



2016 Minerals Yearbook

NEW CALEDONIA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF NEW CALEDONIA

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New Caledonia, which is an overseas territory of France, is located in the Pacific Ocean about 900 miles (1,500 kilometers) east of Australia. One-third of New Caledonia's main island, Grande Terre, is covered by the Peridotite Nappe terrane, which hosts one of the world's largest supergene nickel deposits. New Caledonia's nickel and cobalt accounted for 10% and 3%, respectively, of the world's total production. New Caledonia has historically produced such metals as antimony, chromite, copper, gold, iron, lead, manganese, and zinc, in addition to such industrial minerals as crushed stone, silica, and silica sand (Sevin and others, 2014; McRae, 2018; Shedd, 2018; U.S. Central Intelligence Agency, 2018).

Minerals in the National Economy

In 2016, New Caledonia's real gross domestic product (GDP) increased by an estimated 1.7%; the service sector, industrial sector, and agriculture sector contributed 73.4%, 25.1%, and 1.5%, respectively, to the total GDP. The country's economy remained heavily dependent on mining activities. In 2016, approximately 38% of extracted ores and all metallurgical production were exported (Institut de la Statistique et des Études Économiques, 2017a; Institut d'Emission d'Outre-Mer, 2017; U.S. Central Intelligence Agency, 2018).

In 2016, the Government allowed some small-scale miners to export limited quantities of laterite ore to China. Consequently, the decrease in ore exports to Australia was partially offset by the emergence of the Chinese market, to which 793,000 metric tons (t) of ore was exported during the year. In 2016, the total value of nickel mineral commodity exports (ferroalloys, nickel ore and concentrates, nickel matter, nickel oxide sinters, and other intermediate products) increased by 11.3% from that of 2015. In 2016, the nickel sector provided 7,240 direct jobs, and 70% of these jobs were at mine sites (Institut de la Statistique et des Études Économiques, 2017a, b; Institut d'Emission d'Outre-Mer, 2017).

Production

In 2016, New Caledonia produced 15.4 million metric tons (Mt) of nickel ore (10.9 Mt of saprolite ore and 4.6 Mt of laterite ore) in 2016, which was an 8% increase from that of 2015. A total of 209,055 t of nickel content was obtained, of which 170,053 t was from saprolite ore and 39,002 t was from laterite ore. Extraction of laterite ore decreased by 6.6% owing to the liquidation of the Queensland Nickel refinery in Australia, which was the main buyer of New Caledonia's laterites. New Caledonia produced 69,452 t of ferronickel and 4,287 t of nickel matte, representing a 23% increase and a 36% decrease, respectively, from that of 2015 (table 1; Direction de l'Industrie, des Mines et de l'Énergie de la Nouvelle-Calédonie, 2017).

Structure of the Mineral Industry

New Caledonia's Directeur de l'Industrie, des Mines et de l'Énergie [Department of Industry, Mines and Energy], is the Government agency responsible for industrial development in the areas of energy and mining. The Mining Code of New Caledonia was established in 2009 with the aim of restructuring and simplifying the laws and principles on which New Caledonia's mining regulations are based. The Mining Code is also intended to facilitate foreign investment procedures, including providing conditions conducive for foreign investment and establishing an environmental protection framework. The Mining Code includes an inventory of New Caledonia's mineral resources and a set of principles for the export of metallurgical products (International Business Publications, 2013).

Major companies actively involved in nickel mining operations in New Caledonia included Koniambo Nickel SAS (KNS), Nickel Mining Company SAS (NMC), Société Le Nickel (SLN), and Vale New Caledonia SAS (VNC). Of those companies, the following three operated nickel smelting facilities in New Caledonia: SLN, KNS, and VNC. Société Minière du Sud Pacifique (SMSP) was New Caledonia's leading nickel exporter. Société du Nickel de Nouvelle-Calédonie et Corée (SNNC) was a joint venture of South Korean steelmaker POSCO and SMSP. The ownership, location, and production capacity of these facilities are provided in table 2 (Institut de la Statistique et des Études Économiques, 2016; POSCO, 2017).

Commodity Review

Metals

Nickel and Cobalt.—The production of saprolite ore increased by 16% in response to local demand and to meet the needs of POSCO's ferronickel plant in the Republic of Korea. In 2016, the Republic of Korea received approximately 56% of the ore exported from New Caledonia (Direction de l'Industrie, des Mines et de l'Énergie de Nouvelle-Calédonie, 2017; Institut de la Statistique et des Études Économiques, 2017a).

SLN [a subsidiary of Eramet S.A. of France (56%)] extracted nickel ore from five mines in New Caledonia and transformed it locally into ferronickel at its Doniambo plant. In 2016, SLN suspended its production of matte and instead focused on production of ferronickel. In 2016, the Doniambo plant produced 55,227 t of metallurgical products (ferronickel and nickel matte), which was a 3% increase from the 53,369 t produced in 2015 (Eramet S.A., 2017).

In 2016, SMSP and Glencore plc held a 51% and a 49% share, respectively, of KNS. KNS's Koniambo mining and processing complex was located in the North Province. In 2016, nickel production at Koniambo increased to 13,600 t from 9,100 t in 2015, or by 49%. Glencore indicated that the increase was a result of the ongoing rampup of processing operations at

Koniambo. SMSP owned about 25% of the nickel reserves in New Caledonia (Glencore plc, 2017a, b; POSCO, 2017).

VNC, a mining company located in southern New Caledonia, produced nickel and cobalt; its main shareholder was Vale S.A. of Brazil. In 2016, VNC produced 2.9 Mt of ore at a grade of 1.53% nickel compared with 2.6 Mt in 2015; it also produced 3,188 t of cobalt compared with 2,391 t in 2015. These increases were a result of the rampup of its operations (Vale S.A., 2017).

Outlook

In 2016, New Caledonia produced more nickel than ever, mainly from saprolite ore. Nickel production is expected to continue to increase during the next few years as all the metallurgical plants in New Caledonia reach their full production capacity. The activity generated by nickel mining remained important to the economy of New Caledonia in 2016, even though this sector contributed only a limited amount to the country's total GDP. About 90% of New Caledonia's exports are mining products, and the mining sector is expected to continue to be one of the main sources of employment in coming years (Institut d'Emission d'Outre-Mer, 2017; Institut de la Statistique et des Études Économiques, 2017b).

References Cited

- Direction de l'Industrie, des Mines et de l'Énergie de Nouvelle-Calédonie, 2017, Productions et exportations minières & métallurgiques de la Nouvelle Calédonie, Décembre 2016 [Mining and metallurgical production and exports of New Caledonia, December-2016]: Noumea, New Caledonia, Direction de l'Industrie, des Mines et de l'Énergie, 3 p. (Accessed August 6, 2017, at https://dimenc.gouv.nc/sites/default/files/statistiques_nc_2016_12_1.pdf.)
- Eramet S.A., 2017, Preparing for the future—Registration document 2016: Eramet S.A., 324 p. (Accessed August 7, 2017, at http://www.eramet.com/en/system/files/publications/pdf/060417eramet_ddr2016_uk.pdf.)
- Glencore plc, 2017a, Annual report 2016: Glencore plc, 223 p. (Accessed April 26, 2018, at http://www.glencore.com/assets/investors/doc/reports_and_results/2016/GLEN-2016-Annual-Report.pdf.)
- Glencore plc, 2017b, Our assets worldwide: Glencore plc. (Accessed August 7, 2017, at <http://www.glencore.com/our-world/global-operations/?location=421>.)
- Institut d'Emission d'Outre-Mer, 2017, Nouvelle-Calédonie rapport annuel 2016 [New Caledonia annual report 2016]: Paris, France, Institut d'Emission d'Outre-Mer, 188 p. (Accessed August 7, 2017, at <http://www.ieom.fr/nouvelle-caledonie/publications/rapports-annuels/2016.html>.)
- Institut de la Statistique et des Études Économiques, 2016, Nickel: Institut de la Statistique et des Études Économiques, p. 184–195.
- Institut de la Statistique et des Études Économiques, 2017a, Hausse de l'activité de production Nouvelle Calédonie [Increase in New Caledonia's production activity]: Noumea, Nouvelle Calédonie, Institut de la Statistique et des Études Économiques, 3 p. (Accessed August 7, 2017, at <http://www.isee.nc/component/phocadownload/category/143-bilan-economique-et-social?download=1725:synthese-annuelle-2016-mines-metallurgie>.)
- Institut de la Statistique et des Études Économiques, 2017b, L'économie calédonienne entre résilience et recherche de nouveaux équilibres [The Caledonian economy between resilience and the search for new equilibrium]: Noumea, Nouvelle Calédonie, Institut de la Statistique et des Études Économiques, 45 p. (Accessed August 7, 2017, at <http://www.isee.nc/component/phocadownload/category/233-pib-et-donnees-macro-economiques?download=1737:l-economie-caledonienne-entre-resilience-et-recherche-de-nouveaux-equilibres>.)
- International Business Publications, 2013: New Caledonia business law handbook—Strategic information and laws: Alexandria, Virginia, International Business Publications, 300 p.
- McRae, M.E., 2018, Nickel: U.S. Geological Survey Mineral Commodity Summaries 2018, p. 112–113.
- POSCO, 2017, SNNC: Jeollanam-do, Republic of Korea, POSCO. (Accessed August 7, 2017, at <http://www.posco.com/homepage/docs/eng5/jsp/family/snnc.jsp>.)
- Sevin, Brize, Cluzel, Dominique, Maurizot, Pierre, Ricordel-Prognon, Caroline, Chaproniere, George, Folcher, Nicolas, and Quesnel, Florence, 2014, A drastic lower Miocene regolith evolution triggered by post obduction slab break-off and uplift in New Caledonia: Tectonics, v. 33, no. 9, September, p. 1787–1801.
- Shedd, K.D., 2018: Cobalt: U.S. Geological Survey Mineral Commodity Summaries 2018, p. 52–53.
- U.S. Central Intelligence Agency, 2018, New Caledonia, in The world factbook: U.S. Central Intelligence Agency. (Accessed February 11, 2018, at <https://www.cia.gov/library/publications/the-world-factbook/geos/nc.html>.)
- Vale S.A., 2017, Form 20-F—2016: U.S. Securities and Exchange Commission, 289 p. (Accessed August 6, 2017, at http://www.vale.com/EN/investors/information-market/annual-reports/20f/20FDocs/Vale_20-F_FY2016_-_i.pdf.)

TABLE 1
NEW CALEDONIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise noted)

Commodity ²	2012	2013	2014	2015	2016	
METALS						
Cobalt, mine production, nickel ore, Co content: ^c	13,200	16,400	17,800	18,600	20,900	
Of which, recoverable	2,670	3,190	4,040	3,690 ^r	3,390	
Nickel:						
Mine production, ore:						
Gross weight	thousand metric tons	9,659	12,002	13,114	14,291	15,440
Ni content		131,693	164,406	178,080	186,065	209,055
Intermediate production, matte:						
Gross weight ^c		17,900	17,700	11,000	10,000	9,000
Ni content		13,400 ^c	13,300 ^c	8,240 ^c	6,762	4,287
Ferronickel:						
Gross weight ^c		184,000	175,000	238,000	240,000	295,000
Ni content		43,030	40,459	54,863	56,486	69,452
INDUSTRIAL MINERALS						
Cement, hydraulic		124,874	119,000 ^c	106,469	112,041	104,374

^cEstimated. ^rRevised.

¹Table includes data available through November 29, 2017. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

²In addition to the commodities listed, chromite, copper, crushed stone, gold, iron, manganese, silica sand, and silica may have been produced in New Caledonia, but available information was inadequate to make reliable estimates of output.

TABLE 2
NEW CALEDONIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2016

(Metric tons)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Cement	Tokuyama Nouvelle Calédonie S.A. (Tokuyama Corp., 74.6%)	Grinding plant, Noumea	180,000
Cobalt, in ore and concentrate, Co content	Société Le Nickel (SLN) [Eramet S.A., 56%; Société Territoriale Calédonienne de Participation Industrielle (STCPI), 34%; Nisshin Steel Co., 10%]	Kouaoua, Nepoui-Kopeto, Etoile du Nord, Thio, and Tiebaghi mining centers	3,000
Do.	Vale S.A., 95%, and Société de Participation Minière du Sud Calédonien SAS, 5%	Goro, 58 kilometers east of Noumea in the South Province	4,500
Nickel:			
In ore and concentrate, Ni content	Société Le Nickel (SLN) [Eramet S.A., 56%; Société Territoriale Calédonienne de Participation Industrielle (STCPI), 34%; Nisshin Steel Co., 10%]	Kouaoua, Nepoui-Kopeto, Etoile du Nord, Thio, and Tiebaghi mining centers	55,000
Do.	Nickel Mining Company SAS (NMC) (Société Minière du Sud Pacifique, 51%, and POSCO, 49%)	Ouaco, Poya, Nakety, Kouaoua, and Boakaine mining centers	31,000
Do.	Société des Mines de la Tontouta, 100%	Moneo and Nakety mining centers	50,000
Do.	Other small nickel mining companies, which include Société Minière George Montagnat SA (SMGM)	Tontouta mining center	1,000
Do.	Vale New Caledonia SAS (VNC) (Vale S.A., 95%, and Société de Participation Minière du Sud Calédonien SAS, 5%)	Goro, 58 kilometers east of Noumea in the South Province	60,000
In ferronickel, Ni content	Koniambo Nickel SAS (KNS) (Société Minière du Sud Pacifique, 51%, and Glencore plc, 49%)	Koniambo plant in the North Province	60,000
Do.	Société Le Nickel (SLN) [Eramet S.A., 56%; Société Territoriale Calédonienne de Participation Industrielle (STCPI), 34%; Nisshin Steel Co., 10%]	Doniambo industrial site, Noumea	60,000
In nickel matte, Ni content	do.	do.	15,000
In nickel oxide, Ni content	Vale New Caledonia SAS (VNC) (Vale S.A., 80.5%; Sumic Nickel Netherlands B.V., 14.5%; Société de Participation Minière du Sud Calédonien SAS, 5%)	Goro plant in the South Province	57,000

^cEstimated. Do., do. Ditto.