

THE MINERAL INDUSTRY OF PAKISTAN

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The Islamic Republic of Pakistan is located in southern Asia in the northwestern corner of the Indian subcontinent. It borders the countries of India to the east, China to the northeast, Afghanistan to the north and west, and Iran to the southwest. Pakistan's capital city is Islamabad, which is located in the Islamabad Capital Territory. Other major cities are Faisalabad, Hyderabad, Karachi, and Lahore. The southern portion of the country forms a 1,046-kilometer (km) coastline alongside the Arabian Sea. Pakistan's total area is 803,940 square kilometers (km²), which is slightly less than twice the size of California. Its land area is 778,720 km² and its water area is 25,220 km² (U.S. Central Intelligence Agency, 2005¹).

In 2004, Pakistan's gross domestic product (GDP) based on purchasing power parity was \$360.8 billion. The per capita GDP based on purchasing power parity was about \$2,404. The country's GDP real annual growth rate was 6.5% (International Monetary Fund, 2005[§]).

Environmental Issues

To increase the living standards of its citizens, the Pakistani Government has largely given economic development precedence over environmental issues. Unchecked use of hazardous chemicals, vehicle emissions, and industrial activity has contributed to a number of environmental and health hazards, the chief of which is water pollution. Much of the country lacks potable water owing to industrial waste and agricultural runoff that has contaminated drinking water supplies. The widespread use of low-quality fuel combined with a substantial increase in the number of vehicles on Pakistani roads has led to significant air pollution problems (U.S. Energy Information Administration, 2005[§]).

Structure of the Mineral Industry

Pakistan's mining and quarrying sector, which included petroleum and natural gas, played a minor role in the country's economy; these mineral fuels accounted for only between 0.5% and 1.0% of the country's GDP (Ministry of Industries and Production, 2004). The major mined products included a variety of minerals, of which the more important were antimony, barite, china clay, chromite, coal, dolomite, fire clay, fluorite, fuller's earth, natural gas, gemstones, granite, gypsum, iron ore, limestone, magnesite, marble, crude oil, onyx, phosphate rock, pumice, quartzite, soapstone, salt, silica sand, and silver.

Pakistan has extensive energy resources, which include natural gas, coal, and crude petroleum, and it has a large potential for further development of hydroelectric power. Exploitation of energy resources, however, has been slow owing to a shortage of capital and to domestic and international political constraints. Pakistan produced 61,000 barrels per day (bbl/d) of crude petroleum in 2004 and has plans to increase its output to 100,000 bbl/d by 2010. Although the country is unlikely to reach self sufficiency, the Government encouraged private firms, which included foreign firms, to develop domestic production capacity. Pakistan Petroleum Ltd. (PPL) expanded its interests in 2004 by drilling offshore at the Pasni Field. This was the first time that a Pakistani oil company had explored offshore (U.S. Energy Information Administration, 2005[§]). PPL was incorporated in 1950 with the main objective of conducting exploration, development, and production of Pakistan's oil and natural gas resources. PPL had inherited all the assets and liabilities of the Burmah Oil Co. (Pakistan Concessions) Ltd. and commenced business in 1952. The company is listed on all three stock exchanges of Pakistan. Natural gas supplied 49% of Pakistan's energy needs in 2004; crude oil, 30%; hydroelectric energy, 13%; coal, 7%; and nuclear energy, 1% (U.S. Energy Information Administration, 2005[§]).

The transportation infrastructure of Pakistan was moderately developed. Of the 257,683 km of roads, 152,033 km—including 339 km of expressways—was paved, and 105,650 km was unpaved. Pakistan has no inland waterways. The public sector railway system consisted of 7,718 km of broad-gauge 1.67-meter (m) track, of which 293 was electrified, and 445 km of narrow-gauge (1.000-m) track. Of the 131 airports, 92 had permanent-surface runways. International shipping ports included Karachi and Port Muhammad bin Qasim. The merchant marine fleet of 13 ships included three petroleum tankers. Pipelines included 9,945 km for natural gas and 1,821 km for crude petroleum (U.S. Central Intelligence Agency, 2005[§]).

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U.S. Energy Information Administration, 2005 (November), Pakistan, Country Analysis Brief, accessed December 22, 2005, at URL <http://www.eia.doe.gov/emeu/cabs/Pakistan.htm>.

¹References that include a section mark (§) are found in the Internet References Cited section.

TABLE 1
PAKISTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2000	2001	2002	2003	2004 ^e
METALS					
Aluminum, bauxite, gross weight ^c	8,668 ²	9,000	9,500	9,600	4,847 ²
Chromium ore: ^c					
Gross weight	26,844 ²	26,000	27,200	27,500	32,401 ²
Cr ₂ O ₃ content	12,080 ²	12,000	12,500	13,000	17,900
Iron and steel: ^c					
Pig iron	1,500	1,500	1,600	1,600	1,700
Steel, crude	500	500	550	550	600
Lead, refined, secondary	2,000	2,000	2,100	2,330	3,000 ²
INDUSTRIAL MINERALS					
Abrasives, natural, emery ^c	120	150	150	150	150
Barite ^c	21,234 ²	25,000	26,100	27,100	44,071 ²
Cement, hydraulic ^c	9,900	9,900	10,300	10,300	10,400
Chalk ^c	7,711 ²	7,700	8,000	8,000	9,975 ²
Clays: ^c					
Bentonite	27,700	28,000	29,200	30,000	19,150 ²
Fire clay	143,643 ²	145,000	151,500 ²	160,000	201,572 ²
Fuller's earth	15,288 ²	15,000	15,700	16,000	17,023 ²
Kaolin, china clay	49,574 ²	50,000	52,000	52,000	52,363 ²
Other	200,000	200,000	209,000	210,000	210,000
Feldspar	43,186 ²	45,000	47,000	47,000	26,265 ²
Fluorspar	997 ²	1,000	1,000	1,000	1,026 ²
Gypsum, crude	377,000 ²	380,000	397,000	397,000	434,981 ²
Magnesite, crude	4,192 ²	4,200	4,400	4,500	5,042 ²
Nitrogen, N content of ammonia ^c	1,884,300 ²	1,966,100 ²	2,050,000	2,050,000	2,050,000
Phosphate rock: ^c					
Gross weight	11,000	11,000	11,500	11,500	11,500
P ₂ O ₅ content	2,000	2,000	2,100	2,000	2,000
Pigments, mineral, natural, ocher	4,747 ²	4,800	5,000	5,000	5,000
Salt:					
Rock ^c	1,313 ²	1,500	1,600	1,700	1,700
Marine	20	20	21	23	-- ²
Total	1,333 ²	1,520 ²	1,621 ²	1,723 ²	1,700 ²
Sand: ^c					
Bajir and common	212,120 ²	215,000	225,000	225,000	225,000
Glass	162,000 ²	165,000	172,000	175,000	175,000
Sodium compounds, n.e.s.: ^c					
Caustic soda	220,000	220,000	230,000	230,000	230,000
Soda ash, manufactured	230,000	230,000	240,000	240,000	240,000
Stone:					
Aragonite and marble	582,000	585,000	611,000	610,000	1,050,664 ²
Dolomite	287,962	290,000	303,000	303,000	208,000 ²
Limestone	9,884 ²	9,900	10,300	12,000	12,000
Other, as "ordinary stone" ^{ce}	20	20	21	22	22
Strontium minerals, celestite	1,918 ²	2,000	3,000	3,000	558 ²
Sulfur:					
Native ^c	150	200	210	215	250
Byproduct, all sources	20,189 ²	21,000	21,900	22,000	22,000 ²
Total	20,339 ²	21,200 ²	22,110 ^{r,2}	22,215 ²	22,250 ²
Talc and related materials, soapstone	54,365 ²	55,000	57,500	58,000	57,413

See footnotes at end of table.

TABLE 1--Continued
PAKISTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2000	2001	2002	2003	2004 ^e	
MINERAL FUELS AND RELATED MATERIALS						
Coal, all grades ^e	thousand metric tons	3,116 ²	3,500	3,700	3,800	3,275 ²
Coke ^e	do.	900	900	950	1,000	1,000
Gas, natural: ^e						
Gross production	million cubic meters	24,222 ²	25,000	26,000	26,000	30,000
Marketed production, sales	do.	20,900	21,000	22,000	22,000	27,000
Natural gas liquids ^e	thousand 42-gallon barrels	600	600	650	650	650
Petroleum:						
Crude ^e	do.	20,450 ²	22,000	23,000	24,000	22,625 ²
Refinery products: ^e						
Gasoline	do.	8,500	8,700	9,000	9,000	9,500
Jet fuel	do.	5,500	5,700	6,000	6,000	7,000
Kerosene	do.	2,700	3,000	3,100	3,100	3,200
Distillate fuel oil	do.	14,000	15,000	15,700	15,700	17,000
Residual fuel oil	do.	13,500	15,000	15,500	15,500	16,000
Lubricants	do.	1,500	2,000	2,100	2,100	2,200
Other	do.	5,000	7,000	7,300	7,300	7,400
Total	do.	50,700	56,400	58,700	58,700	62,300

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

¹Table includes data available through November 8, 2005.

²Reported figure.