



2006 Minerals Yearbook

SWITZERLAND

THE MINERAL INDUSTRY OF SWITZERLAND

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The mineral assets of Switzerland are limited. The reserves of the small deposits of metalliferous ores that once existed in Switzerland have been depleted. Consequently, metals were not mined in 2006. Metal processing in 2006 was confined mainly to the production of primary and secondary aluminum, copper, secondary lead, pig iron, and steel. Mining was mostly related to mineral commodities required for construction. Industrial minerals produced by mining and processing included cement, clays, gravel, gypsum, and lime (table 1).

Trade has been the key to prosperity in Switzerland. The country was dependent upon export markets to generate income and upon imports for raw materials. The value of 1 metric ton of exported goods was two and a quarter times more than that of the same amount of imports. Switzerland's main trading partner was Germany, followed by France, Italy, and the United Kingdom (Swissworld, 2006).

Production

At the end of April 2006, Alcan Inc. of Canada announced the closure of its 44,000-metric-ton-per-year (t/yr) primary aluminum smelter at Steg and cessation of anode production at Sierre. Alcan stated that, with the expiration of its long-term energy contracts, the rise in energy costs had made the production of primary aluminum economically unsustainable and would result in significant financial losses (Alcan Inc., 2006).

Novelis Inc. of the United States announced that it would invest \$32 million to build a new casthouse at its Sierre rolling mill. The facility would house a multialloy casting center. The 70,000-t/yr unit was expected to be operational in early 2008. The center would cast multiple alloys into aluminum ingots using Novelis Fusion technology. The technology produces a metallurgical bond between the alloy layers and permits alloy combinations that were not possible before in aluminum rolling. The multialloy ingots are rolled into high-performance aluminum sheets, which would be targeted for sale domestically and for export to the automotive industry. Novelis produces its aluminum from recycled aluminum beverage cans and aluminum scrap (Azom, 2006).

The country served as a major diamond exchange; it was actively involved in the cutting and polishing of diamond and played a significant role in international diamond trade activities. Lucerne was the world's third most important diamond trading center after London and Antwerp. In 2006, Switzerland's exports of polished diamond were valued at \$661 million and imports of polished diamond were valued at \$592 million (HRD—Antwerp World Diamond Center, 2006).

Atel AG planned to build a 55-megawatt gas-fired powerplant in Monthey, Valais, to supply electricity and steam to three chemical companies: Ciba SC, Huntsman AG, and Syngenta AG. The plant would supply electricity and industrial process hot steam. The plant was expected to come onstream in mid-2008 (Aare-Tessin Ltd., 2006).

Structure of the Mineral Industry

The Swiss mineral industry was mostly privately owned. Regulatory control was administered by the Government (table 2). More-extensive coverage of the mineral industry of Switzerland can be found in the 2005 Minerals Yearbook, volume III, Area reports—International—Europe and Central Eurasia, which is available on the World Wide Web at <http://minerals.usgs.gov/minerals/pubs/country>.

References Cited

- Aare-Tessin Ltd., 2006, Electricity and steam for industry in the Canton of Valais (Switzerland): Aare-Tessin Ltd. (Accessed August 14, 2007, at <http://www.atel.eu/en/group/news/?news=tc:61-18031&page=2&ad hoc=No&fromday=1&frommonth=1&fromyear=2005&today=2007>.)
- Alcan Inc., 2006, Smelting operation unsustainable at current energy rates: Alcan Inc. (Accessed August 20, 2007, at <http://www.alcan.com/web/publishing.nsf>.)
- Azom, 2006, Novelis to invest \$32 million to install breakthrough casting technology in Europe: Azom. (Accessed August 13, 2007, at <http://www.azom.com/details.asp?newsID=6579>.)
- HRD—Antwerp World Diamond Center, 2006, HRD annual report 2006: HRD—Antwerp World Diamond Center. (Accessed August 14, 2007, at http://www.hrd.be/uploads/media/Annual_Report2006_full.pdf.)
- Swissworld, 2006, Dependence on trade: Swissworld. (Accessed August 13, 2007, at http://www.swissworld.org/en/economy/the_swiss_economy/dependence_on_trade.)

TABLE 1
SWITZERLAND: ESTIMATED PRODUCTION OF MINERAL COMMODITIES^{1, 2}

(Thousand metric tons unless otherwise specified)

Commodity ³		2002	2003	2004	2005	2006
METALS						
Aluminum:						
Primary	metric tons	40,007 ⁴	43,538 ⁴	44,538 ⁴	44,800 ^r	12,000
Secondary	do.	181,400 ⁴	186,930 ⁴	192,000	193,200 ^{r, 4}	190,000
Iron and steel, metal:						
Pig iron		100	100	100	100	100
Crude steel		1,100	1,100	1,200	1,158 ⁴	1,200
Semimanufactures		700	700	700	700	700
Lead, refined, secondary	metric tons	8,000	8,000	9,000	8,000	9,000
INDUSTRIAL MINERALS						
Cement, hydraulic		3,771 ⁴	3,613 ^{r, 4}	3,851 ^{r, 4}	4,022 ^{r, 4}	4,000
Gypsum		300	300	300	300	300
Lime		60	75	75	75	75
Nitrogen, N content of ammonia		33 ⁴	29 ⁴	32 ⁴	30	30
Salt		434 ⁴	562 ⁴	569 ⁴	566 ^{r, 4}	560
Sulfur, from petroleum refining	metric tons	3,000	3,000	3,000	3,000	3,000
MINERAL FUELS AND RELATED MATERIALS						
Petroleum refinery products:						
Liquefied petroleum gas	thousand 42-gallon barrels	2,446 ⁴	3,640 ⁴	3,500	3,500	3,500
Gasoline	do.	9,928 ⁴	9,089 ⁴	10,000	10,000	10,000
Distillate fuel oil	do.	15,002 ⁴	14,126 ⁴	14,000	14,000	14,000
Residual fuel oil	do.	4,782 ⁴	4,891 ⁴	5,000	5,000	5,000
Bitumen	do.	800	800	800	800	800
Refinery fuel and losses	do.	1,862 ⁴	1,716 ⁴	1,800	1,800	1,800
Total⁵	do.	34,820⁴	34,262⁴	35,100	35,100	35,100

^rRevised.

¹Estimated data are rounded to no more than three significant digits.

²Table includes data available through April 2007.

³In addition to the commodities listed, a variety of crude construction materials (common clay, sand and gravel, and stone) were produced, but output was not reported, and available general information was inadequate to make reliable estimates of output.

⁴Reported figure.

⁵Total of listed products only.

TABLE 2
SWITZERLAND: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum		Novelis Inc. (Hindalco Industries Ltd., 100%)	Plant at Sierre	168
Cement		Holcim (Schweitz) AG (Holcim Group, 100%)	Plants (7) at various locations	4,300
Do.		Cementfabrik Holcim AG (Holcim Group, 100%)	Plant at Rekingen	700
Copper	metric tons	Schmelzmetall AG	Refinery at Gurtellen	2,400
Gold	kilograms	Produits Artistiques de Métaux Précieux S.A. (MKS Finance SA, 100%)	Refinery at Castel San Pietro	425,000
Lead, secondary		Metallum AG	Smelter at Pratteln	13
Petroleum, refinery	barrels per day	Tamoil (Suisse) S.A. (Colony Capital LLC, 65%, and Government of Libya, 35%)	Refinery at Collombey	72,000
Do.	do.	Petroplus Refining Cressier S.A. (The Carlyle Group)	Refinery at Cressier	68,000
Salt		Saline de Bex S.A. (Canton of Vaud, 100%)	Saline plant at Bex	50
Steel		Stahl Gerlafingen AG (Swiss Steel AG, 100%)	Plant at Gerlafingen	650
Do.		von Moss Stahl AG (Swiss Steel AG, 100%)	Plant at Emmenbrucke	300