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2010 Minerals Yearbook

VIETNAM

U.S. Department of the Interior
U.S. Geological Survey

August 2012

The Mineral Industry of Vietnam

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In 2010, Vietnam produced about 2%, 1.5%, and 1.1% of the world's tin, cement, and barite, respectively and the country ranked eighth in the production of crude petroleum in the Asia and the Pacific region (U.S. Energy Information Administration, 2010; Carlin, 2012; Miller, 2012; van Oss, 2012). Other minerals produced in the country included chromium ore, coal, natural gas, ilmenite, lead, lime, crude petroleum, phosphate rock, salt, steel, and zirconium. As for major processed minerals, Vietnam produced cement, refined copper, rolled steel, refined tin, and zinc (table 1).

Minerals in the National Economy

According to the General Statistics Office of Vietnam, the output value of the mining and quarrying sector (which included mineral fuels and nonfuel minerals) in 2010 decreased by 11.5% to an estimated $1.15 billion[1] (in 1994 constant dollars) from $1.3 billion in 2009. This was equivalent to about 4% of the country's total estimated gross domestic product of $29.15 billion (in constant 1994 dollars) compared with 4.4% in 2009 (General Statistics Office of Vietnam, 2010d).

Government Policies and Programs

In November 2010, the National Assembly of Vietnam passed the 2010 Mineral Law, which became fully effective on July 1, 2011. The new mineral law replaces the 1996 Mineral Law, as amended in 2005. The new law protects unexploited minerals, regulates geological surveys for mineral resources, regulates mineral exploration and mining, and regulates the management of minerals located within all the territory under the control of Vietnam, including its islands, onshore bodies of water, sea territory, contiguous zones, exclusive economic zones, and continental shelf. The Government encouraged the development of a mineral strategy and mineral master plans to promote sustainable development and ensure that mined products are used in a cost-effective and efficient way. A new mineral strategy is required every 10 years and must include an outlook that covers 20 years into the future. The Ministry of Natural Resources and Environment oversees and coordinates with other ministries to prepare the mineral strategy and then submits it to the Prime Minister for approval (Mayer-Brown JSM, 2011).

The new law implements changes to the existing legal framework for mineral exploration and exploitation, including reforming the process for acquiring mining licenses and requiring financial commitments on the part of the license holder. The license holder is required to have at least 50% equity in the total proposed capital investment for an exploration project and at least 30% for a mining project. The law introduces new provisions regarding the auctioning of mining rights and the fees involved in the acquisition of mining rights. The state is in charge of collecting all fees related to the acquisition of mining licenses, and rates are based on the quality and type of the minerals to be mined, the mining conditions, the reserves, and the value of the property. Under the new law, previous prerequisites for the acquisition of mining licenses are changed or eliminated. The requirement for a prospecting license is eliminated; under the new law, the interested party (which must be eligible to conduct mineral exploration in the country) is required only to have written permission from the Provincial government to conduct field surveys and collect surface samples for exploration purposes at the location of the proposed exploration area. Under the new law, the Government encourages the export of minerals as long as domestic needs are met (Mayer-Brown JSM, 2011).

Production

In 2010, mineral production increased mainly for crude steel (by about 60%), salt (55.7%), refined copper (33.3%), ilmenite (30.5%), and cement (14.3%). Mineral commodity production decreased, however, for crude petroleum (by 8.5%), lime (8.2%), and rutile (6.2%). Data on mineral production are in table 1.

Structure of the Mineral Industry

According to the General Statistics Office of Vietnam, the number of employees working in the mining and quarrying sector in 2010 was approximately 275,600, which accounted for about 1% of the total number of employed people in the country. Investments in the mining and quarrying sector for 2010 accounted for about $1.47 billion (in 1994 constant dollars), which represented about 7% of the total investments in the country (General Statistics Office of Vietnam, 2010c, e). Table 2 is a list of major mineral industry facilities.

Mineral Trade

In 2010, total trade in Vietnam increased by approximately 23.6% to $157 billion from $127 billion 2009. The total value of exports in 2010 was $72.2 billion compared with $57.1 billion in 2009, which represented an increase of about 26.4%. Exports of coal decreased by about 20.7% to approximately 19.8 million metric tons (Mt) from about 25 Mt in 2009; exports of crude oil decreased by 40.3% to 58.7 million barrels (Mbbl) from 98.3 Mbbl mainly owing to the commissioning of the country's first refinery in 2009, the Dung Quat refinery. In 2010, the total value of imports increased by 21.3% to $84.8 billion from $69.95 billion 2009. Imports of refined petroleum products,

[1]Where necessary, values have been converted from Vietnam dong (D) to U.S. dollars (US$) at the rate of D18,921=US$1.00 for 2010 and D17,490=US$1.00 for 2009.

fertilizer, and iron and steel decreased by 25%, 22.3%, and 6.8%, respectively compared with that of 2009 (General Statistics Office of Vietnam, 2010a, b, f–h).

Vietnam's main trading partners in 2010 were Australia, China, Germany, Japan, the Republic of Korea, Malaysia, Singapore, Switzerland, Taiwan, Thailand, and the United States. The United States was Vietnam's leading export partner; the United States imported $14.2 billion in Vietnamese goods (which was equivalent to 19.7% of Vietnam's total exports), followed by Japan, which imported $7.7 billion (10.7% of Vietnam's total exports), and China, which imported $7.3 billion (10.1% of Vietnam's total exports). Vietnam's imports came mainly from China (which supplied 23.6% of Vietnam's total imports valued at an estimated $20 billion), the Republic of Korea (11.5% of total imports valued at an estimated $9.76 billion), and Japan (10.6% of total imports valued at about $9 billion) (General Statistics Office of Vietnam, 2010f, g).

More-extensive coverage of the mineral industry of Vietnam can be found in the 2009 U.S. Geological Survey Minerals Yearbook, volume III, Area reports—International—Asia and the Pacific, which is available on the Internet at http://minerals.usgs.gov/minerals/pubs/country.

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TABLE 1
VIETNAM: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2006	2007	2008	2009	2010[e]
METALS						
Bauxite[e]		60,000	80,000	80,000	80,000 [e]	80,000
Chromium ore, gross weight		73,037	103,830	55,880	37,105	40,000
Copper:						
Mine output, Cu content		11,400	12,500	11,000	11,300 [r]	11,000 [e]
Metal, refined		4,800	11,000	2,200	6,000 [e]	8,000
Gold[e]	kilograms	2,500	3,000	3,000	3,000	3,500
Iron and steel:						
Iron ore, Fe content[e]		510,000	530,000	530,000	530,000	530,000
Metal:						
Pig iron	thousand metric tons	583	790	800 [e]	800 [e]	800
Steel, crude	do.	1,869	2,024	2,250 [e]	2,700 [r]	4,314 [3]
Steel, rolled	do.	3,837	4,612	5,001	6,531 [r]	7,935 [3]
Lead, mine output, Pb content[e]		14,900	19,200	14,200	7,700	7,400

See footnotes at end of table.

TABLE 1—Continued

VIETNAM: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2006	2007	2008	2009	2010[e]
METALS—Continued						
Manganese concentrate, gross weight[e]		20,000	20,000	20,000	20,000	20,000
Pyrite, gross weight[e]	thousand metric tons	500	500	500	500	500
Tin:						
Mine output, Sn content[e]		5,400	5,400	5,400	5,400	5,400 [3]
Metal, smelter		2,665	3,369	3,583	2,747 [r]	3,042 [3]
Titanium:						
Ilmenite concentrate, gross weight[4]		604,700	653,500 [r]	709,500 [r]	698,700 [r]	912,000
Rutile, gross weight		437	574	681	631 [r]	592
Zinc:[e]						
Mine output, Zn content		45,000	45,600	42,000 [r]	38,000 [r]	36,000
Metal, powder		23,000	23,000	23,000	23,000	23,000
Zirconium, gross weight[e, 5]		26,100	22,000	22,000	6,800 [r]	6,900
INDUSTRIAL MINERALS						
Barite		100,000 [r]	120,000 [r]	90,000 [r]	75,000 [r]	85,000
Cement, hydraulic	thousand metric tons	32,690	37,102	40,009	48,810 [r]	55,789 [3]
Clays, kaolin[e]		650,000	650,000	650,000	650,000	650,000
Fluorspar[e]		4,000	4,000	4,000	4,000	4,000
Graphite[e]		2,000	2,000	2,000	2,000	2,000
Gypsum[e]	thousand metric tons	5,000	5,000	5,000	5,000	5,000
Lime	do.	1,592	1,438	1,619	1,584 [r]	1,454 [3]
Nitrogen, N content of ammonia		230,000	300,000	300,000	300,000	300,000
Phosphate rock:						
Gross weight	thousand metric tons	1,232	1,523	2,101	2,047 [r]	2,268 [3]
P_2O_5 content[e]	do.	370	460	630	614 [r]	680
Pyrophyllite[e]		30,000	30,000	30,000	30,000	30,000
Salt	thousand metric tons	842	857	717	679 [r]	1,057 [3]
Sand and gravel	do.	115,000 [r]	117,000 [r]	112,000 [r]	123,000 [r]	118,000
Silica sand[e]	do.	200	200	200	200	200
Stone, building stone	do.	208,343	241,379	317,429	355,932 [r]	385,572 [3]
Sulfur[e]		22,000	22,000	22,000	22,000	2,200
MINERAL FUELS AND RELATED MATERIALS						
Coal, anthracite	thousand metric tons	38,778	42,483	39,777	44,078 [r]	44,011 [3]
Gas, natural, gross	million cubic meters	7,000	7,080	7,499	8,010	9,240
Petroleum, crude	thousand 42-gallon barrels	123,194	116,741	109,291	119,968 [r]	109,753 [3]

[e]Estimated; estimated data are rounded to no more than three significant digits. [r]Revised. do. Ditto.

[1]Table includes data available through January 30, 2012.

[2]In addition to the commodities listed, antimony, bentonite, refractory clay, construction aggregates, gemstones, granite, lignite, marble, rare earths, silver, and tungsten were mined but not reported. Available information is inadequate to make reliable estimates of output.

[3]Reported figure.

[4]Estimated figures based on Vietnam's inferred exports of titanium ores to China, Japan, the Republic of Korea, Malaysia, and the United States.

[5]Estimated figures based on Vietnam inferred exports of zirconium ore to China.

Sources: Vietnam's General Statistics Office, 2009–10; World Steel Association, Steel Statistical Yearbook, 2008; World Metal Statistics, December 2009; South East Asia Iron and Steel Institute, Crude Steel Production, Annual Statistics, 2009–10; The Barytes Association, World Barytes Production 2000–10; International Lead and Zinc Study Group, Lead and Zinc Statistics, Monthly Bulletin of the International Lead and Zinc Study Group, February 2007; Copper Bulletin of the International Copper Study Group, 2009; International Chromium Development Association, Statistical Bulletin-2010–11; U.S. Geological Survey, Minerals Questionnaire, 2004–7.

TABLE 2
VIETNAM: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement	Chinfong Hai Phong Cement Corp. [Chingfong Group of Taiwan, 70%; Hai Phong Municipal Government, 15.56%; Vietnam National Cement Corp. (VICEM), 14.44%]	Min Duc near Hai Phong City	1,400
Do.	Morning Star Cement Ltd. [Holcim Group, 65%, and Vietnam National Cement Corp. (VICEM), 35%]	Hon Chong, Kien Giang Province	4,500
Do.	Nghi Son Cement Corp. [Taiheiyo Cement Corp., 45.5%; Mitsubishi Materials Corp. of Japan, 19.5%; Vietnam National Cement Corp. (VICEM), 35%]	Nghi Son, Thanh Hoa Province	2,150
Do.	Vietnam National Cement Corp. (VICEM) (100% state owned)	Bim Son, But Son, Da Nang, Ha Tien I, Ha Tien II, Hai Phong, Hai Van, Hoang Mai, Hoang Thach, and Tam Diep	18,000
Chromite, gross weight	Thai Nguyen Nonferrous Metal Co. [wholly owned subsidiary of state-owned Vietnam National Minerals Corp. (VIMICO)]	Nui Nua, Thanh Hoa Province	10
Coal, anthracite	Vietnam National Coal Corp. (VINACOAL) (100% state owned)	Cam Pha, Cao Son, Coc Sau, Vang Danh, Dong Trieu, Ha Lam, Ha Tu, Hong Gai, Khe Cham, Mao Khe, Mong Duong, Deo Nai,Cua Ong, Uong Bi in Quang Ninh Province	42,000
Copper:			
Concentrate, Cu content	Lao Cai Copper Complex [wholly owned subsidiary of Vietnam National Minerals Corp. (VIMICO)]	Sin Queyen, Lao Cai Province	11
Refined	Tang Loong Lao Cai Copper Smelting Enterprise [wholly owned subsidiary of Vietnam National Minerals Corp. (VIMICO)]	Tang Loong Long Commune, Bao Tang District, Lao Cai Province	11
Gas, natural million cubic meters per day	VietSovPetro (a joint venture of Vietnam Oil and Gas Corp. and Zarubeznheft), and the joint venture of PetroVietnam, BP p.l.c., Oil and Natural Gas Co., and ConocoPhilips Co.	Offshore Bach Ho oilfield, Rang Dong oilfield, and Lan Tay and Lan Do gasfields	20
Gold, gold content of mine output kilograms	Bong Mieu Gold Mining Company Ltd. (Bong Mieu Holdings Ltd., 80%; Mineral Development Co., 10%; Quang Nam Mineral Joint Stock Co., 10%)	Quang Nam Province Ho Gan open pit and Nui Kem underground mines	400
Iron ore, gross weight	Thai Nguyen Iron and Steel Corp. [wholly owned subsidiary of Vietnam National Steel Corp. (VNSTEEL)]	Trai Cau and Tein Bo in Thai Nguyen Province; Thach Khe in Ha Tinh Province	850
Nitrogen, ammonia	Vietnam National Chemical Corp. (VNCC) (100% state owned), and Phy My Nitrogenous Fertilizer and Chemical Joint Stock Corp.	Ha Bac, northern Vietnam Phu My, Ba Ria-Vung Tau Province	375
Petroleum, crude thousand 42-gallon barrels per day	VietSovPetro (a joint venture of Vietnam Oil and Gas Corp. and Zarubeznheft)	Offshore Bach Ho, Rong, Rang Dong, Ruby, Bunga Kekwa, Dai Hung, and SuTu Trang oilfields	320
Do. thousand 42-gallon barrels	Vietnam Government	Dung Quat refinery, in Quang Ngai Province	6,500
Phosphate rock, gross weight	Vietnam Apatite Limited Co. [Vietnam National Chemical Corp. (VNCC), 100%]	Cam Duong and Tang Loong, Lao Cai Province	1,250
Phosphate rock, fertilizer, superphosphate	Vietnam National Chemical Corp. (VNCC) (100% state owned), and Phy My Nitrogenous Fertilizer and Chemical Joint Stock Corp.	Lam Thao, Phu Tho Province	800

See footnotes at end of table.

TABLE 2—Continued
VIETNAM: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Salt	Vietnam National Salt Corp.	Nam Dinh, Nghe An, and Hai Tin Provinces	12,000
Steel, crude	Vietnam National Steel Corp. (VNSTEEL)	Cai Lan, Thai Nguyen Province, and Phu My, Ba Ria-Vung Tau Province	2,000
Tin:	Cao Bang Nonferrous Metal Co. and Nghe Tinh Nonferrous Metal Co. [wholly owned subsidiaries of state-owned Vietnam National Minerals Corp. (VIMICO)]	Pia Oac, Cao Bang Province; Quy Hop, Nghe An Province; and Tam Dao, Tuyen Quang Province	4
Concentrate, Sn content			
Refined	Thai Nguyen Nonferrous Metal Co.	Thai Nguyen, Bac Thai Province	2
Titanium, ilmenite	Bimal Minerals Co. Ltd. (Malaysia Mining Corp. and Syarikat Pendorong Sdn. Bhd., 60%, and Binh Dinh Minerals Co., 40%)	Cat Khanh, Qui Nhon, and Binh Dinh Provinces	70
Do.	Ha Tinh Minerals and Trading Co.	Cam Hoa, Ky Annh-Cam, Xuyen, Ky Khan, and Ky Ninh, Ha Tinh Province	450
Do.	Mineral Development Co. No. 4 and No. 5 [wholly owned subsidiaries of Vietnam National Minerals Corp. (VIMICO)]	Vinh City, Nghe An Province; Tuy Hoa, Dong Xuan in Phu Yen Province; and Quang Ngan, Vinh My in Thua Thien-Hu Province	50
Zinc:	Thai Nguyen Nonferrous Metal Co. [wholly owned subsidiary of state-owned Vietnam National Minerals Corp. (VIMICO)]	Cho Dien, Bac Can Province	50
Concentrate, Zn content			
Refined	The Ta Pan Zinc-Lead Plant (a Chinese private firm, 70.2%, and Ha Giang Mineral Exploiting and Engineering Co., 29.8%)	Lung Vay, Bac Me District, Ha Giang Province	6
Do.	Thai Nguyen Zinc Refinery [wholly owned subsidiary of state-owned Vietnam National Minerals Corp. (VIMICO)]	Thai Nguyen City, Thai Nguyen Province	10

Do., do. Ditto.