

REPUBLIC OF IRELAND

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The Irish economy has shown its robust nature as growth resumed in 2004. Preliminary estimates suggest that GNP grew by 3.3% in real terms to €109 billion. In contrast to recent years, GDP showed lower growth of only 1.4%. Inflation fell to 3.5%, although it remained significantly above the EU average figure. Corporation tax for mining remained at 25%, but with additional allowances compared with most other industry. This position remains under review.

The total value of production for mining and quarrying in 2002 (the latest year for which figures are available) was €787.8 million, of which €190.7 million was contributed by metal mining. About 1,300 people are employed in mining and 3,000 in the non-energy extractive industry as a whole.

There are eleven State Mining Leases and five Mining Licenses. €1.46 million was collected in royalties and licence fees.

Exploration

Grass-roots exploration in Ireland continued to be adversely affected significantly by low zinc prices, and the number of Prospecting Licences current at the end of the year had dropped to 352, covering 10,500 km². Direct expenditure on exploration in 2002 fell to €2.5 million. The Department of Communications, Marine and Natural Resources continued a number of initiatives to encourage exploration. These include progressively releasing high-resolution aeromagnetic data flown by the exploration companies. Much historic exploration data has been made freely available on-line. Work has continued on the development of a system to allow applications for Prospecting Licences to be made on-line. The relaxation in the expenditure requirements for Prospecting Licences was extended until the end of 2004. Further details are available on the EMD website.

There is substantial involvement by major international companies, including Anglo American (as Amcorp Ireland Ltd), Grupo Mexico SA de CV, Noranda and New Boliden (through Tara Mines Ltd). Other significant companies, in terms of licences held, include Arcon, Central Mining Finance, Conroy Diamonds & Gold, Minco, Mineral Estates (Ireland) Ltd (Australian), and Tournigan Gold Corp (Canadian).

Not surprisingly, there has been little progress away from the operating mines. The main focus for base metals exploration remains the Lower Carboniferous of the Midlands. The most encouraging results continue to be achieved in the Pallas Green, Co Limerick prospect, which is held in a Noranda/Minco joint venture.

Conroy Diamonds & Gold announced further mineralised intersections on its prospect at Tullybuck-Lisglassan in Co Monaghan.

Irish companies continued to hold significant overseas interests. In particular, Kenmare Resources is within sight of bringing its heavy mineral sands project at Moma in Mozambique into production. The company recently signed construction and financing contracts. Ivernia West expects that the Magellan (Western Australia) zinc oxide project, in which it holds a 51% interest, will come into production in 2005. MinMet has a number of exploration projects in Peru, Dominican Republic and Brazil, and is generating positive cash flows from its Björkdal gold mine in Sweden and also from its gold bio-leaching process, currently operating on gold-bearing concentrates in Romania.

Metals

The Irish metal mines had another difficult year as a result of low zinc prices, though price rises towards the end of the year give encouragement for 2004.

Tara Mines produced 2.5 Mt of ore, grading 7.94% Zn and 1.68% Pb from its zinc-lead mine at Navan, Co Meath. This yielded 335,000 t of zinc concentrate (56.2% Zn) and 47,000 t of lead concentrate (62.3% Pb). Total proven and probable reserves as at December 31, 2003 were 24.4 Mt averaging 9.2% Zn and 2.05% Pb. There are additional resources totalling 21.2 Mt grading 7.3% Zn and 2.2% Pb, mainly within the Main mine and South West Extension (SWEX). Outokumpu reported that the mine recorded an operating loss of €18 million based on revenue of €82 million.

The transfer of Tara from Outokumpu to New Boliden was completed in December.

Tara's Planning Application to develop the Nevinstown part of the orebody was approved by the Meath County Council (the Local Planning Authority), but this decision was appealed to the An Bord Pleanála (the planning appeals board), which upheld the grant of permission in January 2004. An application to develop part of the SWEX ore zone was under consideration by Meath County Council at the end of the year.

Arcon Mines Ltd processed 660,000 t of ore averaging 11.27% Zn and 2.66% Pb at its mine at Galmoy, Co. Kilkenny. This yielded 119,000 t of zinc concentrates (51.7% Zn). No lead concentrate was produced. Ore reserves, as at December 31, 2003, amounted to 4.48 Mt grading 14.4% Zn, 4.4% Pb and 40 g/t Ag. These include 2.1 Mt grading 19.2% Zn and 7.3% Pb in the recently discovered R-Zone. Planning permission to develop the R-Zone was granted by Kilkenny County Council at the end of the year, but conditions within it were appealed by Arcon to An Bord Pleanála. A State Mining Licence application covering the R-Zone and other areas was under consideration by the Minister for Communications, Marine and Natural Resources.

A share placement with UK institutional investors raised €5.7 million gross. This is being used to upgrade the mill, especially the lead circuit, to

accommodate higher grades from the R-Zone and to allow a consistent throughput of 775,000 t/y.

Results for the parent company, Arcon International Resources plc, showed that turnover increased by 11% to €22.3 million, as a result of higher grades and improved mill recoveries. This contributed to a reduced net loss of €9.7 million compared with €14.7 million in 2002. Sir Anthony O'Reilly holds 65.2% of the Ordinary Shares.

The Lisheen mine operated above design capacity during the year. Some 1.52 Mt of ore averaging 12.3% Zn and 2.08% Pb were milled, producing 314,000 t of zinc concentrates (53.9% Zn) and 35,000 t of lead concentrates (60% Pb). Proven and probable reserves as at December 31, 2003 amounted to 9.86 Mt averaging 12.41% Zn and 2.14% Pb, with additional resources of 0.89 Mt at 12.25% Zn and 1.12% Pb.

In February 2003, the Anglo American Group acquired Lisheen's US\$146 million bank debts. As part of the transaction the banks forgave 50% of the amount. In September 2003, the Group completed the acquisition of the remaining 40.6% of the issued share capital of Lisheen from Ivernia for a consideration of US\$1.8 million in cash and the forgiveness of an outstanding debtor balance of US\$36 million owed by Ivernia to the Group. Anglo has reported that Lisheen kept cash costs at 2002 levels and made a profit of US\$4 million after tax.

Industrial minerals

Aughinish Alumina, a wholly-owned subsidiary of Glencore, produced over 1.5 Mt of alumina, based on bauxite imported from Boke, Guinea. Irish Gypsum is understood to have mined some 600,000 t of gypsum at its open pit mine at Knocknacran, Co Monaghan. The gypsum is destined for its nearby plaster and plaster-board factory and for the Irish cement industry. A Planning Application was under examination at the end of the year for a new underground room and pillar mine at Drummond, south of Knocknacran. This operation, with an annual capacity of from 0.5 to 1 Mt, is intended to replace Knocknacran when reserves there are exhausted in two to three years. Its parent company BPB plc, reports that there was strong volume growth in Ireland for plasterboard and building plasters, and that extra capacity is being added to Gypsum Industries' plaster and plasterboard plant near Kingscourt, Co Cavan.

After a decline of 4% in 2002, the construction market bounced back in 2003 with a volume increase in the concrete products sector of over 10%. This was mainly due to a very strong demand in the housing sector though the commercial and industrial sectors had another poor year. Road construction work under the National Development Plan was strong in the first half of the year but, as expected, was weak in the second half due to a decline in new start-up work resulting in full year volume declines in stone and blacktop.

Cement Roadstone Holdings (CRH), Ireland's largest supplier to the construction industry, increased its turnover in Ireland by 2.4% to €731.9

million, but trading profits fell to €133.0 million, a drop of 4.2%. This Irish-based multinational now operates in 23 countries worldwide. Turnover reached €11,080 million (+3%) of which 59% was generated in the Americas and 28% on mainland Europe, and net profits of €641 million were achieved. CRH spent €1,600 million on investments and acquisitions, including Cementbouw Handel & Industrie in the Netherlands for €671 million.

Premier Periclase (a part of CRH) has the capacity to produce about 90,000 t/y of sinter magnesia from seawater. It reported another extremely difficult year as it competed with low-priced Chinese exports, whilst natural gas costs remained high.

Coal and Hydrocarbons

There was no recorded coal production during 2002.

The year 2003 was a busy year for exploration and development activities offshore Ireland. A total of seven wells were drilled and two were re-entered, representing the highest level of offshore drilling activity for 25 years.

Shell E&P Ireland Ltd re-entered and deepened its 'Dooish' discovery well, which was originally drilled in 2002 in the Rockall Basin. Well 12/2-1z was plugged and abandoned having confirmed the discovery of a substantial gas condensate column. It is extremely encouraging that this exploration well, only the second to be drilled in the Irish Sector of the Rockall Basin, proved a working petroleum system, with positive implications for the region as a whole. Statoil drilled an exploration well on its 'Cong' prospect in the Erris Basin, some 60 km off the Mayo coast in 397 m of water. Well 19/11-1A was plugged and abandoned having encountered oil and gas shows.

Ramco Seven Heads Ltd drilled five appraisal/development wells on the Seven Heads Gas accumulation in the North Celtic Sea Basin. Wells 48/24-6, 48/24-7A, 48/24-8 and 48/24-9 were tested and completed as producers; well 48/23-2, however, was plugged and abandoned without being tested. Well 48/24-5A, which was originally drilled in 2001, was re-entered, tested and completed; all completed wells were tied into the field's sub-sea facilities.

Marathon drilled 48/25-6, a high angle, deviated appraisal/development well in the Southwest Kinsale Head 'Greensand' gas accumulation, which was designed to drain gas from the Lower Cretaceous Greensand reservoir in this part of the field. The 'Greensand Well' was tested, completed and tied back to the Kinsale Head Gas Field's facilities.

Evergreen Resources plugged and abandoned its two onshore wells (Dowra #2y and Thur Mountain #1) that were drilled in 2001. Both wells had tested gas but at rates deemed too low to be commercial.

Field Developments

The total indigenous gas production for 2003 was 29.76 Bcf from the Kinsale Head, southwest Kinsale (including the Greensand development), Ballycotton

and Seven Heads gas fields. The total amount of gas injected into the southwest Kinsale gas storage facility for the same period was 7.17 Bcf.

A total of three seismic surveys were carried out last year. PGS shot a 1,196 km 2D survey in the eastern Rockall Basin and Fugro-Geoteam acquired 658 km² of 3D data over the Erris High. Following damage to streamers, Fugro-Geoteam made the decision to abandon its 3D survey in the eastern Rockall Basin having acquired just 134 km² of data.

Licensing

No new Exploration Licences were issued during the year. One Frontier Exploration License in the South Porcupine Basin was relinquished. Ten Licensing Options were awarded in the Celtic Sea area. At the end of 2003, the total number of Exploration Licences offshore Ireland stood at six and there were ten Licensing Options.

The terms governing the duration and cost of Licensing Options were revised in September in order to rejuvenate exploration in the Celtic Sea and to make the Licensing Option a more attractive measure for promoting exploration activity Offshore Ireland. Details of the new Licensing Option terms can be found on the Petroleum Affairs Division (PAD) website www.pad.ie.

No applications were received for Phases 1 & 2 of the Porcupine Basin Licensing Initiative, which closed on March 15 and October 15 2003, respectively. Acreage covered by Phase 1 and Phase 2 (Tranche 1 and Tranche 2 acreage) together with Tranche 3 acreage opened for application under Phase 3 of the Initiative, for which the new closing date for applications was March 2004. The closing date for applications for acreage under all four Tranches (Phase 4 of the Initiative) was October 15 2004. Details of the Licensing Initiative can also be accessed through the PAD website.

Petroleum Infrastructure Programme (PIP)

During 2003, the Irish Shelf Petroleum Study Group (ISPSG) of the Petroleum Infrastructure Programme (a joint PAD/Industry applied research programme) was firmly established. The Group, which was set up by the PAD in 2002 and is a successor to the Rockall Studies Group and the Porcupine Studies Group, has four technical sub-groups covering various work strands - geology & geophysics, environment, engineering and data management & support services. A number of projects have already commenced eg modelling and interpretation of deep seismic data in the Porcupine and Hatton basins. The PIP website (www.pip.ie) was redesigned and updated and significant improvements were made to the online PIP Data Inventory (PIPDI). The Expanded Offshore Support Group, which runs in parallel with the ISPSG and is managed by the PAD, continued to provide assistance for various projects. These included a merging of PAD and Geological Survey of Ireland (GSI) gravity & magnetic data as well as funding software and equipment purchases and postgraduate research.

Table following page.

Production Table ('000 t unless stated)

Commodity	2001	2002	2003
Lead (metal in concentrate)	44.5	41.7	50.3
Zinc (metal in concentrate)	298.1	276.7	419.0
Silver ('000 kg in lead conc.)	8.7	7.5	8.5
Gypsum	500 ^(e)	500 ^(e)	600 ^(e)
Lead metal production	9.8	6.6	7.8
Alumina	1,400.0 ^(e)	1,400.0 ^(e)	1,500.0 ^(e)
Natural gas (billion m ³)	1.02	0.98	0.85

(e): estimate