

UNITED KINGDOM

By John Shrimpton MBE

The UK's GDP for 2002 was £1,037.3 billion as against £990.9 billion for 2001. The underlying rate of inflation (RPIX) at the year-end increased to 2.9% (1.9%), 0.4% above the government's target of 2.5%; the RPIX had been 1.5% in June, the lowest in its 27-year history. The interest base-rate remained at 4.0%; the Sterling Index was 104.5 (107.9) and the exchange rate was £0.62/US\$1.00 (£0.69) and £0.65/€1.00 (£0.61). The total trade balance of payments deficit decreased from £22.21 billion to £18.87 billion; the Public Sector Net Cash Requirement was £16.89 billion (surplus £2.91 billion). Unemployment fell slightly during the year from 1.54 million to 1.51 million.

The most recent figure available shows that the approximate value of minerals produced for 2001 was £26.58 billion (£27.32 billion for 2000), with oil contributing £13.77 billion (£16.27 billion), natural gas (including liquids) £9.29 billion (£7.73 billion), coal £1.03 billion (£0.92 billion), industrial and construction materials £2.5 billion (£2.4 billion) and metals remaining at less than £1 million.

During the year, the government announced an increase in spending of £61 billion over the next three years to fund public services. To assist the National Health Service further, there would be an increase of 1% in the National Insurance contributions from April 2003, paid by both employer and the employee. The Treasury announced its assessment of the five tests for UK membership of the euro in June 2003. It is apparent that entry is not imminent.

The government's Aggregate Levy, at the rate of £1.60/t plus VAT, came into effect on April 1, 2002. The Landfill Tax, which is to encourage the diversion of waste, including that from the extractive industry, away from landfill to other uses, is currently £13/t and is set to rise to £15/t by 2005.

Recently, the government released its proposals on energy policy, which includes targets of a 60% reduction in the UK's emissions of CO₂ by 2050 and an increase in the proportion of the UK's electricity generated from renewable sources, away from fossil fuels, from 10% by 2010 to 20% by 2020. The proportions of fuel used for the generation of electricity for 2002 was: coal 32% (34%), gas 38% (37%), nuclear 23% (24%), oil, hydro and renewables 7% (5%). The government's clean-coal programme for research and development projects is worth £25 million over three years.

The EC's New Chemical Policy will affect the industrial minerals sector, and involves the testing and registering of substances by production volume. There will be a tiered approach, and the process would be completed by 2013.

Coal

Coal output for 2002 was 30.02 Mt (31.93 Mt); deep mines produced 16.35 Mt (17.35 Mt) from 16 mines, opencast operations 13.14 Mt (14.17 Mt) and 500,000 t (417,000 t) came from other sources. Imported coal amounted to 28.07 Mt (34.99 Mt), and 535,000 t (550,000 t) were exported.

UK Coal plc, the largest UK coal producer, produced 19.5 Mt (19.6 Mt), 15.2 Mt (15.4 Mt) being mined from its 13 deep mines, and 4.3 Mt (4.2 Mt) from its 13 opencast operations. The company made a profit, before exceptional items, of £8.4 million (loss of £10.7 million). However, the loss on ordinary activities before tax was £83.1 million (£26 million loss) which included exceptional items of £91.5 million (£15.8 million).

Among the exceptional items were £55.6 million for closure and redundancy costs relating to the Selby Complex, North Yorkshire, and the Prince of Wales colliery, West Yorkshire; the latter closing at the end of August. The five-mine Selby Complex, costing £1.3 billion some 20 years ago, and now comprising the Wistow, Stillingfleet and Ricall collieries, together with the treatment plant at Gascoigne Wood, is due to have its operations phased out over a 20-month period because of adverse geological conditions and continuing financial losses, in excess of £90 million over the last three years. Some 2,100 jobs will be lost, a quarter of the company's workforce. However, to maintain production over this period, more than 30 km of access and preparation tunnelling will be required.

Output at the West Midlands Daw Mill colliery, which began production in May, was severely affected by adverse geological conditions, reducing its output to 4,000 t/wk, but this had improved to 35,000 t/wk in the first two months of 2003; full output is planned for 80,000 t/wk. The Clipstone colliery, Nottinghamshire, is to close in April 2003.

Following an operational review of the remaining deep mines, measures have been introduced to improve the performance of other collieries, principally Howarth and Maltby which have a high geological risk. An investment of £1 million has been committed to the Ellington colliery, Northumberland, where new reserve blocks have been accessed which should guarantee production for some four years, dependent upon its output, development and cost objectives being maintained and the continued demand from British Alcan Aluminium, its main customer. For the year, Project 105 achieved an average unit operating cost of £1.18p/gj (£1.30p/gj).

UK Coal's surface mining operations have ceased at St Aidans, near Leeds, and Eldon Deep near Bishop Auckland. Output has commenced from the Southfield site near Shildon, Durham, which is scheduled to produce 580,000 t of coal and 180,000 t of fireclay over a 28-month period; also, at Moorhouse near Wakefield and at Park Brook near Killamarsh, North Derbyshire. In all, the three sites contain some 1.4 Mt. During the year, planning applications were approved for 3.2 Mt for new operations or extensions of existing sites, including a further 430,000 t of coal and fireclay at the Stobswood site, near

Morpeth. The company has joined the UK Emissions Trading Scheme, and has installed methane gas engines at five collieries which will generate some 30% of the mines' electrical requirements, and so reduce greenhouse gas emissions. UK Coal is committed to a phased reduction of 400,000 t of CO₂ after five years, qualifying for some £21 million of the government's £215 million for emissions trading over the next five years.

In addition to UK Coal's closures and Longannet (the last underground mine in Scotland) which closed in March owing to flooding, Blenkinsopp closed the interlinked Wrytree and Castle collieries in Northumberland in August.

In its annual report to March 2002, the Coal Authority gave UK coal output at 32.6 Mt (30.6 Mt) employing a workforce of 10,850 from 78 producing opencast sites and collieries. English underground mines produced 16.66 Mt and opencast 5.11 Mt, Scottish underground 762,000 t and opencast 8.19 Mt, and 674,000 t underground and 1.18 Mt opencast from Wales. Reserves remaining in Licence for underground operations are given as 803 Mt in 1995 and to have fallen to 328 Mt by March 2002; however, 311 Mt remain in mines which have closed over the period. For opencast operations, a figure of 48 Mt (44 Mt in 1995) is estimated for reserves remaining in Licence. Thirty-nine (49) licences and agreements were granted in addition to 14 leases.

The government will be providing £60 million of aid to the coal-mining industry to be spent over the next three years under the UK Coal Operating Aid Scheme, which has now closed following the expiry of the European Coal and Steel Community Treaty in 2002. The UK has secured £165 million under the scheme since 2000.

In addition to the government's review on Clean Coal Technology in February 2002, it also produced in the same month its 'The Energy Review'. In July, the Department of Trade and Industry (DTI) announced the establishment of a review of reserves and resources at the country's operating deep coal mines, and awarded the undertaking to IMC Group Consulting Ltd in November. The report was expected early in 2003.

The DTI has paid a total of £1.3 billion in compensation to the former British Coal's employees for respiratory and vibration white finger diseases.

In County Antrim, Northern Ireland, Ballymoney Power plans to apply for a mining licence and planning permission for a mine-mouth power station at its lignite deposit.

Industrial minerals

Cleveland Potash Ltd, purchased for US\$45 million from Anglo American in April 2002 by Israel Chemicals Ltd, hoisted 2.85 Mt (2.67 Mt) of potash ore from its Boulby mine, near Whitby, Cleveland, to yield 890,000 t (890,000 t) of potash; some 630,000 t (401,000 t) of salt were also produced. Again, potash production was less than anticipated owing to difficult operating conditions in the deeper parts of the mine and low-grade ores. With a total output of around

5 Mt/y, Israel Chemicals has become the second-largest potash producer in Europe and the fifth-largest in the world.

During the year, construction of a pilot plant was started in order to evaluate the large carnallite (hydrous chloride of potassium and magnesium) resource lying offshore at Boulby; mining and processing trials are to follow. The return of insoluble waste materials from potash processing into the mine will commence in 2003 following the establishment of the infrastructure which was part-funded by a European Commission grant. The proposed 3D seismic survey in ground to the south of current workings was successfully completed.

During 2002, French-based Imerys Minerals produced 1.82 Mt (1.98 Mt) of kaolin and 330,000 t (372,000 t) of ball clay from its operations in southwest England. The company has introduced a new blended ball-clay grade, having superior properties for making sanitary ware, from its Bovey Basin deposits in Devon and those in Dorset.

The Climate Change Levy on energy consumed is expected to add around £2 million to costs, representing about 20%, for the company, which has energy-intensive drying kilns: four kaolin dryers in Cornwall and one near Plymouth, and one calcium carbonate operation near Salisbury. To reduce the levy by 80%, Imerys has purchased 1,000 carbon credits from BP, the UK energy group, to improve energy efficiency or to reduce carbon emissions under the UK's Emissions Trading Scheme.

WWB Minerals (UK), part of the Sibelco Group, produces around 600,000 t/y of ball clay from its sites in southwest England. The company operates the Warmsworth 200,000 t/y dolomite quarry near Doncaster, acquired through the merger of Hepworth Minerals and Chemicals Ltd; output is sold mainly to Pilkington for use in its glass production.

Salt Union UK (a subsidiary of IMC Global Inc. of the US) has a production capacity of 2.7 Mt of rock salt at its mine at Winsford in Cheshire and evaporated salt from areas also in the county.

M-I Drilling Fluids UK produced 51,000 t of barytes from its Foss mine near Aberfeldy, Perthshire, Scotland, 80% of which was used by the oil industry in the northern North Sea, the remaining 20% being sold as a filler to the car industry. The nearby Duntanlich Project, which would mine up to 200,000 t/y of barites, continues to be of interest to the company and remains under review. The second important source of barites is as a by-product from Glebe Mines Ltd's surface operations for acid-grade fluorspar, which is processed at its Cavendish Mill, near Stoney Middleton, Derbyshire, producing some galena as a further by-product.

Extraction of fuller's earth is due to commence in 2003 at the Moor Mill Farm site by Rockwood Absorbents (Baulking) Ltd., as its operation at the nearby Baulking site in Oxfordshire is nearing exhaustion. The other producer is Steetley Bentonite and Absorbents Ltd (a subsidiary of Tolsa SA of Spain) from its operation near Woburn, Bedfordshire.

Steel

For 2002, consumption of imported iron ore was 12.5 Mt at 58.8% Fe (14.03 Mt at 57.1% Fe) along with 669,918 t of pellets at 63.5% (1.07 Mt at 63.8% Fe); consumption of imported manganese ore was 4,335t at 38.2% Mn (3,781 t at 10% Mn). Total crude steel production amounted to 11.67 Mt (13.54 Mt), and was the lowest output of the EU steel-producing countries. Together, they produced 159 Mt, around a fifth of world output. Corus UK contributed 9.94 Mt (11.24 Mt) and other UK producers some 1.72 Mt (2.30 Mt). Corus UK bought its required 900,000 t of scrap from within the UK. Blast-furnace iron production in the UK was around 9 Mt, down by 13.3%.

The Corus Group's turnover for 2002 was £7,188 million (£7,699 million) to which Corus UK contributed £2,017 million (£2,291 million). The Group's operating loss increased by £61 million to £446 million; the loss made by Corus UK was £453 million (£408 million). Capital expenditure amounted to £188 million (£166 million); included are the Port Talbot No.5 blast furnace, which was relit on 2 January 2003 following its £65 million rebuild as a result of the explosion in November 2001, and the £6 million cold mill link remotoring stands, also at Port Talbot and scheduled for completion in August 2003. Major UK capital projects completed during the year were the £7 million bloom caster enhancement at Scunthorpe in April and the £9 million reconfiguration of the electrolytic trimming line at Trostre, South Wales, in July. The UK accounted for 43% of the Group's capital expenditure. Corus has shed about half its planned 10,000 UK workforce to save some £200 million a year.

In November, Corus abandoned its planned £1.3 billion deal, announced in July, to purchase Companhia Siderurgica Nacional (CSN), the leading Brazilian steel company. In October, the Group signed an agreement in principle with Pechiney, the French-based aluminium producer, to sell the Group's aluminium assets for £543 million and assumed debt; however, in March 2003, the deal was abandoned as Corus lost its appeal against the veto of the Dutch arm, resulting in the Group paying Pechiney a break-of-agreement fee of £12.4 million.

Allied Steel and Wire (ASW) closed its Tremorfa operation at the end of July. It has been purchased by Celsa of Spain and could re-open during 2003. ASW's Sheerness site closed at the end of November; it was purchased by a Saudi Arabian firm and was re-opened as Thamessteel in February 2003.

The Florence mine at Egremont, Cumbria, produced around 500 t of hematite, about half of the production for 2001, owing to the closure of Corus UK's Llanwern steel plant in South Wales.

Other metals

British Alcan Aluminium plc's output for the period was 202,300 t (201,484 t) of refined aluminium; the Lochaber smelter, near Fort William in Scotland accounted for 40,400 t (40,053 t) and the Lynemouth smelter in Northumberland for 161,900 t (161,431 t). Among the restructuring of operations, Alcan has closed its Burntisland 100,000 t/y alumina chemicals business in Scotland, is rationalising its Rogerston steel mill, and is due to close, by mid-

2003, the Glasgow foil mill. Anglesey Aluminium Metals Ltd at Holyhead, North Wales (owned 51% by Rio Tinto) produced 139,000 t of refined aluminium, the same as last year.

For the year to June 30 2002, Britannia Refined Metals' Northfleet lead refinery in Kent (the world's largest lead refiner), produced, 250,875 t (243,172 t) of refined lead and 15.17 Moz (11.51 Moz) of silver from all sources. Britannia's Wakefield Recycling operation produced 10,727 t (16,164 t) of lead alloy, and the output from the Avonmouth plant was 94,051 t (78,430 t) of refined zinc and 36,065 t (30,828 t) of crude lead. Britannia is a subsidiary of MIM Holdings Ltd of Australia, which merged with Swiss-based Xstrata plc in June 2003.

Despite the production improvements, which were the result of A\$42.6 million (A\$20 million) of capital expenditure to meet the licence to operate, environmental and safety standards and organisational changes, MIM has closed its European zinc operations owing to low zinc prices. Avonmouth has an estimated closure cost of A\$113.8 million, and production ceased in March 2003. Avonmouth made a loss of A\$45.2 million (A\$38.5 million) for the year to June 30, 2002, and in its six-months' results to December 31, 2002, MIM reported a loss of A\$46 million at its Avonmouth and Duisberg, Germany, operations.

Britannia's Wakefield plant closed in December 2002 with a provision of A\$11.8 million. More recently, because of no crude lead feedstock coming from the Avonmouth plant, a proposal has been made to close Northfleet's No.2 refiner (one of three), which commenced operations in 1977.

About two years ago, Baseresult became the owner of the South Crofty tin mine near Camborne, Cornwall. The mine ceased production in March 1998, has won a life-line of up to five years before having to commence production as the threat of compulsory purchase by Urban Regeneration Co. could take as long as five years to implement.

The former multi-metal Wheal Jane mine near Truro, Cornwall, has been chosen as a site of international excellence for research into the treatment of metal-contaminated mine and other waste waters, and techniques for the amelioration of contaminated land. The conclusion has resulted from a feasibility study funded by the European Social Fund Objective One, and undertaken by the Camborne School of Mines and the Clean Rivers Trust.

The British Geological Survey has undertaken new research at selected Scottish sites where platinum group metals had been recorded, mainly in Shetland, the East Grampians and the Assynt area in northwest Scotland.

MinMet has abandoned its exploration for gold in the Crediton Trough, Devon. In Northern Ireland, European Gold Resources Inc. has agreed to sell a 75% interest in its Omagh 189 km² gold property some 5 km from Omagh, Co. Tyrone, to Tournigan Ventures Corp., subject to the outcome of its due diligence examinations; the property is said to contain 200,000 oz of gold at 7

g/t Au. In December, Tournigan applied for four prospecting licences in Counties Tyrone and Londonderry. Conroy Diamonds and Gold has intersected gold mineralisation in three structures at its Cargalisgorran prospect in Co. Armagh, some 6.5 km along strike from its Tullybuck/Lisglassan original discovery across the border into Co. Monaghan in the Irish Republic. Ulster Minerals has applied for two new licences for gold covering the same areas as the previous two licences which expired in December 2001 in Counties Tyrone and Londonderry. Ivernian West has not renewed its licence for gold in the Clogher Valley, and two licences to prospect for all minerals in Co. Londonderry have been awarded to Belmore Resources.

Oil and gas

Production of crude oil for 2002 from the UK Continental Shelf (UKCS) was 104.76 Mt (106.55 Mt) from 137 (144) fields. Liquefied natural gas (LNG) output was 8.51 Mt (8.39 Mt), dry gas production amounted to 44.457 Mm³ (55.427 Mm³) from 100 (96) fields, and wet gas was 63.574 Mm³ (56.823 Mm³) from 92 (17) fields. Nine (ten) new offshore oilfields and seven (six) gasfields came on stream. Sixteen (24) exploration and 28 (36) appraisal wells were drilled. Twenty-one (33) field approvals were granted for oil, gas, condensate and incremental projects. Gross capital expenditure was £3.7 billion (£4 billion). The total capital invested in the UKCS to date has been put at £15,000 million. The UKCS 20th Licencing Round took place during the year.

As part of a climate to create a stable long-term fiscal framework for the next stage in North Sea development, the government announced that from January 2003 the 12.5% royalty charges on fields developed before 1982 would be abolished; the previous government had abolished the charge on fields approved after 1982. It is estimated that BP will save £224 million, Exxonmobil £123 million, and Shell £110 million. The royalty charges for 2002 will have benefited the Exchequer by around £530 million. Some 30 fields received approval before 1982, including the Brent field, one of the North Sea's largest. The abolition would go some way to compensate the industry for the imposition of a further 10% supplementary levy on oil fields from April 2003.

In the recent budget on April 9, 2003, the government scrapped the 50% Petroleum Revenue Tax (PRT) on profits earned from the ownership of North Sea pipelines, and so will reduce the cost of pumping oil on all new contracts taken by third parties using the pipeline network in some 12 offshore fields. As a result, it is envisaged that some additional 70 to 100 Mt of oil and gas would be available from the development of present uneconomic North Sea oil discoveries. For 2002, the government raised £1.1 billion from PRT.

BG Group's high pressure and high temperature Jade gas field commenced in February, and has now reached peak daily output of around 10,000 t of oil and 12Mm³ of gas. The Group's Juno gas field development, in the Easington Catchment Areas phase 2, commenced in December. The six-well appraisal on its Buzzard oil discovery, 100 km northeast of Aberdeen, was completed in

June. BG operates the South West Seymour field discovered in October and is due to commence production of gas and liquids in March 2003. Approval was given in November to the 7 Mt Blake Flank development, an extension of the Blake Channel, and is due to commence oil production in 2003. The Group has interests in over 30 fields on the UKCS and supplies some 8% of the UK's total gas supply. In 2002, BG produced 7,986 Mm³ (7,731 Mm³) of gas and 3.14 Mt (2.15 Mt) of oil and liquids.

In November, Centrica's Bains field came on-stream in the East Irish Sea, and at the end of the year the company became the overall operator of the Rose gas development in the Southern North Sea. Centrica's gas production for the year was 10,362 Mm³ (11,022 Mm³) from the North and South Morecombe fields, and 1,124 Mm³ (1,119 Mm³) from Galleon and Armada. Oil and liquid production from the fields was 278,000 t. The company's UK reserves of gas at the year-end were some 69,160 Mm³ (78,900 Mm³), and oil and liquids 417,000 t (1.25 Mt). Centrica acquired the Rough gas storage field in November for £304 million; it holds 80% of the UK's stored gas and the acquisition is subject to the outcome of a review by the Competition Commission.

Onshore production was some 2.67 Mt (2.94 Mt) of oil from 27 (29) fields, 19 Mm³ (413 Mm³) of dry gas from five (eleven) fields, and 137 Mm³ (141 Mm³) of wet gas from one (26) field. One (one) new oilfield and three (0) gas fields came on-stream. Fourteen (five) exploration and no (one) appraisal wells were drilled. Six (two) field approvals for oil, gas, incremental projects and coal mine vents were approved. The results of the 10th Round of Onshore Licensing were expected during the year.

In a six-year pilot project, some 5 Mt of CO₂ from power stations have been pumped into an aquifer more than 1000m beneath the North Sea floor. The DTI has recently commissioned a new study into the sequestration of CO₂ by storing the gas in reservoirs, and is due to report in the first half of 2003. Among the several objectives are the environmental impact of storing the gas underground and the risk of leakage back into the atmosphere, the potential for the use of the gas to enhance oil recovery and the implications for the permanent storage in depleted North Sea oil and gas reservoirs.

In October, Alkane Energy opened a power plant using coal-mine methane (CMM) from the abandoned Wheldale mine in Yorkshire. The company is installing an extraction gas pipeline in the recently closed Prince of Wales coal mine, Yorkshire. Octagon Energy is extracting CMM from the Hickleton Vent in South Yorkshire which supplies the company's 5.4 MW power station. At the beginning of the year, StrataGas commissioned the old Annesley Bentinck mine complex CMM gas plant, Nottinghamshire, which is to supply Warwick Energy's 10 MW generating plant.

The seven hydrocarbon licences acquired by Evergreen Resources are in the process of being relinquished, having received consent to abandon the wells from Northern Ireland's Department of Enterprise, Trade and Investment.

Mineral Production ('000t)

Commodity	2000	2001	2002*
Coal	31,198	31,930	30,023
Natural gas (oil equiv.)	108,499	105,787	103,036
Crude Petroleum (inc. condensates)	126,128	117,788	116,013
Lead/Iron	2*	1.3*	1.2
China/Ball clay (sales)	3,445	3,203	3,030
Other clays and shale	11,499	10,937	11,044
Limestone and dolomite	97,417	102,552	99,000
Chalk	9,213	8,205	8,000
Slate	479	551	500
Sandstone	14,900	19,967	19,000
Silica sand	4,095	3,848	4,000
Sand/gravel (land/marine)	101,621	101,397	97,000
Igneous rock	54,113	51,501	50,000
Gypsum (natural)	1,500*	1,700*	1,700
Rock salt	1,700*	1,900*	1,900
Brine salt	4,200*	4,200*	4,200
Fluorspar	36*	50*	53
Barytes	54	66*	59
Potash (KCl)	966	882	900
Peat ('000m ³)	1,626	1,814	-
Miscellaneous	9	22	18

* British Geological Survey estimate.

Source: *UK Minerals Yearbook 2002*, British Geological Survey.