

2016 Minerals Yearbook

SWITZERLAND

THE MINERAL INDUSTRY OF SWITZERLAND

By Sinan Hastorun

Switzerland was globally prominent in the production and export of refined precious metals and the trading of commodities, including many minerals. The country's mineral commodity output consisted of refined gold and silver; processed metals, such as aluminum and steel; industrial minerals, such as salt and cement; and mineral fuels, such as refined petroleum products (table 1; Swiss Trading & Shipping Association, 2017).

Minerals in the National Economy

Switzerland's real gross domestic product (GDP) increased by 1.4% in 2016 compared with 1.2% (revised) in 2015. In 2016, the country's nominal GDP was \$642.9 billion.¹ Manufacturing, of which secondary metallurgical production was an important segment, made up 18.4% of the GDP, and mining and quarrying accounted for about 0.13% of the GDP. The gross value added of manufacturing increased by 1.8%, and that of mining and quarrying, by 2.5% (Federal Statistical Office, 2017a, b).

Precious metals and gemstones remained Switzerland's leading export and import products. In 2016, gold exports increased by 8.7% to 1,991 metric tons (t) valued at \$76.1 billion, and gold imports increased by 7.9% to 2,761 t valued at \$79.8 billion. Silver exports decreased by 32.7% to 1,408 t valued at \$758.2 million, whereas silver imports increased by 34.3% to 874 t valued at \$514.2 million (Federal Customs Administration, 2017).

Production

Among metals, refined gold output increased by 8% in 2016, and refined silver output decreased by 24%. Among industrial minerals, salt production decreased by 17%. The production of refined petroleum products increased by 4% (table 1).

Commodity Review

Metals

Gold.—Four of the world's nine largest gold refineries were based in Switzerland. Valcambi, which was the world's largest-capacity gold refinery (it had an annual capacity to refine 2,000 metric tons per year (t/yr) of precious metals) was fully owned by Global Gold Refineries Ltd. Since 2015, Global Gold had been owned by REL Singapore PTE Ltd. of Singapore (95%) and Rajesh Exports Ltd. of India (5%). In 2016, Valcambi's refining throughput was 4.1 metric tons per day (t/d) and its product throughput was 2.4 t/d of gold coins and 1 t/d of gold bars. In September 2016, Metalor Technologies International S.A., which had a worldwide gold-refining

capacity of 800 t/yr (including refineries located in China (including Hong Kong), Singapore, and the United States), was acquired by Tanaka Holdings Co. Ltd. of Japan. The company's Marin refinery in Switzerland was its largest refinery, with a gold-refining capacity of 650 t/yr (Metalor Technologies International S.A., 2016; Gold Bars Worldwide, 2017a, b; Rajesh Exports Ltd., 2017; Valcambi S.A., 2018a, b).

Industrial Minerals

Salt.—In July 2016, Schweizer Salinen AG, which had a total production capacity of 600,000 t/yr of salt, completed exploratory drilling at Grandfontaine in the Ajoie in the canton of Jura that it had begun in February 2016. The Muschelkalk deposit was found to extend 1,200 meters (m) below the surface. The salt layer was reportedly 80 m thick. As the salt deposit was extremely deep in the ground, the company was not yet considering extraction for economic reasons (Schweizer Salinen AG, 2016).

Outlook

Refining of gold and silver and trading in mineral commodities are likely to continue to be the dominant activities in Switzerland's mineral industry. Changes in the country's gold and silver output will be largely determined by global demand for precious metals, particularly in Asian countries, such as China and India. Switzerland's production of aluminum, cement, salt, and steel are not expected to change significantly in the coming years.

References Cited

- Federal Customs Administration [Switzerland], 2017, Trade in gold and silver—2015 and 2016: Federal Customs Administration. (Accessed January 23, 2018, at <https://www.gate.ezv.admin.ch/swissimpex/public/bereiche/waren/query.xhtml>.)
- Federal Statistical Office [Switzerland], 2017a, Gross domestic product—Production approach: Neuchâtel, Switzerland, Federal Statistical Office, August 28. (Accessed August 10, 2018, at <https://www.bfs.admin.ch/bfsstatic/dam/assets/3322024/master>.)
- Federal Statistical Office [Switzerland], 2017b, Industries production account, aggregated by sectors—1995–2016: Neuchâtel, Switzerland, Federal Statistical Office, August 28. (Accessed August 10, 2018, at <https://www.bfs.admin.ch/bfsstatic/dam/assets/3322005/master>.)
- Gold Bars Worldwide, 2017a, Major gold refiners & brands: Gold Bars Worldwide. (Accessed January 24, 2018, at <http://goldbarsworldwide.com/major-gold-refiners-brands/>.)
- Gold Bars Worldwide, 2017b, Metalor Refining Group: Gold Bars Worldwide, 14 p. (Accessed August 10, 2018, at http://goldbarsworldwide.com/PDF/RB_5_MetalorGoldBars.pdf.)
- Metalor Technologies International S.A., 2016, Agreement to sell 100% of the equity of Metalor to Tanaka Kikinzoku Kogyo: Metalor Technologies International S.A. press release, September 27. (Accessed January 25, 2018, at http://www.metalor.com/en/node_59/News.)
- Rajesh Exports Ltd., 2017, Infrastructure—Refining & alloying: Rajesh Exports Ltd. (Accessed January 25, 2018, at <http://www.rajeshindia.com/refining-&-alloying>.)

¹Where necessary, values have been converted from Swiss francs (CHF) to U.S. dollars (US\$) at an annual average exchange rate of 1.025CHF=US\$1.00 for 2016.

Schweizer Salinen AG, 2016, Sondierbohrung in der Ajoie abgeschlossen [Exploratory drilling completed in the Ajoie]: Schweizer Salinen AG news, July 26. (Accessed January 25, 2018, at <http://www.salz.ch/de/salz-news-de/sondierbohrung-in-der-ajoie-abgeschlossen>.)

Swiss Trading & Shipping Association, 2017, A global commodity trading hub: Swiss Trading & Shipping Association. (Accessed January 25, 2018, at <https://stsa.swiss/knowledge/center>.)

Valcambi S.A., 2018a, At a glance: Valcambi S.A. (Accessed August 10, 2018, at <http://www.valcambi.com/about-us/at-a-glance/>.)

Valcambi S.A., 2018b, Corporate structure: Valcambi S.A. (Accessed August 10, 2018, at <http://www.valcambi.com/about-us/corporate-structure/>.)

TABLE 1
SWITZERLAND: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons, gross weight, unless otherwise specified)

Commodity ²	2012	2013	2014	2015	2016
METALS					
Aluminum metal, secondary metric tons	130	130	140	140	140 ^e
Gold, refinery production ^e do.	2,280 ^r	3,090 ^r	2,240	2,570 ^r	2,780
Iron and steel:					
Raw steel	1,450	1,530	1,475	1,475	1,500 ^e
Products, semimanufactured	1,100	1,100	1,100	1,100	1,100 ^e
Platinum-group metals, refinery production ^e metric tons	120	100	70	30	40
Silver, refinery production, primary, Ag content ^e do.	2,290	2,900	2,600	2,500	1,900
INDUSTRIAL MINERALS					
Cement, hydraulic	4,430 ^r	4,740 ^r	4,790 ^r	4,390 ^r	4,580
Gypsum	320	340	340	320 ^r	330
Lime	118 ^r	118	112	107 ^r	107
Nitrogen, ammonia, N content metric tons	30,000	20,000	20,000	30,000	30,000 ^e
Salt	528	652	388	550	458
MINERAL FUELS AND RELATED MATERIALS					
Petroleum, refinery production:					
Diesel fuel thousand 42-gallon barrels	6,393	9,206	10,899	5,483	6,498
Distillate fuel oil do.	6,331	10,138	8,639	5,998	6,132
Gasoline do.	8,769	11,840	12,121	6,338	5,886
Kerosene do.	301	301	127	301	341
Liquefied petroleum gas do.	1,380	2,239	2,007	882	1,206
Naphtha do.	164	164	--	--	--
Residual fuel oil do.	1,832	2,431	2,624	2,098	2,125
Other refinery products do.	1,658	2,190	2,197	1,016	1,023
Refinery fuel and losses do.	2,042	2,468	2,557	1,214	1,029
Total do.	28,900	41,000	41,200	23,300	24,200

^eEstimated. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through January 25, 2018. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

²In addition to the commodities listed, common clay, sand and gravel, stone, and sulfur may have been produced in Switzerland, but available information was inadequate to make reliable estimates of output.

TABLE 2
SWITZERLAND: STRUCTURE OF THE MINERAL INDUSTRY IN 2016

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum		Novelis Switzerland S.A. (Hindalco Industries Ltd., 100%)	Plant at Sierre	130
Do.		Constellium Valais SA	Plant at Steg	110
Do.		do.	Plant at Chippis	70
Do.		do.	Plant at Sierre	NA
Do.		Aluminium Laufen AG	Plant at Liesberg	26
Do.		Alu Menziken Extrusions AG (Montana Tech Components AG, 100%)	Plant at Reinach	15
Cement		Holcim (Schweiz) AG (LafargeHolcim Ltd., 100%)	Plants at Eclepens, Siggenthal, and Untervaz	3,300
Do.		Jura Cement Fabriken AG (CRH plc., 100%)	Plants at Corneaux and Wildegg	1,000
Do.		Ciments Vigier AG (Vicat Group, 100%)	Plant at Reuchenette	910
Copper, alloy	metric tons	Schmelzmetall AG	Refinery at Gurtellen	2,400
Gold, refined	kilograms	Argor-Heraeus S.A. (Heraeus Holding GmbH, Commerzbank International SA, and Münze Österreich, 33.3% each)	Refinery at Mendrisio	400,000
Do.	do.	Cendres+Métaux S.A.	Refinery at Biel-Bienne	NA
Do.	do.	Metalor Technologies International S.A. (Tanaka Holdings Co., Ltd., 100%)	Refinery at Marin	650,000
Do.	do.	Produits Artistiques Métaux Précieux S.A. (MKS S.A., 100%)	Refinery at Castel San Pietro	450,000
Do.	do.	PX Precinox S.A.	Refinery at La Chaux-de-Fonds	60,000
Do.	do.	Valcambi S.A. (Global Gold Refineries AG, 100%)	Refinery at Balerna	2,000,000
Petroleum, refinery	barrels per day	Tamoil (Suisse) S.A. (Oilinvest Group, 100%)	Refinery at Collombey in the Canton of Valais	55,000 ¹
Do.	do.	Varo Energy B.V. (Carlyle International Energy Partners, 50%, and Vitol Group, 50%)	Refinery at Cressier in the Canton of Neuchatel	68,000
Platinum-group metals	kilograms	Produits Artistiques de Métaux Précieux S.A. (MKS Finance SA, 100%)	Refinery at Castel San Pietro	30,000
Do.	do.	Argor-Heraeus S.A. (Heraeus Holding GmbH, Commerzbank International SA, and Münze Österreich, 33.3% each)	Refinery at Mendrisio	NA
Do.	do.	Metalor Technologies International S.A. (Tanaka Holdings Co., Ltd., 100%)	Refinery at Marin	NA
Do.	do.	Valcambi S.A. (Global Gold Refineries AG, 100%)	Refinery at Balerna	NA
Salt		Schweizer Salinen AG (26 Cantons of Switzerland and the Principality of Liechtenstein, 100%)	Saline mines and plants at Riburg, Mohlin and Schweizerhalle, Pratteln	550
Do.		do.	Saline mine and plant at Bex	50
Silver, refined	kilograms	Argor-Heraeus S.A. (Heraeus Holding GmbH, Commerzbank International SA, and Münze Österreich, 33.3% each)	Refinery at Mendrisio	NA
Do.	do.	Metalor Technologies S.A. (Tanaka Holdings Co., Ltd., 100%)	Refinery at Marin	NA
Do.	do.	Produits Artistiques Métaux Précieux S.A. (MKS S.A., 100%)	Refinery at Castel San Pietro	600,000
Do.	do.	Valcambi S.A. (Global Gold Refineries AG, 100%)	Refinery at Balerna	400,000
Steel, crude		Stahl Gerlafingen AG (AFV Gruppo Beltrame S.p.A., 100%)	Plant at Gerlafingen	720
Do.		Swiss Steel AG (Schmolz and Bickenbach AG, 100%)	Plant at Emmenbrucke	800

Do., do. Ditto. NA Not available.

¹Operations suspended in March 2015.