



2015 Minerals Yearbook

INDONESIA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF INDONESIA

By Meralis Plaza-Toledo

Indonesia is rich in mineral resources, and, in the recent past, was ranked among the world's top 10 countries in the production of bauxite, nickel, and tin. Indonesia is also one of the world's leading coal producers and, in 2015, was the second-ranked coal exporting country in the world. It was also the world's second-ranked tin metal producer, accounting for 18% of total production, exceeded only by China, which accounted for 38% of the total. Indonesia accounted for 5.7% of the world's mine production of nickel and 3.5% and 3% of the world's production of nitrogen and gold, respectively. In January 2014, the Government imposed a ban on exports of unprocessed mineral ores; however, the Government allowed certain mining companies to continue to export certain types of concentrates until 2017, provided the companies commit to develop refining facilities that can process the minerals in Indonesia. Following the ban on unprocessed mineral exports, production of bauxite and nickel ore decreased radically; before the ban, Indonesia had accounted for 19% of world production of bauxite, whereas in 2015, it accounted for only 0.7%. In 2015, Indonesia's economy was also affected by low commodity prices, reduced trade, and a decrease in the price of oil (Lederer, 2016; Oxford Business Group, 2016; PwC Indonesia, 2016a; Anderson, 2017; Apodaca, 2017; Bray, 2017; George, 2017; Schnebele, 2017).

Minerals in the National Economy

Indonesia's gross domestic product (GDP) growth rate in 2015 was 4.8% compared with a growth rate of 5.1% in 2014. The mineral industry accounted for approximately 4% of the GDP in 2015. The implementation of the ban on unprocessed mineral exports and the introduction of an export duty on mineral concentrates resulted in decreased production of certain mineral commodities (Asian Development Bank, 2015; International Monetary Fund, 2016; Badan Pusat Statistik, 2017b).

Government Policies and Programs

The ban on unprocessed mineral exports came into full effect in Indonesia in 2014. The ban was mandated under the Indonesian Mining Law of 2009 and included provisions prohibiting the export of unprocessed minerals and requiring that mineral commodities produced in Indonesia be processed and refined there. This mining regulation separates minerals into two different groups based on a minimum level of processing and refining before exportation. The first group of minerals can be exported as concentrates and includes copper, iron, lead, manganese, and zinc. The second group of minerals must be refined and processed to higher value forms than the first group and includes bauxite, chromium, gold, nickel, silver, and tin. Soon after the ban went into effect, the Government issued various amendments to the regulation to allow certain

mining companies to continue to export specific minerals. The amendments required mining companies to pay taxes on exports until January 2017 and to commit to build processing and (or) refining facilities in Indonesia (Winzenried and Adhitya, 2014; PwC Indonesia, 2016a).

In 2015, mining companies began to negotiate with the Government regarding which minerals could be exported and the level of processing required before export. The mining companies questioned the economic feasibility of building refineries, given the forecast of reduced domestic and global demand for these mineral commodities. In addition, the companies expressed concern that the infrastructure available to support processing facilities was inadequate. The new mining regulations affected both small-scale mining companies, which suspended operations, and medium-scale and large-scale companies, which reduced their mining and processing activities, thereby significantly affecting Indonesia's export revenue. As of 2015, the Government continued to offer low export tax rates to stimulate mining companies that were willing to commit to develop processing and refining facilities within the country (PwC Indonesia, 2015, 2016a).

PT Pertamina was the main state-owned oil and gas company in Indonesia. The Oil & Gas Law of 2001 regulates oil and gas activities in Indonesia. The law grants the Government the exclusive rights to oil and gas exploitation and requires all private companies wishing to explore for and extract oil and gas resources in Indonesia to enter into a production-sharing contract with the Government (GBG Indonesia, 2015).

Production

In 2015, copper production increased by 42%; silver, by 37%; nickel, by 35% (although nickel production was still well below historical levels); gold, by 33%; and cement, by 20%. Production of bauxite decreased by 82%; iron sand, by 35%; aluminum (metal), by an estimated 20%; and chromite sand, by 20%. Data on mineral production are in table 1 (Badan Pusat Statistik, 2016, 2017a; PwC Indonesia, 2016a).

Structure of the Mineral Industry

In 2015, state-owned PT Antam Tbk (Antam) produced bauxite, ferronickel, gold, nickel, and silver. State-owned companies PT Krakatau Steel, PT Pertamina, PT Tambang Batubara Bukit Asam, and PT Antam (Persero) Tbk were engaged in the production of steel, oil, coal, and tin, respectively. State-owned PT Lafarge Cement Indonesia (formerly PT Semen Andalas Indonesia) was the leading cement producer in the country. International companies were active in Indonesia's metal mining and processing industries. The partially foreign-owned companies PT Freeport Indonesia Co. (PT-FI) and PT Newmont Nusa Tenggara were engaged in the

mining of copper and gold. PT Vale Indonesia Tbk of Canada produced nickel ore and tin ore and foreign-owned PT Koba Tin produced tin metal (table 2).

Mineral Trade

In 2015, after the implementation of the ban on mineral exports and the introduction of the export duty on mineral concentrates, mineral production in Indonesia declined. Total exports from Indonesia amounted to \$147 billion in 2015, which was 15% lower than in 2014. The contribution of the mineral industry to Indonesia's total export revenue in 2015 was 14%, which was the same as in 2014; in 2013 and 2012, before the ban on mineral exports, it was 17%. The value of bauxite exports decreased by 98% (to \$744,000) compared with that of 2014. Copper ore exports increased by 88% to \$3.2 billion from \$1.7 billion in 2014, and coal exports decreased by 23% to \$15.9 billion. The value of natural gas and crude petroleum exports decreased in 2015 by 43% to \$16.4 billion compared with that of 2014. The value of imported goods received by Indonesia decreased to \$135 billion, or by 19% compared with that of 2014. Petroleum imports decreased to \$20.9 billion in 2015 from \$37.7 billion in 2014 owing mostly to a decrease in the international price of oil (Bank of Indonesia, 2016; PwC Indonesia, 2016a).

Commodity Review

Metals

Bauxite and Alumina.—Indonesia was the main supplier of bauxite to China before the export ban was implemented in 2014. In 2015, Indonesia produced 472,000 metric tons (t) of bauxite compared with 2.5 million metric tons (Mt) in 2014, representing an 82% decrease. In 2015, PT Indonesia Chemical Alumina, which was a joint venture between Antam and Showa Denko K.K. of Japan, started preproduction on the Tayan chemical-grade alumina plant (Tayan CGA) in West Kalimantan Province. Tayan CGA had the capacity to process 850,000 wet metric tons per year of bauxite to produce 300,000 metric tons per year of chemical-grade alumina. In 2015, Tayan CGA produced 69,869 t of alumina and sold 59,232 t. The Tayan CGA plant was in the preproduction phase and production was being ramped up to reach the optimum production rate (Aneka Tambang PT Persero Tbk, 2015; Davies, 2015).

Copper.—Freeport-McMoRan and its subsidiary PT-FI managed one of the world's largest copper and gold deposits at the Grasberg mineral district in Papua Province. The Grasberg mineral district had three operating mines—an open pit, the Deep Ore Zone underground mine, and the Big Gossan underground mine. PT-FI's recoverable copper production in 2015 was 341,101 t compared with 295,288 t in 2014 (Freeport McMoRan Inc., 2016, 2017).

In 2014, PT-FI and the Government started negotiations regarding to the amended provisions of the company's contract of work (COW). The COW amendments included the size of PT-FI's concession area, royalties and taxes, domestic processing and refining, divestment, and the continuation of

operations from 2022 through 2041. In addition, the amended COW was to address development of new copper smelting and refining capacity in Indonesia and divestment of ownership to the Government and (or) Indonesian nationals of up to 30% interest in PT-FI. In 2015, PT-FI continued discussions with the Government regarding its COW and the long-term operating rights. In October 2015, the Government approved the extension of operations of PT-FI beyond 2021, indicating that it would provide the same rights and the same level of legal and fiscal certainty provided under its current COW (Freeport McMoRan Inc., 2015, 2016).

Gold.—The Grasberg Mine, which is located in the western half of Papua, reportedly has one of the world's largest copper and gold deposits. The mine was managed by PT-FI. Indonesia produced about 3% of global gold production in 2015, and one-half of the amount was recovered from the Grasberg Mine. In 2015, PT-FI reported production of 34,926 kilograms (kg) of gold compared with 32,091 kg in 2014 (Freeport McMoRan Inc., 2016, 2017).

Antam's main gold and silver production came from the Cibaliung Mine and the Pongkor Mine, which are located in the Provinces of Banten and West Java, respectively. In 2015, Antam's gold production decreased by 6% (to 2,210 kg) compared with that of 2014. The low level of gold production was due to the interruption of operations at the Cibaliung gold mine by the end of 2014, which affected production in 2015 (Aneka Tambang PT Persero Tbk, 2014, 2015).

Nickel.—PT Vale added an additional mining fleet to support its mining operations and increase mine output. Antam nickel ore production was 1,654,796 wet metric tons compared with 1,259,062 wet metric tons in 2014. Antam reported that its ferronickel production in 2015 increased to 17,211 t of nickel content from 16,500 t of nickel content in 2014, representing a 4.3% increase (Aneka Tambang PT Persero Tbk, 2015; Vale, S.A. 2016).

Tin.—Indonesia was the world's second-ranked tin producer after China in 2015, with estimated reserves of 800,000 t. PT TIMAH (Persero) Tbk, the country's leading tin producer, reported 26,361 t of tin production in 2015 compared with 32,319 t in 2014. The reduced production was attributed to the decrease in global tin prices and Government regulations. Nevertheless, tin sales increased by 11.8% to 30,088 t from 26,907 t in 2014 (PT TIMAH (Persero) Tbk, 2015; Anderson, 2017).

Mineral Fuels

Coal.—In 2015, Indonesia's coal production decreased to 406.5 Mt from 435.7 Mt in 2014. The production declined mainly in response to the decreased global demand for and price of coal. Indonesia's coal exports accounted for more than 70% of the total coal production and the remainder was sold to the domestic market. In 2015, the Government had begun implementing the 35-gigawatt (GW) electrification program, which aimed to provide an additional 35 GW of electricity-generating capacity by 2019. Domestic consumption of coal was projected to increase as the Government builds mostly coal-fired power stations around the country (Japan Oil, Gas and Metals

National Corp., 2016; Van der Schaar Investments, 2016; Badan Pusat Statistik, 2017a).

Petroleum.—As of 2015, Indonesia had proven petroleum reserves of 3.7 billion barrels and was ranked among the world's top 20 petroleum producers. East Kalimantan, the Java Sea, Natuna, and Sumatra were the main petroleum-producing regions in Indonesia. In 2015, Indonesia's total crude petroleum production was 789,000 barrels per day (the same as in 2014). Indonesia's production of petroleum had decreased during the past decade owing to natural maturation of producing oilfields combined with a slower reserve replacement rate and limited investment to increase production capacity (PwC Indonesia, 2016b; Indonesian Petroleum Association, 2017).

Chevron Corp., with its subsidiary Chevron Pacific Indonesia, was Indonesia's leading petroleum producer, accounting for approximately 35% of national production. Other major producers were CNOOC Ltd. of China, Exxon Mobil Corp. of the United States, Total S.A. of France, and state-owned Pertamina. In 2015, ExxonMobil started the Banyu Urip field central processing facility. The project consisted of 45 wells producing from three well pads, an onshore central processing facility, a 97-kilometer (60-mile) onshore and offshore pipeline, a floating storage and offloading vessel, and tanker-loading facilities in the Java Sea. ExxonMobil Cepu Ltd. and PT. Pertamina EP Cepu each had a 45% interest in Banyu Urip, and four local government entities together held the remaining 10%. Banyu Urip was projected to produce 450 million barrels of petroleum during its lifetime and to contribute approximately 20% of Indonesia's 2016 oil production target (Exxon Mobil Corp., 2015; PwC Indonesia, 2016b).

Outlook

For decades, the mining sector had made a substantial contribution to Indonesia's GDP, exports, employment, Government revenue, and the economic development of remote regions where mining sites are located. In 2015, however, Indonesia was facing new challenges, such as the decline in the global demand for mineral commodities and the implementation of and uncertainties regarding new regulations associated with the Mining Law. The production of copper, gold, nickel, and tin is expected to remain relatively constant in 2016 owing to the enforcement of the ban on mineral exports and the limited processing facilities that have come on line. The total contribution of the mineral sector will likely increase after more mineral processing and refining facilities are established (PwC Indonesia, 2016a; World Bank, The, 2017).

References Cited

Anderson, C.S., 2016, Tin: U.S. Geological Survey Mineral Commodity Summaries 2016, p. 174–175.
Anderson, C.S., 2017, Tin: U.S. Geological Survey Mineral Commodity Summaries 2017, p. 174–175.
Aneka Tambang PT Persero Tbk, 2014, One spirit to overcome challenges—2014 annual report: Aneka Tambang PT Persero Tbk, 608 p. (Accessed March 2, 2017, at http://www.antam.com/images/stories/joget/file/annual/2014/ar_antam_2014.pdf.)
Aneka Tambang PT Persero Tbk, 2015, Annual report 2015: Aneka Tambang PT Persero Tbk, 690 p. (Accessed March 2, 2017, at http://www.antam.com/images/stories/joget/file/annual/2015/ar_antam_2015.pdf.)

Apodaca, L.E., 2017, Nitrogen (fixed)—Ammonia: U.S. Geological Survey Mineral Commodity Summaries 2017, p. 118–119.
Asian Development Bank, 2015, Indonesia: Asian Development Bank Fact Sheet, 4 p. (Accessed March 2, 2017, at <https://www.adb.org/sites/default/files/publication/27769/ino-2015.pdf>.)
Badan Pusat Statistik, 2016, Monthly statistical bulletin: Badan Pusat Statistik, 208 p. (Accessed March 27, 2017, at https://www.bps.go.id/webiste/pdf_publicasi/Indikator-Ekonomi-Desember-2016.pdf.)
Badan Pusat Statistik, 2017a, Production of minerals mining, 1996–2015: Badan Pusat Statistik. (Accessed March 2, 2017, at <https://www.bps.go.id/linkTableDinamis/view/id/1126>.)
Badan Pusat Statistik, 2017b, Statistical yearbook of Indonesia 2016: Badan Pusat Statistik, 711 p. (Accessed March 2, 2017, at https://www.bps.go.id/webiste/pdf_publicasi/Statistik-Indonesia-2016--_rev.pdf.)
Bank of Indonesia, 2016, 2015 economic report on Indonesia: Bank of Indonesia. (Accessed March 2, 2017, at http://www.bi.go.id/en/publikasi/laporan-tahunan/perekonomian/Pages/LPI_2015.aspx.)
Bray, E.L., 2017, Bauxite and alumina: U.S. Geological Survey Mineral Commodity Summaries 2017, p. 32–33.
Davies, N., 2015, The race for bauxite—China's depleting resources add fuel to the fire: Mining Technology. (Accessed March 2, 2017, at <http://www.mining-technology.com/features/featurethe-race-for-bauxite-chinas-depleting-resources-add-fuel-to-the-fire-4171637/>.)
Exxon Mobil Corp., 2015, ExxonMobil starts Banyu Urip central processing facility in Indonesia: Exxon Mobil Corp. (Accessed March 2, 2017, at <http://news.exxonmobil.com/press-release/exxonmobil-starts-banyu-urip-central-processing-facility-indonesia>.)
Freeport McMoRan Inc., 2015, PT Freeport Indonesia and the Government of Indonesia agree on continuation of operations of the Grasberg mining complex beyond 2021: Freeport McMoRan Inc. (Accessed March 2, 2017, at <http://investors.fcx.com/default.aspx?SectionId=5cc5ecae-6c48-4521-a1ad-480e593e4835&LanguageId=1&PressReleaseId=3946fe63-1e35-47be-91fb-8de8dd58e886>.)
Freeport McMoRan Inc., 2016, Reports fourth-quarter and year ended December 31, 2015 results: Freeport McMoRan Inc. (Accessed March 2, 2017, at <http://investors.fcx.com/investor-center/news-releases/news-release-details/2016/Freeport-McMoRan-Reports-Fourth-Quarter-and-Year-Ended-December31-2015-Results/default.aspx>.)
Freeport McMoRan Inc., 2017, Indonesia: Freeport McMoRan Inc. (Accessed March 2, 2017, at <http://fcx.com/operations/asia.htm>.)
GBG Indonesia, 2015, Indonesian oil and gas sector—Legal framework: GBG Indonesia, April 22 (Accessed October 26, 2017, at http://www.gbgingonesia.com/en/main/legal_updates/indonesian_oil_and_gas_sector_legal_framework.php.)
George, M.W., 2017, Gold: U.S. Geological Survey Mineral Commodity Summaries 2017, p. 72–73.
Indonesian Petroleum Association, 2017, Oil: Indonesian Petroleum Association (Accessed March 2, 2017, at <http://www.ipa.or.id/page/oil>.)
International Monetary Fund, 2016, Indonesia—2015 Article IV consultation—Press release; staff report; and statement by the Executive Director for Indonesia: Washington, DC, IMF Country Report no. 16/81, 79 p. (Accessed March 2, 2017, at <https://www.imf.org/external/pubs/ft/scr/2016/cr1681.pdf>.)
Japan Oil, Gas and Metals National Corp., 2016, Indonesia coal industry update 2016: Tokyo, Japan, Japan Oil, Gas and Metals National Corp. (Accessed March 2, 2017, at <http://www.jogmec.go.jp/content/300272505.pdf>.)
Lederer, G.W., 2016, Resource nationalism in Indonesia—Effects of the 2014 mineral export ban: U.S. Geological Survey Fact Sheet 2016–3072, 6 p. (Accessed March 27, 2017, at <https://pubs.usgs.gov/fs/2016/3072/fs20163072.pdf>.)
Oxford Business Group, 2016, Developing the downstream segment remains Indonesia's focus: Oxford Business Group. (Accessed March 2, 2017, at <http://www.oxfordbusinessgroup.com/overview/rooted-reform-developing-downstream-segment-remains-state%E2%80%99s-focus>.)
PwC Indonesia, 2015, Indonesia investment and taxation guide May 2016 (7th ed.): PwC Indonesia, 132 p. (Accessed March 2, 2017, at <https://www.pwc.com/id/en/publications/assets/eumpublications/mining/mining-in-indonesia-2015.pdf>.)
PwC Indonesia, 2016a, Indonesia investment and taxation guide May 2016 (8th ed.): PwC Indonesia, 124 p. (Accessed March 2, 2017, at <https://www.pwc.com/id/en/energy-utilities-mining/assets/May%202016/PwC%20Indonesia-mining-in-Indonesia-survey-2016.pdf>.)

- PwC Indonesia, 2016b, Oil and gas in Indonesia (7th ed.): PwC Indonesia, 172 p. (Accessed March 2, 2017, at <https://www.pwc.com/id/en/energy-utilities-mining/assets/May%202016/PwC%20Indonesia-oil-and-gas-guide-2016.pdf>.)
- PT TIMAH (Persero) Tbk, 2015, Integrated report 2015: PT TIMAH (Persero) Tbk, 475 p. (Accessed March 2, 2017, at <http://www.timah.com/v3/css/img/report/fileaA2828E72BEF2ED883A0D0D9507510A57.pdf>.)
- Schnebele, E.K., 2017, Nickel: U.S. Geological Survey Mineral Commodity Summaries 2017, p. 114–115.
- Vale, S.A., 2016, Rising to challenge—2015 annual report: Vale, S.A., 450 p. (Accessed March 27, 2017, at <http://www.vale.com/indonesia/EN/investors/indonesia-investors/information-market/annual-reports/annualreport/PT%20Vale%20Indonesia%20Tbk%20Annual%20Report%20%202015.pdf>.)
- Van der Schaar Investments, 2016, Coal: Van der Schaar Investments. (Accessed March 2, 2017, at <http://www.indonesia-investments.com/business/commodities/coal/item236>.)
- Winzenried, Sacha, and Adhitya, Fandy, 2014, Indonesia energy utilities and mining newsflash: PwC Indonesia, 8 p. (Accessed March 2, 2017, at <https://www.pwc.com/id/en/publications/assets/eumpublications/newsflash/2014/eumnewsflash-50.pdf>.)
- World Bank, The, 2017, Indonesia—Overview: Washington DC, The World Bank. (Accessed March 2, 2017, at <http://www.worldbank.org/en/country/indonesia/overview>.)

TABLE 1
INDONESIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2011	2012	2013	2014	2015	
METALS						
Aluminum:						
Bauxite, wet basis, gross weight	thousand metric tons	40,644	31,443	57,024 ^r	2,555	472
Alumina	do.	--	--	--	--	70 ^e
Metal, primary		244,100	248,000	255,300	210,500	168,000 ^e
Chromite sand, dry basis ^e		12,000 ^r	10,000 ^r	19,000 ^r	7,000	5,600
Cobalt, mine output, Co content		3,200 ^e	3,600 ^e	4,700 ^e	329	350 ^e
Copper:						
Mine output, Cu content		535,000	394,000	504,000	405,600	575,000 ^e
Metal:						
Smelter, primary		276,200	198,400	217,700	246,300 ^r	197,000
Refinery, primary		276,000	197,200	214,300	245,000 ^r	199,600
Gold, mine output, Au content	kilograms	77,722 ^r	69,291	59,804 ^r	69,349 ^r	92,339
Iron and steel:						
Iron sand, dry basis	thousand metric tons	11,815	11,546 ^r	22,353 ^r	5,951 ^r	3,858
Metal:						
Ferrous:						
Ferrous		98,200	91,600	91,000	84,000	86,000 ^e
Ferromanganese ^e		12,000	13,000	12,000	12,000	12,000
Silicomanganese ^e		8,000	9,000	8,000	8,000	8,000
Pig iron, direct-reduced iron	thousand metric tons	1,228	524	757	600 ^e	630 ^e
Steel, crude	do.	3,621	2,254	2,644	3,000	3,150 ^e
Steel, semimanufactured ^e	do.	5,100	5,000	5,000	5,000	5,000
Manganese, ore and concentrate:						
Gross weight		119,100	138,000	120,000 ^e	120,000 ^e	120,000 ^e
Mn content		41,700	39,500	38,000 ^e	38,000 ^e	38,000 ^e
Nickel:						
Mine output, Ni content		564,400	648,400	834,200	55,284	74,500 ^e
Matte, Ni content		67,800 ^r	69,000 ^r	78,800 ^r	78,700	85,000 ^e
Ferrous nickel, Ni content		19,700	18,400	22,800	21,600 ^r	21,600 ^e
Silver, mine output, Ag content	kilograms	227,173	247,827 ^r	123,109 ^r	119,200 ^r	162,900
Tin:						
Mine output, Sn content		43,258	49,300	45,800	51,915 ^r	52,195
Metal ³		43,832	51,400	48,800	58,233	58,000 ^e
INDUSTRIAL MINERALS						
Cement, hydraulic	thousand metric tons	52,000	60,600	65,000 ^e	65,000 ^e	78,000 ^e
Nitrogen, ammonia, N content ^e	do.	5,000	5,100	5,000	5,000	5,000
Stone, granite	do.	3,317	3,500 ^e	4,000 ^e	4,000 ^e	4,000 ^e
MINERAL FUELS AND RELATED MATERIALS						
Coal	thousand metric tons	291,165 ^r	361,028	377,847 ^r	435,743 ^r	406,539
Gas, natural	million cubic meters	92,000 ^r	84,000 ^r	83,500 ^r	84,700 ^r	83,500 ^e
Petroleum, crude, including condensate	thousand 42-gallon barrels	329,249	314,666	301,199 ^r	289,100	287,948

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through March 3, 2017.

²In addition to the commodities listed, Indonesia also produced dolomite, feldspar, gypsum, ilmenite, limestone, marble, nitrogen (in ammonia), phosphate rock, quartz sand, salt, silica stone, sulfur, zeolites, and zirconium, but available information was inadequate to make reliable estimates of output.

³Tin output from small tin smelters was not available but may be as much as 40,000 metric tons per year.

TABLE 2
INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Locations of main facilities	Annual capacity ^c
Aluminum:			
Bauxite	PT Antam Tbk (Government, 65%; domestic institutions 18.08%; domestic retail investors, 11.92%; foreign institutions, 5%)	Kijang, Bintan Island, Riau	1,300
Do.	do.	Kalimantan, Borneo	600
Do.	Tayan CGA (PT Antam Tbk, 80%, and Showa Denko K.K., 20%)	Tayan, West Kalimantan	850
Alumina, chemical grade	do.	Mempawah, West Kalimantan	300
Metal	PT Indonesia Asahan Aluminium (Nippon Asahan Aluminum Co. Ltd., 59%, and Government, 41%)	Kual Tanjung, North Sumatra	250
Cement	PT Indocement Tunggul Prakarsa Tbk	Cirebon and Citeureup, West Java; Tarjun, South Kalimantan	18,600
Do.	PT Lafarge Cement Indonesia	Besar, Aceh	1,400
Do.	do.	Lhok, Aceh	1,600
Do.	PT Semen Baturaja	Baturaja-Ogan Komering Ulu, South Sumatra	1,250
Do.	PT Semen Bosowa Maros	Kabupaten Maros, South Sulawesi	1,800
Do.	PT Holcim Tbk	Narogong, East Java	9,700
Do.	PT Semen Gresik Tbk	Gresik and Tuban, East Java	10,700
Do.	PT Semen Padang	West Sumatra	5,440
Do.	PT Semen Tonasa	Pangkep and Tonasa, South Sulawesi	6,000
Coal	PT Adaro Indonesia (New Hope Corp., 50%; PT Asminco Bara Utama, 40%; Mission Energy, 10%)	Paringin and Tutupan, South Kalimantan	35,000
Do.	PT Arutmin Indonesia (PT Bumi Resources Tbk, 80%, and Bakrie Group, 20%)	Mulia, Senakin, and Satui, South Kalimantan, and Asam-Asam, East Kalimantan	20,000
Do.	PT Berau Coal (PT United Tractor, 60%; PT Armadian, 30%; Nissho Iwai, 10%)	Berau, East Kalimantan	13,000
Do.	PT Kaltim Prima Coal Co. (PT Sitrade Coal, 32.4%; Bhira Investments Ltd., 30%; Sangatta Holding Ltd., 9.5%; Kalimantan Coal Ltd., 9.5%; Kutai Timur Sejahtera, 5%)	East Kutai Regency, East Kalimantan	55,000
Do.	PT Kideco Jaya Agung (Samtan Co. Ltd., 100%)	Pasir, East Kalimantan	12,000
Do.	PT Tambang Batubara Bukit Asam (state owned)	Tanjung Enim and Ombilin, South Sumatra	19,000
Do.	United Tractors	Central Kalimantan and East Kalimantan	6,500
Copper:			
Concentrate	PT Freeport Indonesia Co. (PTFI) (Freeport-McMoRan Copper & Gold Inc., 90.64%, and Government, 9.36%)	Grasberg Mine, Papua	600
Do.	PT Newmont Nusa Tenggara (Nusa Tenggara Partnership B.V., 56%; PT Multi Daerah Bersaing, 24%; PT Pukuafu Indah, 17.8%; PT Indonesia Masbaga Investama, 2.2%)	Sumbawa Island, West Nusa Tenggara	300
Metal	PT Smelting Co. [Mitsubishi Materials Corp., 60.5%; PT Freeport Indonesia Co. (PTFI), 25%; others, 14.5%]	Gresik, East Java	270
Gas:			
Natural	million cubic meters per day ExxonMobil Oil Indonesia	Arun and Aceh, North Sumatra	48
Do.	do. Roy M. Huffington (subsidiary of HUFFCO Group)	Badak, East Kalimantan	28
Do.	do. Total Indonesia	Offshore East Kalimantan	59
Liquefied	PT Badak LNG Co. Ltd. (Government, 55%; HUFFCO Group, 30%; Japan Indonesia LNG Co., 15%)	Bontang, East Kalimantan	22,500
Coalbed methane	Ephindo Energy Pvt. Ltd. (PT Pertamina, 52%, and Dart Energy Ltd., 24%)	Sangatta, East Kalimantan	22,600

See footnotes at end of table.

TABLE 2—Continued
INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Locations of main facilities	Annual capacity ^c
Gold	metric tons	Bluenose Gold Corp., 80%, and Zinton Investments Ltd., 20%	Buduk, Mine East Kalimantan	NA
Do.	do.	G Resources Group Ltd., 95%	Martabe Mine, North Sumatra	8
Do.	do.	Indo Resources Pacific Inc., 75%	Woyla Mine, Aceh	1
Do.	do.	Kingrose Mining Ltd., 85%, and private Indonesian investors, 15%	Way Linggo Mine, Lampung	1
Do.	do.	Newcrest Mining Ltd., 75%, and PT Antam (Persero) Tbk, 25%	Gosowong Mine, North Maluku	14
Do.		Newcrest Mining Ltd., 85%, and PT Antam (Persero) Tbk, 15%	Toguraci Mine, Maluku	NA
Do.	metric tons	PT Freeport Indonesia Co. (PTFI) (Freeport-McMoRan Copper & Gold Inc., 90.64%, and Government, 9.36%)	Ertsberg and Grasberg, Papua	110
Do.	do.	Private Indonesian investors, 55%	Mirah Mine, Kalimantan	1
Do.		Private owner, 100%	Manado Mine, North Sulawesi	NA
Do.	metric tons	PT Antam (Persero) Tbk, 100%	Logam Mulia refinery, Jakarta Raya, Jakarta	60
Do.	do.	do.	Cibaliung Mine, Banten	1
Do.	do.	do.	Pongkor Mine, West Java	3
Do.		PT Newmont Nusa Tenggara (Newmont Mining Corp., 45%; Sumitomo Corp., 35%; PT Pukuafu Indah, 20%)	Sumbawa Island, West Nusa Tenggara	NA
Do.	metric tons	PT J Resource Asia Pasifik Tbk, 100%	Seruyung Mine, East Kalimantan	2
Do.	do.	PT J Resource Asia Pasifik Tbk, 80%	Bakan Mine, North Sulawesi	46
Do.	do.	PT Rajawali Corp., 100%	Toka Tindung Mine, North Sulawesi	5
Do.	do.	Straits Resources Ltd., 100%	Mt Muro Mine, Central Kalimantan	6
Do.		PT J Resource Asia Pasifik Tbk, 79.10%, and local interest, 0.90%	North Lanut Mine, North Sulawesi	NA
Nickel				
Ferronickel	do.	PT Antam Tbk (Government, 65%; domestic institutions 18.08%; domestic retail investors, 11.92%; foreign institutions, 5%)	Pomalaa, South Sulawesi	100
Do.		PT Vale Indonesia Tbk (Vale Canada Ltd., 58.73%; Sumitomo Metal Mining Co. Ltd, 20%; others, 21.27%)	Soroako, South Sulawesi	70
In matte		PT Antam Tbk (Government, 65%; domestic institutions, 18.08%; domestic retail investors, 11.92%; foreign institutions, 5%)	Pomalaa, South Sulawesi	24
Do.	do.	do.	Soroako, South Sulawesi	
Nickel-iron, ore		PT Yiwon Mining (China Nickel Resources Holdings Co. Ltd., 80%)	Mekarsari, West Java	3,000
Nitrogen		PT Asean-Aceh Fertilizer (Government, 60%, and other members of the Association of Southeast Asian Nations, 40%)	Lhokseumawe, North Sumatra	500
Do.		PT Pupuk Iskandar Muda (Government, 100%)	do.	500
Do.		PT Pupuk Kalimantan Timur (Government, 100%)	Bontang, East Kalimantan	1,850
Do.		PT Pupuk Kujang	Cikampek, West Java	330
Do.		PT Pupuk Sriwijawa (Government, 100%)	Palembang, South Sumatra	1,440

See footnotes at end of table.

TABLE 2—Continued
 INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Locations of main facilities	Annual capacity ^c
Petroleum:				
Crude	thousand barrels per day	BP Indonesia (a subsidiary of BP p.l.c.)	Arjuna and Arimbi, offshore West Java	170
Do.	do.	China National Offshore Oil Co.	Offshore southeastern Sumatra	100
Do.	do.	Maxus Southeast Asia Ltd. (subsidiary of Maxus Energy)	Cinta and Rama, offshore southeastern Sumatra	95
Do.	do.	Mobil Cepu Ltd., 45%; Ampolex Cepu PTE Ltd., 45%; Cepu Block Cooperation Body, 10%	Cepu Block, Central Java and East Java	165
Do.	do.	PT Pertamina (Government, 100%)	Jatibarang, West Java, and Bunyu, offshore East Kalimantan	80
Do.	do.	PT Caltex Pacific Indonesia (Texaco Inc., 50%, and Chevron Corp., 50%)	Minas, Duri, and Bangko, central Sumatra	700
Do	do.	Total Indonesia (subsidiary of Total S.A.)	Handi and Bakapai onshore and offshore East Kalimantan	180
Refined	do.	PT Pertamina (Government, 100%)	6 locations	1,000
Silver	metric tons	PT Antam Tbk (Government, 65%; domestic institutions 18.08%; domestic retail investors, 11.92%; foreign institutions, 5%)	Bogor, West Java	25
Do.	do.	PT Freeport Indonesia Co. (PTFI) (Freeport-McMoRan Copper & GoldInc., 90.64%; Government, 9.36%)	Ertsberg and Grasberg, Papua	220
Do.	do.	PT Kelian Equatorial Mining (Rio Tinto Group, 90%, and PT Harita Jaya Raya, 10%)	180 kilometers west of Samarinda	10
Steel, crude		PT Ispat Indo	Sidoarjo, Surabaya	700
Do.		PT Krakatau Steel (Government, 100%)	Cilegon, West Java	2,400
Do.		PT Wahana Garuda Lestari	Pulogadung, Jakarta	410
Tin:				
In ore		PT Koba Tin [Malaysia Smelting Corp., 75%, and PT TIMAH (Persero) Tbk, 25%]	Koba, Bangka Island	25
Do.		PT TIMAH (Persero) Tbk (Government, 65%)	Onshore and offshore islands of Bangka, Belitung, and Singkep	60
Metal		Mentok Tin Smelter [PT TIMAH (Persero) Tbk]	Mentok, Bangka Island, South Sumatra	68
Do.		Koba Tin Smelter (PT Koba Tin)	Koba, Bangka Island, South Sumatra	25

^cEstimated; estimated data are rounded to no more than three significant digits. Do., do. Ditto. NA Not available.