



2010 Minerals Yearbook

ICELAND

THE MINERAL INDUSTRY OF ICELAND

By Harold R. Newman

Iceland has abundant renewable energy resources. Its plentiful geothermal and hydroelectric power sources allow most of the population to use electricity and heating from these sources. Aluminum was Iceland's leading mineral commodity followed by ferrosilicon; the country accounted for about 2% of global production of primary aluminum and about 1% of ferrosilicon production (Bray, 2011; Corathers, 2011). The country's aluminum and ferrosilicon industries used substantial amounts of energy and relied on imported raw materials and inexpensive geothermal and hydroelectric energy.

Iceland had few proven mineral resources and was dependent on imports to meet domestic demand for mineral commodities. The total value of imported goods was \$201.2 million. Because of the country's geographic proximity to the European Union (EU) and membership in the European Free Trade Association, most of Iceland's trade was with Europe (U.S. Department of State, 2010). U.S. exports to Iceland included petroleum products valued at \$21 million; metallurgical-grade coal, \$8 million; iron and steel products, \$56,000 (U.S. Census Bureau, 2011a).

Iceland's economy was heavily dependent on its export sector. Aluminum accounted for the majority of Iceland's exports of goods followed by ferrosilicon. In 2010, the total value of exported goods was \$324.9 million. U.S. imports from Iceland included material handling equipment, \$76,000; cement, lime, sand, and stone, \$290,000; finished metal shapes, \$25,000; and iron and steel manufactures, \$16,000 (U.S. Census Bureau, 2011b).

Production

Production of aluminum using mainly imported materials increased in 2010. Because Iceland had few proven mineral resources, metallic minerals were not available in sufficient quantities to make mining feasible with existing technology. The production of industrial minerals included cement, crushed stone, pumice, salt, sand and gravel, and scoria. Production of these industrial minerals was used by local industries (table 1).

Structure of the Mineral Industry

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

Commodity Review

Metals

Aluminum.—Construction of a new pot relining facility was started at Alcoa Inc. of the United States' Fjaröaál smelter at Reydarfjörður at an estimated cost of about \$30 million. Aluminum was produced in 336 pots in the Fjaröaál smelter and these pots needed to be relined every 5 to 7 years. The new pot relining facility was to consist of a pot relining building, a spent pot lining building, and an office building. The pot relining facility would have the capacity to line 3 pots at a time (Alcoa Inc., 2010).

Rio Tinto Alcan of Canada announced that it was investing \$487 million in its Straumsvík smelter to increase production by 20%. Straumsvík was expected to commence a gradual increase in its production in April 2012 and to complete the increase by July 2014. The company's announcement came following the signing of a long-term energy agreement with Landsvirkjun, which was the state-owned power utility (Associated Press, The, 2010).

Outlook

Aluminum and ferroalloy production are expected to continue to dominate the mineral resource sector. Petroleum exploration is expected to resume offshore Iceland as the country recovers from the financial crisis of 2008–9.

References Cited

- Alcoa Inc., 2010, Thirty million dollar investment and dozens of jobs in new pot relining shop: Alcoa Inc. (Accessed November 30, 2010, at http://www.alcoa.com/iceland/en/news/whats_new/print/2010/2010_11_potlining.asp.)
- Associated Press, The, 2010, Rio Tinto boosts investment in Iceland smelter: The Associated Press, October 4. (Accessed October 4, 2010, at <http://www.google.com/hostednews/ap/article/ALeqM5jp4wWOXO0Lg2FemZkrUCD86t9YgD9HIR1GO1>.)
- Bray, E.L., 2011, Aluminum: U.S. Geological Survey Mineral Commodity Summaries 2011, p. 16–17.
- Corathers, L.A., 2011, Silicon: U.S. Geological Survey Mineral Commodity Summaries 2011, p. 144–145.
- U.S. Census Bureau, 2011a, U.S. exports by 5-digit end-use code: U.S. Census Bureau. (Accessed March 11, 2011, at <http://www.census.gov/foreign-trade/statistics/product/enduse/exports/c4000.html>.)
- U.S. Census Bureau, 2011b, U.S. imports by 5-digit end-use code: U.S. Census Bureau. (Accessed March 11, 2011, at <http://www.census.gov/foreign-trade/statistics/product/enduse/imports/c4000.html>.)
- U.S. Department of State, 2010, Iceland: U.S. Department of State background note. (Accessed February 12, 2012, at <http://www.state.gov/r/pa/ei/bgn/3396.htm>.)

TABLE 1
ICELAND: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2006	2007 ^e	2008	2009 ^e	2010 ^e
Aluminum, metal, primary ²	328,424	446,297 ^{r,3}	761,204 ^r	804,605 ^{r,3}	812,980 ³
Cement, hydraulic ⁴	141,433	140,000	138,000 ^r	138,000	140,000
Ferrosilicon	113,798	114,000	107,882 ^r	112,983 ^{r,3}	114,231 ³
Pumice and related volcanic material:					
Pumice	92,663	95,000	95,000 ^e	95,000	92,000
Scoria ^e	1,000	1,000	1,000	1,000	1,000
Salt ^e	4,500	4,500	4,500	4,500	4,500
Sand: ^e					
Basaltic	1,200	1,200	1,000	1,000	1,000
Calcareous, shell	75,000	75,000	70,000	70,000	70,000
Sand and gravel	4,200	4,200	4,000	4,000	4,000
Silica dust ⁵	24,955	25,000	24,000	24,000	24,000
Stone, crushed: ^e					
Basaltic	95,000	95,000	95,000	90,000	90,000
Rhyolite	18,000	18,000	18,000	16,000	16,000

^eEstimated; estimated data are rounded to no more than three significant digits. ^rRevised. do. Ditto.

¹Table includes data available through October 31, 2011.

²Ingot and rolling billet production.

³Reported figure.

⁴Sales.

⁵Byproduct of ferrosilicon.

TABLE 2
ICELAND: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

(Thousand metric tons)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum	Alcoa Inc.	Fjaröaál smelter at Reydarfjordur	347
Do.	Reykjavik [ISAL] (Rio Tinto Alcan, 100%)	Straumsvik	190
Do.	Century Aluminum Co.	Grundartangi	260
Cement	Semmentsverksmidja Ríkisins (Government, 100%)	Akranes	115
Ferrosilicon	Elkem Iceland (Elkem A/S)	Plant at Grundartangi	100
Fertilizer	Aburdarverksmidja Ríkisins (Government, 100%)	Gufunes	60
Pumice	Hekla Pumice Co.	Mount Hekla	210
Do.	Pumice Products Ltd. (BM Valla Ltd., 100%)	do.	32
Salt	Icelandic Salt Co. (Akzo Nobel NV, 58%)	Plant at Svartsengi	5

Do., do. Ditto.