



2006 Minerals Yearbook

ICELAND

THE MINERAL INDUSTRY OF ICELAND

By Harold R. Newman

Iceland's economy was heavily dependent on its export sector. In 2006, the country exported aluminum, equipment and electronic machinery for fishing and fish processing, ferrosilicon alloys, and marine products. Abundant geothermal and hydroelectric power sources allow more than 90% of the population to use electricity and heating from these natural resources. In recent years, the country has actively sought to expand its power-intensive industries, which include aluminum smelting and ferrosilicon production. Aluminum and ferrosilicon were the country's leading export commodities. The aluminum and ferrosilicon plants relied on imported raw materials and inexpensive geothermal and hydroelectric energy (U.S. Department of State, 2006).

Production

Iceland has few proven mineral resources, although deposits of diatomite were being exploited. All production of industrial minerals, with the exception of diatomite, was used by local industries (table 1).

Structure of the Mineral Industry

The majority of shares in the major mineral enterprises, except for aluminum, were held by the Government. The remaining enterprises were either foreign-owned and locally operated, or in the case of small businesses, locally owned and operated (table 2).

Commodity Review

Metals

Aluminum.—Alcan Inc. announced that it had secured 40% of the energy required for a proposed 280,000-metric-ton-per-year (t/yr) expansion of its smelter in Straumsvik. In an agreement signed with Reykjavik Energy, Alcan would purchase 200 megawatts (MW) of geothermal power beginning in 2010 for a period of 25 years. Alcan was negotiating with Iceland's national power company, Landsvirkjun, for the remaining 60% of the required energy (Alcan Inc., 2006).

Alcoa Inc. was constructing an aluminum smelter in east Iceland. The Fjaroaal smelter, which would have a capacity

of 346,000 t/yr, was scheduled to be completed in 2009 at an estimated cost of more than \$1.1 billion. Alcoa was working with the Government of Iceland, the Landsvirkjun power company, and the municipality of Fjardabyggd to build the Karahjúkar hydroelectric plant and the Fljotsdalur transmission lines to bring power to Fjaroaal. Alcoa decided to import alumina mostly from its operations in Guinea and Western Australia for smelting in Iceland rather than process it in areas where bauxite is mined because electric power is less expensive in Iceland than in most of the countries where bauxite is mined and refined (Alcoa Inc., 2006).

Century Aluminum Co. announced that its wholly owned subsidiary, Nordural ehf, would accelerate the expansion of its Grundartangi primary aluminum plant from 220,000 t/yr to 260,000 t/yr. Landsvirkjun agreed to deliver short-term excess power to facilitate early startup of the expansion. Construction was expected to be completed by yearend 2007 (Comtex News Network Inc., 2006).

Mineral Fuels and Other Sources of Energy

Iceland's planned hydroelectric power generation projects included the Burfell, with a 270-MW operating capacity; the Hrauneyjarfoss, 210-MW operating capacity; the Sigalda, 150-MW operating capacity; and the Blanda, 150-MW operating capacity. Iceland was exploring the possibility of exporting hydroelectric energy via submarine cable to mainland Europe (U.S. Department of State, 2006).

References Cited

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- Alcoa Inc., 2006, Aluminum for development: Alcoa Inc. (Accessed January 24, 2007, at <http://www.alcoa.com/iceland/en/home.asp>.)
- Comtex News Network Inc., 2006, Century Aluminum Co. to accelerate additional Iceland expansion: Century Aluminum Co. (Accessed April 8, 2006, at http://www.pinksheets.com/quote/news.jsp?url=fis_story.asp%3Ftextpath%3DCOMTEX%5Ciw%5C2006%5CO3%5C77279114.html.)
- U.S. Department of State, 2006, Background note—Iceland: U.S. Department of State, May. (Accessed October 12, 2007, at <http://www.state.gov/r/pa/ei/bgn/3396.htm>.)

TABLE 1
ICELAND: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2002	2003	2004	2005	2006 ^c
Aluminum, metal, primary ²	285,394	286,022	284,700	273,318	328,424 ³
Cement, hydraulic ⁴	82,636	89,798	100,287	132,438	141,433 ³
Diatomite	26,494	27,513	19,332	3,236	--
Ferrosilicon	120,624	117,171	119,389	114,844	113,798 ³
Pumice and related volcanic material:					
Pumice	56,478	50,193	36,045	105,454	92,663 ³
Scoria ^c	1,000	1,000	1,000	1,000	1,000
Salt ^c	4,500	4,500	4,600	4,600	4,500
Sand: ^c					
Basaltic	cubic meters	1,200	1,200	1,300	1,300
Calcareous, shell	do.	80,000	80,000	80,000	80,000
Sand and gravel	thousand cubic meters	4,200	4,200	4,200	4,300
Silica dust ⁵		22,579 ³	23,830 ³	22,533 ³	22,992 ³
Stone, crushed: ^c					
Basaltic		95,000	96,000	96,000	97,000
Rhyolite	cubic meters	18,000	18,000	19,000	19,000

^cEstimated; estimated data are rounded to no more than three significant digits. -- Zero.

¹Table includes data available through September 28, 2007.

²Ingot and rolling billet production.

³Reported figure.

⁴Sales.

⁵Byproduct of ferrosilicon.

TABLE 2
ICELAND: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum	Icelandic Aluminium [ISAL], (Alusuisse-Lonza Holding Ltd., 100%)	Straumsvik	162
Do.	Nordic Aluminium Ltd. (Nordural) (Columbia Ventures Corp., 100%)	Grundartangi	60
Cement	Sementsverksmidja Rikisins (Government, 100%)	Akranes	115
Diatomite	Kisilidjan hf [Diatomite Plant Ltd.] (Government, 98%)	Myvatnssveit	27
Ferrosilicon	Islenska jarnblendifelagid hf [Icelandic Alloys Ltd.] (Government, 55%, and Elkem A/S, 30%)	Plant at Grundartangi	72
Fertilizer	Aburdarverksmidja Rikisins (Government, 100%)	Gufunes	60
Pumice	Eldber hf (Jardenfnaidnadur hf, 51%)	Mount Hekla	210
Do.	Pumice Products Ltd. (BM Valla Ltd., 100%)	do.	32
Salt	Icelandic Salt Co. (Akzo NV of Netherlands, 58%)	Plant at Svartsengi	5