					
Fuel industries	296	323	359r	389r	329
Industrial sector	6,775	6,969	8,749r	8,385r	7,873
Domestic sector - Gas	9,618	9,475	11,497r	12,007r	13,573
- Electricity	10,799	11,943	13,569r	13,843r	13,481
Other - Gas	2,336	2,145	2,472r	2,305r	2,159
- Electricity	6,720	7,056	8,229r	8,910r	8,141
of which:					
Agricultural sector	340	369	416r	441r	419
Commercial sector	4,776	5,033	6,182r	6,673r	6,162
Transport sector	459	494	288r	324r	281
Public lighting	134	151	177r	179r	155
Public admin. and other services	1,011	1,009	1,165r	1,293r	1,123
<b>Total, all consumers</b>	<b>43,246</b>	<b>44,321</b>	<b>54,224r</b>	<b>53,159r</b>	<b>53,250</b>
<b>of which gas</b>	<b>18,656</b>	<b>18,030</b>	<b>23,320r</b>	<b>21,632r</b>	<b>23,427</b>
<b>of which electricity</b>	<b>24,590</b>	<b>26,290</b>	<b>30,905r</b>	<b>31,527r</b>	<b>29,823</b>
<b>Average net selling value per kWh sold (pence)<sup>(1)</sup></b>					
Electricity generation - Gas	1.284	1.236	1.644	1.403	1.461
Industrial - Gas	1.877	1.515	2.283	1.966	1.863
- Electricity	6.707	6.895	8.454r	9.130r	8.267
of which:					
Fuel industries	6.305	6.778	7.564r	8.570r	7.259
Industrial sector	6.726	6.901	8.495r	9.157r	8.315
Domestic sector - Gas	2.629	2.685	3.198r	3.611r	3.484
- Electricity	9.274	9.729	11.326r	11.678r	11.359
Other - Gas	2.264	2.262	2.585r	2.753r	2.437
- Electricity	6.314	6.856	7.861r	8.901r	7.984
of which:					
Agricultural sector	8.224	8.944	10.232r	11.593r	10.399
Commercial sector	6.336	6.891	7.883r	8.932r	8.012
Transport sector	6.109	6.567	7.329r	8.304r	7.208
Public lighting	6.249	6.797	7.775r	8.810r	7.902
Public admin. and other services	5.860	6.373	7.291r	8.260r	7.409
<b>Average, all consumers</b>	<b>3.454</b>	<b>3.497</b>	<b>4.164r</b>	<b>4.408r</b>	<b>4.124</b>
<b>of which gas</b>	<b>2.020</b>	<b>1.926</b>	<b>2.404r</b>	<b>2.427r</b>	<b>2.412</b>
<b>of which electricity</b>	<b>7.490</b>	<b>7.937</b>	<b>9.303r</b>	<b>10.016r</b>	<b>9.324</b>

(1) Excludes VAT where payable - see paragraph 1.45 for a definition of average net selling value.

## 1.8 Final energy consumption by main industrial groups<sup>(1)</sup>

Thousand tonnes of oil equivalent

	2006	2007	2008	2009	2010
<b>Iron and steel and non-ferrous metals</b>					
Coal	38r	76	69r	60r	58
Manufactured solid fuels (2)	434	451	378	277	252
Blast furnace gas	78	48	40	29r	87
Coke oven gas	106	101	92r	49r	97
Natural gas	989	876	852	647r	726
Petroleum	73	115	109	98r	93
Electricity	1,151	1,060r	1,037r	859r	878
<b>Total iron and steel and non-ferrous metals</b>	<b>2,868r</b>	<b>2,727r</b>	<b>2,577r</b>	<b>2,019r</b>	<b>2,190</b>
<b>Chemicals</b>					
Coal	84	76	65	49r	51
Natural gas	2,952	2,592	2,681	2,205r	2,272
Petroleum	187r	192	175r	140r	130
Electricity	1,753	1,737	1,745r	1,523r	1,563
Heat purchased from other sectors (3)	371	480	592	347r	423
<b>Total chemicals</b>	<b>5,347r</b>	<b>5,075r</b>	<b>5,258r</b>	<b>4,263r</b>	<b>4,439</b>
<b>Metal products, machinery and equipment</b>					
Coal	50	45	48r	45	48
Natural gas	1,855	1,714	1,738	1,457r	1,503
Petroleum	313r	264r	259r	230r	208
Electricity	1,856	1,846	1,876r	1,647r	1,685
Heat purchased from other sectors (3)	2	3	4	-	-
<b>Total metal products, machinery and equipment</b>	<b>4,075r</b>	<b>3,873r</b>	<b>3,926r</b>	<b>3,378r</b>	<b>3,443</b>
<b>Food, beverages and tobacco</b>					
Coal	17	25r	28r	33r	29
Natural gas	2,039	1,975	2,095	1,805r	1,946
Petroleum	281r	282r	292r	241r	234
Electricity	1,042	1,039	1,054r	924r	992
Heat purchased from other sectors (3)	1	2	10r	1	1
<b>Total food, beverages and tobacco</b>	<b>3,380r</b>	<b>3,322r</b>	<b>3,478r</b>	<b>3,004r</b>	<b>3,202</b>

(1) Industrial categories used are described in Table 11. Data excludes energy used to generate heat for all fuels except manufactured solid fuels and electricity.

(2) Includes tars, benzole, coke and breeze and other manufactured solid fuels.

(3) Data equates to heat sold information in the energy balances.

# 1.8 Final energy consumption by main industrial groups<sup>(1)</sup>

	Thousand tonnes of oil equivalent				
	2006	2007	2008	2009	2010
<b>Paper, printing and publishing</b>					
Coal	99	101	105	71	70
Natural gas	1,420	1,334	1,428r	1,239r	1,283
Petroleum	59	65	65	59r	49
Electricity	1,110	1,096	1,106r	951r	983
Heat purchased from other sectors (3)	22	1	1	-	1
<b>Total paper, printing and publishing</b>	<b>2,710r</b>	<b>2,596</b>	<b>2,704r</b>	<b>2,319r</b>	<b>2,388</b>
<b>Other industries</b>					
Coal	875r	945r	981	893r	879
Natural gas	3,169	2,972	3,129r	2,655r	2,755
Petroleum	2,306r	2,507r	2,284r	1,812r	1,865
Electricity	2,968r	3,008r	3,028r	2,768r	2,885
Heat purchased from other sectors (3)	414	411	413r	415	415
<b>Total other industries</b>	<b>9,733r</b>	<b>9,843r</b>	<b>9,836r</b>	<b>8,543r</b>	<b>8,799</b>
<b>Unclassified</b>					
Manufactured solid fuels (2)	231	239	239	206	200
Coke oven gas	-	-	-	-	-
Natural gas	4	3	3	2	2
Petroleum	2,861r	2,647r	2,383r	2,368r	2,392
Renewables & waste	213	276	449r	447r	484
<b>Total unclassified</b>	<b>3,310r</b>	<b>3,166r</b>	<b>3,074r</b>	<b>3,024r</b>	<b>3,078</b>
<b>Total</b>					
Coal	1,164r	1,268r	1,296r	1,152r	1,135
Manufactured solid fuels (2)	665	690	617	483	451
Blast furnace gas	78	48	40	29r	87
Coke oven gas	106	101	92r	49r	97
Natural gas	12,428	11,466	11,925r	10,009r	10,487
Petroleum	6,080r	6,072r	5,567r	4,948r	4,972
Renewables & waste	213	276	449r	447r	484
Electricity	9,879r	9,785r	9,846r	8,671r	8,985
Heat purchased from other sectors (3)	809	896	1,021r	763r	841
<b>Total</b>	<b>31,423r</b>	<b>30,603r</b>	<b>30,852r</b>	<b>26,550r</b>	<b>27,539</b>

## 1.9 Fuels consumed for electricity generation (autogeneration) by main industrial groups<sup>(1)</sup>

Thousand tonnes of oil equivalent  
(except where shown otherwise)

	2006	2007	2008	2009	2010
<b>Iron and steel and non-ferrous metals</b>					
Coal	768	767	801	706r	633
Blast furnace gas	780	767	664	546	453
Coke oven gas	161	169	168	200	196
Natural gas	39	37	57	43	40
Petroleum	20	28	44	54	9
Other (including renewables) (2)	55	56	54	55	51
<b>Total fuel input (3)</b>	<b>1,823</b>	<b>1,824</b>	<b>1,789</b>	<b>1,605r</b>	<b>1,381</b>
<b>Electricity generated by iron &amp; steel and non-ferrous metals (4)</b>	<b>481</b>	<b>476</b>	<b>485</b>	<b>459</b>	<b>425</b>
(in GWh)	5,592	5,536	5,637	5,337	4,946
<b>Electricity consumed by iron and steel and non-ferrous metals from own generation (5)</b>	<b>404</b>	<b>399</b>	<b>388</b>	<b>326</b>	<b>335</b>
(in GWh)	4,703	4,639	4,509	3,795	3,895
<b>Chemicals</b>					
Coal	111	110	110	109	110
Natural gas	718	759	719	684r	671
Petroleum	15	8	7	6	11
Other (including renewables) (2)	147	103	89	94	98
<b>Total fuel input (3)</b>	<b>990</b>	<b>979</b>	<b>925</b>	<b>892r</b>	<b>890</b>
<b>Electricity generated by chemicals (4)</b>	<b>866</b>	<b>426</b>	<b>402</b>	<b>376r</b>	<b>375</b>
(in GWh)	10,067	4,957	4,669	4,372r	4,365
<b>Electricity consumed by chemicals from own generation (5)</b>	<b>627</b>	<b>273</b>	<b>243</b>	<b>170r</b>	<b>221</b>
(in GWh)	7,289	3,179	2,821	1,979r	2,568
<b>Metal products, machinery and equipment</b>					
Coal	-	-	-	-	-
Natural gas	33	77	81	72r	74
Petroleum	6	6	6	6	6
Other (including renewables) (2)	-	-	-	-	-
<b>Total fuel input (3)</b>	<b>38</b>	<b>83</b>	<b>87</b>	<b>78r</b>	<b>79</b>
<b>Electricity generated by metal products, machinery and equipment (4)</b>	<b>16</b>	<b>44</b>	<b>49</b>	<b>46</b>	<b>46</b>
(in GWh)	189	514	573	530r	529
<b>Electricity consumed by metal products, machinery and equipment from own generation (5)</b>	<b>16</b>	<b>37</b>	<b>47</b>	<b>38r</b>	<b>38</b>
(in GWh)	182	433	550	443r	437
<b>Food, beverages and tobacco</b>					
Coal	7	5	3	4	4
Natural gas	335	371	350	374r	355
Petroleum	8	5	3	5	6
Other (including renewables) (2)	-	-	-	0	0
<b>Total fuel input (3)</b>	<b>351</b>	<b>380</b>	<b>356</b>	<b>383r</b>	<b>365</b>
<b>Electricity generated by food, beverages and tobacco (4)</b>	<b>170</b>	<b>184</b>	<b>172</b>	<b>186r</b>	<b>182</b>
(in GWh)	1,982	2,141	2,006	2,162r	2,115
<b>Electricity consumed by food, beverages and tobacco from own generation (5)</b>	<b>129</b>	<b>117</b>	<b>113</b>	<b>83r</b>	<b>106</b>
(in GWh)	1,497	1,364	1,316	959r	1,230

(1) Industrial categories used are described in Table 11.

(2) Includes hydro electricity, solid and gaseous renewables and waste.

(3) Total fuels used for generation of electricity. Consistent with figures for fuels used by other generators in Table 5.4.

## 1.9 Fuels consumed for electricity generation (autogeneration) by main industrial groups<sup>(1)</sup> (continued)

	Thousand tonnes of oil equivalent (except where shown otherwise)				
	2006	2007	2008	2009	2010
<b>Paper, printing and publishing</b>					
Coal	54	41	52	48r	32
Natural gas	781	827	561	503r	386
Petroleum	7	2	1	1	1
Other (including renewables) (2)	8	7	5	5	6
<b>Total fuel input (3)</b>	<b>850</b>	<b>877</b>	<b>619</b>	<b>556r</b>	<b>424</b>
<b>Electricity generated by paper, printing and publishing (4)</b>	<b>378</b>	<b>386</b>	<b>286</b>	<b>249r</b>	<b>203</b>
(in GWh)	4,395	4,492	3,320	2,899r	2,358
<b>Electricity consumed by paper, printing and publishing from own generation (5)</b>	<b>279</b>	<b>281</b>	<b>186</b>	<b>163r</b>	<b>106</b>
(in GWh)	3,245	3,266	2,168	1,894r	1,229
<b>Other industries</b>					
Coal	-	-	-	-	-
Coke oven gas	26	24	26	25r	25
Natural gas	110	147	159	122r	117
Petroleum	3	4	5	4r	3
Other (including renewables) (2)	1,601	1,698	1,740	1,820r	1,882
<b>Total fuel input (3)</b>	<b>1,739</b>	<b>1,874</b>	<b>1,929</b>	<b>1,972r</b>	<b>2,027</b>
<b>Electricity generated by other industries (4)</b>	<b>107</b>	<b>134</b>	<b>138</b>	<b>121r</b>	<b>126</b>
(in GWh)	1,240	1,555	1,610	1,412r	1,469
<b>Electricity consumed by other industries from own generation (5)</b>	<b>92</b>	<b>90</b>	<b>71</b>	<b>77r</b>	<b>83</b>
(in GWh)	1,075	1,047	827	899r	966
<b>Total</b>					
Coal	940	922	966	867	778
Blast furnace gas	780	767	664	546	453
Coke oven gas	187	194	195	226	221
Natural gas	2,016	2,217	1,927	1,798r	1,642
Petroleum	59	52	66	75r	35
Other (including renewables) (2)	1,810	1,864	1,888	1,939r	2,037
<b>Total fuel input (3)</b>	<b>5,791</b>	<b>6,015</b>	<b>5,705</b>	<b>5,485r</b>	<b>5,166</b>
<b>Electricity generated (4)</b>	<b>2,018</b>	<b>1,651</b>	<b>1,532</b>	<b>1,437r</b>	<b>1,357</b>
(in GWh)	23,465	19,196	17,815	16,710r	15,782
<b>Electricity consumed from own generation (5)</b>	<b>1,547</b>	<b>1,198</b>	<b>1,048</b>	<b>857r</b>	<b>888</b>
(in GWh)	17,991	13,926	12,191	9,969r	10,324

(4) Combined heat and power (CHP) generation (ie electrical output from Table 6.8) plus non-chp generation, so that the total electricity generated is consistent with the "other generators" figures in Table 5.6.

(5) This is the electricity consumed by the industrial sector from its own generation and is consistent with the other generators final users figures used within the electricity balances (Tables 5.1 and 5.2). These figures are less than the total generated because some of the electricity is sold to the public distribution system and other users.

(6) The figures presented here are consistent with other figures presented elsewhere in this publication as detailed at (3), (4), and (5) above but are further disaggregated. Overall totals covering all autogenerators can be derived by adding in figures for transport, services and the fuel industries. These can be summarised as follows:

	Thousand tonnes of oil equivalent				
	2006	2007	2008	2009	2010
<b>Fuel input</b>					
All industry	5,791	6,015	5,705	5,485	5,166
Fuel industries	1,727	1,574	1,253	1,083	1,100
Transport, Commerce and Administration	240	244	237	298	311
Services	1,253	986	1,150	1,566	1,648
<b>Total fuel input</b>	<b>9,011</b>	<b>8,819</b>	<b>8,345</b>	<b>8,432</b>	<b>8,224</b>
<b>Electricity generated</b>	<b>3,100</b>	<b>3,041</b>	<b>2,869</b>	<b>2,946</b>	<b>2,874</b>
<b>Electricity consumed</b>	<b>2,120</b>	<b>1,824</b>	<b>1,569</b>	<b>1,398</b>	<b>1,470</b>
					<b>GWh</b>
<b>Electricity generated</b>	<b>36,050</b>	<b>35,370</b>	<b>33,369</b>	<b>34,257</b>	<b>33,423</b>
<b>Electricity consumed</b>	<b>24,659</b>	<b>21,216</b>	<b>18,243</b>	<b>16,255</b>	<b>17,097</b>