



# 2007 Minerals Yearbook

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**IRELAND [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF IRELAND

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Ireland's geology includes lithological units and tectonic features that are favorable for the occurrence of several types of mineral resources, from base metals to industrial minerals. The Carboniferous rocks of the Midlands region were the main focus for exploration and development of Ireland's lead-zinc deposits. Stratabound mineralization was hosted in carbonate units. The high grade of the ore and the shallow occurrence of the deposits resulted in a relatively low cost of exploiting these carbonate-hosted deposits. The continued exploration activity in the lead and zinc sector has resulted in the discovery of new mines and the investigation of other potential projects (Exploration and Mining Division [Ireland], 2007).

## Minerals in the National Economy

Ireland is a small, modern, trade-dependent economy with growth that averaged 6% between 1995 and 2007. Exports remained a key component of its gross domestic product (GDP), and minerals accounted for about 1% of its exports. Mining accounted for about 1% of the GDP and about 1% of the work force. Ireland's mineral processing industry was small, as was the domestic demand for mineral products (Link2Exports, 2007).

## Production

Ireland remained a major European Union (EU) producer of lead and zinc ore and an important producer of alumina and peat in 2007. Ireland accounted for about 4% of world zinc mine and 2% of world lead production from the following three mines: Anglo American plc's Lisheen lead-zinc mine, Lundin Mining Corp.'s Galmoy lead-zinc mine, and New Boliden AB's Tara lead-zinc mine, which was the leading zinc mine in Europe. These were three of Europe's most modern mines (table 1). Ireland was also one of the world's leading exporters of lead and zinc concentrate (Exploration and Mining Division [Ireland], 2007).

## Structure of the Mineral Industry

Ireland's mines and mineral-processing industry were important to the economy of the country. Companies were mostly privately owned. The Geological Survey of Ireland is responsible for the development of minerals information and technical management of the state mineral licensing and leasing system. The major mineral industry facilities and their capacities are listed in table 2.

## Commodity Review

### Metals

**Bauxite and Alumina.**—The alumina refinery operated by Aughinish Alumina plc (a subsidiary of Switzerland-based Glencore International AG) was situated on Aughinish Island

on the south side of the Shannon estuary near Limerick City. Aughinish Alumina produced about 2 million metric tons of alumina in 2007 by treating bauxite ore using the Bayer process. Most of the bauxite was imported from Guinea, although some was imported from Australia and Brazil (Aughinish Alumina plc, 2007).

**Lead and Zinc.**—Ireland was the leading producer of zinc ore in Europe and had three major producing mines within the Rathdowney Trend in the Midland Orefield. These operations included the world-class ore bodies at Galmoy, Lisheen, and Navan. Lundin Mining's merger with Arcon International Resources plc created a diversified European base-metal producer with aggregate annual zinc production of about 152,000 metric tons (t) and lead production of about 46,000 t (Lundin Mining Corp., 2007).

Minco plc announced that it was continuing to meet with success at the Tobermalug prospect in County Limerick, which was part of Minco's Pallas Green joint venture with Xstrata plc of Switzerland. Minco stated that it had intersected significant grades and widths, including 5.25 meters (m) grading 10.21% zinc and 1.64% lead in its exploration drilling. Drill hole number MN-2529-018 extended mineralization 570 m to the southeast of previous drilling. In 2007, five drilling rigs operated in the vicinity of the Tobermalug prospect. Minco also announced that Minco and Xstrata had agreed on an \$8.4 million exploration budget, of which Minco's share would be \$2 million (Minco plc, 2007).

### Mineral Fuels

Exploration offshore Ireland has never experienced the same level of interest as offshore Norway or the United Kingdom despite similarities of geology. In the past, offshore exploration has not been particularly productive. At yearend 2007, fewer than 160 wells had been drilled on the Irish continental shelf. New studies and a high-profile licensing round, however, were changing perceptions about Ireland's prospectivity.

**Natural Gas and Petroleum.**—The Government announced terms for new Porcupine Basin oil and gas licensing opportunities and cited the country's dependence (85%) on outside sources for imported natural gas and petroleum as reason for opening the region for exploration. Offering 229 full and 3 partial blocks, the offshore area is located in the west of Ireland in the Porcupine Basin and comprised 63,500 square kilometers (about 15.7 million acres). The biggest change in the exploration terms was in Ireland's new tax regime. A new tax rate was added to the 25% corporate tax rate. Under the new tax system, the most profitable fields will be taxed an additional 15% when the profit rate is in excess of 4.5%, whereas the least profitable fields (those with a profit rate of less than 1.5%) will not be additionally taxed. Fields having a profit rate of 3.0% to 4.5% will be taxed an additional 10%, and fields having a profit rate of 1.5% to 3.0% will be taxed an additional 5% (Rigzone, 2007).

## Outlook

Ireland is likely to remain a major EU producer of zinc ore and an important producer of alumina, lead ore, and peat. Exploration activity for additional new mineral resources, with the main emphasis on gold, lead, and zinc, is expected to continue.

The Government announced that it would invest \$1.6 million to develop strategic energy infrastructure. Supply security, competitive energy prices, and environmental sustainability are the key priorities. The Government wants to improve its gas interconnection with Scotland, develop a strategic oil storage project to maximize oil stocks, and construct a gas storage facility to help ease supply disruptions. The Government plans to commit \$350 million to sustainable energy sources and \$193.4 million to energy would invest research. State energy companies are to receive \$9.1 million during the next 6 years. Bord Gais Eireann plans to invest \$2.6 million on improving gas transmission and constructing a 400-megawatt gas-fired power station. The Government also plans to invest \$42.8 million in geosciences research (Oil and Gas Journal, 2007).

## References Cited

- Aughinish Alumina Ltd., 2007, Homepage: Aughinish Alumina Ltd. (Accessed June 21, 2008, at [http://www.aughinish.com/company\\_info/Companyinfosheet.pdf.n.htm](http://www.aughinish.com/company_info/Companyinfosheet.pdf.n.htm).)
- Exploration and Mining Division [Ireland], 2007, Land of mineral opportunities: Department of Communications, Marine and Natural Resources, 5 p.
- Link2Exports, 2007, Economy—Ireland: British Chamber of Commerce. (Accessed September 14, 2008, at <http://www.link2exports.co.uk/marketprofiles/regions.asp?Isid=1968&pid=1465>.)
- Lundin Mining Corp., 2007, Lundin Mining Corp. and Arcon International Resources merger: Lundin Mining Corp. (Accessed December 22, 2008, at <http://www.marketwire.com/press-release/lundin-mining-corporation-526899.html>.)
- Minco plc, 2007, Drilling continues to meet with success at Tobermalug, Pallas Green: Minco plc. (Accessed September 10, 2007, at <http://www.mincoplc.com/newsreleases/2007/pallasgreen/10092007.pdf>.)
- Oil and Gas Journal, 2007, Ireland to invest \$1.6 bn in energy projects: Alexander's Gas & Oil Connections. (Accessed March 28, 2007, at <http://www.gasandoil.com/goc/news/nte70958.htm>.)
- Rigzone, 2007, Ireland announces terms for Porcupine Basin licensing: Alexander's Gas & Oil Connections. (Accessed October 25, 2007, at <http://www.gasandoil.com/goc/news/nte74390.htm>.)

TABLE 1  
IRELAND: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Thousand metric tons unless otherwise specified)

Commodity		2003	2004	2005	2006	2007 <sup>e</sup>
<b>METALS</b>						
Alumina <sup>c</sup>		1,200	1,400	1,500	1,800 <sup>r</sup>	1,800
Lead:						
Mine output, Pb content	metric tons	50,339	65,915	63,810	61,800	54,100 <sup>2</sup>
Metal, refined, secondary <sup>c</sup>	do.	6,600	19,600	19,992 <sup>2</sup>	21,700 <sup>2</sup>	22,500
Silver, mine output, Ag content	kilograms	6,500	6,300	6,000	4,100 <sup>r</sup>	4,000
Zinc, mine output, Zn content	metric tons	419,041	444,127	428,596	425,756 <sup>r</sup>	400,898 <sup>2</sup>
<b>INDUSTRIAL MINERALS<sup>3</sup></b>						
Cement, hydraulic <sup>c</sup>		3,830	4,000	4,000	4,700	4,700
Gypsum <sup>c</sup>		500	500	500	700	700
Lime <sup>c</sup>		300	300	300	300	300
Sand and gravel <sup>c,4</sup>		12,000	12,000	12,000	12,000	12,000
Stone and other quarry products <sup>c</sup>						
Limestone	million metric tons	1	1	1	1	1
Other <sup>5</sup>	metric tons	36,000	36,000	36,000	3,600	3,600
<b>MINERAL FUELS AND RELATED MATERIALS</b>						
Gas, natural, marketed <sup>c</sup>	million cubic meters	2,500	2,500	570 <sup>2</sup>	535 <sup>2</sup>	566 <sup>2</sup>
Peat <sup>6</sup>						
For horticultural use		451	450 <sup>c</sup>	475	500 <sup>e</sup>	500
For fuel use, milled peat <sup>7</sup>		2,739	5,200 <sup>c</sup>	4,100	3,800	3,800
Total		3,190	5,650 <sup>c</sup>	4,575	4,300 <sup>e</sup>	4,300
Briquets		269	284	275	260	300
Petroleum refinery products: <sup>8</sup>						
Liquefied petroleum gas <sup>c</sup>	thousand 42-gallon barrels	657 <sup>2</sup>	500	500	500	500
Naphtha <sup>c</sup>	do.	900	900	900	900	900
Gasoline, motor	do.	5,402	3,946 <sup>r</sup>	4,500 <sup>e</sup>	4,500 <sup>e</sup>	4,500
Distillate fuel oil	do.	7,373	5,337 <sup>r</sup>	8,000 <sup>e</sup>	8,000 <sup>e</sup>	8,000
Residual fuel oil	do.	6,497	6,219 <sup>r</sup>	7,000 <sup>e</sup>	7,000 <sup>e</sup>	7,000
Refinery fuel and losses	do.	913	657 <sup>r</sup>	750 <sup>r</sup>	750 <sup>r,e</sup>	750
Total	do.	21,742	17,559 <sup>e</sup>	21,700 <sup>r,e</sup>	21,700 <sup>r,e</sup>	21,700

<sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>r</sup>Revised. do. Ditto.

<sup>1</sup>Table includes data available through January 2009.

<sup>2</sup>Reported figure.

<sup>3</sup>Ireland also produces significant quantities of synthetic diamond and is the major supplier to the United States. Output, however, is not quantitatively reported, and general information is inadequate to make reliable estimates of output.

<sup>4</sup>Excludes output by local authorities and road contractors.

<sup>5</sup>Includes clays for cement production, fire clay, granite, marble, rock sand, silica rock, and slate.

<sup>6</sup>Includes production by farmers and by the Bord Na Mona (Government Peat Board).

<sup>7</sup>Includes milled peat used for briquet production.

<sup>8</sup>From imported crude oil.

TABLE 2  
IRELAND: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facility	Annual capacity
Alumina		Aughinish Alumina plc (Glencore International AG)	Aughinish Island, County Limerick	1,500
Cement		Irish Cement Ltd.	Plants in County Limerick and Platin	2,000
Lead-zinc, concentrate		Anglo American plc	Lisheen Mine, County Kilkenny	160
Do.		Arcon International Resources plc (Lundin Mining Corp., 84%)	Galmoy Mine, County Kilkenny	135
Do.		New Boliden AB	Tara Mine, Navan, County Meath	215
Natural gas	million cubic meters	Star Energy Group plc.	Kinsale Head Field, Celtic Sea	2,100
Do.	do.	Ramco Energy plc.	Seven Heads Field, Celtic Sea	50,000
Nitrogen, N content of ammonia		Irish Fertilizer Industries	Plant at Marino Point	450
Peat		Bord Na Mona (Government Peat Board)	Production mainly in the Midlands	4,200
Petroleum, refined	42-gallon barrels per day	Irish National Petroleum Corp. Ltd. (ConocoPhillips, 100%)	Whitegate, near Cork	75,000

Do., do. Ditto.