

Energy Trends

Contents

Link between Quarterly Energy Trends, Monthly Energy Trends and Internet Tables	2
Introduction	3
Section 1 - Total Energy	4
Section 2 - Solid Fuels and Derived Gases	7
Section 3 - Oil and Oil Products	9
<i>Includes article on: UKCS Capital Expenditure Survey 2002</i>	14
Section 4 - Gas	18
<i>Includes article on: Imports and Exports in the UK Gas Market</i>	20
Section 5 - Electricity	28
Section 6 - Special Features	
<i>Global trends in energy consumption</i>	30
Data availability	
<i>Changes to monthly internet data; update of long term trends spreadsheets available on the DTI Energy Statistics web site; and Energy Sector Indicators</i>	33
Tables:	
1.1: Indigenous production of primary fuels	34
1.2: Inland energy consumption: primary fuel input basis	35
1.3: Supply and use of fuels	36
2.1: Supply and consumption of coal	38
2.2: Supply and consumption of coke oven coke, coke breeze and other manufactured solid fuels	39
2.3: Supply and consumption of coke oven gas, blast furnace gas, benzole and tars	40
3.1: Supply and use of crude oil, natural gas liquids and feedstocks	41
3.2: Supply and use of petroleum products	42
3.3: Supply and use of petroleum products - Annual data	43
3.4: Supply and use of petroleum products - Latest quarter	44
3.5: Demand for key petroleum products	45
3.6: Stocks of petroleum at end of period	46
3.7: Drilling activity on the UK Continental Shelf	47
3.8: Value of UKCS production & investment by operators and licensees	48
3.9: Indicative tariff rates offered in the UKCS for the handling of oil and gas	49
4.1: Natural gas supply and consumption	50
5.1: Fuel used in electricity generation and electricity supplied	51
5.2: Supply and consumption of electricity	52

Link between Quarterly Energy Trends, Monthly Energy Trends and Internet Tables

Internet Tables	Quarterly Energy Trends (First published – June 2001)	Monthly Energy Trends (Last published – May 2001)
Table:	Table:	Table:
1.1 Indigenous production of primary fuels	1.1	1
1.2 Inland energy consumption: primary fuel input basis	1.2	2
1.3 Supply and use of fuels	1.3	3
1.4 Imports and exports of fuels and related materials	-	25
2.1 Supply and consumption of coal	2.1	-
2.2 Supply and consumption of coke oven coke, coke breeze and other manufactured solid fuels	2.2	-
2.3 Supply and consumption of coke oven gas, blast furnace gas, benzole and tars	2.3	-
2.4 Coal production and foreign trade	-	4
2.5 Coal consumption	-	5
2.6 Stocks of coal at end of period	-	6
3.1 Supply and use of crude oil, natural gas liquids and feedstocks	3.1	-
3.2 Supply and use of petroleum products	3.2	-
3.3 Supply and use of petroleum products - Annual data	3.3	-
3.4 Supply and use of petroleum products - Latest quarter	3.4	-
3.5 Demand for key petroleum products	3.5	-
3.6 Stocks of petroleum at end of period	3.6	-
3.7 Drilling activity on the UKCS	3.7	8
3.8 Value of UKCS production & investment by operators and licensees	3.8	9
3.9 Indicative tariff rates offered in the UKCS for the handling of oil and gas	3.9	10
3.10 Indigenous production, refinery receipts, imports and exports	-	13
3.11 Stocks of petroleum at end of period	-	14
3.12 Refinery throughput and output of petroleum products	-	15
3.13 Deliveries of petroleum products for inland consumption	-	16
4.1 Natural gas supply and consumption	4.1	-
4.2 Natural gas production and supply	-	11
5.1 Fuel used in electricity generation and electricity supplied	5.1	18
5.2 Supply and consumption of electricity	5.2	-
5.3 Fuel used in electricity generation by major producers	-	19
5.4 Electricity production and availability from the public supply system	-	22
5.5 Availability and consumption of electricity	-	23
6.1 Average temperatures and deviations from the long term mean	-	24

Introduction

Welcome to Energy Trends. Energy Trends, together with Quarterly Energy Prices, is produced by the Department of Trade and Industry on a quarterly basis. Both publications are produced together in June, September, December and March, with the June edition covering the first quarter of the year. They are available in paper copy, on subscription (for details see below), and on the DTI internet site, free of charge (www.dti.gov.uk/energy/inform/energy_trends/ and www.dti.gov.uk/energy/inform/energy_prices/).

Energy Trends includes information on energy both in total and by individual fuels. The text and charts show an analysis of the data provided in the tables. The tables are mainly provided in the commodity balance format that is used in the DTI's annual Digest of UK Energy Statistics. (The 2002 edition was published on 25 July 2002. It can be obtained from Stationery Office (www.tso.co.uk/bookshop) and is published on our web site at www.dti.gov.uk/energy/inform/dukes/.) The balance format shows the flow of a commodity from its sources of supply through to its final use. The articles provide in-depth information on current issues within the energy sector.

The text and tables included in this publication represent a snapshot of the information available as at the time of publication. However, the data collection systems operated by the DTI that produce this information are in constant operation. New data are continually being received, as well as revisions to historic data. To ensure that users of the statistics have access to the most up-to-date information available, revised data will be made available as soon as possible via the electronic versions of these tables that 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 from our web site. Both sets of tables can be obtained from www.dti.gov.uk/energy/inform/energy_stats/. Foreign Trade and Temperatures tables are also updated quarterly and monthly respectively and are available from our web site at the address outlined above.

The accompanying Quarterly Energy Prices publication contains information on energy prices for domestic and industrial consumers for all the major fuels, as well as presenting comparisons of fuel prices in the European Union and G7 countries.

If you would like to subscribe to Energy Trends and Quarterly Energy Prices or have any comments on Energy Trends, please send them to:

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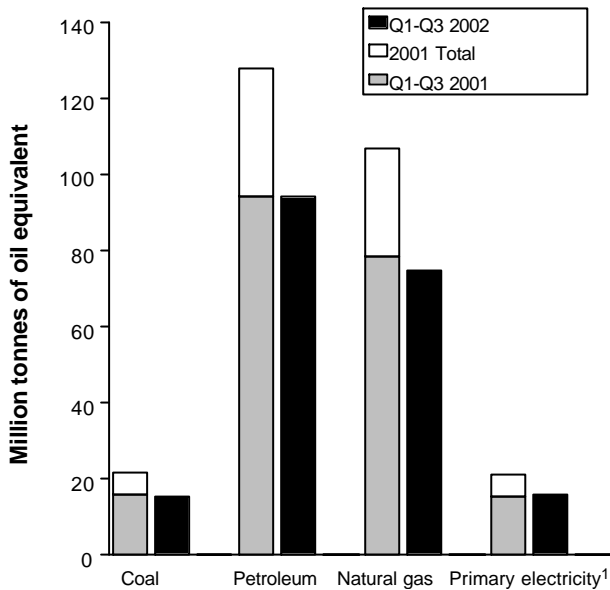
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The main points for the third quarter of 2002:

- Energy production was 7 per cent lower than in the third quarter of 2001.
- Oil production fell by 6½ per cent compared to 2001 mainly due to outages for maintenance and repair over an extended period.
- Gas production fell by 6½ per cent primarily due to a fall in exports.
- Total primary energy consumption for energy uses fell by 5 per cent, equivalent to a fall of 4 per cent when the warmer weather is taken into account.
- Final energy consumption fell by 2 per cent, with falls in each of the service, industrial, domestic and transport sectors of 5 per cent, 4 per cent, 2 per cent and 1½ per cent respectively.
- Coal production in the third quarter of 2002 was 12½ per cent down on the third quarter of 2001. Coal imports were 21 per cent lower. Demand for coal was down 11½ per cent.
- Gas supplied 13 per cent more electricity during the third quarter of 2002 than during the third quarter of 2001 to take it to a record 43½ per cent of total supply. Nuclear sources supplied 7 per cent less electricity (23 per cent of supply), and electricity supplied from coal was 4 per cent lower (28 per cent of supply). Net imports of electricity were down by 72 per cent.
- Total deliveries of transport fuels were 1½ per cent lower than in the same quarter of 2002. Increased demand for DERV fuel (up 7½ per cent) was offset by reduced demand for motor spirit (down 5½ per cent) and aviation turbine fuel (down 6½ per cent).

Section 1 - Total Energy

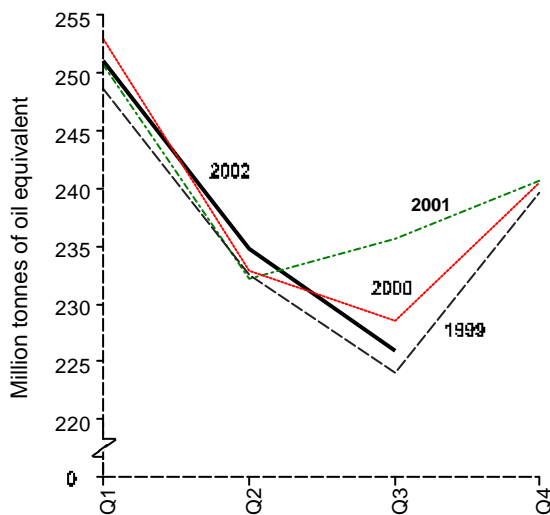
Chart 1.1 Production of indigenous primary fuels



¹ Nuclear and natural flow hydro electricity.

- Overall energy production fell by 6.8 per cent between the third quarter of 2002 and the third quarter of 2001.
- Production of oil and natural gas fell by 6.4 per cent and 6.3 per cent respectively.
- Primary electricity output was 6.6 per cent lower.
- Production of coal and other solid fuel was 11.5 per cent lower.

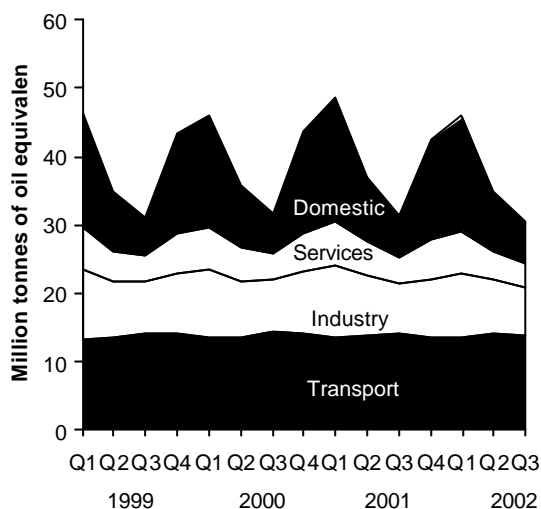
Chart 1.2 Total inland consumption (primary fuel input basis)¹



¹ Seasonally adjusted and temperature corrected annual rates.

- Total inland consumption on a primary fuel input basis was 225.9 million tonnes of oil equivalent in the third quarter of 2002 (temperature corrected, seasonally adjusted annualised rate).
- The 2002 quarter three level was 4.2 per cent lower than the same period a year ago and 1.2 per cent lower than the same period in 2000.
- Between the third quarter of 2002 and the third quarter of 2001 (on a seasonally adjusted and temperature corrected basis) coal and other solid fuel consumption decreased by 11.2 per cent.
- Oil consumption fell by 5.6 per cent.
- Gas consumption rose by 2.0 per cent.

Chart 1.3 Final energy consumption by user



- Total final energy consumption fell by 1.9 per cent between the third quarter of 2002 and the same quarter in 2001.
- Services sector energy consumption decreased by 5.1 per cent.
- Domestic sector energy consumption decreased by 2.2 per cent.
- Transport energy consumption fell by 1.6 per cent.
- Industrial energy consumption fell by 4.0 per cent.

Note: Data are not seasonally adjusted or temperature corrected.

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 primary fuels in the third quarter of 2002 at 58.8 million tonnes of oil equivalent was 6.8 per cent lower than in the corresponding period a year ago.

Production of petroleum and natural gas was at levels 6.4 per cent and 6.3 per cent lower in the third quarter of 2002 than the third quarter of 2001 and coal and other solid fuels indigenous production was 11.5 per cent lower. Petroleum and coal and other solid fuels accounted for 49.4 and 7.9 per cent respectively of total indigenous production in the third quarter of 2002. Natural gas made up a further 34.4 per cent of total production over the same period.

Nuclear electricity output was 6.7 per cent lower in the third quarter of 2002 compared with levels a year earlier, while output from natural flow hydro had increased by 1.5 per cent.

Total energy

Total inland consumption

Total inland energy consumption, on a primary fuel input basis (not temperature corrected or seasonally adjusted), in the third quarter of 2002 was 48.4 million tonnes of oil equivalent. This was 5.0 per cent lower than in the corresponding period a year ago and 0.8 per cent lower than in the corresponding period two years ago. The average temperature during the third quarter of 2002 was 0.2 degrees Celsius warmer than the same period a year earlier.

On a temperature corrected and seasonally adjusted basis, total inland consumption was 4.2 per cent lower in the third quarter of 2002 than that recorded a year earlier. Over the same period on the same basis:

consumption of coal and other solid fuels fell by 11.2 per cent;

petroleum consumption decreased by 5.6 per cent;

consumption of natural gas rose by 2.0 per cent; and

consumption of primary electricity decreased by 8.9 per cent.

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 third quarter of 2002 the transport sector was responsible for the greatest level of final consumption at 41 per cent of all energy consumed by final users. The industry sector was responsible for a further 21 per cent, the domestic sector for another 18 per cent and the service industries, including agriculture, were responsible for 11 per cent. The remaining 9 per cent was made up by fuel use for non-energy purposes.

Final energy consumption fell by 1.9 per cent between the third quarter of 2001 and the third quarter of 2002, mainly due to falls in each of the sectors as follows:

industrial energy consumption was 4.0 per cent lower;

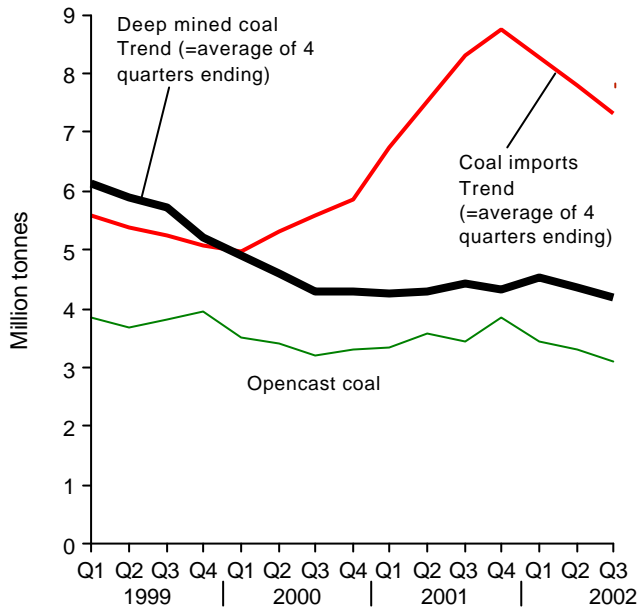
service sector (including agriculture) energy consumption was 5.1 per cent lower;

domestic energy consumption was 2.2 per cent lower; and

transport energy consumption was 1.6 per cent lower.

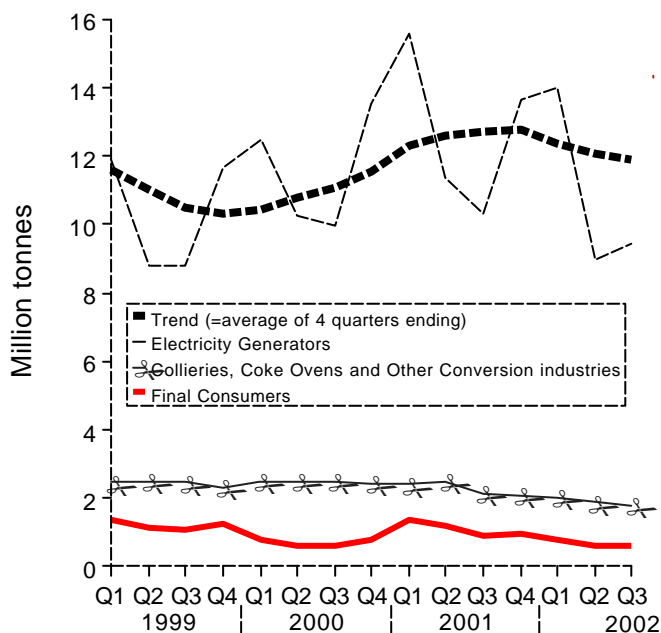
Section 2 - Solid Fuels and Derived Gases

Chart 2.1 Coal production and imports



- Provisional figures for the third quarter of 2002 show that coal production (including an estimate for slurry) was 12.5 per cent down on the third quarter of 2001 at 6.7 million tonnes, with deep mined production down 16.4 per cent and opencast production down 9.2 per cent.
- Imports of coal in the third quarter of 2002 were 20.9 per cent lower than the very high levels of the third quarter of 2001 at 7.0 million tonnes, but still at historically high levels. Compared with two years earlier imports were up by 25.6 per cent.
- 73 per cent of the imported coal in the third quarter of 2002 was steam coal, largely for the power stations market.

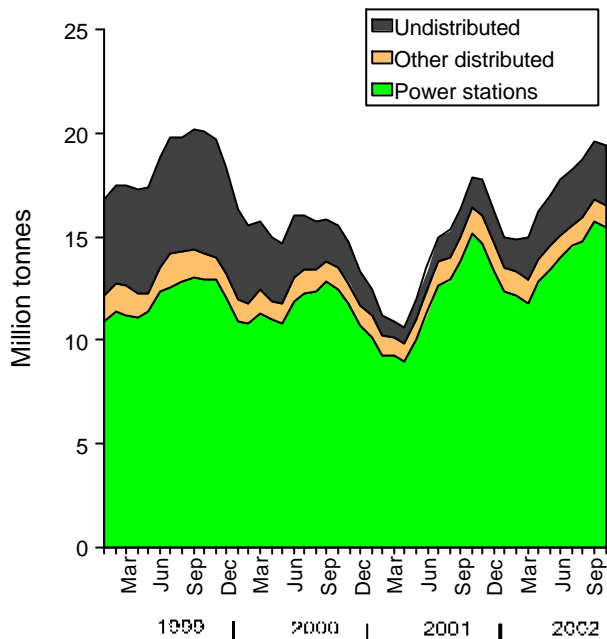
Chart 2.2 Coal consumption



- Demand for coal in the third quarter of 2002, at 11.9 million tonnes was 11.4 per cent down on consumption in the third quarter of 2001; consumption by electricity generators was down by 8.5 per cent.
- Electricity generators accounted for 80 per cent of total coal use in the third quarter of 2002, compared with 77 per cent a year earlier and 76 per cent two years earlier.
- Final consumption figures for 2002 have been revised up following a re-assessment. Even so consumption in the third quarter of 2002 fell by 33 per cent compared with a year earlier. This results from relatively high industrial and domestic sector consumption in the corresponding quarter of 2001. Compared with two years earlier, industrial coal use was up 28 per cent and domestic consumption was down by 14 per cent.

Solid fuels and derived gases

Chart 2.3 Coal stocks



- Coal stocks showed a seasonal rise of 1.9 million tonnes during the third quarter of 2002 and at the end of the quarter stood at 19.7 million tonnes. At the end of September 2001 stocks were 3.3 million tonnes lower than this. By the end of October 2002 stocks had fallen back by 0.3 million tonnes.
- The level of coal stocks at power stations rose by 1.5 million tonnes in the third quarter of 2002 to 15.7 million tonnes. This is 2.0 million tonnes higher than the corresponding level a year earlier.
- The level of stocks held by producers also rose in the third quarter of 2002. The 0.1 million tonne rise took producers' stocks to 2.8 million tonnes. This is 1.5 million tonnes higher than the corresponding level a year earlier.

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 2001 730 thousand tonnes more coal was produced than in 2000, the first time since 1995 that there has been a year on year increase. This upward trend continued into the first quarter of 2002 when production was 845 thousand tonnes higher than in the first quarter of 2001, but in the second and third quarters this was reversed and production was down by 867 thousand tonnes and 963 thousand tonnes respectively on a year earlier. Longannet colliery closed in March 2002 and Prince of Wales in August 2002. A number of deep mines faced geological problems or had gaps in production while they moved to new faces. Imports of coal in 2001 exceeded the previous record level by 12.1 million tonnes but imports have fallen back from these very high levels during 2002.

Coal consumption

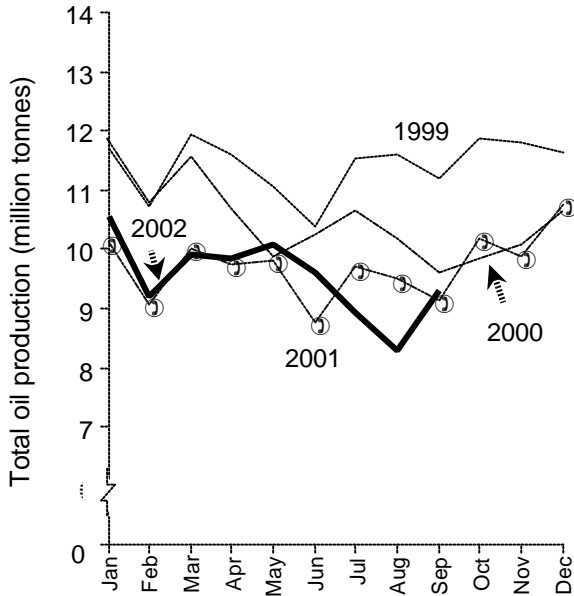
Coal use by electricity generators was 4.8 million tonnes higher in 2001 as a whole than it was in 2000. In the early part of 2001 coal was used when nuclear stations were not available but in the third and fourth quarters nuclear stations returned to service and this improvement in nuclear continued into the first half of 2002. In the winter quarters of 2001 and 2002 when gas prices were particularly high, coal fired generation was used in preference to gas fired generation, but when gas prices eased in the second and third quarters of 2002, coal use for generation fell back. Disposals of coal to final consumers and consumers generating heat for re-sale in the first three quarters of 2002 together fell by 1.5 million tonnes compared with the high figure in the first three quarters of 2001. However, these disposals were no lower than the level of two years earlier.

Stocks

After the particularly steep fall in coal stocks during winter 2000/01, there was an equally steep rise in stocks in the summer and autumn of 2001 resulting from the recovery in coal production and the high level of coal imports. The seasonal fall during the winter of 2001/02 took stocks only as low as 15 million tonnes. Since then a further 4½ million tonnes have been stocked despite lower UK production and lower import levels.

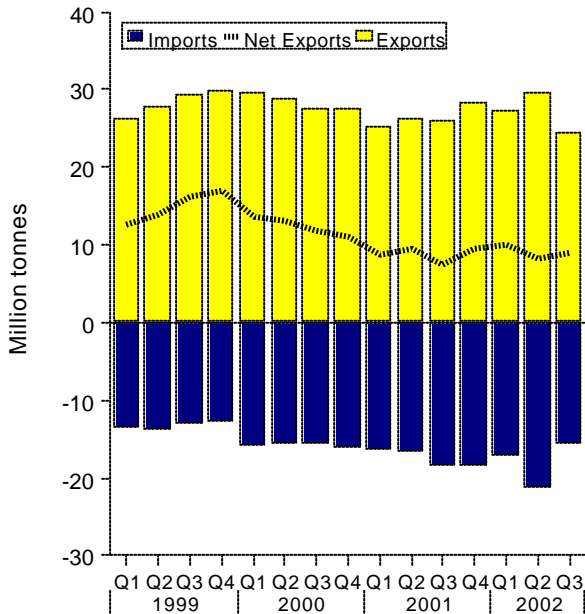
Section 3 - Oil and Oil Products

Chart 3.1 Production of crude oil and NGLs



- Total indigenous UK production of crude oil and NGLs in the third quarter of 2002 decreased by 6.4 per cent (compared with the same period in 2001) to 26.5 million tonnes due to an extended maintenance round this year that began in June and continued into August.
- There is a general decline in production from older established fields. Nine new fields and one redevelopment started production after September 2001. Without these new fields production in the third quarter of 2002 would have been 11.6 per cent lower than last year.

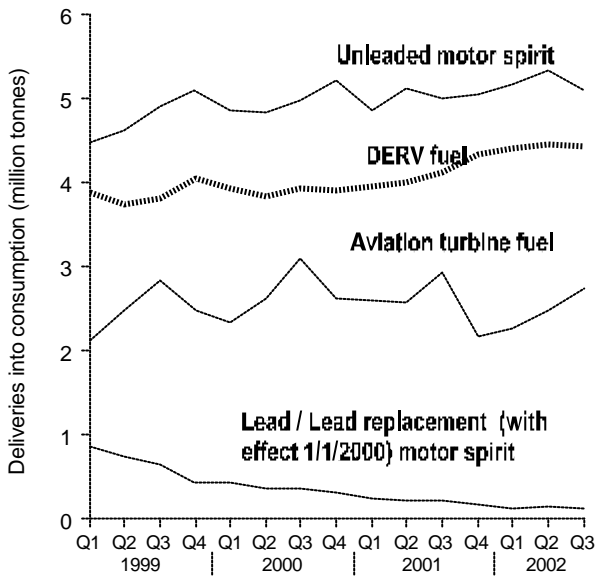
Chart 3.2 UK trade in crude oils, NGLs and petroleum products



- The UK retained its position as a net exporter of oil and oil products over the third quarter of last year despite a fall of 2.6 per cent to 7.3 million tonnes.
- Net exports of crude oil and NGLs decreased by 44.6 per cent to 4.4 million tonnes.
- Exports of crude oil and NGLs decreased by 12.3 per cent while imports decreased by 4.1 per cent.
- Net exports of petroleum products were over twice the level in the same period last year at 2.9 million tonnes.
- Exports of petroleum products rose by 20.4 per cent whilst imports fell by 16.5 per cent. This is the result of refinery shut downs in the third quarter of 2001 which limited the availability of oil products for export and created additional demand for imports.

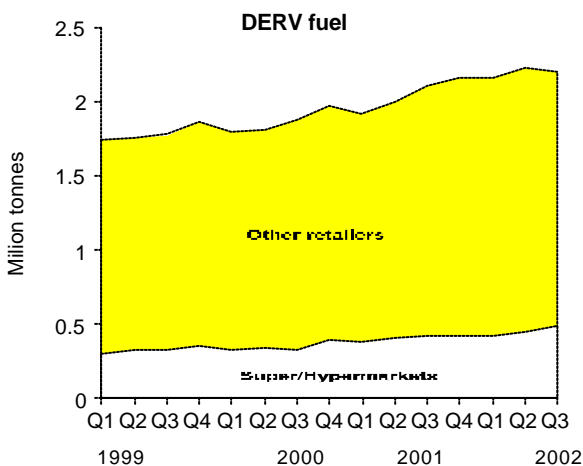
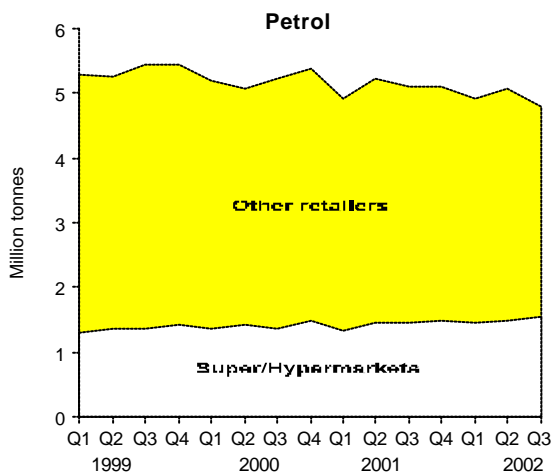
Oil and oil products

Chart 3.3 Demand for transport fuels



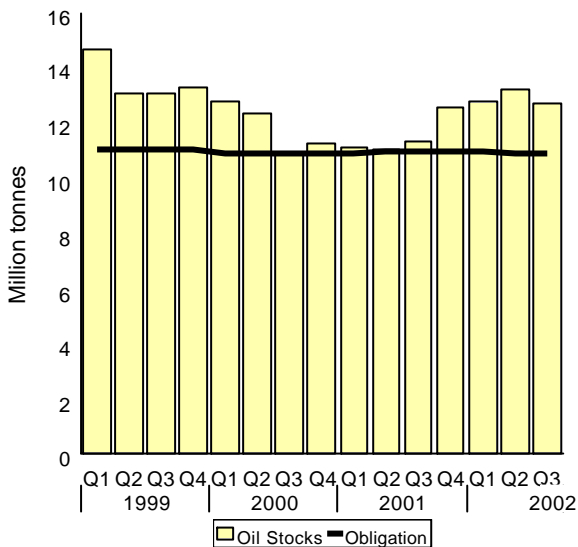
- Total deliveries of transport fuels were 1.5 per cent lower in quarter three of 2002 than in 2001.
- The main component of the fall in transport fuels was aviation turbine fuel (ATF), down 6.5 per cent on a year ago. For the months of July and August, deliveries were 2.2 per cent lower than last year, but as a result of the anniversary of the terrorist attacks on the United States on 11th September 2001, many international flights were cancelled and consumption of ATF in September this year was 15.8 per cent lower than in September last year.
- Motor spirit deliveries fell by 5.7 per cent compared with a year ago, whereas deliveries of Derv fuel rose by 7.4 per cent. Total deliveries of motor spirit and Derv fuel were 0.1 per cent higher than last year. Thus the figures reflect a continuing move away from petrol engined vehicles to diesel engined vehicles.
- Deliveries of unleaded motor spirit fell by 4.2 per cent. Unleaded petrol represented 97.4 per cent of total motor spirit deliveries during quarter three 2002, compared with 95.9 per cent in 2001.
- Derv fuels share of road transport fuels was 47.3 per cent compared to 44.1 per cent in the same period last year.

Chart 3.4 Super/hypermarket shares of retail deliveries



- Sales of motor spirit by super/hypermarket companies accounted for 32.0 per cent of retail sales of petrol in the third quarter 2002, up from 28.4 per cent a year earlier.
- Sales of DERV by super/hypermarket companies accounted for 22.0 per cent of retail sales of DERV in the third quarter 2002, up from 19.8 per cent a year ago.

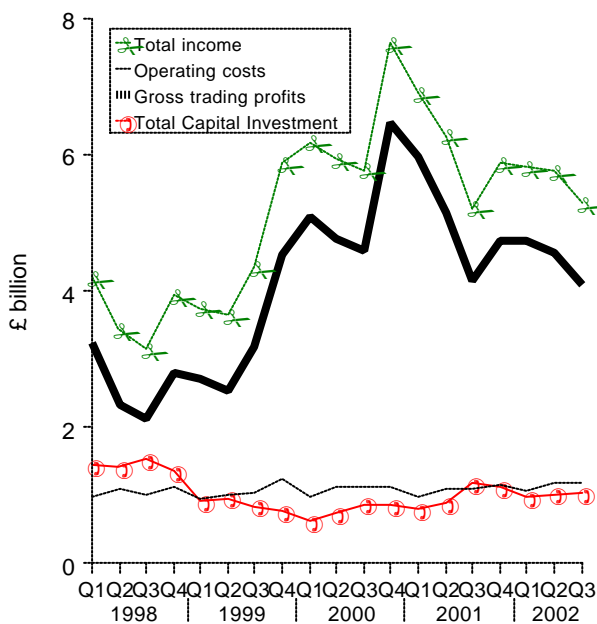
Chart 3.5 Stocks of key oil products⁽¹⁾



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

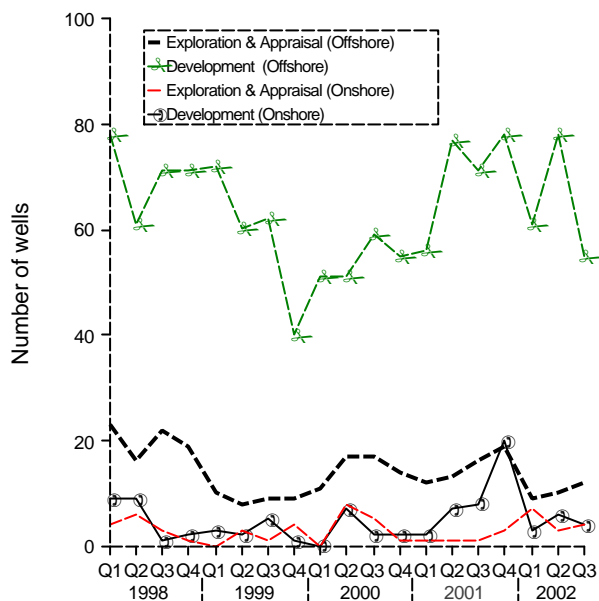
- Overall, stocks of crude oil and petroleum products were 3.1 per cent higher at the end of the third quarter of 2002 than a year earlier.
- Compared with last year, crude oil and refinery process oil stocks were 12.7 per cent higher while stocks of products were 4.7 per cent lower.
- Stocks at UKCS pipeline terminals rose by 9.5 per cent (190 thousand tonnes).
- The chart 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 third quarter of 2002, the UK held stocks equal to 78½ 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



- Provisional figures for the third quarter of 2002 over the same period last year showed that gross trading profits fell by 1.3 per cent, as higher costs overtook the slight rise in income.
- Total income rose slightly by 1.4 per cent between the third quarter 2001 and the same period in 2002.
- Operating costs rose by 6.7 per cent.
- In quarter 3 2002 total capital investment fell by 11.2 per cent compared with quarter 3 2001, with falls in both exploration and other investment.
- Exploration expenditure fell by 6.6 per cent, with drilling continuing at lower levels this year.
- Other capital investment fell by 11.6 per cent.

Chart 3.7 Drilling activity on the UKCS



- Provisional drilling figures for the third quarter of 2002 showed a decline in the number of exploration and appraisal wells started offshore to 12 against 16 in the same quarter of 2001.
- The number of development wells drilled offshore fell to 55 for the third quarter of 2002 compared to 71 in the same quarter of 2001.
- The number of development wells drilled onshore stood at 4 compared to 8, in the same quarter of 2001.
- 4 exploration and appraisal wells were started onshore compared to 1 in the third quarter of 2001, as drilling continued the recovery after foot and mouth restrictions.

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 & 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 NGLs decreased in the third quarter of 2002 by 6.4 per cent over the same period last year largely due to an extended maintenance round this year. Without the start up of nine new fields, and the redevelopment of another field, production would be 11.6 per cent lower than the third quarter of 2001. The UK is still a net exporter of oil and oil products. The majority of UK production of crude oil and NGLs goes for export (73.1 per cent in 2001 and 68.5 per cent in the third quarter of 2002), 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. As such 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 refinery output in the third quarter of 2002 was 22.3 million tonnes in comparison to 22.8 million tonnes in 2001. Changes to operating procedures in refineries i.e. the switch to production of Ultra Low Sulphur Petrol is a contributory reason for the reduction of exports of UK produced crude oil as a higher-grade (i.e. lower sulphur content) input is needed, and so crude oil from the North Sea is used instead of cheaper, lower-grade imports from other areas of the world.

Demand for petroleum products

Overall deliveries of petroleum products for final consumption in the third quarter of 2002, was 1.7 per cent lower than in 2001. Deliveries of motor spirit and aviation fuel were lower by 5.7 and 6.5 per cent respectively, whilst deliveries of DERV fuel were 7.4 per cent higher than a year ago. The decline in motor spirit and compensating increase in Derv primarily reflects the continuing move from petrol to diesel engined vehicles.

Aviation turbine fuel kerosene

The terrorist attacks on the United States on 11th September 2001 have had a serious impact on the global aviation industry. This is evident from the clear downturn in consumption of ATF Kerosene in the UK following September 2001. Data for the first quarter of 2002 show deliveries to be 12.0 per cent lower than in the same period of 2001 (prior to the attacks) while there was a slight recovery in aviation sales in quarter two with data showing only a 0.5 per cent drop on 2001. There was a further fall in quarter three of 6.5 per cent over the same period a year ago reflecting continuing problems in the aviation industry.

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 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 2001 consumption data are 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. Data for the third quarter of 2002 show that exploration and other capital expenditure continue to be affected by uncertainty over oil and gas prices, but gross trading profits are similar to that in the third quarter of 2001.

UKCS Capital Expenditure Survey 2002

DTI has conducted an annual UKCS Capital Expenditure Survey for many years. It was designed to obtain a view of operators' intentions to invest in oil and gas production on the UK Continental Shelf (UKCS), and proved to be of considerable value to both Government and industry. Since 2000, DTI have co-operated with UKOOA, the operators' representative body, in running a joint UKCS Activity Survey, in order to reduce the burden on companies. The Survey covers production of oil and gas and both operating and decommissioning costs as well as development capital expenditure. This note discusses only the latter.

Summary of Results

Survey results give total development capital expenditure relating to existing fields and significant discoveries (which do not include expenditure on exploration, appraisal or decommissioning) of £4 billion in 2002, rising to some £4.1 billion in 2003, and remaining near to £4 billion in 2004. Analysis suggests that this could translate into actual expenditure in 2002 of between £3.3 billion and £3.8 billion, with expenditure in 2003 likely to be at the lower end of this range. Comparisons with the 2001 survey show that expenditure plans in the future five years are some 12% lower. However, expenditure for 2002 to 2006 has increased by £1 billion compared to the same years for the 2001 survey

Background

The 2002 Survey asked operators to place projects in the following four categories:

1. **Sanctioned fields:** Fields in production or under development, including sanctioned incremental investments.
2. **Incremental projects:** Unsanctioned investments in existing fields, and such projects having the potential to become commercial at some time in the next 10 years.
3. **Probable fields:** Fields that are considered potentially commercial and are expected to move forward to sanction within the next 5 years. Greater than 50% probability of development.
4. **Possible fields:** Other discoveries that are currently non-commercial, requiring new or innovative technology to move forward to sanction. The probability of development is less than 50%.

Capital Expenditure Plans by Category

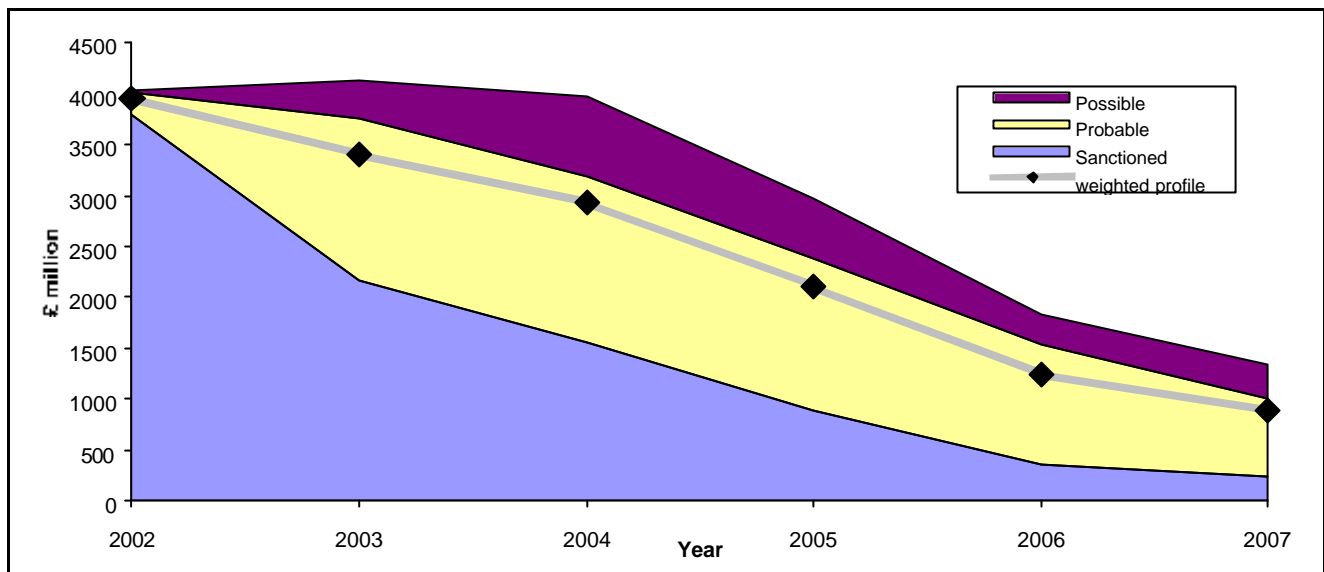
As in the previous DTI/UKOOA surveys, operators were asked to assign a probability of development to each project. These probabilities have been used to give a weighted profile, illustrating what the industry foresaw as attainable under favourable economic conditions.

Table 1: Capital Expenditure Plans by Category

£ billion (2002 prices)	2002	2003	2004	2005	2006	2007	TOTAL for 2003–2007
Sanctioned	3.8	2.2	1.6	0.9	0.4	0.2	5.2
Probable	0.2	1.6	1.6	1.5	1.2	0.8	6.7
Sanctioned and Probable	4.0	3.7	3.2	2.4	1.5	1.0	11.9
Possible	0.0	0.4	0.8	0.6	0.3	0.3	2.4
Grand total	4.0	4.1	4.0	3.0	1.8	1.3	14.3
Weighted Profile	4.0	3.5	2.9	2.1	1.3	0.9	10.7

Chart 1 and Table 1 show, by year, total investment plans, including incremental projects, within the categories Sanctioned, Probable and Possible. The weighted profile, calculated by reference to the probabilities, is also shown.

Chart 1: Capital Expenditure Plans by Category



From Chart 1 it can be seen that total reported expenditure declines steeply between 2004 and 2006. A similar fall has been noted in the majority of previous surveys, since expenditure is reported by operators only where sufficient knowledge exists for reasonable estimates to be made, and does not include allowances for expenditure on developing new discoveries.

It is encouraging that -

- Sanctioned projects total £5.2 billion for the period 2003–2007, accounting for approximately 37% of total plans. This is the same amount as for the period 2002–2006 in the 2001 Survey.
- Probable projects in the period 2003–2007 total £6.7 billion and account for 47% of the plans, so that ‘Sanctioned and Probable’ projects account for 83% of the total expenditure planned.

However, the Capital Expenditure for 2002 to 2006 had increased by £1 billion compared to the same years for the previous survey.

Total Expenditure for the 5 Years following each Survey

Chart 2 presents total expenditure for the five years following each survey on ‘Sanctioned & Probable’ and ‘Possible’ projects from the recent DTI/UKOOA surveys and total expenditure from the former DTI Capital Expenditure surveys. ‘Possible’ expenditure indicates encouraging chances of future investment that could come into play later than shown.

Chart 2: Total Expenditure for the 5 Years following each Survey

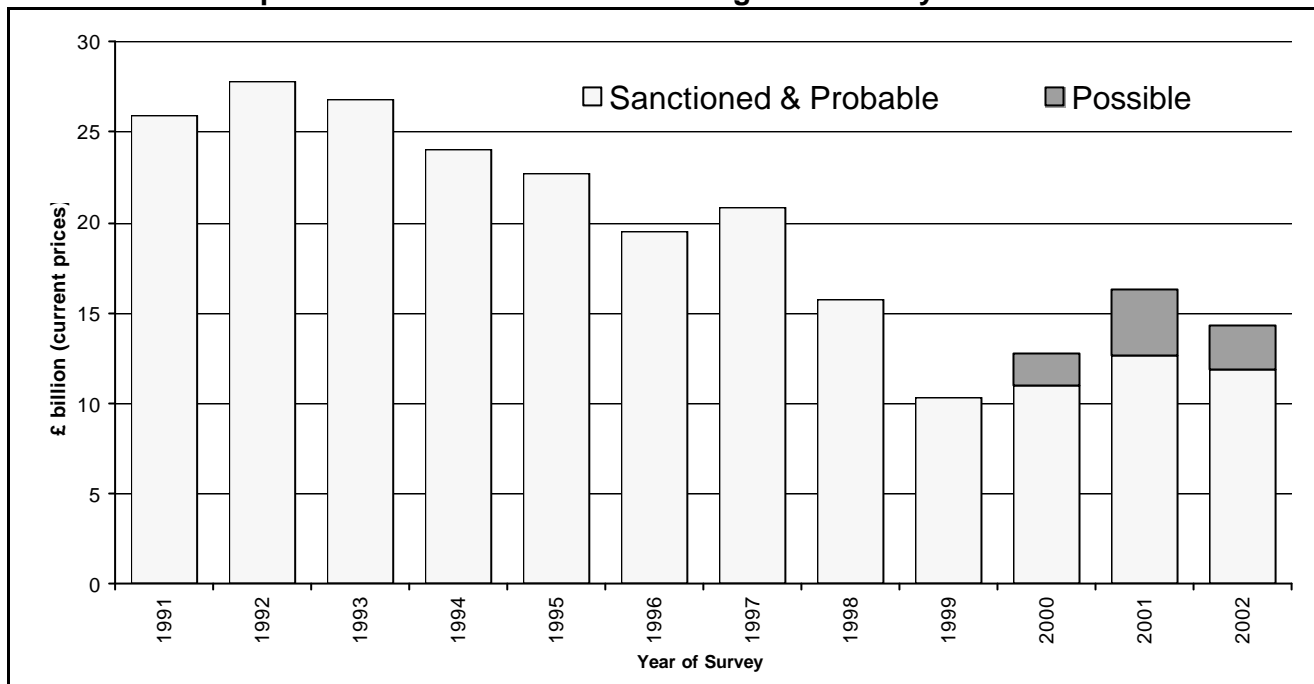


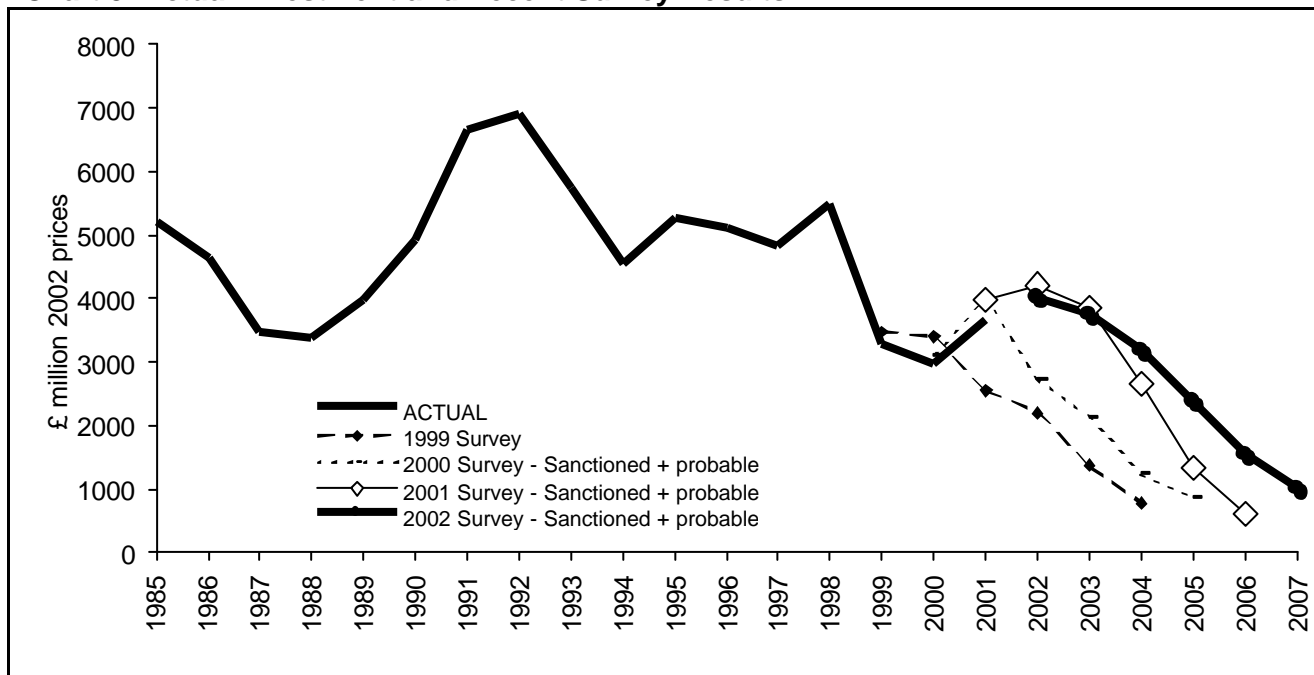
Chart 2 illustrates that the 5-years totals of expenditure have dipped slightly by 12% after the encouraging growth since 1999.

- At £11.9 billion, the 'Sanctioned & Probable' projects total for the next five years is a decrease of 6% from the total for the future five years of the 2001 survey.
- Future 'Possible' projects for this survey have decreased by 33%, to £2.4 billion, when compared to the future 5 years of the 2001 DTI/UKOOA survey.

Actual Investment and Recent Survey Results

Chart 3 displays survey results for years 1999–2002 and actual investment from 1985–2001.

Chart 3: Actual Investment and Recent Survey Results



The 2002 survey results show that confidence in the industry is still very much improved from the results of 1999.

Totals prior to the co-ordinated surveys were generally optimistic for the first survey years compared with actual expenditure, and understated for the later years as developments slipped and new projects came into play. If data from these prior surveys are equivalent to the 'Sanctioned & Probable' categories alone, then, based on these earlier differences, one might expect expenditure to be some £3.7 billion in 2002 and to fall to £3.2 billion in 2003 (this is similar to the weighted profile for 2002, but noticeably lower than the weighted profile figure for 2003). The remaining plans and possible expenditure would then slip, giving chances of actual expenditure remaining at these levels.

Slippage is discussed in a full report on the DTI/UKOOA Survey 2002 which is due to be posted on the PILOT website (www.pilottaskforce.co.uk). In that, estimates after slippage show that capital development spend in 2002 could be between £3.3 billion and £3.8 billion, with expenditure in 2003 likely to be at the lower end of this range. The report points out the renewed uncertainty over oil prices in the near future.

Drilling and Other Capital Expenditure

The survey continues to ask operators for their expenditure plans to be split between 'Development Wells' and 'Other Capex'. Table 2 reveals the split of capital expenditure for 'Sanctioned & Probable' plans.

Table 2: Drilling and Other Capital Expenditure								
£ billion (2002 prices)	2002	2003	2004	2005	2006	2007	Total Capex	% of Total
Development Wells	2.2	1.9	1.6	1.0	0.7	0.6	7.9	50
Other Capex	1.9	1.8	1.6	1.4	0.8	0.5	8.0	50
Total Capex	4.0	3.7	3.2	2.4	1.5	1.0	15.9	100

The figures on this table show that Capital Expenditure consists equally of Development Wells and Other Capex. By comparison, in the previous survey the proportions of Development Wells against Other Capex were 45% and 55%, respectively.

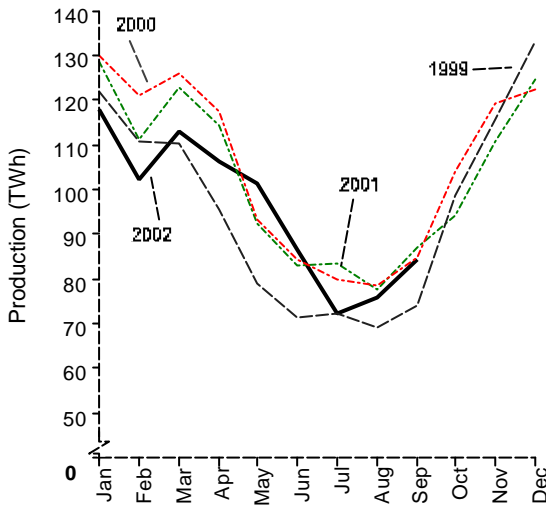
The survey is based on the investment intentions of Operators in the summer of 2002. Since then, oil prices have fallen and a further, sustained fall in the oil price could have a significant impact on investment plans for 2003. In fact, oil price uncertainty has an equally strong impact and, since 1998 when oil prices reached a low of \$10 a barrel, companies and banks have taken a much more sanguine view of future price projections. However, the survey is still believed to provide a useful barometer of Industry sentiment, and to indicate the underlying potential.

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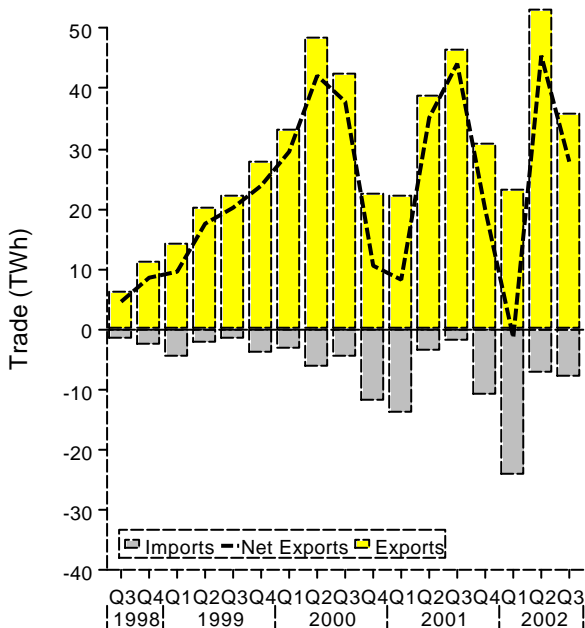
Section 4 - Gas

Chart 4.1 Production of natural gas



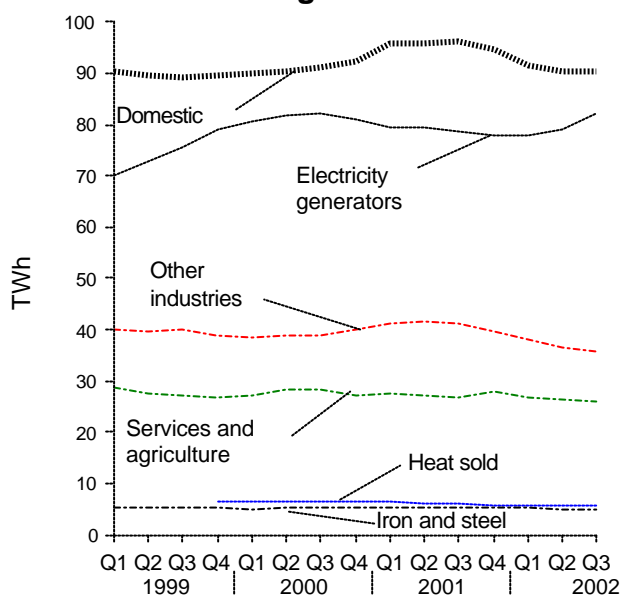
- Total indigenous UK production of natural gas in the third quarter of 2002 was 6.4 per cent lower than in the same period a year earlier.
- The Bacton-Zeebrugge interconnector was closed for most of July 2002 and for a short period in August. As a result the UK was unable to export gas to the continent and gas production had to be cut back accordingly. In July 2002 production of natural gas was 13.3 per cent lower than last year.

Chart 4.2 UK trade in natural gas



- Net exports were 36.9 percent lower than the third quarter of 2001 as a result of lower exports and increased imports.
- Exports of gas in the third quarter of 2002 were 22.5 per cent lower than a year ago due to the closure of Bacton-Zeebrugge interconnector (mentioned above). As a result, exports in July 2002 were 70% lower than last year.
- Imports of gas were nearly four times higher than last year due to the new Vesterled pipeline. Vesterled was not commissioned until the fourth quarter of 2001 and allows imports of gas from Heimdal, Osberg and other fields in the Norwegian sector.

Chart 4.3 Natural gas consumption - average of four quarters ending



- Demand for gas in the third quarter of 2002 was 3.6 per cent higher than the level in the third quarter of 2001.
- Gas use for electricity generation was 16.0 per cent higher than in the third quarter of 2001 prompted by gas prices being lower than a year earlier. Gas use for generation was at a record level for a July to September quarter.
- Provisionally, consumption in the domestic sector rose by 0.1 per cent.
- In public administration, commerce and agriculture consumption fell by 2.8 per cent compared with a year earlier. In the industrial sector gas sales are provisionally 10.4 per cent lower than in the third quarter of 2001.

Background

Relevant table

4.1: Natural gas supply and consumption

Gas production and trade

Chart 4.1 shows a noted decrease in production during July of the third quarter of 2002 compared to 2001. This was due to the closure of the Bacton-Zeebrugge interconnector during the month because of the quality of the gas entering the pipeline thus reducing the UK's ability to export gas to the continent. The UK currently exports gas to the Netherlands, direct from the Markham and Windermere fields, the Republic of Ireland through the Irish interconnector and Belgium through the Bacton-Zeebrugge interconnector. Indigenous UK production accounted for 95.8 per cent of gas available for consumption in the UK in the third quarter 2002.

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 subsequently as prices have fallen gas use for generation has risen again. Gas use in the domestic sector is particularly dependent on temperatures during the heating season. With very mild temperatures in the first 4 months of 2002, and temperatures averaging 1 degree C milder than the previous year for the first 9 months of 2002, domestic gas consumption declined. Mild temperatures also affected services sector consumption. The downturn in economic activity, high gas prices and mild weather have all contributed to a fall in industrial gas use.

Imports and Exports in the UK Gas Market

Introduction

Imports and exports are becoming an increasingly important part of the UK gas market. This article looks in detail at the gas flows to and from several countries and notes the increasing importance of imports to the UK.

Background

The UK is currently a net exporter of gas though this has only been the case since 1997. Prior to this the UK was a net importer. At times of peak winter demand, the UK has temporarily been a net importer and it is expected, as our indigenous gas reserves become depleted, that soon the UK will again become a net importer of gas. Further information on the UK gas market can be found in the article in December Energy Trends 2001 (www.dti.gov.uk/energy/inform/energy_trends/articles/bpjan2001.pdf) and in the chapter on long-term gas trends in the Digest of UK Energy Statistics (www.dti.gov.uk/energy/inform/energy_stats/gas/index.shtml).

An interconnector is a pipeline connecting the British gas network with the gas system of another country. The UK currently has three interconnectors, two linking Britain to Ireland (with a single offtake to Northern Ireland) and one with mainland Europe (Belgium). The idea of the European interconnector was first developed in 1992 and construction started in 1995. The project was completed in 1998, ahead of schedule, and the first gas flowed on 1 October 1998.

The UK also imports significant amounts of gas direct by pipeline from Norway.

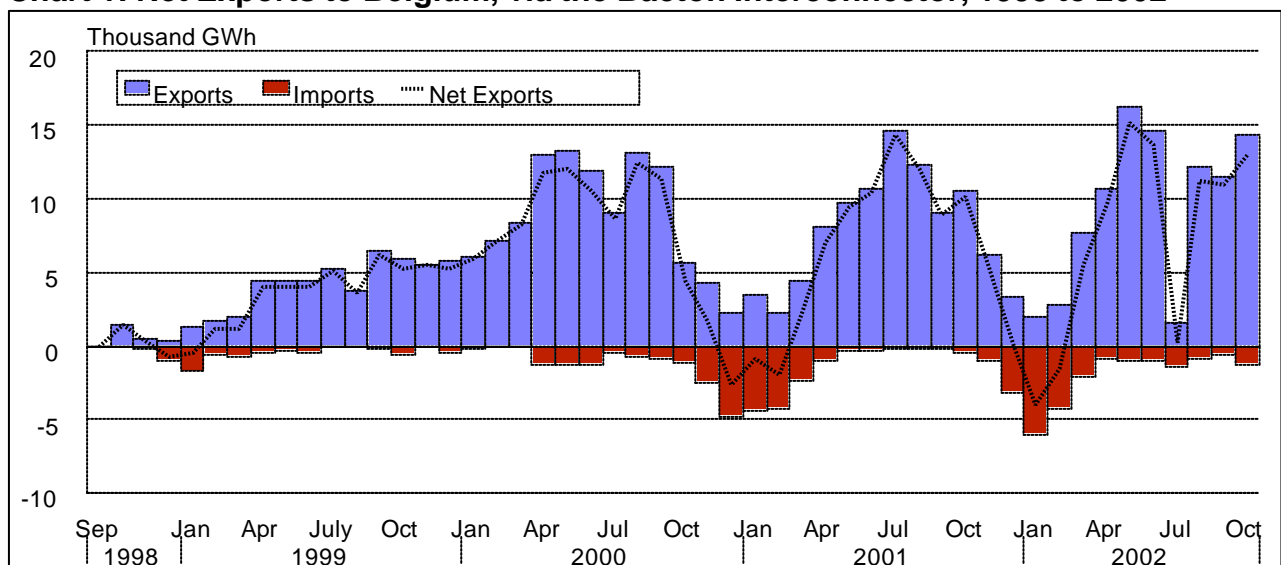
Bacton Interconnector

The Bacton Interconnector is a pipeline between Bacton in Norfolk and Zeebrugge in Belgium. It links the UK's gas network with mainland Europe via a 40 inch diameter, carbon steel pipe. The pipe is 240km long and can operate at a pressure of 135 bar.

The interconnector is owned by a number of "shippers", and is operated on their behalf by Interconnector UK Ltd. Capacity rights are owned by the shippers, on the model of competing "virtual pipe-lines" within the physical pipe-line, who are free to sell rights on to others.

The interconnector has an export capacity of 20 billion cubic metres / year (bcm/pa), and, because there is no compression at Zeebrugge, an import capacity of 8.5 bcm/pa. The interconnector shippers have agreed to install compression at Zeebrugge, to increase import capacity to 16.5 bcm/pa from the winter of 2005/06.

Chart 1: Net Exports to Belgium, via the Bacton Interconnector, 1998 to 2002



Although we remain a net exporter of gas, Chart 1 shows the interconnector has been used for imports to meet seasonal peak demand in winter on a number of occasions: November 1998 to January 1999, November 2000 to February 2001 and December 2001 to February 2002. The installation of compression at Zeebrugge and the implementation of amendments to the governing arrangements are expected to make the operation of the interconnector more sensitive to market conditions in the British and Continental gas markets.

Lower net gas exports in July 2002 were due to closure of the pipeline caused by hydrocarbon liquids entering the pipeline. Further disruptions were caused by a second incident of liquids in the pipeline in mid-August and the regular annual maintenance round in early September before gas flows could return to normal levels.

Chart 2: Natural Gas Imports - comparison of Total UK Imports with Imports via the Bacton Interconnector, 1997 to 2002

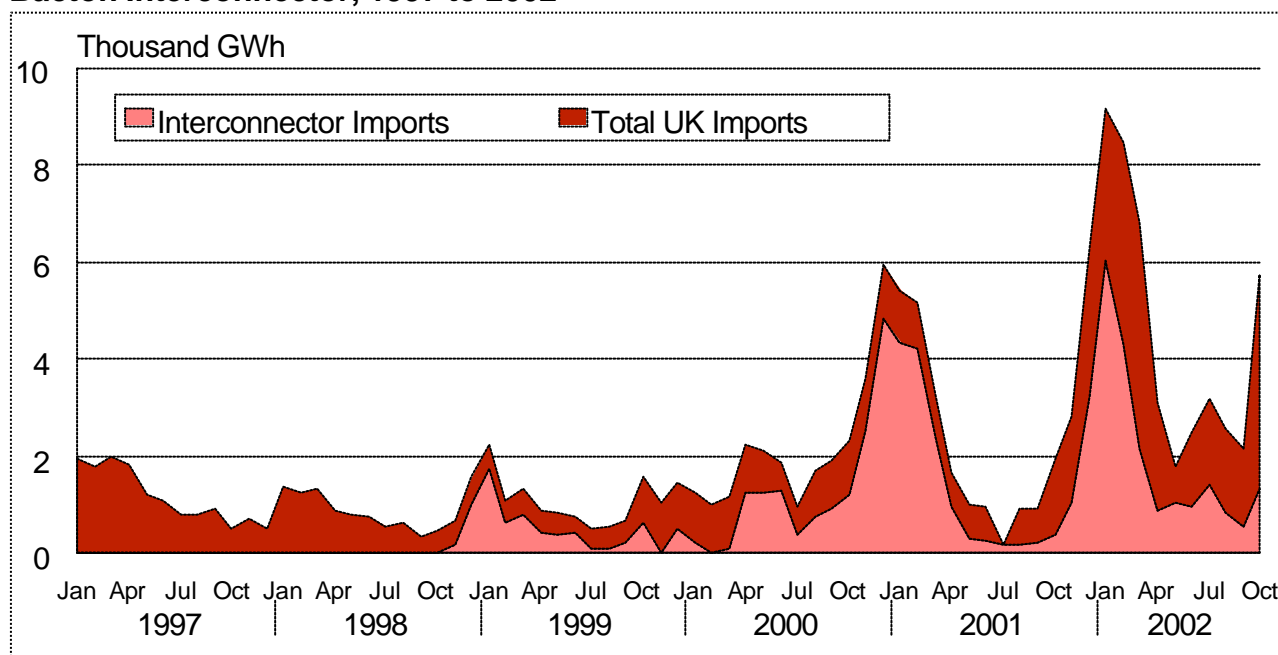
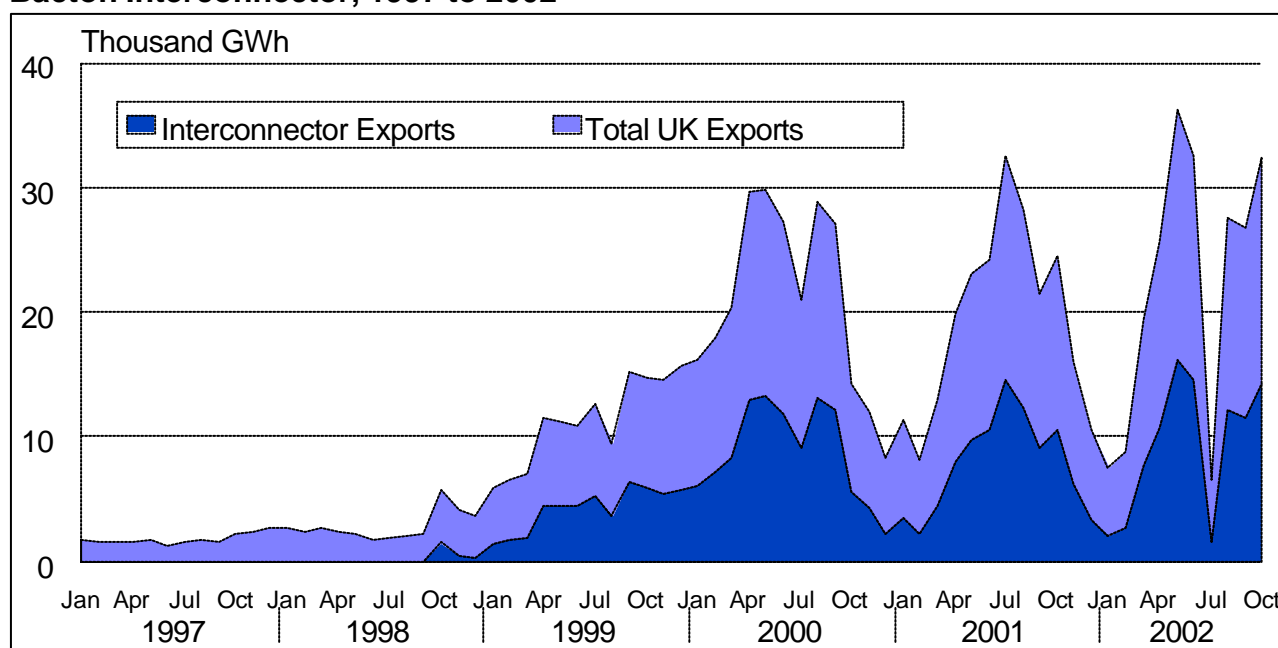


Chart 3: Natural Gas Exports - comparison of Total UK Exports with Exports via the Bacton Interconnector, 1997 to 2002



Gas

Charts 2 and 3 illustrate the major impact made on both UK imports and exports by the interconnector. In 2001, Bacton imports accounted for 58 per cent of total imports, and Bacton exports accounted for 68 per cent of the total.

In total, the Bacton interconnector accounts for 67 per cent of the UK international gas trade.

Norway

Prior to 1997, UK gas imports were only supplied from the Norwegian share of the Frigg field. These imports have declined as Frigg approaches the end of its productive life. Since 1997 the Frigg pipeline has been used to import gas from other Norwegian fields.

Vesterled Pipeline

Norway has significant remaining gas reserves and the new Vesterled pipeline links the Norwegian infrastructure with the UK via the existing Norwegian Frigg pipeline. The Vesterled pipeline is 32 inches in diameter and is about 50km in length. This pipeline has the potential to supply 11 billion cubic metres of gas per year, equating to 30 million cubic metres of gas per day. This amounts to approximately 11 per cent of the UK's gas consumption in 2001.

The Vesterled pipeline transports gas from Norway's Heimdal platform to one of the Frigg pipelines for onward transmission to St Fergus in Scotland. The Heimdal installation acts as a hub to collect gas from a number of Norwegian fields including Oseberg and Huldra whence the gas, including Heimdal's own, can enter the Frigg pipeline. Vesterled first delivered gas on 1 October 2001, and under current contracts gas can be delivered to the UK through the pipeline until 2016.

Chart 4: Natural Gas Imports – comparison of Norwegian Imports via the Vesterled Pipeline and Total UK Imports, 2000 to 2002

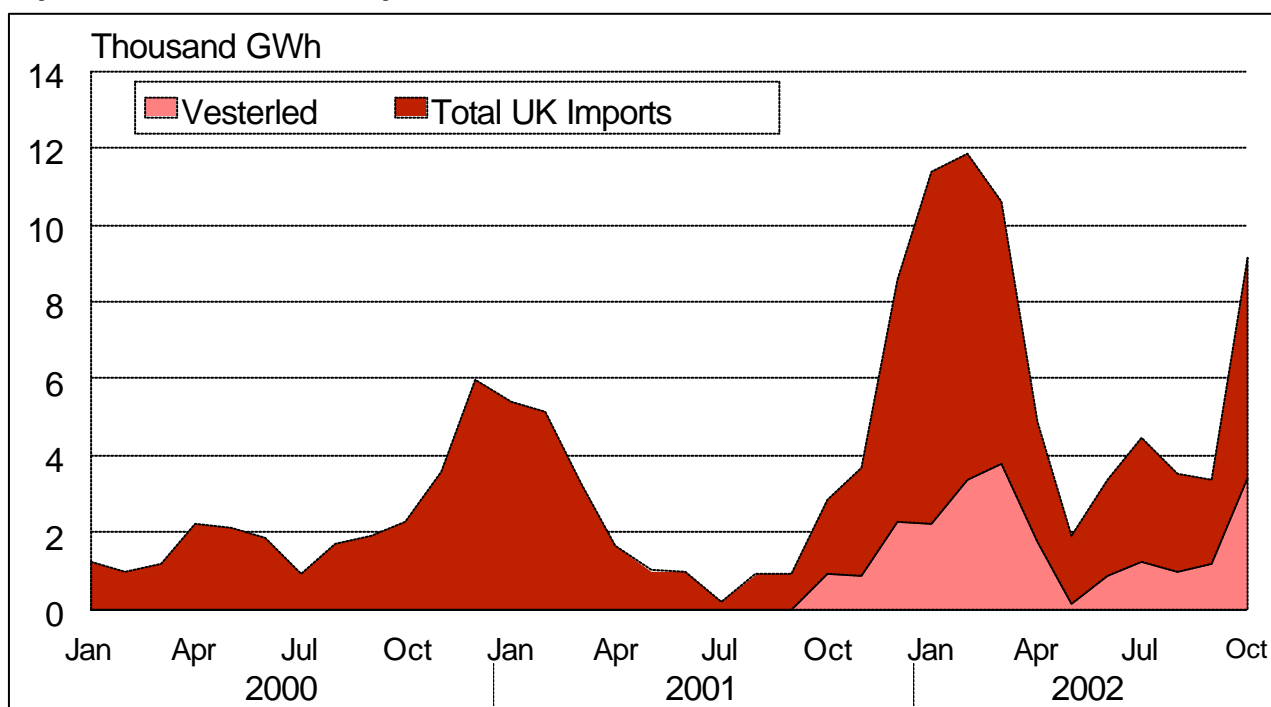


Chart 4 shows the effect of the recent introduction of imports through the Vesterled pipeline. It has the potential to increase UK imports significantly and has already accounted for 39 per cent of total imports since its introduction. Vesterled has also increased year to date imports in 2002 from Norway by 70 per cent, in comparison with 2001 figures.

Ireland Interconnectors

Gas joins a pipeline from the National Transmission System at Moffat in Scotland and is delivered at Loughshinny in Ireland. A spur from the pipeline also delivers gas to Ballylumford in Northern Ireland.

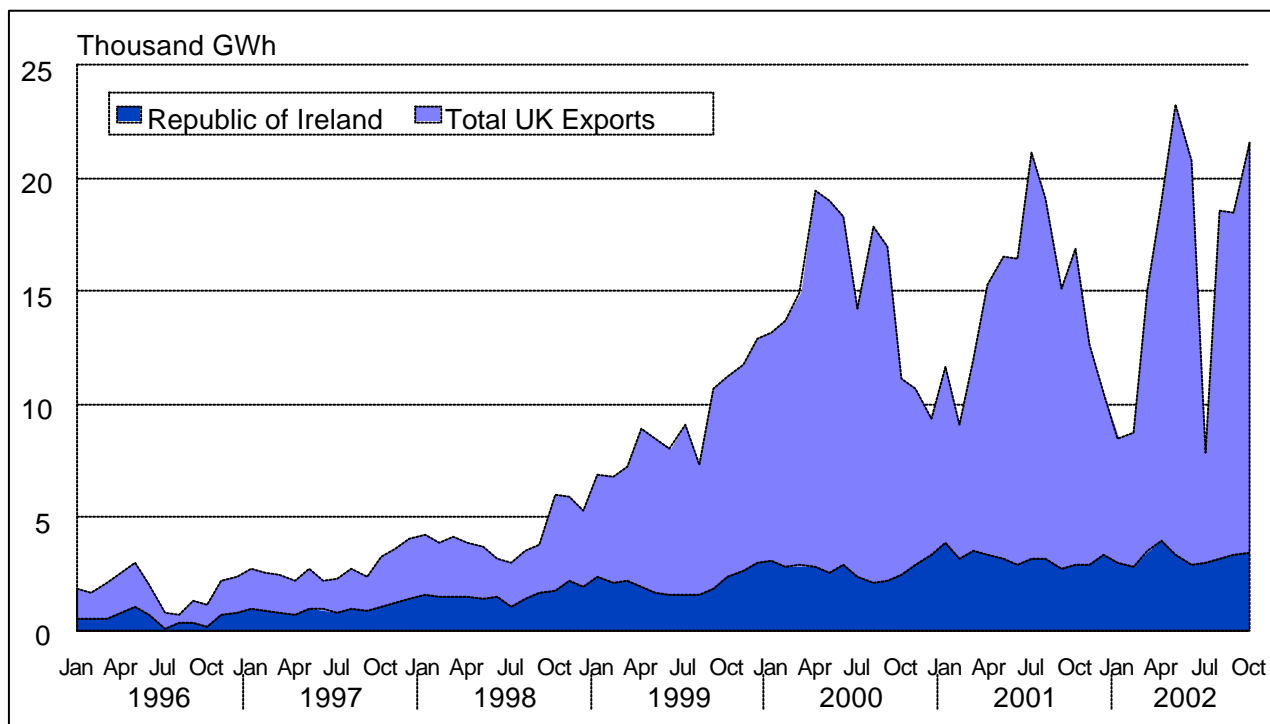
The pipeline to Loughshinny is about 275km long, 24 inches in diameter and operates at a maximum pressure of 148 bar. It is capable of exporting 9.5 billion cubic metres of gas per year.

The pipeline was finished in December 1993 and is operated by the Bord Gáis Éireann. At that time daily capacity was only 10 million cubic metres per day. Commercial operation began in 1995 and the capacity of the pipeline has gradually been increased to its present capacity of 26 million cubic metres per day.

At the present time Ireland imports 82% of its gas needs from the UK, equal to 3.4 billion cubic metres per year.

In order both to improve security of supply and to help satisfy future increases in the Republic's demand for gas, a second interconnector has been built again starting at Moffat in Scotland.

Chart 5: Natural Gas Exports – comparison of Exports to Ireland with Total UK Exports, 1996 to 2002



In 2001, exports of gas to Ireland made up 28 per cent of total UK exports. This figure will rise when Ireland needs to utilise the additional capacity provided by the second interconnector. Chart 5 shows how exports have increased sizeably as a direct result of the Irish Interconnector.

Gas

Netherlands

The UK exports a significant amount of gas to the Netherlands each year. Gas produced from the UK share of the Markham field and the Windermere field is exported directly to the Netherlands gas system. The Markham field is situated in the Southern Basin, off East Anglia, and extends across the maritime boundary between the UK and the Netherlands. The Windermere field is situated close to the Markham field and exports its production via the Markham platform.

The Markham field first started production in November 1992 and had an estimated 8 billion cubic metres of natural gas reserves while the Windermere field first started production in April 1997 and had an estimated 2 billion cubic metres of natural gas reserves.

As such these exports do not make up part of the actual supply to the UK gas market since the gas never reaches our shores. However, gas produced within UK waters count as UK exports and therefore they have been included for a complete view of UK imports and exports.

Chart 6: Natural Gas Exports – comparison of Exports to the Netherlands and Total UK Exports, 1996 to 2002

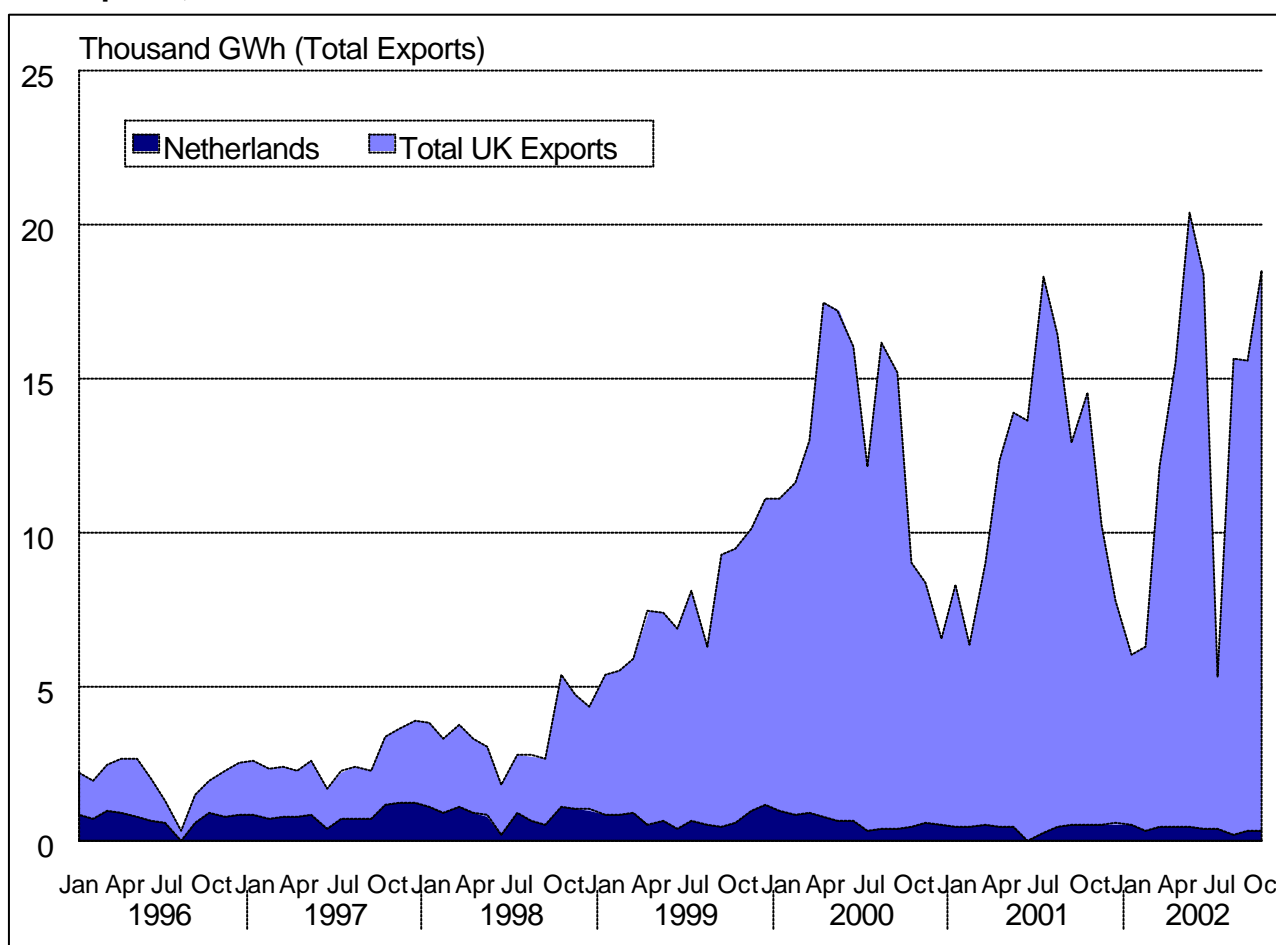
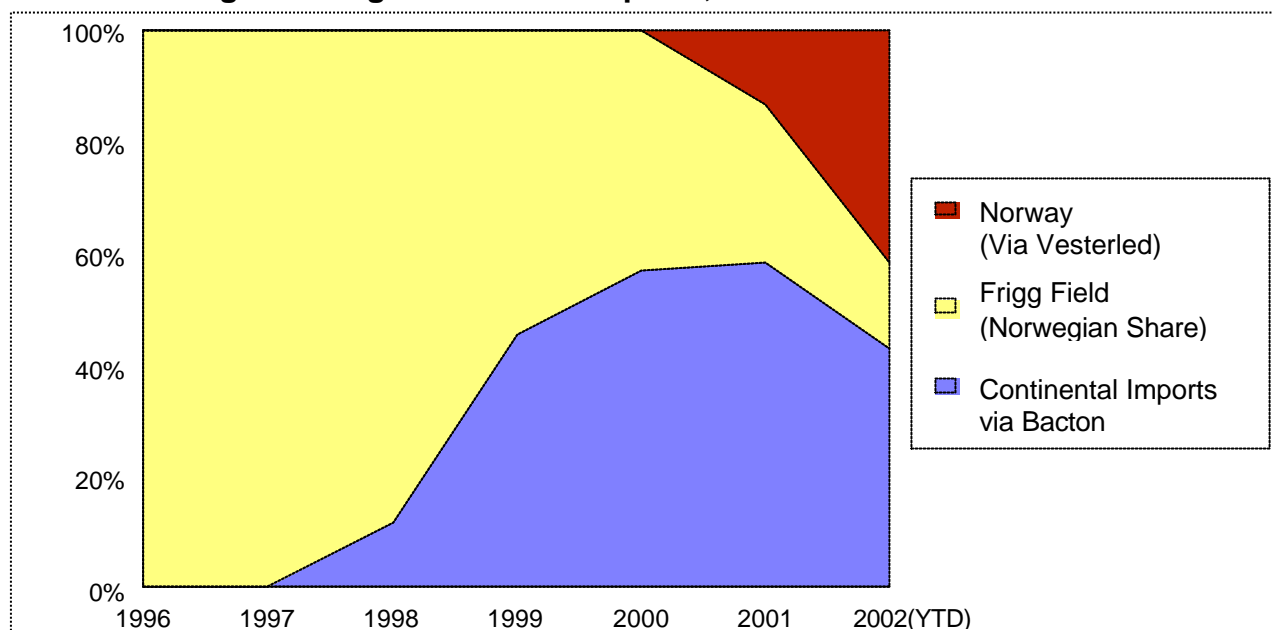


Chart 6 shows a downward trend in the exports from the Markham and Windermere as the fields come closer to the end of their productive life. UK exports to the Netherlands made up only 4 per cent of total UK exports in 2001 though, with the Dutch having substantial domestic supplies, this equated to 45 per cent of Dutch imports.

Changes in UK Foreign Gas Trade

Chart 7: Changes in Origin of UK Gas Imports, 1996 to 2002



In 1996 imports to the UK were simply from the Norwegian part of the Frigg field. Chart 7 demonstrates the change to imports from the Continent via Belgium and direct from Norway via Vesterled from 2001. The largest of these imports is the Bacton interconnector. During this time imports of gas to the UK has increased by 35 per cent to 30 thousand GWh.

Chart 8: Changes in Destination of UK Gas Exports, 1996 to 2002

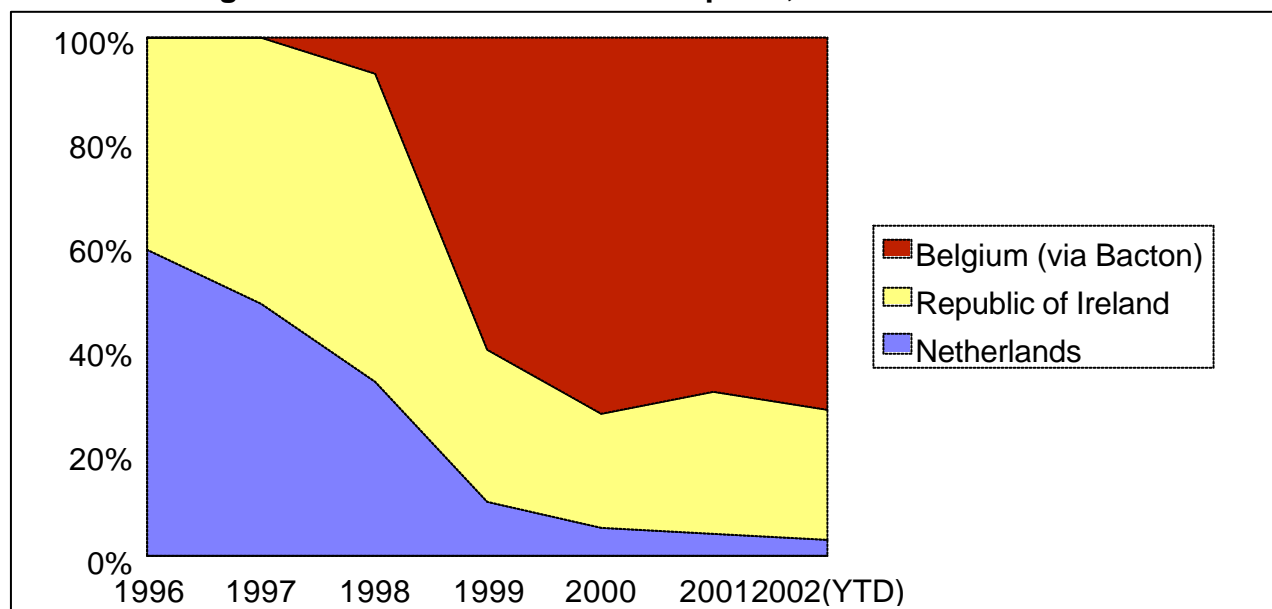


Chart 8 shows the destinations of UK exports changing to include Belgium, via the Bacton interconnector. It can also be seen that the balance of exports has shifted from a majority export to the Netherlands to a majority in Ireland and then Belgium. Exports to the Netherlands are playing an increasingly minor role within UK exports. Between 1996 and 2001 exports of gas grew by 89 per cent to 138 thousand GWh.

The foreign gas trade industry as a whole has grown by 79 per cent since 1996, and represented 169 thousand GWh of gas traded in 2001.

Chart 9: Growth of UK Imports, 1996 to 2002

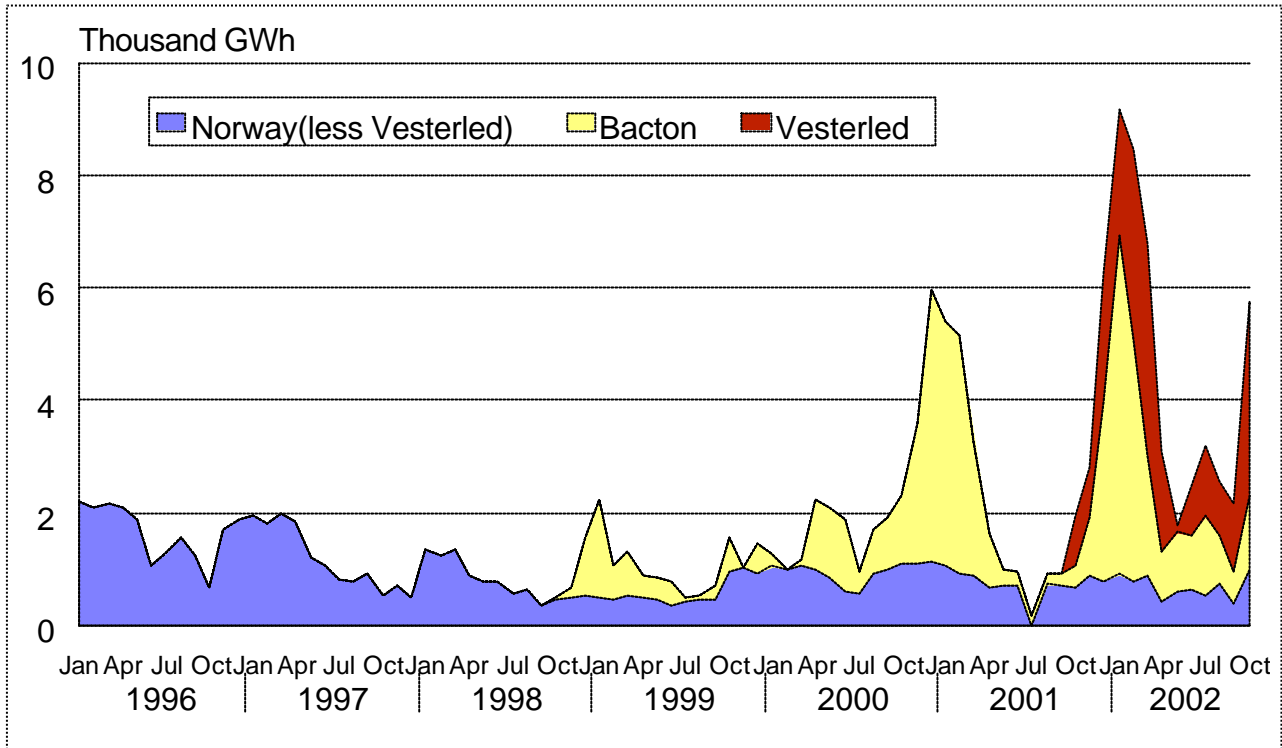


Chart 9 illustrates the recent growth of UK imports. The UK now has the potential to import around 242 thousand GWh of gas per year, equal to around 22 per cent of total supply in 2001. This is a dramatic increase in potential imports compared with the maximum supply available in 1996, an estimated 20 thousand GWh. This would be less than 2 per cent of 2001 supply.

Chart 10: Growth of UK Exports, 1996 to 2002

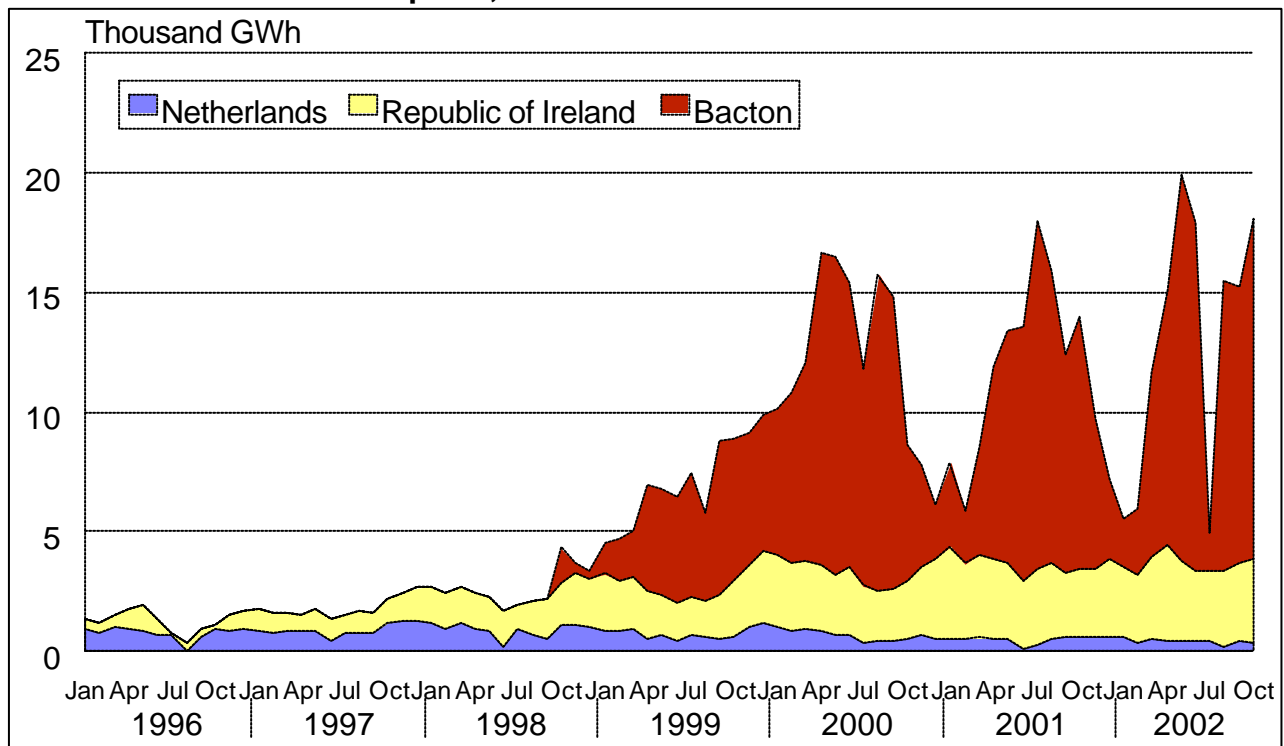


Chart 10 demonstrates the dramatic increase in UK gas exports over the last 6 years. The size of Netherlands exports diminishes in comparison to the growth of the exports to Ireland, and the introduction of exports via Bacton.

Synopsis

Imports and exports are playing an increasingly important role in the UK gas industry. The UK has finite resources of gas. The joint DTI/Ofgem Joint Energy Security of Supply Working Group ("JESS") reports that gas shortages could occur during severe winter weather as soon as 2004/5 if investment in gas storage/supply infrastructure is delayed.

Ireland is currently heavily dependent on imports and, notwithstanding the prospect of further indigenous supplies, they have recently increased their import capability to improve their security of supply. With the additional capacity provided by the new interconnector, Ireland will have the capability to import around 60 per cent of their current energy needs in the form of gas delivered via the United Kingdom.

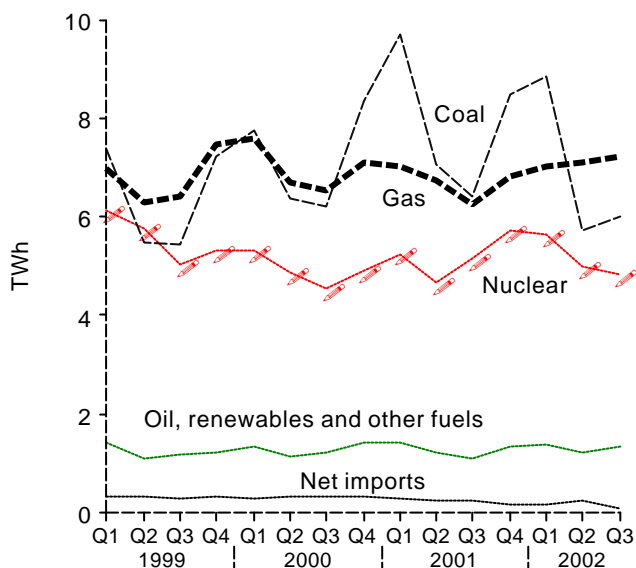
As UK indigenous resources become depleted, Norway will be a significant source of natural gas in Europe, competing with Russian and Algerian reserves for EU buyers.

At present the UK has the ability to import about 22 per cent of current gas consumption. If we are to continue to meet our gas needs, substantial new infrastructure will have to be made over the coming years. This is likely to mean continuing the development and introduction of interconnector pipelines from the European gas market. These new imports may be supplied in a variety of ways. In addition to the planned expansion of interconnector capacity, there are potential projects to supply further gas from Norway through existing or new pipelines and firm contracts to supply gas from Norway and the Netherlands. There is also considerable interest in liquefied natural gas (LNG) with one project being pursued offering potential supplies of gas from Qatar. The lead-time for such LNG projects is substantial and they are not likely to result in extra supplies to the UK market until the second half of this decade.

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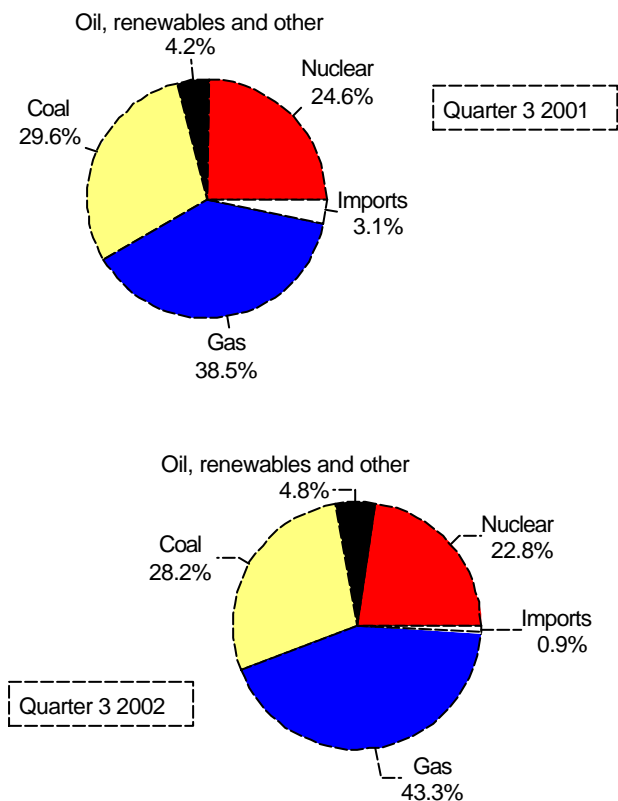
Section 5 - Electricity

Chart 5.1 Fuel used for electricity generation

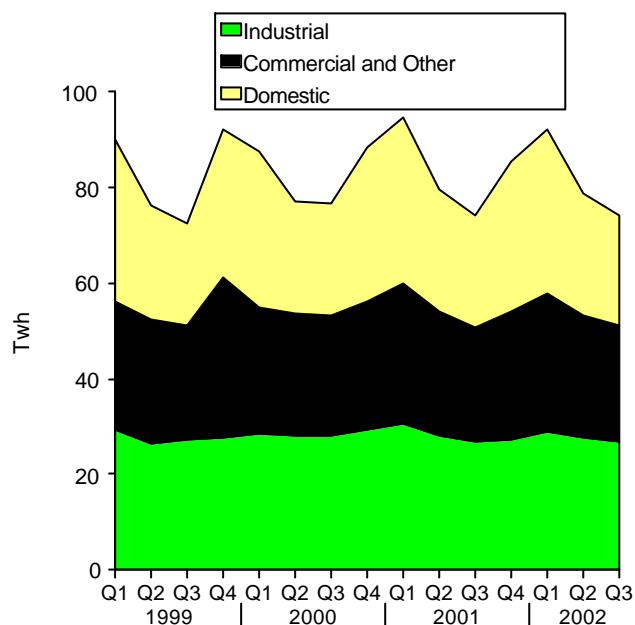


- Fuel used by generators in the third quarter of 2002 was, in total, 1.7 per cent higher than in the third quarter of 2001.
- Coal use was 6.2 per cent down on a year earlier
- Gas use was 16.0 per cent higher than in the third quarter of 2001 with the further easing of gas prices.
- Nuclear sources were down 6.7 per cent on the third quarter of 2001, because of outages for repairs and maintenance during the quarter at five of British Energy's eight stations.
- Net imports were 72.3 per cent lower (see below).

Chart 5.2 Electricity supplied



- Total electricity supplied by all generators in the third quarter of 2002 was 0.5 per cent higher (+½ TWh) than a year earlier.
- The supply from coal fell by 4.1 per cent (-1 TWh), while from gas fired stations supply rose by 13.2 per cent (+4½ TWh). Generation from oil fired stations was over a third lower.
- The supply from nuclear stations fell by 6.9 per cent (-1½ TWh) because of a number of outages for maintenance and repairs at British Energy stations. BNFL/Magnox stations continued their recovery from the high maintenance levels of a year earlier.
- Between the third quarter of 2001 and the third quarter of 2002 coal's share of the electricity supplied fell by 1½ percentage points to 28 per cent. Gas' share rose by 5 percentage points to a record 43½ per cent, and nuclear's share fell by 1½ percentage points to 23 per cent. Imports' share fell by 2 percentage points to 1 per cent.
- Net imports of electricity were down by 72.3 per cent (-2 TWh). During the quarter exports to continental Europe amounted to 0.4 TWh because on occasions prices were higher than in the UK. However, 1.1 TWh were also imported from continental Europe during the quarter, but this was only 40 per cent of the volume in the third quarter of 2001.

Chart 5.3 Electricity consumption

- Final consumption of electricity rose by 0.4 per cent in the third quarter of 2002 compared with the third quarter of 2001 with domestic use up 0.7 per cent. Industrial use was down by 0.3 per cent while consumption by commercial, public administration, transport and agricultural customers was up by 0.8 per cent.

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 halt to the rising trend in gas use at power stations despite new gas fired stations coming on stream during 2000 and 2001. But in 2002 lower gas prices have led to a resumption of growth in gas use. The downward trend in generation from nuclear sources during 1999 and 2000 resulted from a high level of outages for repair, maintenance and safety case work. This trend was reversed during 2001 and nuclear's recovery continued during the first half of 2002, but in the third quarter outages at British Energy stations produced a further downturn.

Supply

Supply from the coal fired power stations of major power producers rose by 15 per cent in 2000 having fallen at an average rate of 9½ per cent a year over the previous four years. Supply from coal rose by a further 8½ per cent in 2001. By contrast, supply from gas fired stations rose by only 2 per cent during 2000 whereas over the previous four years they had risen at over 20 per cent a year. In 2001 supply from gas fired stations fell by 2 per cent. High gas prices, especially in winter, discouraged gas fired generation over this period but more recently a fall in gas prices has been accompanied by a rise in supply from gas fired stations. The New Electricity Trading Arrangements (NETA) have led to reduced imports of electricity from France and exports when the price in continental Europe has made this profitable. This has led to more UK generation.

Consumption

Electricity demand has been rising at a trend rate of 1½ to 2 per cent a year over the last five years. In 2001, electricity demand was divided 29½ per cent to the domestic sector, 28½ per cent to industry and 18 per cent to the commercial sector leaving a further 16½ per cent of demand shared by public administration, transport, agriculture and the fuel industries. The remaining 7½ per cent is accounted for by transmission and distribution losses. In recent years these proportions have changed very little with fuel industries' share falling and services sector share rising. 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.

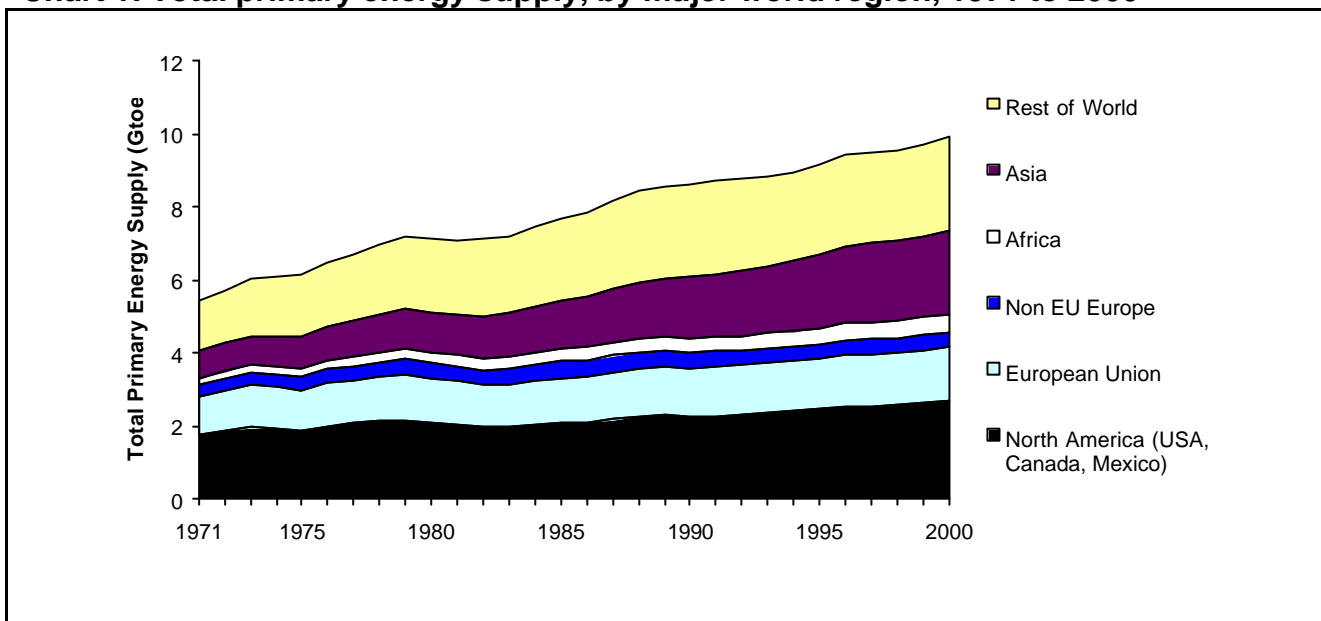
Global trends in energy consumption

Energy consumption levels can have a direct impact on environmental emissions as well as having an impact on resources that will be available for the future. While it is important to understand how consumption levels are changing in the UK and how they contribute to the global picture, it is also important to consider how trends in energy consumption on a global level are changing. It is the combined effect of energy consumption from different areas of the world that will result in changed levels of carbon dioxide emissions, the effects of which are felt on a global level. This article takes data for major world regions to illustrate how energy consumption has changed over the last thirty years, including changes in the context of economic growth.

Primary energy supply

Total primary energy supply (or consumption) represents all fuel consumed, including energy that is used or lost in the conversion of primary fuels to secondary fuels and in the distribution of fuels as well as energy that is consumed directly by an end user. Chart 1 shows how primary energy supply has changed by major world region since 1971.

Chart 1: Total primary energy supply, by major world region, 1971 to 2000



Between 1971 and 2000 world primary energy consumption increased by 82 per cent, mainly due to increases in consumption in Asia (where consumption more than tripled) and North America. For the European Union countries, primary energy consumption increased by 40 per cent between 1971 and 2000, mainly due to increases in France, Spain and Italy. In the UK primary energy consumption was 10 per cent higher on 1971 levels by 2000.

Table: Annual growth rates

	North America	European Union	Non EU Europe	Africa	Asia	World
Total Primary Energy Supply						Percentage
1971-1980	1.9	1.7	3.8	4.1	4.5	3.1
1981-1990	0.7	0.9	0.3	3.4	4.1	1.9
1991-2000	1.8	1.0	-0.9	2.5	3.3	1.5
1971-2000	1.4	1.2	1.0	3.3	3.9	2.1

Diversity

There have been major changes in the way that energy has been used over the last thirty years and major changes in the fuels used as countries have tried to balance supply concerns against environmental pressures. The largest single increase in fuel consumption has been for natural gas which more than doubled between 1971 and 2000 (driven by increases in demand from Europe, the Middle East and Asia). Natural gas accounted for 21 per cent of all energy consumed in 2000 and for 16 per cent in 1971. There has also been a major increase in the use of nuclear fuel as an alternative energy source. In 1971 it accounted for ½ per cent of all energy consumption whereas by 2000, it accounted for 7 per cent.

The combined effect of changes in individual fuel use can be shown using a measure of energy diversity. The Shannon-Weiner measure has been used to calculate diversity in Chart 2 and is described in the box.

The Shannon-Weiner measure of diversity

The Shannon-Weiner measure of diversity has been chosen because it places weight on the contributions of smaller participants in various fuel markets as they provide the options for future fuel switching. This is done by multiplying the market share by the natural log of the market share which diminishes the impact of larger participants. However, it is recognised that there are shortcomings in using only one indicator to represent a concept as complicated as diversity.

It is expressed by the following equation:

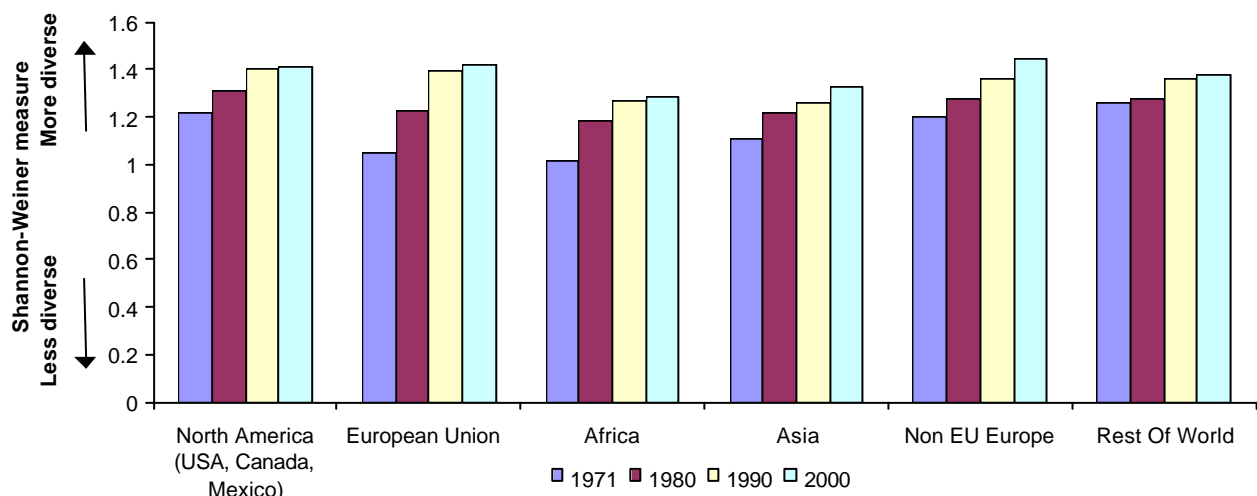
Shannon-Weiner measure = The market share multiplied by the natural log of the market share for each fuel in the market summed together

In mathematical terms, that is:

Shannon-Weiner measure = $-\sum p_i \ln p_i$ over all i where p_i represents the proportion of the total supplied by fuel i .

The minimum value that the Shannon-Weiner measure can produce is zero which occurs when only one fuel is available for use. In this case, there would be no diversity of supply. The Shannon-Weiner measure of diversity can be used to see how diversity of a particular market is changing over time. It should not be used to compare different markets with each other.

Chart 2: Diversity of primary energy supply, by major world region, 1971 to 2000



Using the Shannon-Weiner measure, diversity increased between 1971 and 2000 in each of the major world regions considered in this article, with the largest increases occurring in the European

Special features – Global trends

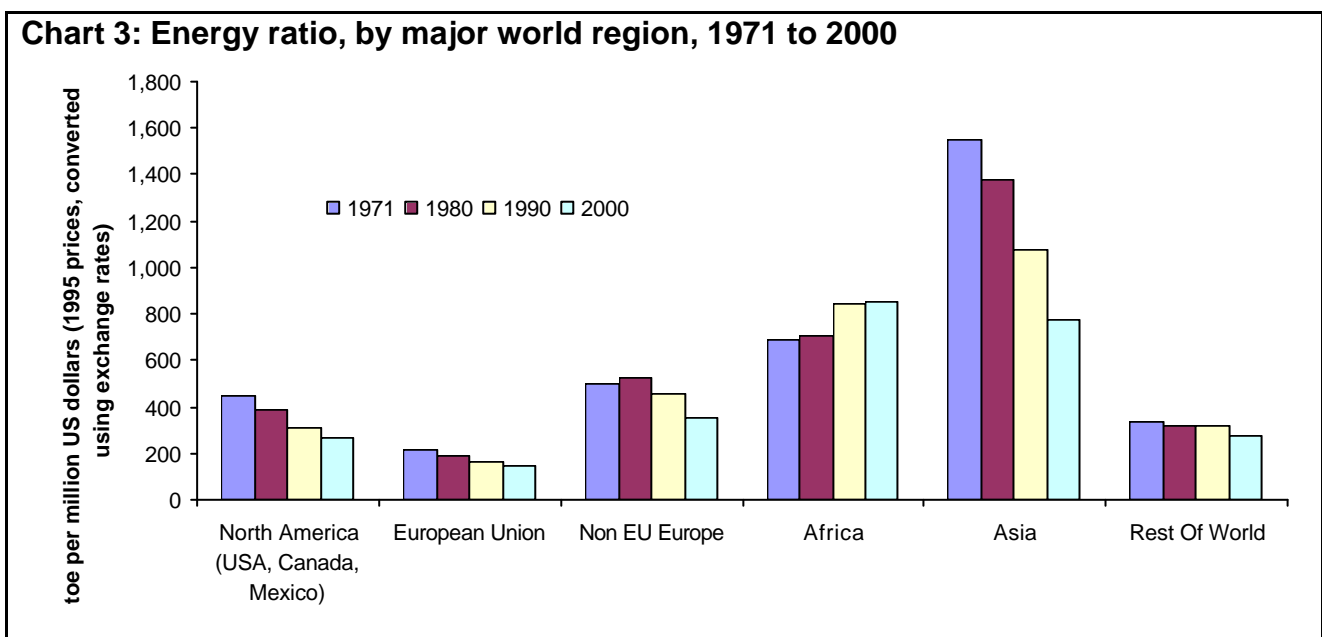
Union (EU) and Africa. While consumption of coal and coal products fell in the EU, the use of natural gas and nuclear fuel increased, reducing the EU's reliance on oil and coal. In 1971 oil and coal made up 58 per cent and 29 per cent respectively of all fuel consumed in the EU, whereas in 2000, oil and coal made up 41 per cent and 15 per cent respectively of the total. The proportion of energy provided from nuclear sources increased from 1 per cent of all fuel consumed in the EU in 1971 to 15 per cent in 2000 while consumption of gas increased from 8 per cent to 23 per cent over the same period. In Africa while renewables and waste still accounted for half of all of the energy consumed in 2000, the increased availability of other fuels such as gas and oil has lessened Africa's reliance on this type of fuel.

Energy ratio

The energy ratio shows how energy consumption has changed in relation to economic output, measured by Gross Domestic Product (GDP) at constant 1995 prices. The energy ratio can change for a number of reasons such as changes in energy efficiency, fuel switching or changes in the importance of energy intensive industry. Chart 3 shows how the energy ratio has changed between 1971 and 2000 for different parts of the world.

The largest fall in the energy ratio between 1971 and 2000 was for Asia where both energy consumption and economic output increased at a faster rate than for the other major world regions. The energy ratio for Asia halved as economic output increased at more than twice the rate of energy consumption. The only increase in the energy ratio between 1971 and 2000 was for Africa, where energy consumption increased more sharply than GDP.

The energy ratio is dependent on how energy is used within world regions, for example, on how much and what type of industry is prevalent. It can also depend on climate – in hot climates high levels of energy can be used for air conditioning, whereas regions with colder climates use more energy for heating purposes.



This article is based on data published by the International Energy Agency in 2002. Further information on international trends in energy consumption can be found in Chapter 10 of the Energy Sector Indicators 2002 publication that can be found on the DTI website at www.dti.gov.uk/energy/inform/energy_indicators/.

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Changes to monthly internet tables

The DTI currently updates monthly energy statistics tables on the internet at the end of each month, with four of these tables updated in advance at the start of the month. From August 2003, the DTI proposes to cease publishing these four advance tables. The DTI will continue to update all monthly energy statistics tables on the last Thursday of each month. These tables are available from the DTI website at: www.dti.gov.uk/energy/inform/energy_stats/. We would welcome your comments on this proposal. Please send them, before 31 March 2003, to:

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Update of long term trends spreadsheets available on the DTI Energy Statistics web site

Recent articles in Energy Trends have highlighted the trends over time in the production, and consumption of coal (September 2001), gas (December 2001), crude oil and oil products (March 2002) and electricity (September 2002). For three of these articles, the data on which the article was based were placed on the DTI Energy Statistics web site. These data have now been updated and extended as follows:

Coal

The data set on which this article is based on has been updated from the September 2001 issue of Energy Trends to include data for 2001 and is available on the DTI website at: www.dti.gov.uk/energy/inform/energy_trends/coalsince1853.xls

Gas

The data set on which this article is based on has been updated from the December 2001 issue of Energy trends to include data for 2001 and is available on the DTI website at: www.dti.gov.uk/energy/inform/energy_trends/gassince1882.xls

Electricity

The data set on which this article is based on has been updated from the September 2002 issue of Energy trends to include electricity generated and electricity used on works figures or "other generators" and in total for the years from 1990 to 2001. It is available on the DTI website at: www.dti.gov.uk/energy/inform/energy_trends/electricitysince1920.xls

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UK Energy Sector Indicators

The DTI's Energy Sector Indicators publication covers a variety of energy topics; the role of the industry in the UK economy, conversion efficiency, energy use, fuel prices, fuel poverty, competition and energy in the environment. This publication, which has in past years accompanied this December edition of Energy Trends, can be found on the internet at www.dti.gov.uk/energy/energy_indicators/.

A hard copy of the Indicators will be published with the Energy White Paper, which is due to be published in the New Year. The White Paper will review how the Indicators can, in the future, be used as a tool for measuring and monitoring progress of White Paper policies. Further information on the development of the White Paper can be found on the DTI web site at: www.dti.gov.uk/energy/developpep/.