



2006 Minerals Yearbook

VENEZUELA

THE MINERAL INDUSTRY OF VENEZUELA

By Staff

Crude oil remained the most economically significant mineral commodity produced in Venezuela. The country accounted for 3.4% of the world's crude oil output and was the 10th ranked crude oil producer in the world. Venezuela, which is located on the northern coast of South America, also accounted for 3.4% of the world's bauxite output, 3% of alumina production, 1.9% of aluminum output, and 1.3% of nickel output. Venezuela also was an important producer of nonfuel mineral commodities in the Latin American region, although for most mineral commodities, it held modest ranking in terms of world output (Bray, 2008; Kuck, 2007; Plunkert, 2007a, b; U.S. Energy Information Administration, 2008).

Under Venezuelan law, the country's hydrocarbon and mineral resources belong to the state. In 2006, the Government implemented changes in the contracts under which domestic and international companies produce crude oil, and the Government's Permanent Commission of Energy and Mines evaluated proposed reforms of the mining and the hydrocarbon laws.

The mining law (Decree No. 295 of September 5, 1999) establishes the rules for all mines and minerals (except hydrocarbons and some industrial minerals not found on Government lands) within Venezuelan territory. These rules influence the exploration, production, beneficiation, storage, leasing, distribution, marketing, and transportation of extracted substances not covered in other laws. The Ministerio del Poder Popular para las Industrias Básicas y Minería (MIBAM) is responsible for all matters related to mining activity. Mining is permitted only with the direct participation of the Government, through concessions, or under production authorization issued to artisanal miners, mining cooperatives, and other small-scale mining operations. The General Regulation of the Mining Law (Decree No. 1234 of March 9, 2001) establishes terms, conditions, and administrative procedures in support of Decree No. 295. Most industrial minerals not found on Government lands continue to be governed by Articles 7 through 10 of the derogated Mining Law of 1945 until the individual States establish regulations.

Decree No. 3895 of September 12, 2005, guarantees domestic mineral processing companies a supply of raw materials and semifinished products. The decree was expected to affect companies adversely, especially those that produce aluminum and steel, because the companies would have to limit potentially higher-priced long-term export contracts in order to supply the local processing companies.

The Ministerio del Poder Popular para el Petróleo y la Energía (MPE) (which, prior to January 2005, was known as the Ministerio de Energía y Minas) managed the natural gas and oil sectors. The hydrocarbon law, known as the Decree with Force of Organic Law on Hydrocarbons (Decree No. 1510 of November 2001), and Article 302 of the Constitution of 1999, reserve all primary hydrocarbon activities for the Government. The hydrocarbon law was amended in 2006 by the Partial Amendment Law to Decree 1510 with Force of Law, Organic

Law of Hydrocarbons. Nonassociated gas (natural gas that is not produced simultaneously with crude oil) and downstream natural gas operations are excluded from the hydrocarbon law; they are regulated instead by the Decree with Rank and Force of Organic Law on Gaseous Hydrocarbons (Decree 310 of September 1999) and by the Regulation of the Law on Gaseous Hydrocarbons (Decree 840 of June 2000), as amended by the MPE's Resolution 244 of January 9, 2006.

The Norms of Environmental Evaluation of Activities Susceptible to Degrade the Environment (Decree No. 1257 of 1996) establishes the Ministerio del Ambiente y de los Recursos Naturales (MARN). The law requires an environmental impact study for projects and programs in the areas of hydrocarbons and mining.

Minerals in the National Economy

Petroleum activity accounted for 13.8% of Venezuela's gross domestic product (GDP) in 2006 compared with 15.6% in 2005. In 2006, manufacturing accounted for 16.7% of the GDP; construction, 6.6%; and mining, 0.7% (Banco Central de Venezuela, 2007b).

In 2006, oil exports, which were valued at \$58.4 billion, accounted for 89.6% of the total value of all exported goods. In 2005, oil exports were valued at \$55.7 billion and accounted for 86.4% of the total value of all exported goods. The increase in the value of oil exports in 2006 compared with that of 2005 was attributed to the rise in international oil prices (Banco Central de Venezuela, 2007a).

Imports of all goods in 2006 were valued at about \$32.5 billion. Iron and steel products (especially oilfield tubular goods) accounted for about 3% of all imports. Rolled aluminum, construction materials (such as cement, glass, and stone), copper, and fertilizers also were significant mineral sector imports. Bitumen and petroleum coke formed the bulk of petroleum imports (International Trade Centre, 2007).

Production

Notable increases in production were estimated for ammonia, cement, gold, iron ore, and silica sand. Since 1998, gross natural gas production had remained in the range of 60 billion cubic meters per year, whereas crude petroleum production had dropped by nearly 25%. Data on mineral production are provided in table 1.

Structure of the Mineral Industry

The Government-owned mineral and industrial producer Corporación Venezolana de Guayana (C.V.G.), its subsidiary companies, and the Instituto Nacional de Geología y Mina were units of MIBAM. In late 2005, the Government also formed the Compañía Nacional de Industrias Básicas, which was a holding

company for several state-owned mineral companies through which the Government participated in production operations in the aluminum, iron ore, lime, natural gas, petroleum, and sulfur sectors.

Petróleos de Venezuela S.A. (PDVSA), which was the Government entity that was responsible for the development and management of the hydrocarbon sector, produced about 78% of the national output of crude oil. The Corporación Venezolana de Petróleo (CVP), which was a subsidiary of PDVSA, had managed the 32 operating service agreements (OSA) with international oil companies and the 8 risk/profit-sharing agreements that accounted for about 14% of Venezuelan crude oil production in 2006. CVP also managed four strategic associations that produced and processed extra-heavy crude and accounted for about 8% of the national output of this mineral commodity.

In 2005, the Government of Venezuela declared that the terms of the existing OSA contracts were illegal under the Constitution. CVP subsequently initiated negotiations to restructure the OSA contracts, the profit-sharing agreements, and the strategic associations as joint ventures (Empresas Mixtas) in which, in most cases, the Government's interest would increase to 60%. Repsol YPF of Spain withdrew from two contracts and returned the operation of two fields to PDVSA; Hocol S.A. of Colombia, Inemaka Exploration & Production Co. of Venezuela, and Teikoku Oil Co., Ltd. of Japan each returned one field. ENI S.p.A. of Italy, Statoil ASA of Norway, and Total S.A. of France considered the abrogation of the contracts to be illegal and at yearend, were continuing with settlement negotiations. In 2007, ConocoPhillips Co. of the United States took the nationalization of its contract interest to arbitration. Exxon Mobil Corp. of the United States pursued legal action in the courts of the Dutch Antilles, the Netherlands, the United Kingdom, and the United States.

Multinational companies dominated the cement and nickel sectors. Many companies in the coal, fertilizer, iron, synthetic crude oil (processed heavy crude oil), and steel sectors were owned by joint ventures of the Government and the private sector. Cabot Corp. of the United States increased its interest in the Valencia carbon black plant to 47.5% from 41%.

Commodity Review

Metals

Gold.—Much of the gold activity in Venezuela was located in the State of Bolivar. Although official Government gold production statistics were unavailable, Hecla Mining Co. of the United States reported that it produced about 4,994 kilograms (kg) of gold in 2006, which was a 58% increase compared with that of 2005. Hecla operated La Camorra and La Isadora Mines. State-owned C.V.G. Compañía General de Minería C.A. (CVG Minerven) reported production of 3,842 kg of gold in 2006, which was a 2% increase compared with 2005 output. CVG Minerven operated the Colombia and the Union Mines. Gold Fields Ltd. of South Africa reported that it produced 2,000 kg from the Choco-10 Mine, which it had acquired in March 2006 when Gold Fields purchased Bolivar Gold Corp. of Canada. Crystallex International Corp. of Canada produced about

1,473 kg of gold at the Revemin milling and carbon-in-leach processing plant; about 88% of the ore processed at the mill was from the open pits and the underground mine at Crystallex's Tomi concession. Crystallex also operated La Victoria open pit mine (Gold Fields Ltd., 2006, p. 18. 2007, p. 18; Crystallex International Corp., 2007, p. 18-19; C.V.G. Compañía General de Minería C.A., 2007; Hecla Mining Co., 2007, p. 12).

Jinyan de Venezuela C.A. continued the development of the Sosa Mendez Mine and Crystallex awaited approval of an environmental permit from the Government for the development of its Las Cristinas property in the Kilometro 88 area of Bolivar State. Artisanal miners were illegally producing gold on Las Cristinas concession (Crystallex International Corp., 2004, p. 58).

Other companies actively exploring for gold in Venezuela included Gold Reserve Inc. of the United States on the Brisas gold-copper and the Choco 5 gold properties; the joint venture of Mena Resources Inc. and Rusoro Mining Ltd. of Canada on the Increible 6 and the Valle Hondo properties; Rusoro Mining on the Emilia and the San Rafael/El Placer projects; and ValGold Resources Ltd. of Canada, which was evaluating the Chicanan East and West, the Lo Increible 3, and the Vetas Vuelvan Caras properties held indirectly by Honnold Corp. of the British Virgin Islands. Problems with permits resulted in Triumph Gold Corp. attempting to dispose of its Guariche and Las Flores properties (Kenai Resources Ltd., 2007, p. 4).

Mineral Fuels and Related Materials

Coal and Uranium.—In 2007, Carbones Nueva Naricual C.A. planned to reopen the Naricual coal underground mine, which had been a producer in the 1980s. In 2006, Peabody Energy Corp. of the United States acquired Excel Coal Ltd. of Australia and its 51% interest in Excelven S.A., which owned 96.7% equity interest in Cosila Complejo Siderurgico Del Lago S.A. A joint venture headed by Alpha Natural Resources, Inc. of the United States held 24.5% interest in Excelven. Cosila owned Las Carmelitas coal project in the State of Zulia and coal export facilities in the Port of Palmarejo.

In 2004, the Government had expressed interest in developing a coal-powered electricity-generating plant to supplement the national electricity supply, much of which was generated by hydroelectric plants. In 2005, the Government discussed the possibility of building a nuclear-powered electricity-generating plant with Argentina, Brazil, and Iran, which, by 2006, had piqued international interest in Venezuela's potential to develop its uranium resources and to process domestic and imported uranium ores, and the country's nuclear plans.

Natural Gas.—Several natural gas projects were planned or underway. In July, construction started on a 224-kilometer gas pipeline that would link western Venezuela to Colombia's Punta Ballenas gasfields. Construction of a regional gas pipeline that would run through Brazil to Argentina was proposed (Udenrigsministeriet, 2007).

Outlook

Announced plans and proposed legislation have focused international attention on Venezuela's push for the integration

of the Caribbean, Central American, and South American economies and policies. A significant part of the planned economic fusion would involve the construction of infrastructure to deliver oil and natural gas throughout the region. Because Venezuela has the largest reserves of crude petroleum in the region, such integration could give the country a significant advantage in marketing petroleum and natural gas in the region in the long term.

The Government plans to encourage downstream domestic processing operations in the aluminum and steel sectors. Historically, the country has exported crude aluminum and steel and imported value-added processed aluminum and finished steel products. The Government also plans to encourage additional development of hydrocarbon resources. The Government has proposed increasing its production of crude petroleum to 5.8 million barrels per day by 2012 (subject to Organization of the Petroleum Exporting Countries production constraints), to build new crude oil refineries at Cabruta and Llanos de Barinas (Batalla de Santa Inés), and to build an asphalt plant at Caripito (Metal Bulletin, 2006; Petróleos de Venezuela, S.A., undated).

The Government is continuing with plans to increase the natural gas supply to cover demand. Much of current natural gas production, however, is associated with crude oil production, and a significant proportion of produced gas is reinjected into oilfields to maintain reservoir pressure. Proposed natural gas projects include the development of the offshore nonassociated natural gas resources in the Plataforma Deltana area, which is located south of Trinidad in the Atlantic Ocean; the development of natural gas resources in the Gulf of Venezuela and the State of Falcon (Proyecto Rafael Urdaneta); the construction of the Center West Interconnection Project gas pipeline (Proyecto ICO); and the construction of the Gran Mariscal de Ayacucho industrial complex and the Mariscal Sucre LNG plant.

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TABLE 1
VENEZUELA: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity	2002	2003	2004	2005	2006	
METALS						
Aluminum:						
Alumina	1,901	1,882	1,900	1,920 ^c	1,892	
Bauxite	5,191	5,446	5,842	5,900 ^c	5,928	
Metal, primary, unalloyed	metric tons	605,290	601,290	623,540	615,070	610,000 ^c
Gold, mine output, Au content	kilograms	9,465	7,900 ^{r,c}	9,666 ^r	10,000 ^c	12,400 ^c
Iron and steel:						
Iron ore and concentrate:						
Gross weight	16,684	17,954	19,196	20,000 ^c	23,000 ^c	
Metal content	11,092	11,936	12,669	13,000 ^{r,c}	15,200 ^c	
Metal, direct-reduced iron	6,824	6,645	7,800 ^r	8,900	8,400 ^c	
Ferroalloys:^e						
Ferromanganese	12,000 ^r	12,000 ^r	15,000 ^r	15,000 ^r	15,000	
Ferronickel	51,700	57,300	58,000	56,300 ^c	57,000	
Ferrosilicon ^r	99,576 ³	90,543 ³	92,000	92,000	92,000	
Silicomanganese	36,974 ^{r,3}	30,632 ³	35,000 ^r	35,000 ^r	35,000	
Total	200,250 ^{r,3}	190,475 ^{r,3}	200,000 ^r	198,000 ^r	199,000	
Steel, crude	4,164	3,930	4,575	4,907	4,900 ^c	
Semimanufactures, hot-rolled	3,000	2,900	3,400	3,500	3,500 ^c	
Lead, secondary, refined ^c	metric tons	30,000	30,000	30,000	30,000	
Nickel:						
Mine output, Ni content	do.	18,600	20,700	20,468	20,000 ^c	20,000 ^c
Ferronickel, Ni content	do.	15,500	17,200	17,400	16,900	16,600
INDUSTRIAL MINERALS						
Amphibolite	19	4	--	--	-- ^c	
Cement, hydraulic ^c	7,000	7,700	9,000	10,000	11,000	
Clays, common	3,672	2,275	3,060	235	250 ^c	
Diamond:						
Gem	carats	45,707	11,080	40,000 ^c	46,000 ^c	45,000 ^c
Industrial	do.	61,060	23,710	60,000 ^c	69,000 ^c	70,000 ^c
Total	do.	106,767	34,790	100,000 ^c	115,000 ^c	115,000 ^c
Feldspar	147	149	176	202	200	
Gypsum	--	5	4	6	7	
Lime ^c	400	400	400	400	400	
Nitrogen, N content of ammonia	666 ^r	732 ^r	1,012	900 ^r	1,160 ^c	
Phosphate rock:						
Gross weight	390	260	300	392	400 ^c	
P ₂ O ₅ content ^c	111	75	85	110	115	
Pyrophyllite ^c	32	32	32	32	30	
Salt, evaporated ^c	metric tons	350,000 ^r	350,000 ^r	350,000 ^r	350,000	
Serpentinite, crushed ^c	550	550	550	550	550	
Stone, sand and gravel:						
Stone:						
Dolomite	103	54	--	--	--	
Granite ^c	750	750	750	750	750	
Limestone ^a	13,532	2,516	11,444	18,781	18,000 ^c	
Sand and gravel	4,104	2,704	2,878	605	600 ^c	
Silica sand ^d	878	625	943	207	500 ^c	
Sulfur, petroleum byproduct ^c	570 ³	560	800	800	800	
MINERAL FUELS AND RELATED MATERIALS						
Carbon black ^c	60	60	60	60	60	
Coal, bituminous	8,097	7,034	8,107	7,195 ^r	7,459	
Gas, natural:						
Gross	million cubic meters	61,982	61,027	57,398 ^r	67,000 ^c	56,000 ^c
Marketed	do.	33,124	30,875	31,687 ^r	34,000 ^c	28,500 ^c
Natural gas liquids:						
Natural gasoline	thousand 42-gallon barrels	11,847	9,232	11,362 ^r	13,027 ^r	13,572
Liquid petroleum gas	do.	53,411	43,915	54,338 ^r	62,298 ^r	64,903
Total	do.	65,258	53,147	65,700 ^r	75,325 ^r	78,475

See footnotes at end of table.

TABLE 1—Continued
VENEZUELA: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity	2002	2003	2004	2005	2006	
MINERAL FUELS AND RELATED MATERIALS—Continued						
Petroleum: ²						
Crude	thousand 42-gallon barrels	1,092,806	1,025,508	933,305 ^r	936,225 ^r	916,515
Refinery products:						
Liquefied petroleum gas	do.	4,395	5,355	6,682 ^r	5,500 ^e	7,000 ^e
Gasoline, motor	do.	64,386	52,374	131,929 ^r	75,000 ^e	85,000 ^e
Naphtha and other gasolines	do.	52,027	40,157	60,000 ^e	60,000 ^e	60,000 ^e
Jet fuel	do.	29,784	25,955	29,412 ^r	32,000 ^{r,e}	32,000 ^e
Kerosene	do.	77	117	179 ^r	120 ^e	120 ^e
Distillate fuel oil	do.	96,725	96,108	109,555 ^r	109,000 ^{r,e}	109,000 ^e
Lubricants	do.	1,467	1,142	1,200 ^e	1,200 ^e	1,200 ^e
Residual fuel oil	do.	84,479	85,052	101,481 ^r	90,000 ^{r,e}	90,000 ^e
Asphalt	do.	10,012	5,402	5,500 ^e	5,500 ^e	6,000 ^e
Petroleum coke	do.	12,279	9,994	10,000 ^e	10,000 ^e	10,000 ^e
Paraffins	do.	1,288	241	250 ^e	250 ^e	250 ^e
For internal consumption	do.	28,258	24,809	30,000 ^e	30,000 ^e	30,000 ^e
Unspecified	do.	1,124	2,124	1,000 ^e	1,000 ^e	1,000 ^e
Gains and losses	do.	38,460	41,468	15,969 ^r	1,930 ^e	2,000 ^e
Total ⁶	do.	424,761	390,298	503,000 ^{r,e}	422,000 ^{r,e}	434,000 ^e

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

¹Table includes data available through March 17, 2008.

²Production of 75% silicon-content ferrosilicon.

³Reported figure.

⁴Excludes production under contract with the Government.

⁵Includes condensate and bitumen for the production of Orimulsión.

⁶Excludes byproduct sulfur, which is reported in the industrial minerals portion of this table, but includes losses.

TABLE 2
VENEZUELA: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners ¹	Location of main facilities	Annual capacity
Alumina	C.V.G. Bauxilum C.A. (Corporación Venezolana de Guayana)	Ciudad Guayana, Bolivar State	1,800
Aluminum	C.V.G. Aluminio del Caroní, S.A. (Corporación Venezolana de Guayana and others)	do.	210
Do.	C.V.G. Venezolana de Aluminio C.A. (Corporación Venezolana de Guayana, 80%, and Showa Denko K.K., Kobe Steel Ltd., Sumitomo Chemical Co. Ltd., Mitsubishi Materials Corp., Mitsubishi Aluminum Co., and Marubeni Corp., 20%)	do.	430
Bauxite	C.V.G. Bauxilum C.A. (Corporación Venezolana de Guayana, 100%)	Los Pijiguaos, Bolivar State	6,000
Cement	CEMEX Venezuela, S.A. C.A. (Cementos Mexicanos S.A. de C.V., 100%)	Barquisimeto, Lara State; Maracaibo, Zulia State; Pertigalete, Anzoategui State; San Cristobal, Tachira State	4,600
Do.	LaFarge Venezuela (Lafarge Group, 56.2%)	La Vega, Miranda State, and San Cristobal, Tachira State	1,750
Do.	Holcim (Venezuela) S.A. (Holcim Group, 50%)	Carupano, Sucre State, and San Sebastian de los Reyes, Aragua State	2,200
Do.	C.A. Fábrica Nacional de Cementos (Lafarge Group, 46.13%)	Palmira and Ocumare del Tuy, Miranda State	1,330
Do.	Cementos Catatumbo (Lafarge Group, 23.32%)	Montellano, Zulia State	650
Do.	Cemento Andino	Curcas, Trujillo State	560
Coal	Carbones del Guasare, S.A. (Carbozulia S.A., 49%; Peabody Energy Corp., 25.5%; Anglo Coal, 25.5%)	Paso Diablo, Zulia State, Guasare coal basin	8,000
Do.	Carbones de la Guajira, S.A. (InterAmerican Coal Holdings NV, 64%, and Carbozulia S.A., 36%)	Mina Norte and Cachiri, Zulia State, Guasare coal basin	1,500

See footnotes at end of table.

TABLE 2--Continued
 VENEZUELA: 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
Ferronickel		Loma de Níquel C.A. (Anglo American plc, 91.4%)	Loma de Níquel, Aragua and Miranda States	18
Ferrosilicon		Ferroatlántica de Venezuela, S.A. (Ferroatlántica S.L., 80%, and Corporación Venezolana de Guayana, 20%)	Ciudad Guayana, Bolívar State	80
Gold	kilograms	Minera Hecla Venezolana C.A. (Hecla Mining Inc.)	Isladora and La Camorra Mines, El Callao, Bolívar State	5,000
Do.	do.	C.V.G. Compañía General de Minería C.A. (C.V.G. Ferrominera Orinoco C.A., 66.77%, and Corporación Venezolana de Guayana, 33.23%)	Colombia and Union Mines. Caratal and El Peru plants, El Callao, Bolívar State	4,600
Do.	do.	Promotora Minera de Venezuela (Gold Fields Ltd. 70%, and Ferrominera Orinoco C.A., 30%)	Choco-10 Mine, El Callao, Bolívar State	2,500
Do.	do.	Crystallex de Venezuela C.A. (Crystallex International Corp., 100%)	Tomi Mine, El Callao, Bolívar State	1,500
Do.	do.	Revevin (Crystallex de Venezuela C.A., 51%, and Corporación Venezolana de Guayana, 49%)	Remevin mill, El Callao, Bolívar State	1,500
Do.	do.	El Callao Mining Corp. (Crystallex de Venezuela C.A., 80%)	La Victoria (Lo Increible), El Callao, Bolívar	200
Iron and steel:				
Iron:				
Direct-reduced		Siderúrgica del Orinoco C.A. (Cosorcio Siderúrgico Amazonia Ltd., 70%, and Corporación Venezolana de Guayana, 30%)	Ciudad Guayana, Bolívar State	4,600
Hot-briquetted		Complejo Siderúrgico de Guayana C.A. (Kobe Steel, 36.7%; C.V.G. Ferrominera, 17.4%; Tubos de Acero de México, S.A., 6.9%; Mitsui and Co. Ltd., Nissho Iwai Corp., Tomen Corp. and Shinsho Corp., 30.3%; International Finance Corp., 8.7%)	do.	1,000
Do.		Orinoco Iron (International Briquettes Holding, 100%)	Puerto Ordaz, Bolívar State	2,200
Do.		Venezolana de Prereducidos de Caroní (International Briquettes Holding, 100%)	do.	815
Iron ore		C.V.G. Ferrominera Orinoco C.A. (Corporación Venezolana de Guayana, 100%)	Cerro San Isidro, Los Barrancos, and Las Pailas, Bolívar State	25,000
Iron ore pellets		do.	Ciudad Guayana, Bolívar State	3,600
Do.		Siderúrgica del Orinoco C.A. (Cosorcio Siderúrgico Amazonia Ltd., 70%, and Corporación Venezolana de Guayana, 30%)	do.	7,000
Steel		do.	do.	4,000
Natural gas	million cubic meters	Petróleos de Venezuela S.A. (Government, 100%)	Processing plants in Anzoátegui, Monagas, and Zulia States	35,000
Nickel, Ni content of mine output		Loma de Níquel C.A. (Anglo American plc, 91.4%)	Loma de Níquel, Aragua and Miranda States	22
Nitrogen content of ammonia		Fertilizantes Nitrogenados de Oriente S.A. (Pequiven, 35%; Koch Industries, 35%; Snamprogetti International S.A., 20%; Empresas Polar, 10%)	Jose Industrial Complex, Anzoátegui State	1,070
Do.		Pequiven (Petróleos de Venezuela S.A., 100%)	Petrochemical complexes in Zulia and Carabobo States	670
Petroleum:				
Crude ²	million 42-gallon barrels	Petróleos de Venezuela S.A. (Government, 100%)	Fields in Anzoátegui, Apure, Falcon, Guarico, Monagas, and Zulia States	750
Do.	do.	Joint ventures with Petróleos de Venezuela S.A. ³	Various locations	150
Refinery products	do.	Petróleos de Venezuela S.A. (Government, 100%)	Refineries in Amuay and Cardon, Falcon State; Bajo Grande, Zulia State; El Palito, Carabobo State; Puerto La Cruz and San Roque, Anzoátegui State	475

¹Reflects 2005 Government holding company structure and does not include the reorganization that took place after the formation of Compañía Nacional de Industrias Básicas.

²Does not include extra-heavy crude processing (synthetic crude).

³Includes crude petroleum production undertakings that formerly produced crude petroleum under operating service, risk-sharing, or profit-sharing agreements.