



# 2006 Minerals Yearbook

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## IRELAND

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# THE MINERAL INDUSTRY OF IRELAND

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Ireland's geology includes several lithological units and tectonic features that are favorable for the occurrence of several types of mineral resources, from base metals to industrial minerals. The main focus for exploration and development of Ireland's lead-zinc deposits was the Carboniferous rock of the Midlands region. Stratabound mineralization is hosted in carbonate units.

## Minerals in the National Economy

Ireland remained a major European Union (EU) producer of lead and zinc ore and an important producer of alumina and peat in 2006. Ireland was also one of the leading exporters of lead and zinc concentrate. Ireland is a trade-dependent country and exports remain a key component of its gross domestic product (GDP). Minerals account for less than 1% of exports. Mining accounts for about 1% of the GDP and about 1% of the work force.

## Production

Zinc production was centered on Anglo American plc's Lisheen lead-zinc mine, Arcon International Resources plc's Galmoy lead-zinc mine, and New Boliden AB's Tara lead-zinc mine. These were three of Europe's most modern mines (table 1).

## Structure of the Mineral Industry

The country's mines and mineral-processing industry were important to the economy of the country. Companies were mostly privately owned. The major mineral industry facilities and their capacities are listed in table 2.

## Commodity Review

### Metals

**Bauxite and Alumina.**—Aughinish Alumina Ltd.'s (a subsidiary of the Switzerland based Glencore International AG) alumina refinery was situated on Aughinish Island on the south side of the Shannon estuary near Limerick City. Aughinish Alumina produced about 1 million metric tons per year of alumina in 2006 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 Ltd., 2006).

**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. Arcon International Resources plc had success extending existing reserves in the K and CW zones at the Galmoy Mine. Semimassive to massive sulfide mineralization was intersected over 3.6 meters grading 9.79% zinc, 1.99% lead,

and 4.52 grams per metric ton of silver. The exploration budget at Anglo American plc's Lisheen Mine was \$2 million. The Government granted AngloAmerican permission to exploit the Bog Zone ore body; the development and opening of this ore body was to continue into 2007. At New Boliden AB's Tara Mine, which is located near Navan, exploration within the mine was continuing in the SWEX, SWEX B, and Nevinstown zones. Mineralization was found in several holes, and followup work was continuing (Mining Magazine, 2006).

### Mineral Fuels

**Natural Gas and Petroleum.**—Historically, Ireland has not been a very successful location for natural gas and petroleum exploration. Activity has been limited because of the lack of success of earlier exploration programs and by the high cost of exploration. Natural gas represents about 23% of the country's primary energy consumption. Indigenous reserves of natural gas are located in the Kinsale Head field and the smaller Ballycotton field off the coast of Cork.

The Government invited more exploration firms to drill for gas in the Porcupine Basin off Ireland's southwest coast. Only five exploration wells had been drilled in the Porcupine area in the past 20 years, and although the area may have potential, it remained underexplored. Drilling licenses for an area covering 63,500 square kilometers of the sea bed were proposed. The Government indicated that the country was relying too heavily on imported gas and needed to develop its own resources (Alexander's Gas & Oil Connections, 2006).

### Outlook

The Geological Survey of Ireland will continue to be responsible for the development of minerals information and the technical management of the state mineral licensing and leasing system. Ireland will remain a major EU producer of zinc ore and an important producer of alumina and lead ore and metal. Exploration activity for additional new mineral resources, with the main emphasis on gold, lead, and zinc will continue.

More-extensive coverage of the mineral industry of Ireland can be found in the U.S. Geological Survey Minerals Yearbook 2005, volume III, Area Reports—International—Europe and Central Eurasia.

### References Cited

- Alexander's Gas & Oil Connections, 2006, Ireland urges exploration firms to drill for gas: Alexander's Gas & Oil Connections, January 4. (Accessed February 17, 2008, at <http://www.gasandoil.com/goc/news/nte70518.htm>.)  
Aughinish Alumina Ltd., 2006, Homepage: Aughinish Alumina Ltd. (Accessed February 21, 2008, at [http://www.aughinish.com/company\\_info/Companyinfosheet2004.pdf.n.htm](http://www.aughinish.com/company_info/Companyinfosheet2004.pdf.n.htm).)  
Mining Magazine, 2006, Emerald renaissance: Mining Magazine, August, v. 195, no. 2, p. 14.

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

(Thousand metric tons unless otherwise specified)

Commodity	2002	2003	2004	2005	2006 <sup>e</sup>	
<b>METALS</b>						
Alumina <sup>e</sup>	1,200	1,200	1,400	1,500	1,000	
Lead:						
Mine output, Pb content	metric tons	32,486	50,339	65,915	63,810	61,800 <sup>2</sup>
Metal, refined, secondary <sup>c</sup>	do.	6,600	6,600	19,600	19,992 <sup>2</sup>	21,700 <sup>2</sup>
Silver, mine output, Ag content	kilograms	5,000	6,500	6,300	6,000	12,900 <sup>2</sup>
Zinc, mine output, Zn content	metric tons	252,700	419,041	444,127	428,596	425,800 <sup>2</sup>
<b>INDUSTRIAL MINERALS<sup>3</sup></b>						
Cement, hydraulic <sup>e</sup>		3,320	3,830	4,000	4,000	4,700
Gypsum <sup>e</sup>		500	500	500	500	700
Lime <sup>e</sup>		300	300	300	300	300
Nitrogen, N content of ammonia		300	--	--	--	--
Sand and gravel <sup>e,4</sup>		12,000	12,000	12,000	12,000	64,000 <sup>2</sup>
Stone and other quarry products: <sup>e</sup>						
Limestone	million metric tons	1	1	1	1	1
Other <sup>5</sup>	metric tons	36,000	36,000	36,000	36,000	3,600
<b>MINERAL FUELS AND RELATED MATERIALS</b>						
Gas, natural, marketed <sup>e</sup>	million cubic meters	2,500	2,500	2,500	570 <sup>r,2</sup>	535 <sup>2</sup>
Peat: <sup>6</sup>						
For horticultural use		350	451	450 <sup>r,e</sup>	475 <sup>r,2</sup>	500
For fuel use, milled peat <sup>7</sup>		4,138	2,739	5,200 <sup>e</sup>	4,100 <sup>r,2</sup>	3,800 <sup>2</sup>
Total		4,488	3,190	5,650 <sup>r,e</sup>	4,575 <sup>r,2</sup>	4,300
Briquets		268	269	284	275	260
Petroleum refinery products: <sup>8</sup>						
Liquefied petroleum gas	thousand 42-gallon barrels	694	657	500 <sup>e</sup>	500 <sup>e</sup>	500
Naphtha <sup>e</sup>	do.	900	900	900	900	900
Gasoline, motor	do.	5,585	5,402	4,500 <sup>e</sup>	4,500 <sup>e</sup>	4,500
Distillate fuel oil	do.	7,191	7,373	8,000 <sup>e</sup>	8,000 <sup>e</sup>	8,000
Residual fuel oil	do.	6,899	6,497	7,000 <sup>e</sup>	7,000 <sup>e</sup>	7,000
Refinery fuel and losses	do.	912	913	75 <sup>e</sup>	75 <sup>e</sup>	75
Total	do.	22,181	21,742	21,000 <sup>e</sup>	21,000 <sup>e</sup>	21,000

<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. -- Zero.

<sup>1</sup>Table includes data available through September 2007.

<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 2006

(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 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 feet	Marathon Oil Corp.	Kinsale Head Field, Celtic Sea	75,000
Do.	do.	Ramco Energy plc.	Seven Hills field	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. (Tosco Corp., 100%)	Whitegate, near Cork	75,000
Steel		Irish Ispat (Ispat International NV)	Haulbowline, near Cork (closed)	500