

Energy Trends

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Introduction

Energy Trends and Quarterly Energy Prices are produced by the Department of Trade and Industry on a quarterly basis. Both periodicals are published concurrently in June, September, December and March. The June editions cover the first quarter of the year.

Energy Trends includes information on energy as a whole and by individual fuels. The text and charts provide an analysis of the data in the tables. The tables are mainly in commodity balance format, as used in the DTI's annual Digest of UK Energy Statistics. The 2003 edition of the Digest was published on 31 July 2003 and the 2004 edition will be available from 29 July 2004. Hard copies of the Digest can be obtained from The Stationery Office and electronic versions are available on our web site at www.dti.gov.uk/energy/. The balance format shows the flow of a commodity from its sources of supply, through to its final use. The articles provide in-depth information on current issues within the energy sector.

The text and tables included in this publication represent a snapshot of the information available at the time of publication. However, the data collection systems operated by the DTI, which produce this information, are in constant operation. New data are continually received and revisions to historic data made. To ensure that those who use the statistics have access to the most up-to-date information, revised data will be made available as soon as possible, via the electronic versions of these tables. The electronic versions are available free of charge from the DTI web site. In addition to quarterly tables, the main monthly tables published in the previous version of monthly Energy Trends (last edition May 2001) continue to be updated and are also available on the DTI web site. Both sets of tables can be obtained from www.dti.gov.uk/energy/.

The quarterly Energy Trends does not contain information on Foreign Trade, Temperatures and Prices. The Foreign Trade and Temperatures tables are however available on our web site and information on Prices can be found in the Quarterly Energy Prices publication. This information is also available on our web site at the above address.

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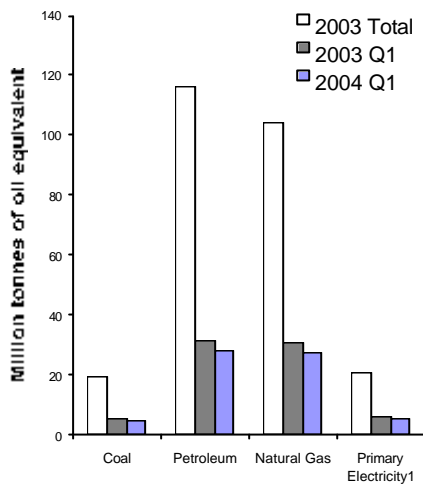
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The main points for the first quarter of 2004:

- Total energy production was 10½ per cent lower than in the first quarter of 2003.
- Oil production fell by 11 per cent compared to the first quarter of 2003 as production from older established fields continued to decline.
- Gas production decreased by just over 9½ per cent from the first quarter of 2003 as UK reserves start to deplete. Increased imports and reduced exports has led to the UK becoming a net importer of gas and this trend is likely to continue. Gas demand was around 2 per cent higher than the first quarter of 2003.
- Total primary energy consumption for energy uses was ½ per cent higher than during the first quarter of 2003, but this is equivalent to a 1 per cent rise when adjusted to take account of weather differences between the first quarters of 2003 and 2004.
- Final energy consumption rose by 1 per cent, with rises in each of the domestic, service and transport sectors of 3½ per cent, 3 per cent and ½ per cent respectively; there was a decrease in final energy consumption in the industrial sector of 2 per cent.
- Coal production in the first quarter of 2004 was 19 per cent down on the first quarter of 2003 while coal imports were 28 per cent higher. However, generators' demand for coal was down 2 per cent.
- Coal supplied 2½ per cent more electricity than in the first quarter of 2003 and gas 7½ per cent more while nuclear supplied 4½ per cent less. Net imports were double the low levels of a year earlier.

Section 1 - Total Energy

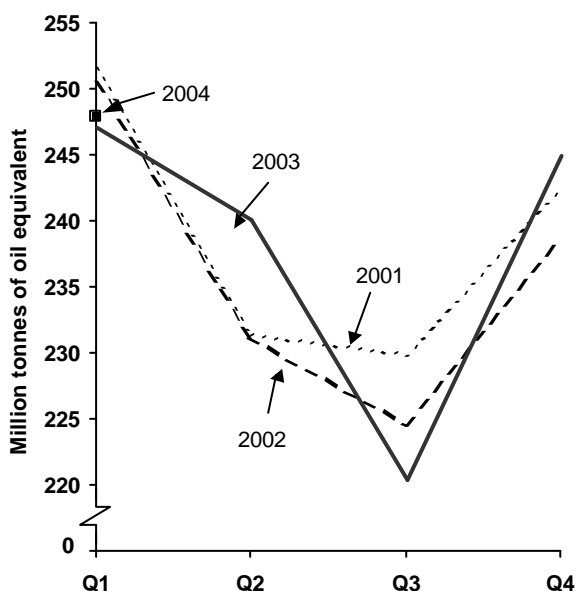
Chart 1.1 Production of indigenous primary fuels



¹ Nuclear and natural flow hydro electricity.

- Total production in the first quarter of 2004 was 65.4 million tonnes of oil equivalent, 10.4 per cent lower than in first quarter of 2003.
- Production of natural gas fell by 9.7 per cent between the first quarter of 2003 and the first quarter of 2004; gas production is declining as North Sea reserves deplete.
- Production of petroleum was 11.0 per cent lower in first quarter of 2004 than the first quarter a year earlier.
- Primary electricity output was 5.2 per cent lower, within which nuclear electricity output was 6.3 per cent lower but output from natural flow hydro increased by 47.2 per cent.
- In the first quarter of 2004 production of coal and other solid fuels was 17.1 per cent lower than in the first quarter of 2003.

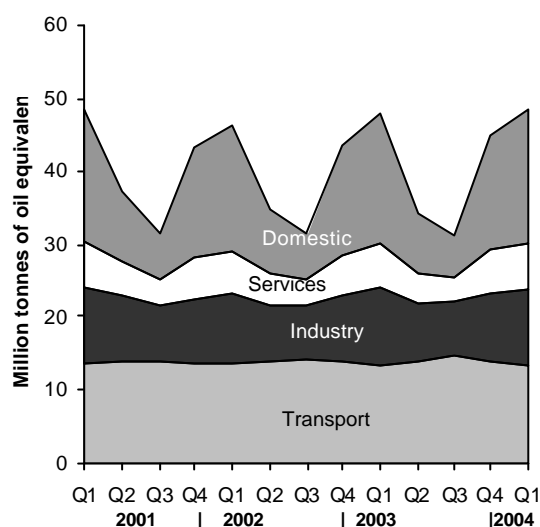
Chart 1.2 Total inland consumption (primary fuel input basis)¹



¹ Seasonally adjusted and temperature corrected annual rates.

- Total inland consumption on a primary fuel input basis was 247.9 million tonnes of oil equivalent in first quarter of 2004 (temperature corrected, seasonally adjusted annualised rate). The average temperature during the first quarter of 2004 was 5.8 degrees Celsius, 0.1 degrees Celsius warmer than the first quarter of 2003
- Consumption in the first quarter of 2004 was 0.9 per cent higher than the same period a year earlier.
- Between the first quarter of 2003 and the first quarter of 2004 (on a seasonally adjusted and temperature corrected basis) coal and other solid fuel consumption decreased by 0.9 per cent.
- Also on a seasonally adjusted and temperature corrected basis, oil consumption rose by 0.9 per cent.
- On the same basis, gas consumption rose by 2.7 per cent due to more gas being used for electricity generation.

Chart 1.3 Final energy consumption by user



- Total final energy consumption rose by 1.1 per cent between the first quarter of 2004 and the first quarter in 2003.
- Service sector energy consumption increased by 2.9 per cent.
- Domestic sector energy consumption increased by 3.6 per cent.
- Transport energy consumption rose by 0.6 per cent.
- Industrial energy consumption fell by 2.0 per cent.

Background

Relevant tables

[1.1: Indigenous production of primary fuels](#)

[1.2: Inland energy consumption: primary fuel input basis](#)

[1.3: Supply and use of fuels](#)

Production

Indigenous production of energy was 4.6 per cent lower in 2003 than in 2002, continuing a year on year decline for each year since 1999. Coal and other solid fuel production was lower by 5.4 per cent, nuclear output rose by 1.9 per cent, gas production fell by 0.7 per cent and petroleum production by fell 8.5 per cent.

Petroleum accounted for 42.8 per cent of total indigenous production in the first quarter of 2004 while coal and other solid fuels accounted for 6.8 per cent, and natural gas 42.1 per cent. A year earlier the proportions were petroleum 43.1 per cent, coal and other solid fuels 7.3 per cent and natural gas 41.8 per cent.

Total inland consumption

In 2003 consumption of primary fuels was higher than the preceding year, 0.9 per cent up on 2002. The largest contributions to this rise in absolute terms were from coal and other solid fuels (which increased by 6.4 per cent) and from natural gas (0.2 per cent up). On a temperature corrected basis consumption in 2003 was only 0.3 per cent higher than in 2002.

Total inland energy consumption, on a primary fuel input basis (not temperature corrected or seasonally adjusted), in the first quarter of 2004 was 68.0 million tonnes of oil equivalent. This was 0.7 per cent higher than in the corresponding period a year ago and 2.3 per cent higher than in the corresponding period two years ago.

Total energy

Consumption by final users

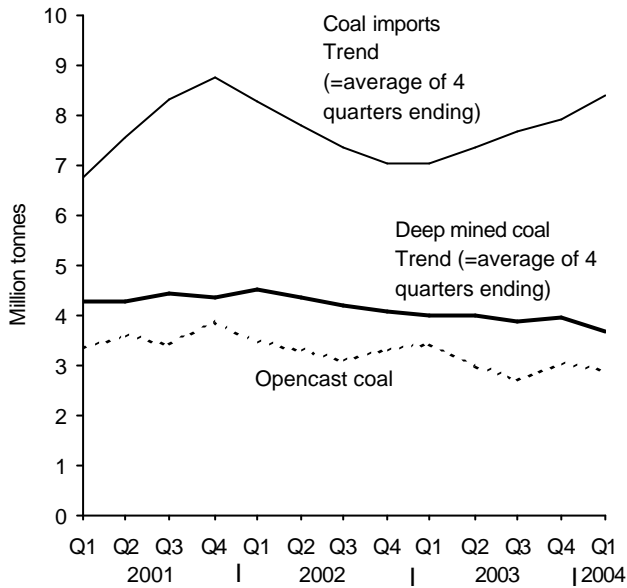
Final energy consumption shows a strong seasonal pattern with more energy being consumed in the winter months and less in the summer, particularly in the domestic and service sectors.

In the first quarter of 2004 the domestic sector was responsible for the largest share of final consumption at 35 per cent of all energy consumed by final users. The transport sector was responsible for a further 26 per cent, the industrial sector for another 20 per cent and the service industries, including agriculture, consumed 13 per cent. The remaining 6 per cent was made up by fuel use for non-energy purposes.

Final energy consumption rose by 1.1 per cent between the first quarter of 2003 and the first quarter of 2004, mainly due to rises in the domestic sector (a 3.6 per cent increase) and the service sector (2.9 per cent higher). There was also an increase in the transport sector of 0.6 per cent, whilst consumption in the industrial sector fell by 2.0 per cent.

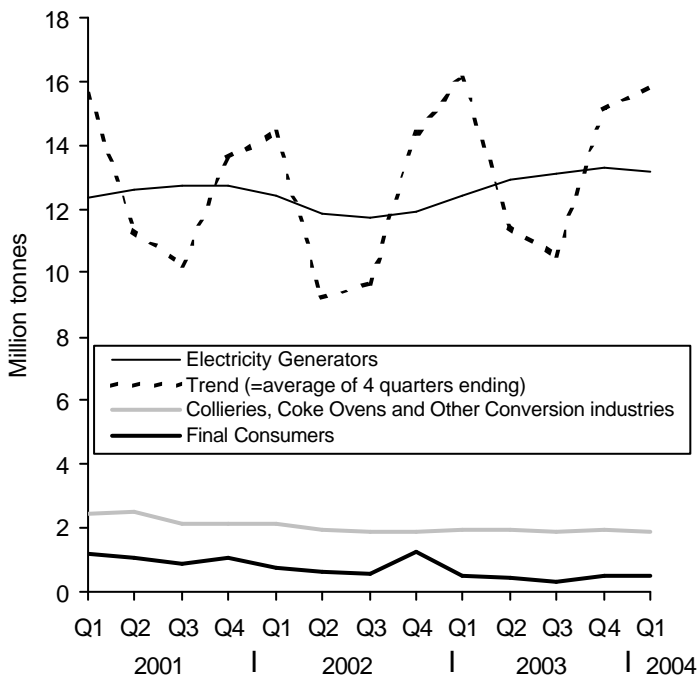
Section 2 - Solid Fuels and Derived Gases

Chart 2.1 Coal production and imports



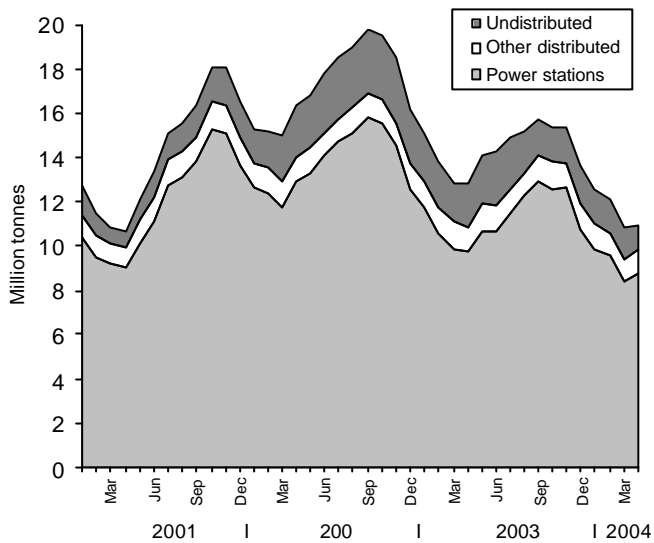
- Provisional figures for the first quarter of 2004 show that coal production (including an estimate for slurry) was 18.6 per cent down on the first quarter of 2003 at 6.4 million tonnes, with deep mined production down 22.4 per cent and opencast production down 14.6 per cent.
- Imports of coal in the first quarter of 2004 were 28.0 per cent higher than in the first quarter of 2004 at 8.9 million tonnes.
- 82 per cent of the coal imported in the first quarter of 2004 (7.3 million tonnes) was steam coal, largely for the power stations market.

Chart 2.2 Coal consumption



- Demand for coal in the first quarter of 2004, at 18.1 million tonnes was 2.4 per cent down on consumption in the first quarter of 2003; consumption by electricity generators was down by 2.3 per cent.
- Electricity generators accounted for 87 per cent of total coal use in the first quarter of 2004, the same proportion as a year earlier.
- Provisionally, final consumption fell by 8 per cent in the first quarter of 2004, within which domestic sector consumption was 6 per cent lower.

Chart 2.3 Coal stocks



- Coal stocks showed a seasonal fall of 2.7 million tonnes during the first quarter of 2004 and at the end of March 2004 stood at 10.9 million tonnes, 2.0 million tonnes lower than at the end of the March 2003. By the end of April 2004 the seasonal increase had taken coal stocks slightly higher to 10.9 million tonnes.
- The level of coal stocks at power stations fell by 2.4 million tonnes in the first quarter of 2004 to 8.4 million tonnes. This is 1.5 million tonnes lower than the corresponding level a year earlier.
- Stocks held by producers fell by 0.1 million tonnes in the first quarter of 2004 to 1.5 million tonnes. This end- March level was 0.3 million tonnes lower than the level at the end of March 2003.

Background

Relevant tables

[2.1: Supply and consumption of coal](#)

[2.2: Supply and consumption of coke oven coke, coke breeze and other manufactured solid fuels](#)

[2.3: Supply and consumption of coke oven gas, blast furnace gas, benzole and tars](#)

Coal production and imports

In 2003 indigenous production of coal fell by 1.8 million tonnes to a new record low level for deep mined coal and the lowest level since 1976 for opencast coal. Since the first quarter of 2002 production has been lower each quarter than it was a year earlier. However, the rate of decline was slower for most of 2003 is quickened significantly in the first quarter of 2004. While Clipstone was the only major mine to close in 2003, the Selby complex is running down prior to closure in June 2004, with the Wistow mine already closed. Imports of coal in 2003 were 3.5 million tonnes higher than in 2002 and the second highest annual volume on record, but were still 2.6 million tonnes lower than the record level in 2001. Exports in 2002 were 1 per cent higher at 541 thousand tonnes.

Coal consumption

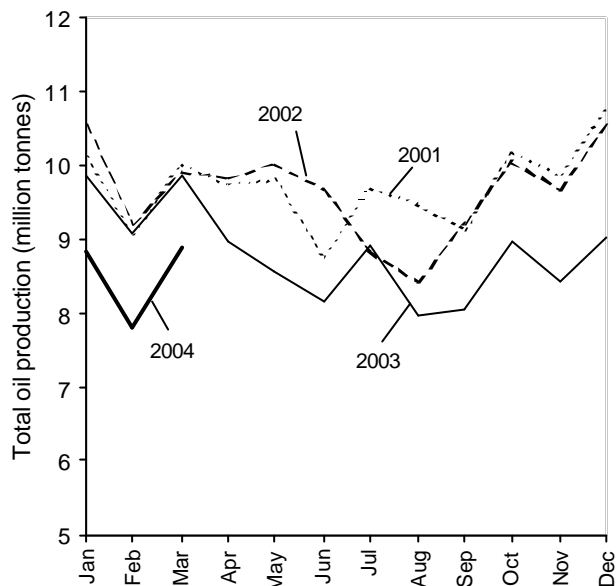
Coal use by electricity generators was 5.5 million tonnes higher in 2003 as a whole than it was in 2002. High gas prices have led to coal fired generation being used in preference to gas-fired generation. In the fourth quarter of 2003 reduced output from nuclear stations also prompted increased use of coal-fired generation. Reductions in UK steel making capacity led to a reduction of 1.4 million tonnes in the use of coal for coke making and at blast furnaces in 2002, but blast furnace use recovered in the second half of 2003 as steel production increased and for 2003 as a whole coal was used at coke ovens was less than 100,000 tonnes lower than in the previous year.

Stocks

The seasonal fall in coal stocks over the winter 2002/03 took stock levels down to 13 million tonnes. The seasonal rise during summer 2003 added 3 million tonnes to stocks, but demand for coal in winter 2003/04 year took stock levels down to 2 million tonnes below the level at the end of the previous winter and on a par with their levels at the end of winter 2000/01.

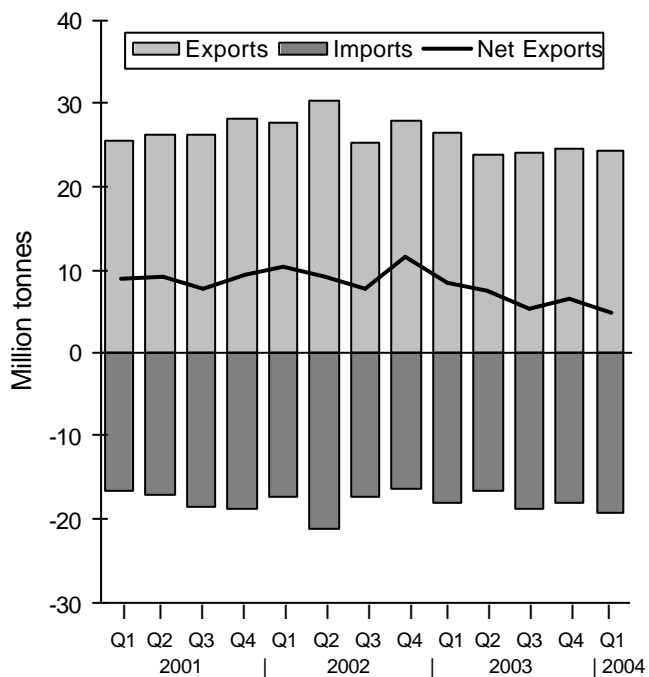
Section 3 - Oil and Oil Products

Chart 3.1 Production of crude oil and NGLs



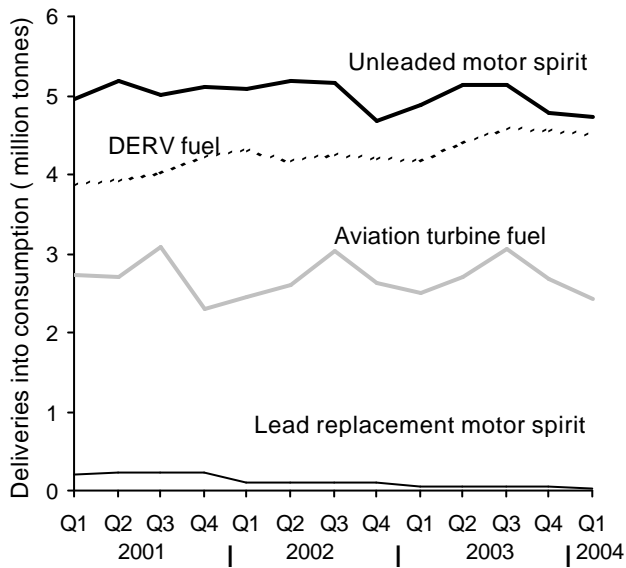
- Total indigenous UK production of crude oil and NGLs in the first quarter of 2004 was 11.0 per cent lower than a year earlier.
- Only five new fields started production after March 2003. Production from these fields was insufficient to make up the general decline in production from older established fields.

Chart 3.2 UK trade in crude oils, NGLs and petroleum products



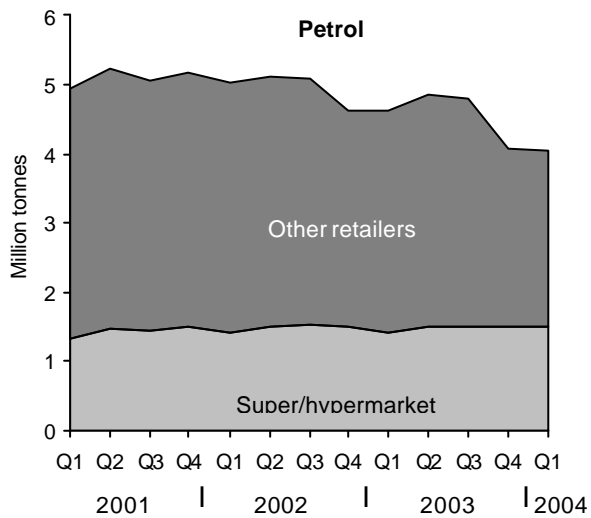
- Net exports of oil and oil products fell by 41.0 per cent during the first quarter of 2004 when compared with the same period in 2003. Nevertheless the UK retained its position as a net exporter of oil and oil products with exports exceeding imports by 5 million tonnes.
- Net exports of crude oil and NGLs decreased by 68.2 per cent to 2.2 million tonnes.
- Exports of crude oil and NGLs decreased by 11.7 per cent while imports increased by 16.6 per cent.
- Net exports of petroleum products increased to 2.8 million tonnes in the first quarter of 2004
- Exports of petroleum products rose by 5.9 per cent whilst imports fell by 20.1 per cent in the light of increased production.

Chart 3.3 Demand for key transport fuels

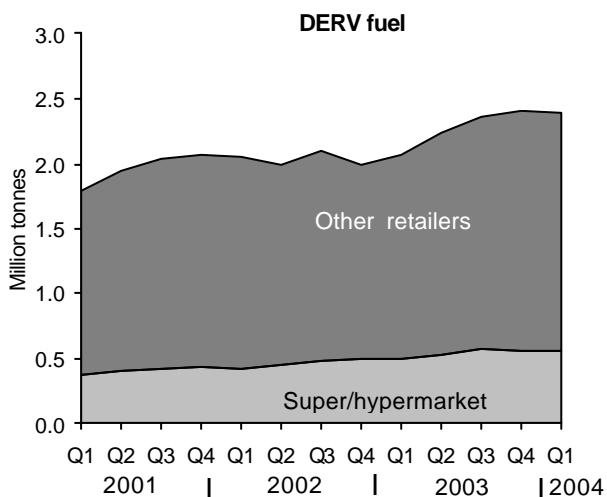


- Total deliveries of transport fuels were 1.0 per cent higher in the first quarter of 2004 than in the first quarter of 2003.
- Motor spirit deliveries fell by 3.3 per cent.
- Deliveries of DERV fuel increased by 8.3 per cent.
- DERV fuel's share of road transport fuels in the first quarter 2004 was 48.9 per cent compared to 46.1 per cent in 2003.
- Deliveries of aviation turbine fuel were 2.8 per cent lower.

Chart 3.4 Super/hypermarket shares of retail deliveries

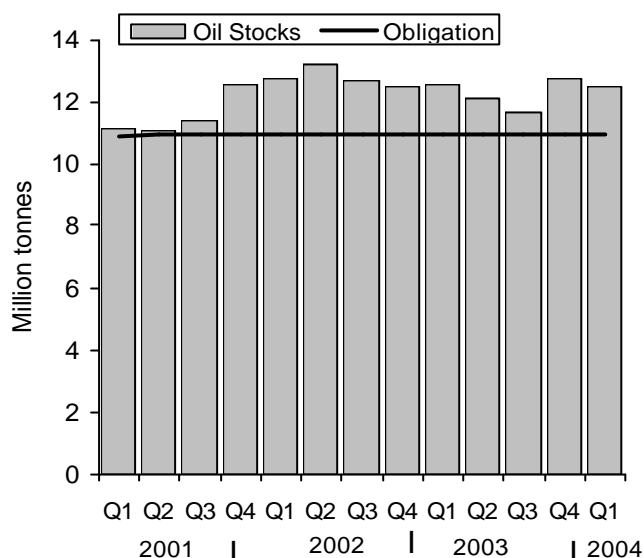


- Sales of motor spirit by super/hypermarket companies accounted for 33.2 per cent of retail sales of petrol in the first quarter of 2004, up from 30.0 per cent in the first quarter of 2003.



- Sales of DERV by super/hypermarket companies accounted for 23.5 per cent of retail sales of DERV, only marginally up from 23.4 per cent in the first quarter of 2003.

Chart 3.5 Stocks of key oil products⁽¹⁾



⁽¹⁾ This includes motor spirit, DERV fuel, other gas diesel oils, aviation turbine fuel, kerosene and fuel oils.

- Overall, stocks of crude oil and petroleum products were 1.2 per cent lower at the end of the first quarter of 2004 than a year earlier.
- Crude oil and refinery process oil stocks were 7.7 per cent lower while stocks of products were 5.5 per cent higher.
- Stocks at UKCS pipeline terminals fell by 34.2 per cent (797 thousand tonnes) in the first quarter of 2004.
- Chart 3.5 combines stocks of products with the product equivalent of stocks of crude oil to give an overall level of UK stocks of key products.
- At the end of the first quarter of 2004, the UK held stocks equal to 77.2 days of consumption of these key products, compared with an obligation of 67½ days (see Background for more details).

Chart 3.6 Value of UKCS production & investment by operators and licensees

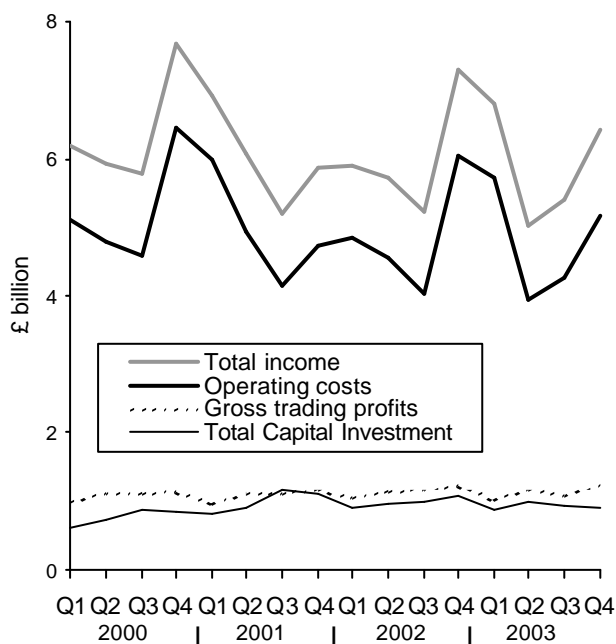
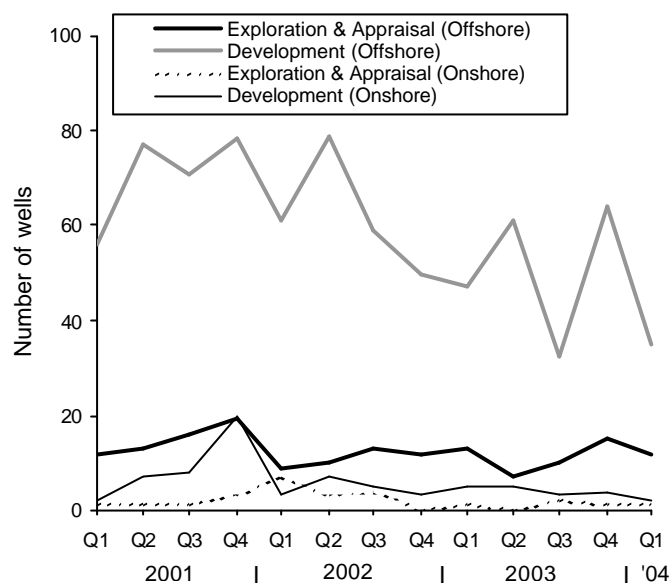


Table 3.8 has now been discontinued; therefore data for the first quarter of 2004 is not shown. Annual data will still be made available.

Final revised figures for the fourth quarter of 2003 compared with the same period last year showed that:

- Gross trading profits fell by 14.5 per cent.
- Total income fell by 12.1 per cent.
- Operating costs fell by 1.1 per cent.
- Total capital investment fell by 15.2 per cent.
- Exploration expenditure fell by 13.9 per cent.
- Other capital investment fell by 15.3.

Chart 3.7 Drilling activity on the UKCS



- Drilling figures for the first quarter of 2004 showed a slight decline in the number of exploration and appraisal wells started offshore to 12 against 13 in the corresponding quarter of 2003.
- The number of development wells drilled offshore fell to 35, compared to 47 in the corresponding quarter of 2003.
- Only 2 development wells were drilled onshore in the first quarter of 2004, compared to 5 in the corresponding quarter a year earlier.
- Only 1 exploration and appraisal well started onshore in the first quarter of 2004, the same number as in the first quarter of 2003.

Background

Relevant tables

- [3.1: Supply and use of crude oil, natural gas liquids and feedstocks](#)
- [3.2: Supply and use of petroleum products](#)
- [3.3: Supply and use of petroleum products - annual data](#)
- [3.4: Supply and use of petroleum products - latest quarter](#)
- [3.5: Demand for key petroleum products](#)
- [3.6: Stocks of petroleum at end of period](#)
- [3.7: Drilling activity on the UK Continental Shelf](#)
- [3.8: Value of UKCS production and investment by operators and licensees](#)
- [3.9: Indicative tariff rates offered in the UKCS for the handling of oil and gas](#)

Crude oil production and trade

Total UK production of crude oil and NGL's decreased in the first quarter of 2004 by 11.0 per cent (25.5 million tonnes) when compared to the same period last year. The UK remains a net exporter of oil and oil products despite declining production. The majority of UK production of crude oil and NGL's is exported as the UK generally produces a lighter, more valuable crude oil than other areas of the world such as the Middle East or West Africa. UK refineries are relatively modern and as such can cope with having these lower grade crude oils as an input. Therefore the economics of crude oil markets results in significant volumes of crude oil being imported into the UK.

Refinery production of petroleum products and trade

The net refinery output in the first quarter of 2004 was 20.1 million tonnes, 0.3 million tonnes (1.5 per cent) higher than the first quarter of 2003.

Demand for petroleum products

Overall demand for petroleum products in the first quarter of 2004 was 0.4 per cent higher than in the first quarter of 2003. Deliveries of motor spirit were lower by 3.3 per cent whilst DERV deliveries were 8.3 per cent higher at 4.5 million tonnes. Deliveries of aviation turbine fuel were 2.8 per cent lower.

Stocks of crude oil and petroleum products

The UK has an obligation under EU law to maintain stocks of key oil products at or above a certain level to ensure adequate supplies would exist for any international oil supply emergency. These obligations are based on the UK's annual consumption of the key products motor spirit, DERV fuel and other gas diesel oils, aviation fuel and other kerosenes and fuel oils. These obligations are usually updated every 1st July as consumption data for the previous year are finalised. Chart 3.5 above combines data on stocks of key oil products with the product equivalent of stocks of crude oil to give an overall level of UK stocks of key oil products to show how the UK is complying with these obligations at an overall level. The UK's current overall obligation, based on 2002 consumption data, is to hold a total of 11 million tonnes of these products, equal to 67½ days of consumption.

Financial aspects of operations on the United Kingdom Continental Shelf

The data given in Table 3.8 are compiled from the Quarterly Inquiry into Oil and Natural Gas carried out by the DTI. This inquiry collects information from operators and other production licence holders. The information collected covers all income and expenditure directly related to the production of oil and natural gas, including exploration, development and other capital expenditures, together with operating costs and the value of sales. However, this table will be discontinued after June 2004 – see box below.

Responses to the consultation regarding Quarterly Energy Prices Tables 3.1.1 to 3.3.2 and Energy Trends Table 3.8

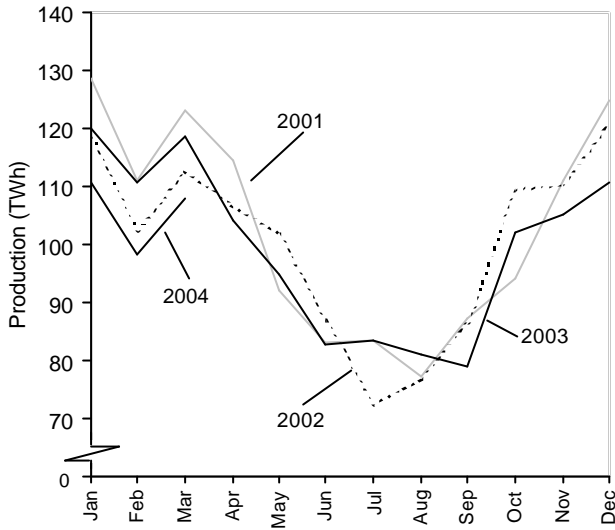
DTI has considered responses to the above-mentioned consultation and taken into account the declining quality of data received from respondents to the Quarterly Inquiry into Oil and Natural Gas. DTI now intends to cease quarterly collection of data and to collect data annually only, using a simpler survey. This inquiry is used in the production of quarterly data for Energy Trends Table 3.8 (which will cease after 2003 quarter 4 figures), and the two series on natural gas at UK delivery points in Energy Prices Table 3.2.1 (which will cease after 2004 quarter 2). Tables 3.8 and 3.2.1 will no longer be published quarterly and are published for the final time in this edition. Annual data will still be made available.

Summary of responses received

14 of the responses received in the consultation referred to Energy Trends Table 3.8 and Energy Prices Table 3.2.1. The respondents were written to, and only one has confirmed an objection, which was to loss of the two series on natural gas at UK delivery points in Energy Prices Table 3.2.1. These series have been particularly affected by the declining quality of data received from the Quarterly Inquiry into Oil and Natural Gas.

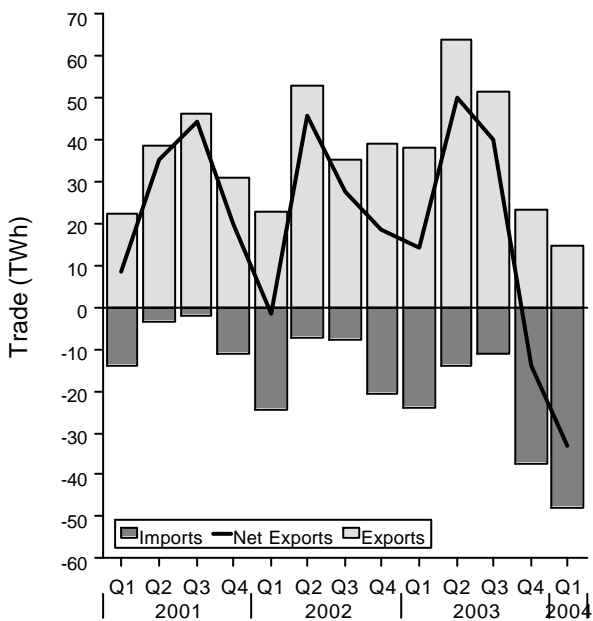
Section 4 - Gas

Chart 4.1 Production of natural gas



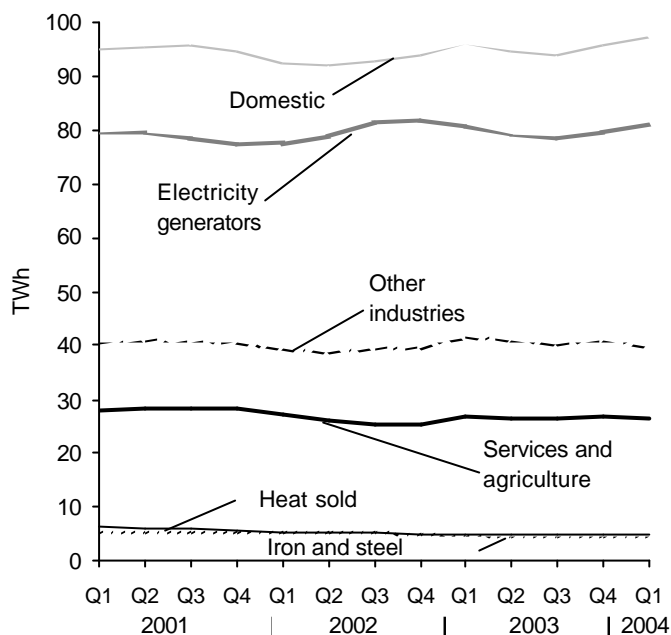
- Total indigenous UK production of natural gas in the first quarter of 2004 was 9.7 per cent lower than in the corresponding quarter a year earlier.
- Overall, gas production is declining as UKCS reserves deplete. This trend is likely to continue.

Chart 4.2 UK trade in natural gas



- Compared with the first quarter of 2003, exports of natural gas in the first quarter of 2004 decreased by 61.0 per cent and imports more than doubled.
- These figures highlight the decline in UK production. The UK has been a net importer of gas in each of the last two quarters, while twelve months earlier the UK was a net exporter of gas.

Chart 4.3 Natural gas consumption - average of four quarters ending



- Demand for gas in the first quarter of 2004 was 1.8 per cent higher than the level in the first quarter of 2003.
- Gas use for electricity generation was 7.0 per cent higher than in the first quarter of 2003, despite continuing high gas prices.
- Provisionally, consumption in the domestic sector rose by 4.0 per cent mainly because temperatures were slightly lower than a year earlier, although considerably lower in March.
- In public administration, commerce and agriculture consumption fell by 2.8 per cent compared with a year earlier. In the industrial sector gas sales were provisionally 6.2 per cent lower than in the first quarter of 2003.

Background

Relevant table

[4.1: Natural gas supply and consumption](#)

Gas production and trade

In the first quarter of 2004, gas production was 9.7 per cent lower than a year ago. Imports of gas to the UK doubled compared to a year ago and exports were 61 per cent lower. During this quarter, imports of gas accounted for 14.5 per cent of gas available for consumption, compared to 7.6 per cent one year ago. Thus, overall, the above figures reflect the UK's growing dependency on gas imports as UKCS gas reserves decline.

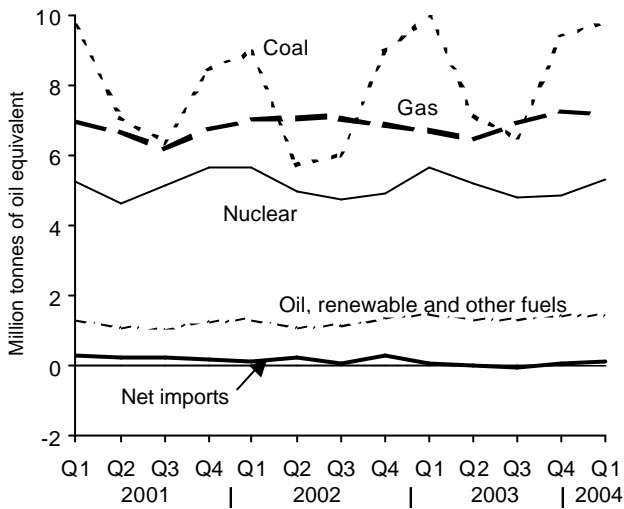
The UK currently exports gas to the Netherlands via the Markham and Windermere fields, to the Irish Republic, and to Belgium through the Bacton-Zeebrugge interconnector. Imports to the UK are from Belgium via the Interconnector and from Norway via the Frigg, Staffjord and Vesterled pipelines. In the first quarter of 2004, Norwegian gas accounted for 63.2 per cent of UK natural gas imports, compared to 82.4 per cent a year ago.

Gas consumption

Until the middle of 2000 the growth in consumption of natural gas was dominated by growth in consumption for electricity generation, mainly in Combined Cycle Gas Turbine stations. However, high gas prices led to the use of gas for generation following a downward trend until the end of 2001, but in summer 2002 gas prices fell back and gas use for generation rose again. In 2003 high prices along with competition from imported coal again deterred use for generation. Gas use in the domestic sector is particularly dependent on temperatures during the heating season, but even in summer very hot weather deters use for cooking and hot water. Mild temperatures in the winter months of 2002 suppressed domestic gas consumption, as did the hot summer of 2003. These temperature differences also affected services sector consumption. With temperatures in the latter part of 2003 and early 2004 being less mild, consumption increased again.

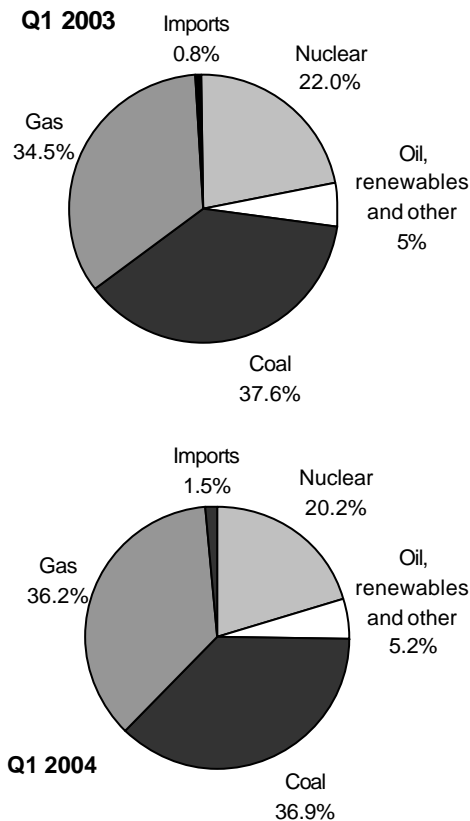
Section 5 - Electricity

Chart 5.1 Fuel used for electricity generation

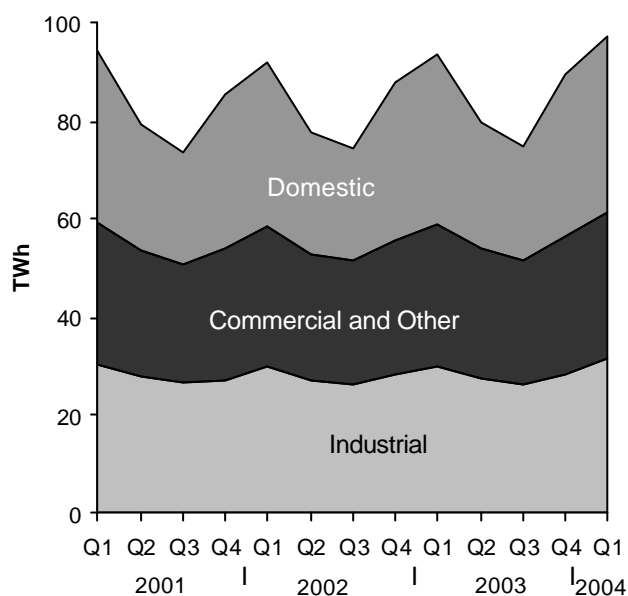


- Fuel used by generators in the first quarter of 2004 was, in total, 0.4 per cent lower than in the first quarter of 2003.
- Coal use during the quarter was 2.3 per cent lower than a year earlier.
- Gas use was 7.2 per cent up on the first quarter of 2003.
- Nuclear sources were down 6.3 per cent compared with the first quarter of 2003 mainly because of outages for unplanned maintenance.
- Hydro sources were 65 per cent higher than in the first quarter of 2003 which was affected by low precipitation in the catchment areas.

Chart 5.2 Electricity supplied



- Total electricity supplied by all generators in first quarter of 2004 was 4.5 per cent higher (+4½ TWh) than a year earlier.
- Indigenous supply was 3.7 per cent higher (+4 TWh) while net imports were double the low levels of the first quarter of 2003 (+1 TWh).
- The supply from coal rose by 2.6 per cent (+1 TWh), while from gas fired stations supply rose by 9.7 per cent (+3½ TWh).
- The supply from nuclear stations fell by 4.3 per cent (-1 TWh).
- Between the first quarter of 2003 and the first quarter of 2004 coal's share of the electricity supplied fell by ½ percentage point to 37 per cent and nuclear's share fell by 2 percentage points to 20 per cent. Gas' share rose by 1½ percentage points to 36 per cent. The share of net imports rose by ½ per cent to 1½ per cent.

Chart 5.3 Electricity consumption

- Final consumption of electricity rose by 4.2 per cent in the first quarter of 2004. Domestic use was up by 4.0 per cent while consumption by commercial, public administration, transport and agricultural customers was up by 3.8 per cent. Industrial use of electricity was 4.9 per cent higher.
- In this period temperatures were about ¼ degree Celsius cooler on average than in the first quarter of 2003, but March was a particularly cool month.

Background

Relevant tables

[5.1: Fuel used in electricity generation and electricity supplied](#)

[5.2: Supply and consumption of electricity](#)

Fuel use

In 2001 higher gas prices brought a temporary halt to the rising trend in gas use at power stations, but during summer 2002 lower gas prices led to a resumption of growth in gas use. At the end of 2002 and in 2003 high gas prices again restricted gas use for generation, aided by strong competition from coal, especially imported coal. The downward trend in generation from nuclear sources since 1998 was reversed during 2001 and nuclear's recovery continued during the first half of 2002. However, in the third and fourth quarters of 2002 and in the fourth quarter of 2003 and the first quarter of 2004, unplanned outages produced further downturns.

Supply

Supply from the coal fired power stations of major power producers rose by 8½ per cent in 2001, slipped back by 5½ per cent during 2002, but rose by 10½ per cent in 2003. The 2002 decline was mainly due to resumed competition from gas-fired stations which recorded a 7 per cent increase in electricity supplied during 2002, although the 2½ per cent fall in supply from nuclear stations also helped in gas' moderate resurgence. In 2003 coal was again the preferred fuel with electricity supplied from gas declining by 4 per cent and nuclear by 1 per cent. Low rainfall levels affected supplies from hydro sources in 2001 and again in 2003. Imports and exports of electricity from and to continental Europe have been volatile with suppliers taking advantage of price differentials that have arisen during periods of extreme weather. In 2003 both very hot and very cold weather increased exports to continental Europe to record levels.

Consumption

Electricity demand was rising at a trend rate of 1½ to 2 per cent a year over the five years to 2001 so the absence of growth in 2002 was unusual. Growth at 1½ was recorded in 2003. Because electricity is used for heating and lighting in the domestic sector, and heating and lighting uses are also prominent in the commercial sector, domestic and commercial sector shares of consumption rise in the winter and fall in the summer. In 2003 electricity demand was divided 29½ per cent to the domestic sector, 28 per cent to industry, and 27 per cent to commerce, public administration, transport and agriculture. Fuel industries accounted for a further 8 per cent with the remaining 7½ per cent accounted for by transmission and distribution losses.

Ownership and operation of Combined Heat and Power plants in the UK in 2002

Background

Combined Heat and Power (CHP) is the simultaneous generation of usable heat and power (usually electricity) in a single process. Ownership and operation of CHP schemes can broadly be categorised as follows:

Category 1 - Schemes with no third party involvement in the operation or ownership.

Category 2 - Schemes with third party involvement, either in the operation, the ownership, or both.

Schemes where there is no third party involvement (Category 1) are owned and operated by the owners of the site where the scheme is located. Usually the principal recipients of the heat and/or power are the owners, though in some cases outputs (power or heat) may be exported off site.

Where the operation or ownership of a scheme (or both activities) is administered in conjunction with a third-party (Category 2), the scheme is commonly referred to as being administered under an Energy Services Agreement with the involvement of an Energy Services Company, or ESCo. The specific structure of individual ESCos varies from site to site and may include the site itself within the structure or it may comprise just a third party organisation. A simple breakdown of these arrangements is shown below:

Category 2a – Operational ESCo - The scheme is owned by the site, but is operated by a third party.

Category 2b – Ownership ESCo - The scheme is owned by a third party but operated by the site.

Category 2c – Full ESCo - The scheme is owned and operated by a third party.

Detailed explanation and analysis of the different types of ESCo structure is beyond the scope of this article, and the information herein is based upon the higher level Category 1 and 2 breakdown, and does not look into Categories 2a to 2c.

For simplicity all schemes with no third party involvement are referred to herein as 'Non-ESCo' and all others are referred to as 'ESCo'.

ESCo and Non ESCo CHP Schemes

The issue of ownership and operation of CHP plant is interesting for a number of reasons:

- it is expected that in the future more CHP plants will be built by ESCos, so it is useful to know whether that will lead to changes to differences in types and operation of CHP
- for some sectors, for example refineries, there may be differences in reporting for statistical purposes of fuel use depending on ownership of the CHP
- the issue of sector classification and definition of installations, which will in part relate to ownership, is important in the context of the EU Emissions Trading Scheme.

This article presents an analysis of the ownership and operation of CHP schemes in the UK. In the statistics for CHP in the Digest of United Kingdom Energy Statistics (DUKES), the sector classification for a CHP scheme is determined by the sector that receives the largest proportion of the heat. CHP schemes are classed in this manner as in most cases it is the existence of the heat load that leads to CHP being built.

The data used within this article are derived from submissions to the CHP Quality Assurance (CHPQA) programme for 2002 and the Annual Inquiry into Electricity Generated 2002, carried out by the Office of National Statistics (ONS) for DTI. Information regarding third party involvement in CHP schemes is not specifically requested as part of these submissions, and this information can

only be inferred from the data available. Whilst all reasonable checks have been conducted to ensure that the results presented are truly representative, these data should only be taken as indicative and not conclusive.

ESCo and non-ESCo CHP in the UK in 2002

Tables 1 and 2, and Chart 1 show the Non-ESCo and ESCo split, broken down by sector, for CHP plant operating in the United Kingdom in 2002. The largest number of schemes and also the larger part of the capacity are Non-ESCo CHP. Whilst there is a big difference in the number of schemes within the 'Transport, commerce and administration' sector between the ESCo and Non-ESCo groups, the effect this has on the difference between total capacity and output of the two categories is small. This is because schemes in this sector are very small in comparison to the industrial sectors (ie chemicals, oil refineries and paper industries).

The level of ESCo activity is particularly low in the 'Other industrial branches' sector. This sector includes the water treatment and sugar refining industries that have traditionally retained energy management 'in-house', often have multiple sites in their portfolio, and hence usually opt for the non-ESCo option for CHP. The chemicals and oil refineries sectors dominate the CHP market, both in ESCo and non-ESCo groups, as this is where the sites most suitable for CHP are generally to be found. The sector 'Other industrial branches' includes large power producers and therefore also makes a significant contribution to the total figures.

Table 1: Non-ESCo CHP schemes by Sector in the UK in 2002

Industry sector (1)	Number of schemes	Qualifying Power Capacity MWe	Heat output, GWh	Qualifying Power Output, GWh	Average load factor per cent
Chemicals and refineries	45	1,124.6	18,614.3	5,771.1	59
Paper, publishing and printing	24	163.6	4,162.7	823.8	57
Transport, commerce and administration	889	206.9	1,461.3	881.1	49
Other industrial branches	187	1,013.1	9,916.0	3,722.5	42
Other	68	64.9	742.9	287.7	51
Total	1,213	2,573.2	34,897.3	11,486.4	Average: 51

(1) see footnotes to Table 2

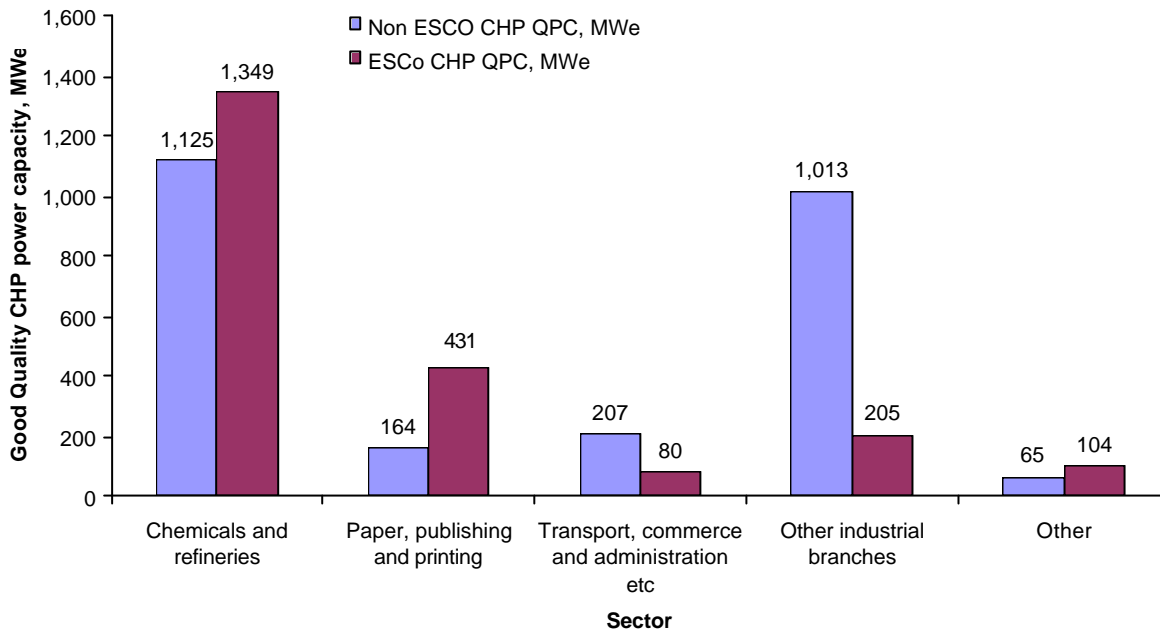
Table 2: ESCo CHP schemes by Sector in the UK in 2002

Industry sector (1)	Number of schemes	Qualifying Power Capacity MWe	Heat output, GWh	Qualifying Power Output, GWh	Average load factor per cent
Chemicals and refineries	16	1,349.0	18,505.1	7,558.1	77
Paper, publishing and printing	11	431.3	4,469.1	2,838.4	70
Transport, commerce and administration	252	80.4	806.1	406.9	75
Other industrial branches	20	204.6	1,422.8	1,248.8	58
Other	27	103.9	637.9	697.7	64
Total	326	2,169.2	25,841.1	12,749.9	Average: 67

(1) When splitting data into ESCo and Non-ESCo groups the normal DUKES sector categorisation resulted in some sectors having only 1 or 2 schemes. For reasons of confidentiality a number of sectors have therefore been aggregated together, as follows:

- 'Chemicals and oil refineries' is reported as a combined sector
- 'Other Industrial branches' includes the following industrial sectors, that are normally reported individually in DUKES
 - Extraction, mining and agglomeration of solid fuels
 - Food, drink and tobacco,
 - Iron, steel and non-ferrous metals
 - Metal machinery and equipment
 - Power generation

Chart 1: Comparison of ESCo and Non-ESCO CHP schemes in 2002



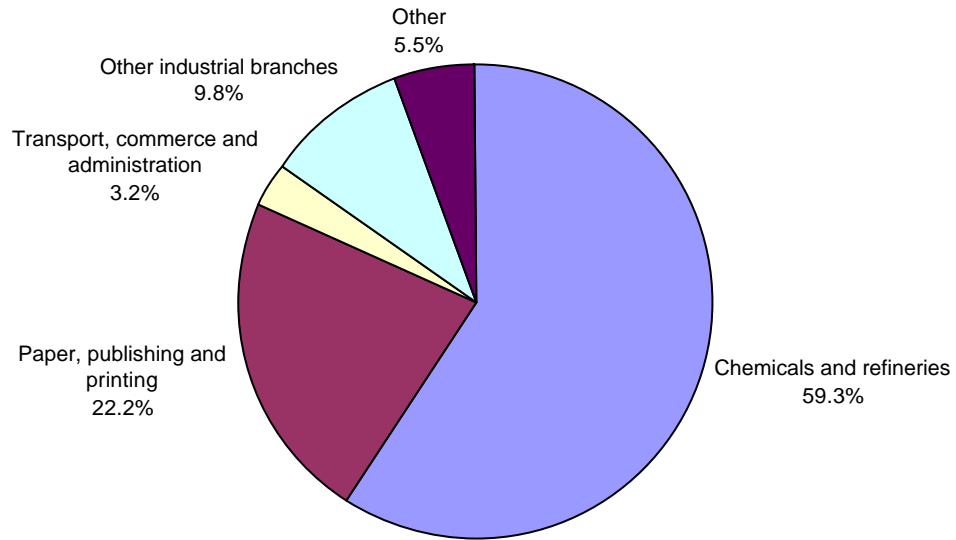
CHP scheme operation in 2002

An important factor when analysing operation of CHP is to consider not only the installed capacity, but also the actual power generation of the plant. CHP plant does not operate at full capacity for the entire year. Moreover it runs at part load when operational (generally 70-90 per cent) and also has periods of zero load during downtime for maintenance. The average level at which a CHP scheme operates, called the load factor, is the ratio of the actual output to the maximum possible output. In recent years this load factor has been relatively low due to unfavourable market conditions. However, as can be seen from the tables, the average load factor for ESCo schemes is 66 per cent whereas for non-ESCO schemes the average load factor is only 51 per cent. The reasons for this higher load factor within ESCo schemes may be contractual or may be driven by the ability of ESCos to be more active in the market for exported power. The difference in load factor suggests that ESCo schemes operate for an average of 1,000 hours per annum more than non-ESCO schemes.

It is important to note that the load factors reported in this article are based on the Good Quality qualifying power output and Good Quality qualifying power capacity. For some schemes it is the case that, whilst the total power capacity qualifies as good quality, the total power output is scaled back. These schemes are termed 'Partial CHP'. Scaling back of the power output from Partial schemes means that the reported 'Good Quality CHP' load factor is lower than the actual operational load factor.

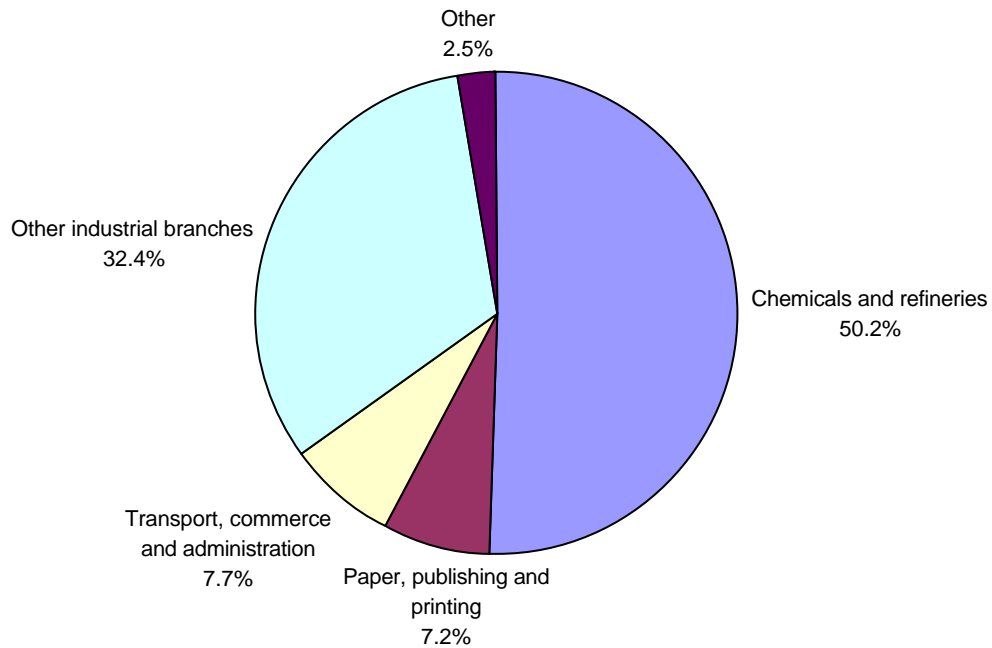
As can be seen from Chart 2, CHP power output from ESCo schemes is dominated by three specific sectors; 'Chemicals and oil refineries' (being a joint sector, combined due to confidentiality) with 59.3 per cent of total output, and 'Paper, publishing and printing', with 22.3 per cent of total output. Chart 3 shows that within the Non-ESCO data set, there is also a dominance of power output from the 'Chemicals and oil refineries sector', being 50.2 per cent but the balance of the power output is more evenly distributed between the remaining sectors. (Note that 'Other industrial branches' contains five categories as listed in the footnote to Table 2).

Chart 2: Good Quality CHP scheme power output by sector for ESCo CHP schemes



Total Good Quality CHP power output of ESCo CHP schemes in 2002 (100% of pie chart) was 12,749 GWh

Chart 3: Good Quality CHP scheme power output by sector for Non-ESCO CHP schemes



Total Good Quality CHP power output of Non-ESCO CHP schemes in 2002 (100% of pie chart) was 11,486 GWh

Summary

Analysis of operation and ownership of CHP schemes in the UK suggests that most CHP schemes do not have third party (ESCo) involvement (1,213 out of a total of 1,539). Irrespective of third party involvement, the majority of CHP capacity and output is within the Chemicals and oil refineries sector. The figures indicate that ESCo CHP runs for an average of 1,000 hours per year more than Non-ESCo CHP and that average load factors for both groups are low. However, these figures must be viewed with caution; ESCo CHP operation is more heavily influenced by contractual arrangements than Non-ESCo CHP and in both cases load factor of partial schemes will be higher than reported in this article, for the reasons explained on page 20.

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Renewable energy in 2003

Introduction

This article updates that published in the June 2003 edition of Energy Trends. It looks at the latest position on the new Renewables Obligation and lists statistics on renewable energy production and use in the United Kingdom in 2003. It also re-examines progress with other policies designed to help mitigate greenhouse gas emissions through supporting the uptake of renewables.

The collection of renewable energy statistics began in 1989, when all relevant renewable energy sources were identified and, where possible, information was collected on the amounts of energy derived from each source. The renewable energy sources currently covered are as follows: active solar heating; photovoltaics; onshore and offshore wind power; wave power; large and small scale hydro; biofuels; geothermal aquifers. The database now contains 15 years of data from 1989 to 2003. Detailed figures on renewable sources of energy will be available in the new Digest of UK Energy Statistics for 2004 to be published at the end of July.

In previous years wastes have been added in with renewables as a convenient place to record this fuel source. However, from this year the international definition of total renewables has been adopted for this article and for the main renewables series in the Digest of UK Energy Statistics, and this excludes non-biodegradable wastes

UK's renewables policy

Until 2000, the main instruments for pursuing the development of renewables capacity have been the Non Fossil Fuel Obligation (NFFO) Orders for England and Wales and for Northern Ireland (NI-NFFO), and Scottish Renewable Obligation (SRO) Orders; the term "NFFO Orders" is used to refer to these instruments collectively. These aimed to assist the renewables industry by allowing premium prices to be paid for electricity for a fixed period. Since February 2000, however, the United Kingdom's renewables policy has consisted of four key strands:

- a **new Renewables Obligation** on all electricity suppliers in Great Britain to supply a specific proportion of electricity from eligible renewables;
- exemption of electricity from renewables¹ from the **Climate Change Levy**;
- an **expanded support programme** for new and renewable energy **including capital grants** and an expanded **research and development** programme;
- development of a **regional strategic approach** to planning and targets for renewables.

In parallel with this, the European Union's Renewables Directive (RD), which came into force in October 2001, proposes that Member States adopt national targets for renewables that are consistent with reaching the overall EU target of 12 per cent of energy (22.1 per cent of electricity) from renewables by 2010. The proposed UK "share" of this target is that renewables source eligible under the RD should account for **10 per cent of UK electricity consumption by 2010**.

Renewables obligation

The obligation is part of the UK's proposed programme to tackle climate change and to encourage a more sustainable approach to energy consumption. Previous policy has been successful in introducing renewables to the UK marketplace and in reducing costs. The focus of current policy is to build on these achievements through the Obligation and a system of capital grants designed to bring forward offshore wind and energy crops, thereby maximising the chances of meeting the Government's targets.

In April 2002 the new Renewables Obligation (RO) and the analogous Renewables (Scotland) Obligation came into effect². It is an obligation on all electricity suppliers to supply a specific

¹ Electricity generated by hydro stations with a declared net capacity of more than 10 MW is not exempt from the Climate Change Levy.

proportion of electricity from eligible renewable sources so that by 2010 **10 per cent of licensed UK electricity sales** will be from renewable sources eligible for the RO. Examples of eligible sources are listed in Table 1.

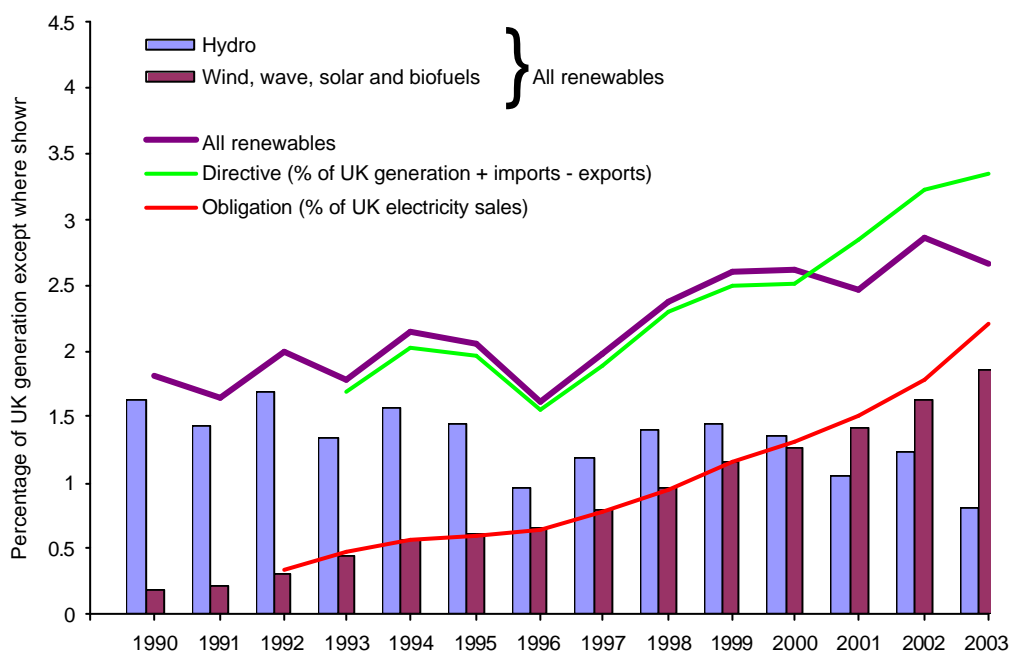
Table 1: Examples of eligible sources of renewable energy

Wind energy
Hydro power, but some exclusions
Tidal and tidal stream
Wave energy
Photovoltaics
Geothermal
All biodegradable material
Landfill gas and sewage gas
Energy crops

There are, however, specific exclusions. These are generating stations using peat; existing hydro plant of over 20 MW built before 1990 (unless re-furbished); and energy from mixed waste combustion. Mixed waste that is converted to fuel using advanced conversion technology is eligible, but only the biodegradable fraction of any waste is eligible (in line with the EU Directive). All stations outside the UK (which includes its territorial waters and the continental shelf) are also excluded.

Monitoring compliance is the responsibility of the Office for Gas and Electricity Markets (OFGEM), who administer a system of certification. **Renewables Obligation Certificates (ROCs)** are issued to qualifying renewables generators as evidence that a licensed electricity supplier has supplied qualifying electricity to their customers in Great Britain. These certificates may be traded separately from the electricity to which they relate through a system of limited banking and borrowing in order to give individual suppliers more flexibility as to how they meet the demands of the Obligation.

Chart 1: Growth in electricity generation from renewable sources since 1990



Renewables - statistics update

Renewables (on the international definition basis) provided 2.67 per cent of the electricity generated in the United Kingdom in 2003, 0.19 percentage points lower than in 2002. Total electricity generation

² Parliamentary approval of the Renewables Obligation Orders under The Utilities Act 2000 was given in March 2002.

from renewables in 2003 amounted to 10,649 GWh, a reduction of 4 per cent on 2002. The main cause of this fall was a 33 per cent decline in output from hydro schemes caused by low rainfall and snowfall during winter 2002/3 and the summer of 2003. Chart 1 shows the growth in the proportion of electricity produced from renewable sources. It includes the progress towards the renewables targets set under the Renewables Obligation (RO) and Renewables Directive (RD). As the chart shows, the variability in hydro output makes the path towards two of these targets a far from smooth one.

In Chart 1 the bars show the growth in the two constituent parts of renewables generation since 1990. The lines show the growth in the three percentage measures used for renewables growth. In 2003 two of the percentages continued to grow. The percentage of UK electricity sales that were of electricity generated from sources eligible for the RO grew by 0.42 percentage points to 2.21 per cent, and, on the basis favoured by the Renewables Directive, the percentage of UK electricity consumption accounted for by RD eligible renewable sources increased by 0.13 percentage points to 3.35 per cent in 2003. Table 2 sets out the percentages for each of the last four years for each of the three percentage measures.

Only 30 per cent of generation from renewables was from hydro in 2003 compared with 43 per cent in 2002. Generation from renewable sources other than large-scale hydro was 16 per cent higher than in 2002 and double that of 5 years earlier in 1998. Chart 2 shows the growth in generation from renewables.

Table 2: Percentages of electricity derived from renewable sources

	2000	2001	2002	2003
Overall renewables percentage (Electricity generated from all renewables as a percentage of all electricity generated in the UK) (1)	2.61	2.47	2.86	2.67
Percentage on a Renewables Obligation basis (Electricity generated from renewables eligible for the Renewables Obligation - see Table 1 - as a percentage of electricity sales by licensed suppliers in the UK)	1.31	1.51	1.79	2.21
Percentage on a Renewables Directive basis (Electricity generated from renewable sources eligible under the EU Directive - ie all renewables except non-biodegradable wastes – including any net imports of eligible electricity, as a percentage of UK electricity consumption)	2.51	2.85	3.22	3.35

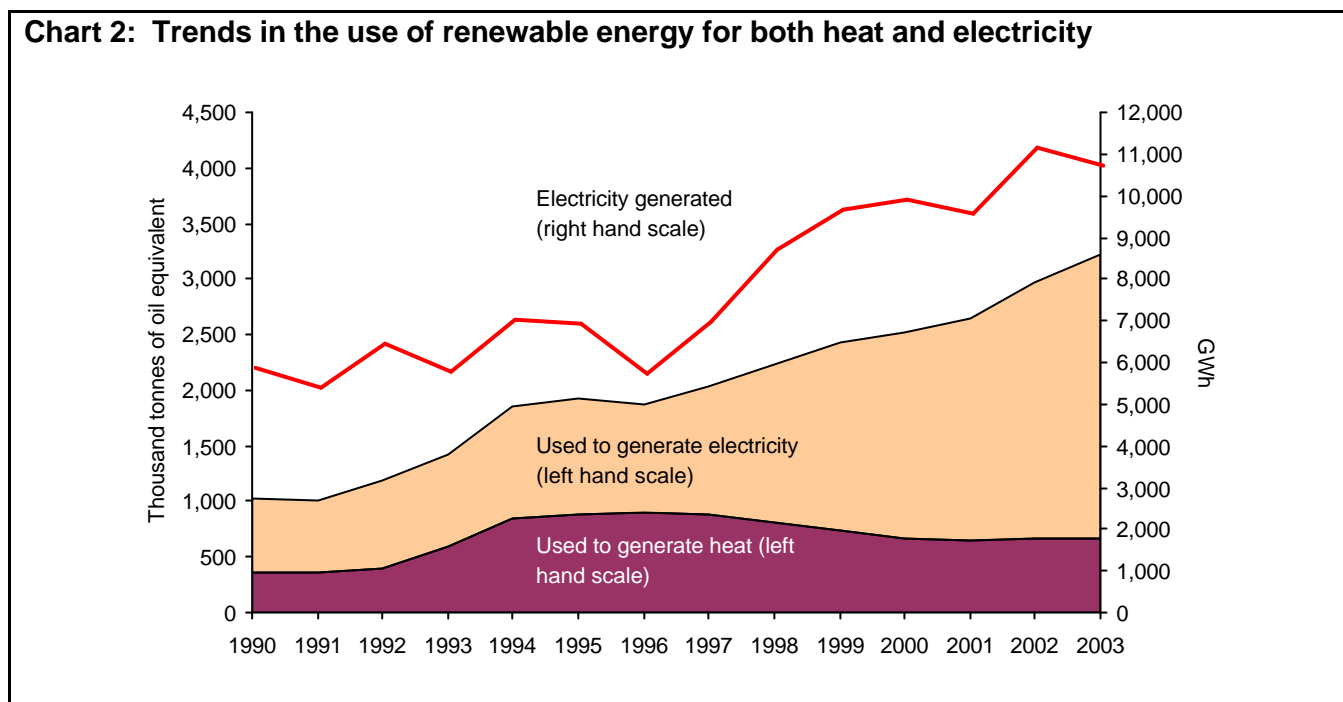
(1) Because of the adoption of the international definition of renewables, these percentages are on average 0.15 percentage points lower than that quoted in previous years when non-biodegradable wastes were included.

Heat production

Renewable sources are also used to generate heat. The three sources of heat production in the United Kingdom are: the direct combustion of biofuels (97 per cent of the total), active solar heating, and geothermal aquifers. Together they produced energy equivalent to 662 thousand tonnes of oil equivalent, slightly above the figure for 2002. When this figure is combined with the use of renewable sources for electricity generation, renewable sources accounted for 1.4 per cent of the United Kingdom's total primary energy requirements in 2003, up from 1.3 per cent in 2002 and 1.1 per cent in 2001. The trends in the use of renewable energy for both heat and electricity are shown in Chart 2.

Co-firing of biomass with fossil fuels

The renewables technology that showed the biggest increase in electricity output during 2003 was the co-firing of biomass with fossil fuels with an increase of over 100 per cent. Co-firing of biomass fuel in fossil fuel power stations is not a new idea. Technically it has been proven in power stations worldwide, although, until recently, it was not practised in the UK. The biomass fuel is usually fed by means of the existing stoking mechanism as a partial substitute for the fossil fuel. The combustion system may cope with up to a 25 per cent substitution without any major changes to the boiler design and airflows, but fuel preparation and transport systems may be the limiting feature at percentages much lower than this.



Since 2002, co-firing of biomass with fossil fuels has been eligible under the RO, the first time that any renewable energy initiative has included co-firing. As the purpose of this was to enable markets and supply chains for biomass to develop, and not to support coal fired power stations, the following limits (as amended by the Renewables Obligation (amendment) Order 2004 which came into force on 1 April this year) have been placed on co-firing:

- any biomass can be co-fired until 31 March 2009 with no minimum percentage of energy crops;
- 25 per cent of co-fired biomass must be energy crops from 1 April 2009 until 31 March 2010;
- 50 per cent of co-fired biomass must be energy crops from 1 April 2010 until 31 March 2011;
- 75 per cent of co-fired biomass must be energy crops from 1 April 2011 until 31 March 2016. Co-firing ceases to be eligible for ROCs after this date.

To reduce the risk of flooding the ROC market with co-firing ROCs, thereby affecting ROC prices and investor confidence adversely, the cap on an individual supplier has been reduced to:

- 10 per cent from 1 April 2006 until 31 March 2011;
- 5 per cent from 1 April 2011 until 31 March 2016.

NFFO

As at 31 December 2003, 411 projects contracted under the NFFO, the SRO and the NI-NFFO had been commissioned and were **still** generating electricity, with a capacity totalling 1,058.4 MW DNC. These figures include those projects formerly contracted under NFFO 1 and 2, whose contracts expired on 31 December 1998. The breakdown is shown in Tables 3 and 4.

Table 3: NFFO Orders status summary as at 31 December 2003

Technology	Contracted projects		Commissioned projects	
	Number	Capacity (MW DNC)	Number	Capacity (MW DNC)
Biomass	32	256.0	8	106.4
Hydro (small-scale)	146	95.4	51	38.0
Landfill gas	329	699.7	209	441.0
Municipal and industrial waste	90	1,398.2	32	232.2
Sewage gas	31	33.9	23	24.4
Wave	3	2.0	1	0.2
Wind	302	1,153.7	87	216.2
Total	933	3,638.9	411	1,058.4

Sources: NFFO, Scottish Executive, Northern Ireland Electricity

Includes those projects formerly contracted under NFFO 1 and 2

Of the 25 schemes totalling 52.33 MW DNC that came on-line during the calendar year 2003:

- 17 (41.1 MW DNC) were projects with NFFO contracts under NFFO 3 (1 Municipal and industrial waste and 2 Wind), 4 (1 Hydro and 2 Landfill Gas) and 5 (9 Landfill Gas and 2 Wind)
- 8 (11.2 MW DNC) were schemes commissioned under SRO 1 (1 Hydro), SRO 2 (2 Waste), and SRO 3 (3 Waste and 2 Wind).

Table 4 summarises the current status of renewable energy projects contracted by means of the NFFO Orders and shown in order of their historical development. In 1990, the first year of NFFO, projects contracted within NFFO accounted for about 34 per cent of the total capacity (excluding large-scale hydro) ie 51 MW out of 151; by 1998, this figure had risen to 86 per cent, but dropped to 50 per cent in 1999 due to the expiry of NFFO 1 and 2 contracts. In 2002 the NFFO capacity rose slightly faster than non-NFFO (including formerly NFFO 1 and 2) capacity producing a proportion of 62.6 per cent, up from 61.5 per cent in 2001. In 2003, the NFFO capacity proportion decreased to 54.7 as many more new schemes, and former NFFO 1 and 2 schemes, applied for ROCs.

Table 4: NFFO Orders and operational capacity as at 31 December 2003

	Contracted Projects		Live Projects	
	Number	Capacity MW	Number	Capacity MW
England and Wales				
NFFO - 1 (1990)	75	152.1	40	114.7
NFFO - 2 (late 1991)	122	472.2	68	151.3
NFFO - 3 (1995)	141	626.9	82	305.3
NFFO - 4 (1997)	195	842.7	80	199.6
NFFO - 5 (1998)	261	1,177.2	76	142.8
NFFO Total	794	3,271.1	346	913.7
Scotland				
SRO - 1 (1994)	30	76.4	19	47.5
SRO - 2 (1997)	26	114.1	13	50.4
SRO - 3 (1999)	53	145.4	14	28.8
SRO Total	109	335.9	46	126.7
Northern Ireland				
NI NFFO - 1 (1994)	20	15.6	14	15.0
NI NFFO - 2 (1996)	10	16.3	5	2.9
NI NFFO Total	30	31.9	19	17.9
Total	933	3,638.9	411	1,058.4

Renewables outside of NFFO

Since the expiry of the NFFO 1 and 2 contracts on 31 December 1998, these projects are no longer included in the monitoring of NFFO Orders and DTI no longer receive any status/output data on them from the NFPA. For some of these projects operational data have been obtained from other sources, while for the remainder estimates have been made based on output in 1998. From 2002 another source of information became available in the form of the Renewable Obligation data that are published on the OFGEM web site. This enabled FES to identify, which former NFFO 1 and 2 schemes were applying for ROCs and therefore were still running; in addition, FES has surveyed the ex-NFFO schemes as some may still not yet have completed their application for ROCs. It is currently believed that forty projects contracted under the first Order and sixty-eight under the second Order are still operational.

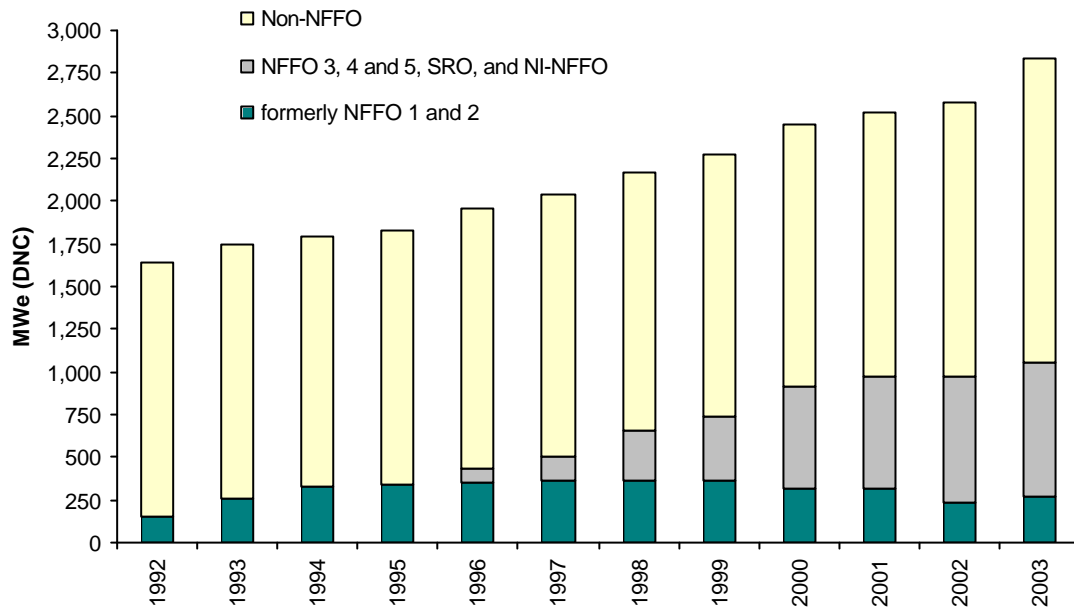
While live projects under NFFO accounted for 1,058.4 MW DNC of renewables capacity at the end of 2003, this was only about 37 per cent of the total renewables generating capacity in the United Kingdom at that date. The majority of the additional 1,783 MW is accounted for by large-scale hydro capacity operated by major power producers. Progressively offshore windfarms will increase this non-NFFO capacity. Trends in capacity since 1992 (in DNC terms) are shown in Chart 3.

There are two groups of schemes that come into Non-NFFO category. Firstly there are the schemes that existed before Non Fossil Fuel Orders came into existence, mainly large scale hydro schemes

Special feature – Renewable energy in 2003

operated by major power producers. Secondly there are schemes that have been developed since the Renewables Obligation Orders came into effect in 2002. Most notable among this second group are the major offshore wind farms such as North Hoyle which started producing electricity in autumn 2003.

Chart 3: Renewable generating capacity from NFFO, former NFFO contracts (including equivalents in Scotland and Northern Ireland) and capacity outside of NFFO



Regional statistics

Government's encouragement of a regional strategic approach to planning and targets for renewables has now resulted in the production of regional statistics in support of both these regional initiatives. Regional renewables statistics for 2000, 2001 and 2002 were given in articles in the December 2001, September 2002 and September 2003 issues of Energy Trends, respectively. An article updating the figures to 2003 is planned for September 2004.

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Recent and forthcoming publications of interest to users of energy statistics

Energy Paper 68 Update

To support the analysis underlying the introduction of the European Union Emissions Trading Scheme, notably the National Allocation Plan (NAP), DTI have updated its energy and emissions projections, last published in Energy Paper 68 in November 2000. A working paper showing revised energy projections has recently been published on the DTI website. It is available at: www.dti.gov.uk/energy/sepn/euets.shtml#uep . Updated energy projections have informed the NAP which was submitted to the European Commission in April 2004.

Fuel Poverty

On 26 April 2004 the Government's Second Annual Progress Report on the UK Fuel Poverty Strategy was published. It was accompanied by an internet-only series of annexes, one of which was an update of the 19 Fuel Poverty Indicators as developed by the Fuel Poverty Monitoring and Technical Group. Also published was a consultation document detailing proposed amendments to the methodology by which fuel poverty figures for England are calculated. The consultation runs until July 23 2004. The web reference for both documents is:

www.dti.gov.uk/energy/consumers/fuel_poverty/fuel_strategy.shtml .

First Annual Report on the Energy White Paper

The Energy White Paper published in February 2003 set out a new strategy for energy policy until 2050. This annual report reviews progress over the last 12 months and the way ahead. It was published on 26 April 2004 and is available on the DTI web site at:

www.dti.gov.uk/energy/sepn/firstannualreport.shtml .

UK Energy Sector Indicators 2004

Energy sector indicators for 2003 were published as a supplement to the 2003 Energy White Paper. Energy Sector Indicators for 2004 was published on 26 April 2004 as a supplement to the First Annual Report on the Energy White Paper (see above). As well as the four key indicators used in the Report, and 27 supporting indicators there is the full range of background indicators that have been published in the corresponding booklet for earlier years. Energy Sector Indicators 2004 is available on the DTI web site at:

www.dti.gov.uk/energy/inform/energy_indicators/index.shtml

and in hard copy from DTI Publications orderline (see below).

Fourth Joint Energy Security of Supply Working Group (JESS) Report, May 2004

The JESS group, chaired jointly by DTI and Ofgem, brings together contributions from DTI, Ofgem, National Grid Transco (NGT) and the Foreign and Commonwealth Office (FCO) on energy security. The work that JESS undertakes on security of supply is focused on the medium- to long-term, at least seven years ahead, rather than the short-term. The fourth report covers the work of JESS between November 2003 and April 2004 and sets out how the group's work has developed since its third report (November 2003). JESS reports are available on the DTI website at www.dti.gov.uk/energy/jess, or in hard copy from:

DTI Publications Orderline

Web: www.dti.gov.uk/publications

Phone: 0870 150 2500

Address: ADMAIL, 528, London, SW1W 0YT

Email: publications@dti.gsi.gov.uk

1 TOTAL ENERGY

TABLE 1.1. Indigenous production of primary fuels

Million tonnes of oil equivalent

		Total	Coal ¹	Petroleum ^{2,3}	Natural gas ⁴	Primary electricity	
						Nuclear	Natural flow hydro ⁵
1999		297.5	24.7	150.2	99.9	22.22	0.53
2000		288.7	21.0	138.3	109.3	19.64	0.52
2001		277.4	21.5	127.8	106.8	20.80	0.43
2002		272.9	20.5	127.0	104.7	20.14	0.52
2003 p		260.5r	19.4	116.2	104.0r	20.53	0.38
<i>Per cent change</i>		-4.6	-5.4	-8.5	-0.7	+1.9	-27.6
2003	Quarter 1	72.9r	5.3	31.4r	30.5r	5.68	0.11
	Quarter 2	63.2	4.9	28.3	24.6	5.20	0.08
	Quarter 3	57.7	4.1	27.4	21.3	4.82	0.07
	Quarter 4	66.7r	5.0	29.0	27.6	4.84	0.11
2004	Quarter 1 p	65.4	4.4	28.0	27.5	5.32	0.16
<i>Per cent change</i> ⁶		-10.4	-17.1	-11.0	-9.7	-6.3	+47.2

1. Includes solid renewable sources (wood, straw and waste), a small amount of renewable primary heat sources (solar, geothermal etc) and an estimate for slurry.

2. Calendar months.

3. Crude oil, offshore and land, plus condensates and petroleum gases derived at onshore treatment plants.

4. Includes colliery methane, landfill gas and sewage gas. Excludes gas flared or re-injected.

5. Includes generation at wind stations.

6. Percentage change in the first quarter of 2004 compared with a year earlier

1 TOTAL ENERGY

TABLE 1.2 Inland energy consumption: primary fuel input basis

Million tonnes of oil equivalent

	Total	Coal ¹	Petroleum ²	Primary electricity				Total	Coal	Petroleum	Primary electricity				
				Natural gas ³	Nuclear	Natural flow hydro ⁴	Net imports				Natural gas	Nuclear	Natural flow hydro	Net imports	
	<i>Unadjusted⁵</i>							<i>Seasonally adjusted and temperature corrected^{6,7,8} (annualised rates)</i>							
1999	231.1	37.5	76.4	93.3	22.22	0.53	1.22	235.7	38.2	77.8	95.8	22.25	0.53	1.22	
2000	234.2	39.2	76.7	97.0	19.64	0.52	1.22	237.9	40.0	77.8	98.7	19.66	0.50	1.22	
2001	237.5r	42.6	76.2r	96.6	20.80	0.43	0.89	238.7r	43.1	76.7r	96.8	20.85	0.44	0.89	
2002	230.8r	39.3	74.2r	95.9	20.14	0.52	0.72	236.2r	40.0	75.6r	99.3	20.08	0.54	0.72	
2003 p	232.9r	41.9r	73.8r	96.1	20.53	0.38	0.19	236.8r	42.8r	74.9	98.1r	20.48	0.40	0.19	
<i>Per cent change</i>	<i>+0.9</i>	<i>+6.4</i>	<i>-0.5</i>	<i>+0.2</i>	<i>+1.9</i>	<i>-27.6</i>	<i>-74.3</i>	<i>+0.3</i>	<i>+7.1</i>	<i>-1.0</i>	<i>-1.2</i>	<i>+2.0</i>	<i>-27.1</i>	<i>-74.3</i>	
2003	Quarter 1	67.5r	12.0	18.2r	31.6	5.68	0.11	0.07	245.7r	43.2	72.1r	108.3	21.48	0.33	0.27
	Quarter 2	53.2r	9.6	18.8r	19.6	5.20	0.08	-	238.7r	44.6	79.3r	93.1r	21.13	0.47	0.11
	Quarter 3	47.3r	8.5	17.8r	16.1	4.82	0.07	-	219.1r	41.5	70.8r	86.2r	20.22	0.45	-0.08
	Quarter 4	64.8r	11.9	19.1r	28.8	4.84	0.11	0.11	243.7r	41.9r	77.2r	104.7r	19.08	0.35	0.44
2004	Quarter 1 p	68.0	11.9	18.3	32.2	5.32	0.16	0.14	247.9	42.8	72.8	111.2	20.07	0.48	0.56
<i>Per cent change⁹</i>		<i>+0.7</i>	<i>-0.7</i>	<i>+0.7</i>	<i>+2.0</i>	<i>-6.3</i>	<i>+47.2</i>	<i>(+)</i>	<i>+0.9</i>	<i>-0.9</i>	<i>+0.9</i>	<i>+2.7</i>	<i>-6.6</i>	<i>+47.0</i>	<i>(+)</i>

1. Includes solid renewable sources (wood, straw and waste), a small amount of renewable primary heat sources (solar, geothermal, etc.) and net foreign trade and stock changes in other solid fuels.

2. Excludes non-energy use.

3. Includes gas used during production, colliery methane, landfill gas and sewage gas. Excludes gas flared or re-injected and non-energy use of gas.

4. Includes generation at wind stations. Excludes generation from pumped storage stations.

5. Not seasonally adjusted or temperature corrected.

6. Coal, petroleum and natural gas are temperature corrected.

7. For details of temperature correction see DTI energy statistics website at www.dti.gov.uk/energy/inform/dukes/dukes2003/01longterm.pdf

8. The seasonal adjustment factor used in the seasonal adjustment process have been revised since the last publication.

9. Percentage change in the first quarter of 2004 compared with a year earlier.

1 TOTAL ENERGY

Table 1.3a Supply and use of fuels

Thousand tonnes of oil equivalent

	2002	2003 p	per cent change	2002 1st quarter	2002 2nd quarter	2002 3rd quarter	2002 4th quarter	2003 1st quarter	2003 2nd quarter	2003 3rd quarter	2003 4th quarter	2004 1st quarter	per cent change ¹
SUPPLY													
Indigenous production	272,899r	260,684r	-4.5	72,994r	68,153r	58,966r	72,787r	73,065r	63,345r	57,619r	66,654r	65,502	-10.4
Imports	103,718r	107,507r	+3.7	25,740r	28,728r	24,388r	24,862r	26,551r	25,094r	26,909r	28,953r	31,326	+18.0
Exports	-134,450r	-123,278r	-8.3	-32,181r	-37,722r	-30,448r	-34,099r	-32,253r	-31,566r	-30,687r	-28,772r	-28,027	-13.1
Marine bunkers	-1,858r	-1,879r	+1.1	-457r	-540r	-395r	-465r	-486r	-500r	-462r	-430r	-381	-21.6
Stock change ²	+1,351r	+2,095r		+3,130r	-3,474r	-985r	+2,680r	+4,226r	-827r	-2,219r	914r	+3,480	
Primary supply	241,660r	245,127r	+1.4	69,226r	55,144r	51,526r	65,764r	71,103r	55,546r	51,161r	67,318r	71,899	+1.1
Statistical difference ³	+169r	-432r		-25r	+829r	-13r	-622r	-1,045r	+1,181r	-279r	-290r	-723	
Primary demand	241,492r	245,560r	+1.7	69,251r	54,315r	51,539	66,386	72,147	54,365r	51,440r	67,608r	72,621	+0.7
Transfers ⁴	-157r	-197r		-33r	-39r	-40r	-44r	-49r	-50r	-42r	-56r	-3	
TRANSFORMATION	-52,429r	-54,200r	+3.4	-14,452r	-12,007r	-12,111r	-13,858r	-15,009r	-12,526r	-12,342r	-14,323r	-15,123	+0.8
Electricity generation	-48,690r	-51,132r	+5.0	-13,503r	-11,055r	-11,191r	-12,941r	-14,203r	-11,821r	-11,565r	-13,543r	-14,012	-1.3
Heat generation	-892r	-642r	-28.0	-279r	-198r	-167r	-249r	-193r	-150r	-123r	-177r	-238	+23.5
Petroleum refineries	-595r	170r		-101r	-202r	-183r	-110r	21r	68r	-28r	109r	-304	
Coke manufacture	-155r	-84r	-45.7	-46r	-28r	-43r	-37r	-28r	-20r	-11r	-26r	-34	+22.1
Blast furnaces	-2,098r	-2,515r	+19.9	-525r	-521r	-527r	-525r	-609r	-603r	-618r	-686r	-537	-11.7
Patent fuel manufacture	1	4r	(+)	2r	-3r	-	3r	2r	-	2r	-1r	2	+20.8
Energy industry use	17,128r	16,848r	-1.6	4,510r	4,207r	3,977r	4,434r	4,606r	4,039r	3,929r	4,274r	4,465	-3.1
Losses	3,498	3,183	-9.0	965	792	724	1,017	972	686r	653r	872r	976	+0.4
FINAL CONSUMPTION	168,279r	171,131r	+1.7	49,262r	37,271r	34,706r	47,040r	51,493r	37,074r	34,493r	48,071r	52,036	+1.1
Iron & steel	3,144r	3,032r	-3.6	940r	798r	669r	737r	835r	725r	676r	797r	853	+2.2
Other industries	31,243r	32,366r	+3.6	8,923r	7,180r	6,774r	8,365r	9,844r	7,136r	6,705r	8,681r	9,617	-2.3
Transport	55,366r	56,025r	+1.2	13,596r	13,729r	14,291r	13,749r	13,271r	14,094r	14,745r	13,915r	13,349	+0.6
Domestic	47,784r	47,866r	+0.2	17,216r	8,931r	6,358r	15,278r	17,811r	8,480r	5,817r	15,758r	18,450	+3.6
Public administration	7,081r	7,008r	-1.0	2,180r	1,525r	1,183r	2,193r	2,332r	1,385r	1,091r	2,201r	2,289	-1.8
Commercial	9,778r	10,120r	+3.5	2,779r	2,194r	1,989r	2,817r	3,036r	2,226r	1,945r	2,913r	3,301	+8.7
Agriculture	1,126r	894r	-20.6	390r	246r	224r	265r	279r	195r	181r	240r	273	-2.3
Miscellaneous	1,878r	1,972r	+5.0	609r	379r	259r	632r	715r	353r	235r	669r	686	-4.1
Non energy use	10,878r	11,848r	+8.9	2,630r	2,287r	2,958r	3,003r	3,371r	2,481r	3,100r	2,897r	3,219	-4.5

1. Percentage change between the most recent quarter and the same quarter a year earlier.

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

3. Primary supply minus primary demand.

4. Annual transfers should ideally be zero. For manufactured fuels differences occur in the rescreening of coke to breeze. For oil and petroleum products differences arise due to small variations in the calorific values used.

1 TOTAL ENERGY

Table 1.3b Supply and use of fuels

Thousand tonnes of oil equivalent

	2003 Quarter 1									2004 Quarter 1 p									
	Coal	Manufactured fuels ⁴	Primary oil	Petroleum Products	Natural gas ⁵	Renewables & waste ⁶	Primary electricity	Electricity	Heat sold	Coal	Manufactured fuels ⁴	Primary oil	Petroleum Products	Natural gas ⁵	Renewables & waste ⁶	Primary electricity	Electricity	Heat sold	
SUPPLY																			
Indigenous production	4,901	-	31,437	-	30,183	747	5,796	-	-	3,969	-	27,982	-	27,254	792	5,505	-	-	-
Imports	4,546	147	14,844	4,848	2,050	-	-	115	-	5,816	169	17,190	3,872	4,103	-	-	176	-	-
Exports	-115	-55	-22,190	-6,575	-3,273	-	-	-46	-	-112	-46	-19,584	-6,972	-1,277	-	-	-36	-	-
Marine bunkers	-	-	-	-486	-	-	-	-	-	-	-	-	-381	-	-	-	-	-	-
Stock change ¹	+2,136	+1	-406	+65	+2,430	-	-	-	-	+1,730	-56	-564	+395	+1,974	-	-	-	-	-
Primary supply	11,469	94	23,685	-2,148	31,391	747	5,796	69	-	11,403	67	25,024	-3,086	32,054	792	5,505	141	-	-
Statistical difference ²	-354	-33	-158	-146	-159	-	-	-195	-	-155	-48	+415	-724	-80	-	-	-131	-	-
Primary demand	11,823	127	23,843	-2,003	31,550	747	5,796	264	-	11,558	114	24,609	-2,362	32,133	792	5,505	271	-	-
Transfers ³	-	-29	-406	+390	-3	-	-120	+120	-	-	-29	-566	+593	-2	-	-186	+186	-	-
TRANSFORMATION	-11,414	542	-23,437	23,162	-7,282	-522	-5,676	9,051	567	-11,233	507	-24,043	23,392	-7,773	-562	-5,319	9,343	565	-
Electricity generation	-10,042	-138	-	-172	-6,719	-506	-5,676	9,051	-	-9,835	-158	-	-299	-7,198	-546	-5,319	9,343	-	-
Heat generation	-90	-42	-	-48	-563	-16	-	-	567	-134	-30	-	-48	-575	-16	-	-	565	-
Petroleum refineries	-	-	-23,437	23,458	-	-	-	-	-	-	-	-24,043	23,740	-	-	-	-	-	-
Coke manufacture	-1,049	1,022	-	-	-	-	-	-	-	-1,038	1,004	-	-	-	-	-	-	-	-
Blast furnaces	-147	-386	-	-75	-	-	-	-	-	-157	-380	-	-	-	-	-	-	-	-
Patent fuel manufacture	-85	87	-	-	-	-	-	-	-	-68	71	-	-	-	-	-	-	-	-
Energy industry use	2	215	-	1,566	2,151	-	-	671	1	-	217	-	1,545	2,026	-	-	675	1	-
Losses	-	35	-	-	204	-	-	733	-	-	38	-	-	179	-	-	758	-	-
FINAL CONSUMPTION	407	391	-	19,983	21,910	225	-	8,030	547	324	338	-	20,078	22,153	230	-	8,367	546	-
Iron & steel	-	267	-	11	420	-	-	137	-	-	218	-	8	492	-	-	134	-	-
Other industries	129	31	-	2,020	4,863	73	-	2,444	284	67	31	-	2,111	4,464	75	-	2,585	284	-
Transport	-	-	-	13,096	-	-	-	175	-	-	-	-	13,171	-	-	-	177	-	-
Domestic	254	93	-	1,246	13,169	78	-	2,966	4	239	89	-	1,253	13,700	80	-	3,084	4	-
Other final users	24	-	-	336	3,363	73	-	2,308	259	18	-	-	545	3,267	75	-	2,386	258	-
Non energy use	-	-	-	3,275	96	-	-	-	-	-	-	-	2,990	229	-	-	-	-	-

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

2. Primary supply minus primary demand.

3. Annual transfers should ideally be zero. For manufactured fuels differences occur in the rescreening of coke to breeze. For oil and petroleum products differences arise due to small variations in the calorific values used.

4. Includes all manufactured solid fuels, benzole, tars, coke oven gas and blast furnace gas.

5. Includes colliery methane.

6. Includes geothermal and solar heat. Latest quarter is estimated from the previous year and adjusted according to average annual rate of change over the last three years.

2 SOLID FUEL AND DERIVED GASES

Table 2.1 Supply and consumption of coal

	<i>Thousand tonnes</i>												
	2002	2003 p	<i>per cent change¹</i>	2002 1st quarter	2002 2nd quarter	2002 3rd quarter	2002 4th quarter	2003 1st quarter	2003 2nd quarter	2003 3rd quarter	2003 4th quarter	2004 1st quarter	<i>per cent change²</i>
SUPPLY													
Indigenous production	29,989	28,234	-5.9	8,485	7,365	6,725	7,414	7,836	7,142	5,895	7,361	6,379	-18.6
Deepmined	16,392	15,633	-4.6	4,921	3,939	3,500	4,032	4,314	4,024	3,072	4,223	3,346	-22.4
Opencast	13,148	12,126	-7.8	3,451	3,309	3,108	3,280	3,403	2,994	2,699	3,029	2,905	-14.6
Other sources	451	475	+5	113	118	118	102	119	124	124	108	128	+8
Imports	28,686	32,141	+12.0	6,973	7,260	6,951	7,502	6,931	8,515	8,150	8,544	8,872	+28.0
Exports	537	541	+1	128	138	118	153	156	106	116	163	154	-2
Stock change ³	+351	+2,596		+1,580	-3,008	-1,789	+3,569	+3,323	-1,357	-1,452	+2,082	+2,692	
Total supply	58,490	62,429	+6.7	16,909	11,479	11,770	18,332	17,934	14,195	12,477	17,824	17,790	-0.8
Statistical difference	-150	-185		-375	-274	-298	+797	-619	+401	-156	+188	-324	
Total demand	58,640	62,615	+6.8	17,284	11,753	12,068	17,535	18,553	13,794	12,632	17,636	18,114	-2.4
TRANSFORMATION													
Electricity generation	47,712	53,252	+11.6	14,405	9,231	9,678	14,398	16,150	11,467	10,505	15,131	15,777	-2.3
Heat generation	758	546	-28	204	182	174	198	145	132	127	142	145	+0
Coke manufacture	5,808	5,731	-1.3	1,623	1,412	1,389	1,384	1,402	1,441	1,389	1,500	1,386	-1.1
Blast furnaces	726	882	+21	186	183	175	182	197	229	219	237	210	+7
Patent fuel manufacture	436	396	-9	110	120	93	113	114	94	82	107	91	-20
Energy industry use	8	5		3	1	2	2	2	-	1	2	2	
FINAL CONSUMPTION													
Iron & steel	-	-		-	-	-	-	-	-	-	-	-	
Other industries	1,324	545	-58.9	261	214	201	648	173	123	86	164	159	-8
Domestic	1,804	1,185	-34.3	476	399	350	579	340	295	214	336	320	-6
Other final users	64	72	+12	18	10	4	32	31	14	9	18	24	-24
Stocks at end of period													
Distributed stocks	13,704	11,961	-12.7	12,869	15,243	16,913	13,704	11,045	11,852	14,069	11,961	9,343	-15.4
Of which:													
Major power producers	12,542	10,791	-14.0	11,771	14,025	15,826	12,542	9,883	10,711	12,915	10,791	8,390	-15.1
Coke ovens	1,148	1,157	+0.7	1,086	1,205	1,075	1,148	1,151	1,131	1,146	1,157	944	-18.0
Undistributed stocks	2,482	1,628	-34.4	2,087	2,722	2,841	2,482	1,818	2,368	1,602	1,628	1,537	-15.4
Total stocks	16,186	13,589	-16.0	14,956	17,965	19,754	16,186	12,863	14,220	15,671	13,589	10,880	-15.4

1. Percentage change in 2003 compared with a year earlier.

2. Percentage change in the first quarter of 2004 compared with a year earlier.

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

2 SOLID FUEL AND DERIVED GASES

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

	<i>Thousand tonnes</i>												
	2002	2003 p	<i>per cent change¹</i>	2002 1st quarter	2002 2nd quarter	2002 3rd quarter	2002 4th quarter	2003 1st quarter	2003 2nd quarter	2003 3rd quarter	2003 4th quarter	2004 1st quarter	<i>per cent change²</i>
SUPPLY													
Indigenous production	4,990	4,993	+0.1	1,382	1,233	1,173	1,202	1,232	1,249	1,207	1,305	1,192	-3.2
Coke oven coke	4,335	4,286	-1.1	1,214	1,067	1,027	1,027	1,045	1,070	1,043	1,128	1,020	-2.4
Coke breeze	224	314	+40	58	52	54	60	73	87	81	73	80	+9.6
Other MSF	431	393	-9	110	114	92	115	114	92	83	104	92	-19
Imports	255	933	(+)	47	57	63	88	209	246	233	245	240	+15
Exports	385	283	-27	100	145	69	71	77	68	69	70	65	-16
Stock change ³	+264	-142		+11	+78	+61	+114	-	-106	-60	+24	-88	
Transfers	-	-		-	-	-	-	-	-	-	-	-	
Total supply	5,124	5,500	+7.3	1,340	1,224	1,228	1,332	1,364	1,321	1,311	1,504	1,279	-6.2
Statistical difference	-31	-102		+23	-41	-30	+17	-37	-26	-35	-4	-73	
Total demand	5,155	5,602	+8.7	1,317	1,265	1,258	1,315	1,401	1,347	1,346	1,508	1,352	-3.5
TRANSFORMATION	3,554	4,245	+19.4	887	882	897	888	1,020	1,030	1,054	1,141	1,005	-1.5
Coke manufacture	-	-		-	-	-	-	-	-	-	-	-	
Blast furnaces	3,554	4,245	+19.4	887	882	897	888	1,020	1,030	1,054	1,141	1,005	-1.5
Energy industry use	27	4	-85.2	15	8	1	3	2	1	-	1	2	-
FINAL CONSUMPTION	1,574	1,353	-14.0	415	375	360	424	379	316	292	366	345	-9
Iron & steel	728	817	+12	184	189	174	181	206	205	199	207	196	-5
Other industries	276	129	-53	82	57	69	68	51	25	20	33	32	-37
Domestic	570	407	-29	149	129	117	175	122	86	73	126	117	-4
Stocks at end of period	432	578	+34	686	608	546	432	436	542	602	578	666	+53

1. Percentage change in 2003 compared with a year earlier.

2. Percentage change in the first quarter of 2004 compared with a year earlier.

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

2 SOLID FUEL AND DERIVED GASES

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

	<i>GWh</i>												
	2002	2003 p	<i>per cent change¹</i>	2002 1st quarter	2002 2nd quarter	2002 3rd quarter	2002 4th quarter	2003 1st quarter	2003 2nd quarter	2003 3rd quarter	2003 4th quarter	2004 1st quarter	<i>per cent change²</i>
SUPPLY													
Indigenous production	24,660	27,031	+9.6	6,441	6,102	6,039	6,078	6,583	6,787	6,702	6,959	6,443	-2.1
Coke oven gas	9,550	9,593	+0.5	2,650	2,336	2,284	2,280	2,325	2,436	2,366	2,466	2,280	-1.9
Blast furnace gas	13,120	15,628	+19.1	3,265	3,274	3,259	3,322	3,790	3,911	3,899	4,028	3,716	-2.0
Benzole & tars	1,881	1,720	-8.6	511	466	456	448	430	430	430	430	428	-0
Transfers	+109	+90	-17	+15	+26	+40	+28	+38	+10	+7	+35	+19	-50.0
Total supply	24,660	27,031	+9.6	6,441	6,102	6,039	6,078	6,583	6,787	6,702	6,959	6,443	-2.1
Statistical difference	-29	-86		+20	-5	-31	-13	-24	-6	+11	-67	-2	
Total demand	24,689	27,117	+9.8	6,421	6,107	6,070	6,091	6,607	6,793	6,691	7,026	6,445	-2.5
TRANSFORMATION													
Electricity generation	6,882	6,573	-4.5	1,746	1,715	1,683	1,738	1,607	1,621	1,625	1,720	1,833	+14.1
Heat generation	1,964	1,956	-0.4	491	491	491	491	489	489	489	489	354	-27.6
Energy industry use	9,416	10,333	+9.7	2,513	2,317	2,272	2,314	2,477	2,538	2,593	2,725	2,502	+1.0
Losses	1,035	1,843	+78.1	208	215	313	299	406	464	468	505	444	+9
FINAL CONSUMPTION	5,392	6,412	+18.9	1,463	1,369	1,311	1,249	1,628	1,681	1,516	1,587	1,312	-19
Iron & steel	4,890	5,969	+22.1	1,322	1,245	1,196	1,127	1,513	1,575	1,414	1,467	1,196	-21
Other industries	502	443	-12	141	124	115	122	115	106	102	120	116	+1

1. Percentage change in 2003 compared with a year earlier.

2. Percentage change in the first quarter of 2004 compared with a year earlier.

3 OIL AND OIL PRODUCTS

Table 3.1 Supply and use of crude oil, natural gas liquids and feedstocks¹

Thousand tonnes

	2002	2003 p	per cent change	2002 1st quarter	2002 2nd quarter	2002 3rd quarter	2002 4th quarter	2003 1st quarter	2003 2nd quarter	2003 3rd quarter	2003 4th quarter	2004 1st quarter	per cent change ⁸
SUPPLY													
Indigenous production	115,944	106,073	-8.5	29,652	29,527	26,482	30,283	28,680	26,026	24,958	26,410	25,525	-11.0
Crude oil	107,430	97,835	-8.9	27,461	27,490	24,534	27,945	26,339	23,968	23,103	24,424	23,405	-11.1
NGLs ³	8,514	8,238	-3.2	2,192	2,037	1,948	2,337	2,340	2,057	1,855	1,986	2,120	-9.4
Imports ⁴	56,968r	54,177	-4.9	13,948r	17,236r	13,318r	12,467r	13,605r	12,997r	14,235r	13,340r	15,756	+15.8
Crude oil & NGLs	52,042r	48,589	-6.6	13,091r	15,936r	11,744r	11,270r	12,247r	11,394r	12,883r	12,065r	14,454	+18.0
Feedstocks	4,926	5,588	+13.4	856	1,300	1,574	1,196	1,357	1,603	1,352	1,275	1,302	-4.1
Exports ⁴	87,144	74,898	-14.1	22,465	24,548	18,303	21,827	20,281	17,415	18,839	18,362	17,908	-11.7
Crude Oil & NGLs	85,028	72,526	-14.7	22,074	23,969	17,690	21,295	19,720	16,786	18,152	17,869	17,524	-11.1
Feedstocks	2,116	2,372	+12.1	391	579	613	532	561	629	688	494	385	-31.4
Stock change ⁵	+143	+469		+389	-744	+708	-210	-371	+772	+358	-290	-518	
Transfers ⁶	-1,555	-1,008		-427	-305	-453	-370	-308	-322	-52	-326	-443	
Total supply	84,356r	84,814	+0.5	21,097r	21,166r	21,751r	20,342r	21,325r	22,057r	20,660r	20,772r	22,412	+5.1
Statistical difference ⁷	-428r	+229		-39r	256r	-61	-584	-136r	+325	+100	-59	+397	
Total demand	84,784	84,585	-0.2	21,136	20,910	21,812	20,926	21,461	21,732	20,560	20,831	22,015	+2.6
TRANSFORMATION	84,784	84,585	-0.2	21,136	20,910	21,812	20,926	21,461	21,732	20,560	20,831	22,015	+2.6
Petroleum refineries	84,784	84,585	-0.2	21,136	20,910	21,812	20,926	21,461	21,732	20,560	20,831	22,015	+2.6
Energy industry use	-	-		-	-	-	-	-	-	-	-	-	

1. As there is no use made of primary oils and feedstocks by industries other than the oil and gas extraction and petroleum refining industries, other industry headings have not been included in this table. As such, this table is a summary of the activity of what is known as the Upstream oil industry.

2. Includes offshore and onshore production.

3. Natural Gas Liquids (NGLs) are condensate and petroleum gases derived at onshore treatment plants.

4. Foreign trade as recorded by the Petroleum Industry which may differ from the figures published by HM Customs in the Overseas Trade Statistics. 2002 and 2003 data are subject for further revision as revised information on imports and exports becomes available.

5. Stock fall (+), stock rise (-). Stocks include stocks held at refineries, at oil terminals and also those held in tanks and partially loaded vessels at offshore facilities.

6. Mostly backflows from petrochemical plants to refineries.

7. Total supply minus total demand.

8. Percentage change between the most recent quarter and the same quarter a year earlier.

3 OIL AND OIL PRODUCTS

Table 3.2 Supply and use of petroleum products

	<i>Thousand tonnes</i>												
	2002	2003 p	<i>per cent change</i>	2002 1st quarter	2002 2nd quarter	2002 3rd quarter	2002 4th quarter	2003 1st quarter	2003 2nd quarter	2003 3rd quarter	2003 4th quarter	2004 1st quarter	<i>per cent change¹</i>
SUPPLY													
Indigenous production ²	87,291r	87,190	-0.1	21,800r	21,522r	22,387r	21,582r	22,106r	22,396r	21,099r	21,588r	22,521	+1.9
Imports ³	15,269r	17,286	+13.2	3,367r	3,921r	4,098r	3,883r	4,491r	3,529r	4,457r	4,808r	3,587	-20.1
Exports ³	23,444	23,323	-0.5	5,008	5,660	6,632	6,145	6,057	6,264	5,027	5,975	6,416	+5.9
Marine bunkers	1,913	1,764	-7.8	427	507	543	436	457	470	432	406	357	-21.7
Stock change ⁴	+1,226	-262		+374	-27	+541	+339	+64	-81	-48	-197	+368	
Transfers ⁵	-1,740	-1,652		-389	-555	-352	-444	-382	-339	-562	-370	-399	
Total supply	76,689r	77,475	+1.0	19,716r	18,694r	19,499r	18,780r	19,767r	18,771r	19,489r	19,449r	19,304	-2.3
Statistical difference ⁶	+425r	-360		+236r	+806r	158r	-775r	-105r	+454r	-429r	-279r	-726	
Total demand	76,264r	77,835	+2.1	19,480r	17,888r	19,341r	19,555r	19,872r	18,317r	19,918r	19,728r	20,030	+0.8
TRANSFORMATION													
Electricity generation	1,110	986	-11.2	322	251	248	289	277	213	234	262	386	+39.4
Heat generation	671	597	-11.1	205	147	150	169	158	130	149	160	268	+69.7
Blast furnaces	250	157	(-)	73	57	51	69	46	35	32	44	46	-0.4
Blast furnaces	189	232	-	44	47	47	51	73	47	53	59	72	-1.1
Energy industry use													
Petroleum Refineries	5,582r	5,390	-	1,433r	1,338r	1,425r	1,386r	1,474r	1,231r	1,352r	1,333r	1,443	-2.1
Blast Furnaces	5,582r	5,389	-3.4	1,433r	1,338r	1,425r	1,386r	1,474r	1,231r	1,352r	1,333r	1,407	-4.5
Blast Furnaces	0	0	-20.0	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-
FINAL CONSUMPTION													
Iron & steel	69,572r	71,460	+2.7	17,725r	16,300r	17,668r	17,879r	18,121r	16,874r	18,332r	18,133r	18,201	+0.4
Iron & steel	77	27	-64.8	37	16	9	16	10	6	5	6	8	-24.2
Other industries	5,736	6,673	+16.3	1,698	1,147	1,330	1,561	1,840	1,372	1,616	1,845	2,071	+12.5
Transport	49,340r	49,995	+1.3	12,111r	12,228r	12,744r	12,257r	11,828r	12,579r	13,166r	12,421r	11,903	+0.6
Domestic	3,145	3,093	-1.7	1,147	451	589	959	1,120	472	485	1,015	1,126	+0.5
Public administration	710	479	-32.5	179	185	157	189	116	115	120	128	126	+8.1
Commercial	371	341	(-)	91	94	92	94	83	81	89	87	134	+61.5
Agriculture	509	292	-42.5	136	126	128	119	84	65	68	75	70	-16.8
Miscellaneous	96	84	-12.0	21	25	23	26	23	22	19	20	18	-22.5
Non energy use	9,587	10,476	+9.3	2,305	2,028	2,597	2,657	3,016	2,161	2,763	2,536	2,747	-8.9

1. Percentage change between the most recent quarter and the same quarter a year earlier.
2. Includes refinery production and petroleum gases extracted as products during the production of oil and gas.
3. Foreign trade as recorded by the Petroleum Industry which may differ from the figures published by HM Customs in the Overseas Trade Statistics.
2002 and 2003 data are subject for further revision as revised information on imports and exports becomes available.
4. Stock fall (+), stock rise (-).
5. Mainly backflows from petrochemical plants to refineries.
6. Total supply minus total demand.

3 OIL AND OIL PRODUCTS

Table 3.3 Supply and use of petroleum products - annual data

Thousand tonnes

	2002								2003 p							
	Total Petroleum Products	Motor spirit	Gas diesel Oil ¹	Aviation turbine fuel	Fuel oils	Petroleum gases ²	Burning oil	Other products ³	Total Petroleum Products	Motor spirit	Gas diesel Oil ¹	Aviation turbine fuel	Fuel oils	Petroleum gases ²	Burning oil	Other products ³
SUPPLY																
Indigenous production ⁴	87,291r	22,944	28,393r	5,365	10,551r	8,421r	3,506	8,111r	87,190	22,627	27,579	5,277	11,517	7,862	3,521	8,806
Imports ⁵	15,269r	2,307r	3,219r	6,700	927	192	299	1,625	17,286	2,022	3,503	7,346	1,208	367	327	2,514
Exports ⁶	23,444	5,532	6,352	588	5,780	825	402	3,964	23,323	5,603	5,528	587	6,385	351	556	4,313
Marine bunkers	1,913	-	1,108	-	769	-	-	36	1,764	-	861	-	867	-	-	36
Stock change ⁶	+1,226	+273	+194	+269	-32	+65	-8	+466	-262	-88	-27	-100	+3	+28	+36	-108
Transfers ⁷	-1,740	+499	-722	-1,972	+235	-783	+150	+853	-1,652	+454	-779	-1,347	+136	-1,162	+151	+896
Total supply	76,689r	20,490r	23,624r	9,773	5,132r	7,071r	3,545	7,055r	77,475	19,412	23,887	10,588	5,606	6,744	3,479	7,760
Statistical difference ⁸	+425	-319r	+588r	-746	+999	+129r	+82	-307r	-360	-506r	-195	-176	+1,231	-464r	+22	-271r
Total demand	76,264r	20,808r	23,036r	10,519	4,133r	6,942r	3,463	7,362r	77,835	19,918	24,083	10,765	4,375	7,207	3,457	8,030
TRANSFORMATION	1,110	-	52	-	828	230	-	-	986	-	48	-	745	193	-	-
Electricity generation	671	-	29	-	414	228	-	-	597	-	30	-	376	191	-	-
Heat generation	250	-	23	-	227	-	-	-	157	-	18	-	139	-	-	-
Petroleum refineries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coke manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	189	-	-	-	187	2	-	-	232	-	-	-	230	1	-	-
Patent fuel manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy industry use	5,582r	-	50	-	2,045	2,448r	-	1,039r	5,390	-	200	-	2,005	2,240	-	945
FINAL CONSUMPTION	69,572	20,808r	22,935r	10,519	1,260	4,264	3,463	6,322	71,460	19,918	23,835	10,765	1,625	4,774	3,457	7,086
Iron & steel	77	-	2	-	66	10	-	-	27	-	1	-	17	9	-	-
Other industries	5,736r	-	3,303	-	985	641	807	-	6,673	-	3,655	-	1,265	913	839	-
Transport	49,340r	20,808r	17,826r	10,519	39	86	12	50	49,995	19,918	18,945	10,765	50	104	12	200
Domestic	3,145r	-	202	-	4	319	2,620	-	3,093	-	163	-	6	341	2,582	-
Other final users	1,685r	-	1,397	-	166	98	24	-	1,197	-	784	-	286	103	24	-
Non energy use	9,587	-	205	-	-	3,109	-	6,273	10,476	-	287	-	-	3,304	-	6,885

1. Includes DERV road fuel and middle distillate feedstock destined for use in the petrochemical industry.

2. Includes ethane, propane, butane and other petroleum gases.

3. Includes naphtha, industrial and white spirits, lubricants, bitumen, petroleum waxes, petroleum coke and other oil products.

4. Includes refinery production and petroleum gases extracted as products during the production of oil and gas.

5. Foreign trade as recorded by the Petroleum Industry which may differ from the figures published by HM Customs in the Overseas Trade Statistics.

2002 and 2003 data are subject for further revision as revised information on imports and exports becomes available.

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

7. Mainly backflows from petrochemical plants to refineries.

8. Total supply minus total demand.

3 OIL AND OIL PRODUCTS

Table 3.4 Supply and use of petroleum products - latest quarter

Thousand tonnes

	2003 1st quarter								2004 1st quarter p							
	Total Petroleum Products	Motor spirit	Gas diesel Oil ¹	Aviation turbine fuel	Fuel oils	Petroleum gases ²	Burning oil	Other products ³	Total Petroleum Products	Motor spirit	Gas diesel Oil ¹	Aviation turbine fuel	Fuel oils	Petroleum gases ²	Burning oil	Other products ³
SUPPLY																
Indigenous Production ⁴	22,106r	5,818	6,802	1,112	2,914r	1,996	1,225	2,240r	22,521	5,804	6,901	1,178	3,181	2,145	1,194	2,117
Imports ⁵	4,491r	457r	912r	1,919	260	58	63	822	3,587	673	777	1,053	237	88	50	709
Exports ⁵	6,057	1,508	1,624	153	1,506	93	217	957	6,416	1,644	1,613	167	1,677	-	135	1,180
Marine bunkers	457	-	226	-	222	-	-	9	357	-	159	-	151	-	-	47
Stock change ⁶	+64	-28	+249	-162	-41	+25	+9	+12	368	13	206	-55r	-35	+8	+38	193
Transfers ⁷	-382	+54	-215	-251	+56	-267	+27	+214	-399	+182	-355	+17	-394	-74	+124	+101
Total supply	19,767r	4,792r	5,899r	2,467	1,460	1,720r	1,107	2,322r	19,304	5,028	5,758	2,026	1,161	2,167	1,270	1,893
Statistical difference ⁸	-105r	-80r	95r	+15	+319	-212r	-165	-76r	-726r	+316	-303r	-358	+16	+3	-269	-130r
Total demand	19,872r	4,873r	5,804r	2,452	1,141	1,932r	1,272	2,398r	20,030	4,712	6,060	2,384	1,146	2,164	1,540	2,023
TRANSFORMATION	277	-	16	-	209	51	-	-	386	-	13	-	226	147	-	-
Electricity generation	158	-	11	-	96	51	-	-	268	-	7	-	113	147	-	-
Heat generation	46	-	6	-	41	-	-	-	46	-	5	-	41	-	-	-
Petroleum refineries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coke manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	73	-	-	-	72	0	-	-	72	-	-	-	72	-	-	-
Patent fuel manufacture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy industry use	1,474r	-	13	-	587	596r	-	279r	1,443	-	113	-	537	571	-	222
FINAL CONSUMPTION	18,121	4,873r	5,775r	2,452	345	1,285	1,272	2,119	18,201	4,712	5,935	2,384	383	1,446	1,540	1,801
Iron & steel	10	-	1	-	7	2	-	-	8	-	1	-	7	-	-	-
Other industries	1,840	-	973	-	283	255	330	-	2,071	-	858	-	359	267	587	-
Transport	11,828r	4,873r	4,454r	2,452	12	25	3	9	11,903	4,712	4,764	2,384	2	27	3	10
Domestic	1,120	-	43	-	1	142	934	-	1,126	-	40	-	+0	142	944	-
Other final users	307	-	225	-	42	34	6	-	348	-	253	-	15	74	6	-
Non energy use	3,016	-	79	-	-	826	-	2,110	2,747	-	19	-	-	936	-	1,791

1. Includes DERV road fuel and middle distillate feedstock destined for use in the petrochemical industry.

2. Includes ethane, propane, butane and other petroleum gases.

3. Includes naphtha, industrial and white spirits, lubricants, bitumen, petroleum waxes, petroleum coke and other oil products.

4. Includes refinery production and petroleum gases extracted as products during the production of oil and gas.

5. Foreign trade as recorded by the Petroleum Industry which may differ from the figures published by HM Customs in the Overseas Trade Statistics. 2002 and 2003 data are subject for further revision as revised information on imports and exports becomes available.

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

7. Mainly backflows from petrochemical plants to refineries.

8. Total supply minus total demand.

3 OIL AND OIL PRODUCTS

Table 3.5 Demand for key petroleum products¹

	Thousand tonnes												
	2002	2003 p	per cent change	2002 1st quarter	2002 2nd quarter	2002 3rd quarter	2002 4th quarter	2003 1st quarter	2003 2nd quarter	2003 3rd quarter	2003 4th quarter	2004 1st quarter	per cent change ²
MOTOR SPIRIT													
Total sales	20,809r	19,918	-4.3	5,153r	5,237r	5,231r	5,188r	4,893r	5,156r	5,151r	4,718r	4,712	-3.7
By seller:													
Retail sales: ³													
hypermarkets ⁴	20,274r	19,335	-4.6	5,033r	5,106r	5,088r	5,047r	4,758r	5,019r	4,994r	4,563r	4,517	-5.1
refiners/other traders	5,934r	5,935	-	1,427r	1,493r	1,514r	1,500r	1,428r	1,496r	1,496r	1,514r	1,500	+5.0
Commercial sales ⁵	14,340r	13,400	-6.6	3,606r	3,612r	3,574r	3,547r	3,330r	3,523r	3,498r	3,049r	3,017	-9.4
	535r	583	(+)	120r	131r	143r	141r	135r	137r	157r	155r	195	+44.8
By grade:													
4-Star/Leaded/LRP ⁶	420r	202	-51.8	104r	105r	105r	106r	51r	53r	51r	47r	23	-55.5
Super Premium Unleaded	723r	883	+22.1	180r	182r	181r	180r	218r	228r	226r	210r	195	-10.7
Premium Unleaded/ULSP ⁷	19,666r	18,833	-4.2	4,870r	4,950r	4,944r	4,902r	4,624r	4,875r	4,874r	4,460r	4,495	-2.8
GAS DIESEL OIL													
Total sales	22,987r	23,884	+3.9	5,880r	5,651r	5,728r	5,728r	5,792r	5,851r	6,098r	6,143r	6,188	+6.8
DERV fuel	16,927r	17,712	+4.6	4,316r	4,168r	4,241r	4,202r	4,165r	4,408r	4,576r	4,563r	4,512	+8.3
Retail sales: ³													
hypermarkets ⁴	8,153r	9,057	+11.1	2,052r	2,002r	2,102r	1,998r	2,065r	2,230r	2,360r	2,401r	2,382	+15.4
refiners/other traders	1,854r	2,135	+15.2	424r	454r	480r	495r	489r	523r	566r	557r	560	+14.6
Commercial sales ⁵	6,300r	6,922	+9.9	1,627r	1,548r	1,622r	1,503r	1,576r	1,707r	1,795r	1,844r	1,822	+15.6
Other gas diesel oil ⁸	8,774r	8,655	-1.3	2,264r	2,166r	2,139r	2,204r	2,100r	2,178r	2,216r	2,162r	2,129	+1.4
	6,060r	6,172	+1.8	1,564r	1,483r	1,487r	1,526r	1,627r	1,443r	1,522r	1,580r	1,676	+3.0
AVIATION FUELS													
Total sales	10,568	10,810	+2.3	2,401	2,563	3,002	2,602	2,461	2,665	3,038	2,646	2,394	-2.7
Aviation spirit	49	45	-8.2	8	12	18	11	9	12	13	11	10	+6.9
Aviation turbine fuel	10,519	10,765	+2.3	2,393	2,551	2,984	2,591	2,452	2,653	3,025	2,635	2,384	-2.8
FUEL OIL													
Total Sales	2,088	2,369	+13.5	680	459	395	554	554	554	622	640	614	+10.8
Light	84	169	(+)	27	18	16	22	39	39	44	46	25	-37.5
Medium	779	927	+19.0	254	171	147	207	217	217	243	250	333	+53.5
Heavy	1,226	1,273	+3.9	399	269	232	325	298	298	334	344	256	-13.9

1. Monthly data for inland deliveries of oil products are available - See DTI web-site. www.dti.gov.uk/energy/inform/energy_stats/

2. Percentage change between the most recent quarter and the same quarter a year earlier.

3. Retail sales are those deliveries made to garages etc. mainly for resale to final consumers.

4. Data for sales by hypermarket companies are collected by a separate reporting system, but are consistent with the main data collected from companies

5. Commercial sales are those deliveries made direct to a consumer for use in their own business, e.g. to bus and coach depots.

6. Sales of leaded petrol ceased from 31st December 1999, with Lead Replacement Petrol being introduced as a replacement fuel.

7. ULSP is Ultra Low Sulphur Petrol introduced during the second half of 2000 and first half of 2001 as a replacement for ordinary Premium grade unleaded petrol

8. This includes gas diesel oil used for other purposes such as heating and middle distillate feedstock destined for use in the petrochemical industry.

3 OIL AND OIL PRODUCTS

Table 3.6 Stocks of petroleum¹ at end of period

Thousand tonnes

	Crude oil and refinery process oil				Petroleum products					Total stocks		
	Refineries ²	Terminals ³	Offshore ⁴	Total ⁵	Light	Kerosene &	Fuel	Other	Total	Net	Stocks	Total
					distillates ⁶	gas/diesel ⁷	oils ⁸	products ⁹	products			
2000	3,917	2,556	450	6,992	1,081	2,810	1,122	2,405	7,418	147	14,264	14,411
2001	4,183	2,526	828	7,637	1,372	3,303	1,180	2,598	8,453	614	15,476	16,090
2002	4,503	2,126	760	7,499	1,282	3,173	1,196	2,061	7,712	1,118	14,093	15,211
2003	4,670	1,509	741	7,030	1,490	3,640	1,237	2,166	8,533	1,610	13,954	15,563
<i>Per cent change</i>	<i>+3.7</i>	<i>-29.0</i>	<i>-2.6</i>	<i>-6.3</i>	<i>+16.2</i>	<i>+14.7</i>	<i>+3.4</i>	<i>+5.1</i>	<i>+10.6</i>	<i>+43.9</i>	<i>-1.0</i>	<i>+2.3</i>
2002 1st quarter	4,409	1,859	876	7,328	1,551	3,031	1,268	2,407	8,256	912	14,672	15,584
2nd quarter	4,800	2,516	571	8,027	1,472	3,537	1,010	2,426	8,445	982	15,490	16,472
3rd quarter	4,588	1,883	708	7,289	1,361	3,354	1,212	2,254	8,181	1,238	14,233	15,471
4th quarter	4,503	2,126	760	7,499	1,282	3,173	1,196	2,061	7,712	1,118	14,093	15,211
2003 1st quarter	4,665	2,330	765	7,870	1,236	3,021	1,234	2,054	7,546	1,007	14,409	15,416
2nd quarter	4,469	1,935	584	7,108	1,148	3,227	1,206	2,066	7,647	1,034	13,722	14,755
3rd quarter	4,113	1,831	686	6,740	1,271	3,337	1,140	2,105	7,853	1,155	13,438	14,593
4th quarter	4,670	1,509	741	7,030	1,490	3,640	1,237	2,166	8,533	1,610	13,954	15,563
2004 1st quarter p	3,381	1,533	940	7,266	1,588	2,975	1,011	2,386	7,959	1,269	13,957	15,225
<i>Per cent change</i>	<i>-27.5</i>	<i>-34.2</i>	<i>+22.8</i>	<i>-7.7</i>	<i>+28.4</i>	<i>-1.5</i>	<i>-18.1</i>	<i>+16.1</i>	<i>+5.5</i>	<i>+26.0</i>	<i>-3.1</i>	<i>-1.2</i>

- Stocks held at refineries, terminals and power stations. Stocks in the wholesale distribution system and certain stocks at offshore fields (UK Continental Shelf [UKCS]), and others held under approved bilateral agreements are also included.
- Stocks of crude oil, NGLs and process oil at UK refineries.
- Stocks of crude oil and NGLs at UKCS pipeline terminals.
- Stocks of crude oil in tanks and partially loaded tankers at offshore fields (UKCS).
- From April 1994 includes process oils held under approved bilateral agreements.
- Motor spirit and aviation spirit.
- Aviation turbine fuel, burning oil, gas oil, DERV fuel, middle distillate feedstock (mdf) and marine diesel oil.
- Including Orimulsion.
- Ethane, propane, butane, other petroleum gases, naphtha (ldf), industrial and white spirits, bitumen, petroleum wax, lubricating oil, petroleum coke and miscellaneous products
- The difference between stocks held abroad for UK use under approved bilateral agreements and the equivalent stocks held in the UK for foreign use. Stocks held in the national territory or elsewhere on the UKCS.

3 OIL AND OIL PRODUCTS

Table 3.7 Drilling activity¹ on the UKCS

		Offshore				Onshore	
		Exploration & Appraisal		Development ²	Exploration & Development		
		Exploration	Appraisal	Appraisal	Development ²	Appraisal	Development
2001		24	36	60	282	6	37
2002		16	28	44	249	14	18
2003		26	19	45	204	4	17
<i>Per cent change</i>		+62.5	-32.1	+2.3	-18.1	-71.4	-5.6
2002	1st quarter	2	7	9	61	7	3
	2nd quarter	1	9	10	79	3	7
	3rd quarter	5	8	13	59	4	5
	4th quarter	8	4	12	50	-	3
2003	1st quarter	9	4	13	47	1	5
	2nd quarter	4	3	7	61	-	5
	3rd quarter	6	4	10	32	2	3
	4th quarter	7	8	15	64	1	4
2004	1st quarter	8	4	12	35	1	2
<i>Per cent change</i> ³		-11.1	-	-7.7	-25.5		

1. Including sidetracked wells.

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

3. Percentage change in the first quarter of 2004 compared with a year earlier

3 OIL AND OIL PRODUCTS

Table 3.8 Value of UKCS production and investment by operators and licensees

£ million

		Total	Operating	Gross trading	Percentage	Capital Investment		Percentage
		income ¹	costs	profits (net of	contribution	Exploration	Other	contribution
				stock appreciation)	to GVA ²	expenditure		to industrial
								investment ³
2001		24,074	4,347	19,794	2.3	420	3,570	15
2002		24,143	4,596	19,460	2.2	389	3,598	16
2003		23,603	4,496r	19,090r	2.1	334	3,412r	16r
<i>Per cent change</i>		-2.2	-2.2	-1.9		-14.2	-5.2	
2001	4th quarter	5,868	1,160	4,738	2.2	141	973	15
2002	1st quarter	5,882	1,044	4,820	2.2	57	844	16
	2nd quarter	5,737	1,142	4,552	2.1	105	881	17
	3rd quarter	5,240	1,166	4,042	1.8	94	915	17
	4th quarter	7,284	1,244	6,047	2.7	133	959	17
2003	1st quarter	6,795	1,024r	5,738r	2.5	65	817r	15
	2nd quarter	5,006	1,150r	3,930r	1.7	71	922r	17
	3rd quarter	5,397	1,092r	4,249r	1.8	84	862r	17r
	4th quarter	6,406	1,230r	5,172r	2.2r	114	812r	15r
<i>Per cent change⁴</i>		-12.1	-1.1	-14.5		-13.9	-15.3	

1. Including sales of crude oil, NGLs and natural gas plus other income associated with oil and gas production.

2. Gross Value Added (GVA) at basic prices.

3. Investment by private sector in manufacturing and other production.

4. Percentage change in the fourth quarter of 2003 compared with a year earlier

Note: Following consultation, this table is published for the final time. See page 13.

3 OIL AND OIL PRODUCTS

Table 3.9 Indicative tariff rates offered in the UKCS for the handling of oil and gas

GAS SYSTEMS	Tariff rate (pence/thousand cubic feet)			Annual Capacity ¹	Number of years	Start date	Conditions the tariff allows for ² :			Additional comments on the conditions applying to the above indicative tariffs
	Processing	Transport	Bundled services							
1 Pickerill	18			Small	6 +	Q4 03	b			Gas systems: 1. The products will arrive at Theddlethorpe gas terminal from the Pickerill pipeline as part of a commingled stream. 2. No comments. 3. No comments. 4. No comments. 5. No comments. 6. No comments. 7. No comments. 8. No comments. 9. No comments.
2 Pickerill	18			Small	8 +	Q4 02	b			
3 Amoco Bacton	12			Large	10 +	Q4 03	b	f g h		
4 Eagles Gas System	20			Large	10 +	Q4 03	b			
5 West Sole & Easington Terminal	40			Large	8 +	Q4 02	b	f g h o		
6 Amethyst Gas System	15			Large	8 +	Q4 02	b			
7 LOGGS Pipeline & Theddlethorpe Gas Term.	40			Large	13	2003	b	e f g h o		
8 Eagles & Amoco Bacton Gas Terminals	40			Large	6 +	Q1 03	b	g h		
9 Theddlethorpe Gas Ter.	15			Large	4	2003	b	f g h		
OIL SYSTEMS	(pounds sterling/barrel)									Oil systems: 10. Sub-sea tie-back of the Phoenix gas condensate discovery located in block 13/22b to the Captain Heavy Oil Facilities located in Bolck 13/22a offshore UK. 11. No comments. 12. No comments. 13. No comments. 14. No comments. 15. No comments. 16. No comments. 17. No comments. 18. No comments.
10 Captain Field Facilities	2.05			Small	n.a	n.a	b	e f g h n o		
11 Claymore	1-2			Small	15	2003		e g h		
12 Flotta (Foinaven/Schieha)	0.13-0.15			Large	5	2003	b			
13 Piper/Saltire	1.50-2.00			Small	5-10	2004	b	e g h		
14 Flotta	.60-.80			Small	5-10	2004	b	f g h		
15 Flotta	0.60-1.00			Small	5	2004		f g h		
16 Piper/Flotta	0.40-0.80			Small	10	2005		f g h		
17 Scott	2			Large	10	Q3 05		d e h l n o		
18 Scott	2.95			Large	10	Q3 05		d e h l n o		
Notes:-										
1. Small annual capacity is less than 7.5 billion cubic foot of gas or 0.5 million tonnes of oil.										
2. a - Priority rights, b - Send or pay, c - Annual charge, d - New capital expense, e - Processing offshore, f - Processing onshore, g - NGLs, h - Water, i - Salt, j - Sulphur, k - H2S, l - CO2, m - N ₂ , n - Compression, o - Other										

The above table records the indicative tariffs offered in recent months for transportation and/or processing of offshore hydrocarbon resources, from wellhead to terminal or part thereof. The services on offer can be either processing (e.g. 'cleaning' or compression of the hydrocarbons), transport of the hydrocarbons, or a combination of the two, where the price is dependant on the 'bundling' of the services on offer. The prices themselves are not firm prices, but an indication of the type of price that could be expected by someone seeking a similar service from that system.

Prices will vary according to a large number of factors. Some of these are reflected in the main table. These include the date from which the services are required, the length of the contract, the volume of hydrocarbons involved (whether large or small), and the various types of processing involved. Other variables to take into consideration are whether the customer will have priority rights to use the services, whether they will be expected to pay even if the services booked are not utilised, and whether new infrastructure will be required (such as additional lengths of pipeline, new receiving facilities, etc.) to accommodate the customer's hydrocarbons. In some cases comments have been provided to give a more accurate picture of the conditions under which the indicative tariff has been made.

Enquiries regarding the publication of tariff rates should be directed to Suhail Siddiqui, Department of Trade and Industry, Bay 259, 1 Victoria Street, London SW1H 0ET (Tel: 020 7215 5262 / e-mail: suhail.siddiqui@dti.gsi.gov.uk)

4 GAS

Table 4.1. Natural gas supply and consumption

GWh

	2002	2003 p	<i>per cent change</i> ¹	2002 1st quarter	2002 2nd quarter	2002 3rd quarter	2002 4th quarter	2003 1st quarter	2003 2nd quarter	2003 3rd quarter	2003 4th quarter	2004 1st quarter	<i>per cent change</i> ²
SUPPLY													
Indigenous production	1,204,713	1,195,992	-0.7	333,547	295,520	235,677	339,969	350,858	282,958	244,189	317,987	316,696	-9.7
Imports	60,493	86,299	+42.7	24,409	7,340	7,882	20,862	23,847	13,813	11,330	37,309	47,721	(+)
Exports	150,731	177,039	+17.5	23,102	52,939	35,430	39,260	38,071	63,871	51,558	23,539	14,854	-61.0
Stock change ³	-7,356	+3,492		+14,402	-8,741	-14,640	+1,623	+28,266	-7,481	-18,363	+1,070	+22,955	
Transfers	-99	-87		-14	-23	-37	-25	-36	-10	-7	-34	-18	
Total supply	1,107,020	1,108,657	+0.1	349,242	241,157	193,452	323,169	364,864	225,409	185,591	332,793	372,500	+2.1
Statistical difference	+1,972	+445		+746	-740	-849	+2,815	-1,848	+3,244	+1,233	-2,184	-929	
Total demand	1,105,046	1,108,210	+0.3	348,496	241,896	194,300	320,354	366,711	222,165	184,357	334,977	373,429	+1.8
TRANSFORMATION													
Electricity generation	326,218	318,493	-2.4	81,669	82,088	82,390	80,071	78,037	75,108	80,828	84,520	83,513	+7.0
Heat generation	19,653	19,845	+1.0	6,467	4,105	3,218	5,863	6,546	4,137	3,232	5,930	6,687	+2.2
Energy industry use	90,889	89,116	-2.0	24,157	22,781	19,353	24,598	24,969	21,877	19,345	22,925	23,518	-5.8
Losses	9,666	6,590	-31.8	2,919	2,315	1,813	2,619	2,369	712	1,405	2,104	2,087	-11.9
FINAL CONSUMPTION													
Iron & steel	19,533	16,858	-13.7	6,246	5,048	3,753	4,486	4,884	3,783	3,457	4,734	5,726	+17.2
Other industries	156,994	163,525	+4.2	47,216	36,829	30,992	41,957	56,532	34,128	27,890	44,975	51,899	-8.2
Domestic	376,328	382,773	+1.7	145,272	67,531	38,335	125,190	153,154	62,665	34,960	131,994	159,334	+4.0
Other final users	101,304	106,547	+5.2	33,435	20,083	13,331	34,455	39,106	18,639	12,123	36,679	38,000	-2.8
Non energy use	4,462	4,462	-	1,116	1,115	1,116	1,115	1,116	1,115	1,116	1,115	2,665	(+)

1. Percentage change in 2003 compared with a year earlier.

2. Percentage change in the first quarter of 2004 compared with a year earlier.

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

5 ELECTRICITY

Table 5.1. Fuel used in electricity generation and electricity supplied

	2002	2003 p	per cent change ¹	2002 1st quarter	2002 2nd quarter	2002 3rd quarter	2002 4th quarter	2003 1st quarter	2003 2nd quarter	2003 3rd quarter	2003 4th quarter	2004 1st Quarter	per cent change ²
FUEL USED IN GENERATION													
Major power producers													
Million tonnes of oil equivalent													
Coal	28.62	31.98	+11.7	8.67	5.51	5.78	8.66	9.75	6.86	6.26	9.11	9.51	-2.4
Oil	0.69	0.65	-5.1	0.22	0.14	0.13	0.20	0.22	0.11	0.13	0.19	0.17	-21.9
Gas	25.04	24.48	-2.3	6.29	6.29	6.29	6.18	5.98	5.79	6.29	6.41	6.47	+8.3
Nuclear	20.32	20.53	+1.0	5.68	4.99	4.77	4.89	5.68	5.20	4.82	4.84	5.32	-6.3
Hydro (natural flow)	0.34	0.22	-34.6	0.14	0.08	0.04	0.07	0.07	0.05	0.03	0.08	0.12	+74.7
Other renewables	0.27	0.36	+31.4	0.06	0.06	0.06	0.09	0.08	0.08	0.09	0.11	0.10	+28.8
Net imports	0.73	0.19	-74.3	0.16	0.24	0.06	0.27	0.07	0.03	-0.02	0.11	0.14	(+)
Total major power producers	76.01	78.40	+3.1	21.22	17.31	17.13	20.35	21.84	18.12	17.61	20.84	21.84	-
Other generators													
Coal	0.98	1.06	+7.7	0.27	0.21	0.22	0.28	0.27	0.25	0.25	0.28	0.27	+0.4
Oil	0.60	1.01	+67.5	0.16	0.10	0.14	0.21	0.35	0.26	0.24	0.16	0.18	-47.8
Gas	3.02	2.92	-3.2	0.74	0.77	0.80	0.71	0.73	0.67	0.66	0.86	0.72	-1.4
Hydro (natural flow)	0.07	0.06	-23.6	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.02	+26.8
Other renewables	1.80	1.98	+10.1	0.44	0.44	0.45	0.46	0.47	0.49	0.50	0.53	0.51	+10.0
Other fuels	1.09	1.20	+10.3	0.26	0.24	0.28	0.31	0.31	0.30r	0.29r	0.31r	0.34	+10.4
Total other generators	7.56	8.22	+8.8	1.89	1.78	1.91	1.98	2.15	1.97r	1.96r	2.15r	2.05	-4.3
All generating companies													
Coal	29.60	33.03	+11.6	8.94	5.73	6.01	8.93	10.02	7.11	6.52	9.39	9.79	-2.3
Oil	1.29	1.66	+28.8	0.37	0.24	0.27	0.41	0.57	0.37	0.37	0.35	0.35	-37.7
Gas	28.06	27.40	-2.4	7.02	7.06	7.09	6.89	6.71	6.46	6.95	7.27	7.20	+7.2
Nuclear	20.32	20.53	+1.0	5.68	4.99	4.77	4.89	5.68	5.20	4.82	4.84	5.32	-6.3
Hydro (natural flow)	0.41	0.28	-32.7	0.17	0.10	0.06	0.09	0.08	0.06	0.04	0.09	0.14	+65.3
Other renewables	2.07	2.34	+12.9	0.50	0.50	0.52	0.55	0.55	0.57	0.59	0.64	0.62	+12.7
Other fuels	1.09	1.20	+10.3	0.26	0.24	0.28	0.31	0.31	0.30r	0.29r	0.31r	0.34	+10.4
Net imports	0.73	0.19	-74.3	0.16	0.24	0.06	0.27	0.07	0.03	-0.02	0.11	0.14	(+)
Total all generating companies	83.57	86.63	+3.7	23.11	19.09	19.05	22.33	23.98	20.09r	19.57r	22.99r	23.89	-0.4
ELECTRICITY SUPPLIED													
All generating companies													
TWh													
Coal	118.59	131.28	+10.7	35.65	23.16	23.74	36.04	38.64	28.56	25.80	38.28	39.63	+2.6
Oil	4.24	4.31	+1.9	1.05	0.80	1.01	1.37	1.20	1.05	0.88	1.18	1.04	-13.6
Gas	148.74	142.96	-3.9	37.39	37.71	37.05	36.60	35.44	33.82	36.19	37.51	38.87	+9.7
Nuclear	81.09	81.91	+1.0	22.66	19.89	19.04	19.50	22.64	20.73	19.24	19.30	21.68	-4.3
Hydro (natural flow and net supply by pumped storage stations)	3.86	2.30	-40.4	1.72	0.92	0.43	0.79	0.75	0.49	0.26	0.81	1.36	+82.0
Other renewables	6.24	7.13	+14.2	1.50	1.50	1.58	1.66	1.73	1.72r	1.76r	1.92r	1.89	+9.4
Other fuels	3.56	5.68	+59.7	0.88	0.83	0.90	0.95	1.50	1.46r	1.34r	1.38r	1.25	-16.1
Net imports	8.41	2.16	-74.3	1.82	2.78	0.65	3.17	0.80	0.31	-0.22	1.28	1.64	(+)
Total all generating companies	374.73	377.74	+0.8	102.67	87.59	84.39	100.08	102.70	88.14r	85.24r	101.66r	107.35	+4.5

1. Percentage change in 2003 compared with a year earlier

2. Percentage change in the fourth quarter of 2003 compared with a year earlier

3. On the DTI web site an extended version of this table appears giving fuel used in original units of measurement and electricity supplied by major power producers by fuel and by other generators by fuel.

5 ELECTRICITY

Table 5.2 Supply and consumption of electricity

GWh

	2002	2003 p	Per cent change ¹	2002 1st quarter	2002 2nd quarter	2002 3rd quarter	2002 4th quarter	2003 1st quarter	2003 2nd quarter	2003 3rd quarter	2003 4th quarter	2004 1st quarter	Per cent change ²
SUPPLY													
Indigenous production	387,143	395,454r	+2.1	106,670	89,672	88,458	102,343	107,311	92,448	90,032	105,663	111,327	+3.7
Major power producers ³	351,556	359,045r	+2.1	97,287	80,966	80,023	93,280	98,132	83,642	81,346	95,925	100,988	+2.9
Auto producers	32,935	33,676	+2.2	8,645	8,116	7,797	8,377	8,526	8,216	7,918	9,016	9,833	+15.3
Other sources	2,652	2,733	+3.1	738	590	638	686	653	590	768	722	506	-22.5
Imports	9,183	5,120	-44.2	1,969	2,820	1,131	3,263	1,335	1,242	712	1,831	2,052	+53.7
Exports	769	2,959	(+)	146	44	485	94	535	935	936	553	415	-22.4
Transfers	-	-	-	-	-	-	-	-	-	-	-	-	-
Total supply	395,557	397,615	+0.5	108,493	92,448	89,104	105,512	108,111	92,755	89,808	106,941	112,964	+4.5
Statistical difference	+924	-780		-253	+345	+440	+392	-2,268	-1,540	+1,510	+1,518	-1,519	
Total demand	394,633	398,395	+1.0	108,746	92,103	88,664	105,120	110,379	94,295	88,298	105,423	114,483	+3.7
TRANSFORMATION													
Energy industry use	31,873	31,974	+0.3	8,564	7,573	7,554	8,182	8,462	7,669	7,634	8,209	8,357	-1.2
Losses	29,981	28,589	-4.6	8,100	6,681	6,294	8,906	8,529	6,806	5,719	7,535	8,816	+3.4
FINAL CONSUMPTION													
Iron & steel	6,353	6,324	-0.5	1,590	1,577	1,593	1,593	1,593	1,590	1,567	1,574	1,561	-2.0
Other industries	105,396	105,961	+0.5	28,347	25,819	24,701	26,529	28,420	26,066	24,708	26,767	30,064	+5.8
Transport	8,480	8,037	-5.2	2,166	2,169	2,104	2,041	2,036	1,954	2,017	2,030	2,064	+1.4
Domestic	114,535	116,960	+2.1	33,595	25,086	23,283	32,571	34,493	25,802	23,338	33,327	35,869	+4.0
Other final users	98,015	100,550	+2.6	26,384	23,198	23,135	25,298	26,846	24,408	23,315	25,981	27,752	+3.4
Non energy use	-	-	-	-	-	-	-	-	-	-	-	-	-

1. Percentage change in 2003 compared with a year earlier.

2. Percentage change in the first quarter of 2004 compared with a year earlier.

3. Companies that produce electricity from nuclear sources plus all companies whose prime purpose is the generation of electricity are included under the heading "Major Power Producers". They are: AES Electric Ltd., American Electric Power, Anglian Power Generators Ltd, Baglan Generation Ltd., BNFL Magnox., British Energy plc., Centrica plc., Coolkeeragh Power Ltd., Corby Power Ltd., Coryton Energy Company Ltd., Damhead Creek Ltd., Deeside Power Ltd., Derwent Cogeneration Ltd., Drax Power Ltd., EDF Energy plc., Edison Mission Energy Ltd., Enfield Energy Centre Ltd., Fellside Heat and Power Ltd., Fibrogen Ltd., Fibropower Ltd., Fibrothetford Ltd., Fife Power Ltd., Great Yarmouth Power Ltd, Humber Power Ltd., International Power plc., Killingholme Power Ltd., National Grid Company (Kielder), NIGEN, Peterborough Power Ltd., PowerGen plc, Premier Power Ltd., Regional Power Generators Ltd., Rocksavage Power Company Ltd., RWE Innogy plc, Saltend Co-generation Company Ltd., Scottish Power plc., Scottish and Southern Energy plc., Seabank Power Ltd., SELCHP Ltd., Sita Tyre Recycling Ltd., South Coast Power Ltd., Teesside Power Ltd, Thames Power Services Ltd., Western Power Generation Ltd.