

2016 Minerals Yearbook

ASIA AND THE PACIFIC



Base modified from ESRI ArcGIS online world countries (generalized) map data, 2017
 Mercator Auxiliary Sphere projection
 World Geodetic System 1984 datum

Figure 1. Map of the Asia and the Pacific region. The countries covered in this report are labeled on the map; bordering countries are shown in gray and not labeled.

THE MINERAL INDUSTRIES OF ASIA AND THE PACIFIC

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The countries and dependencies that are covered in this chapter have a combined population of approximately 406 billion people and a land area of 29.96 million square kilometers (fig. 1). The region's total nominal gross domestic product (GDP) based on purchasing power parity was \$49.2 trillion, accounting for 41% of the world's real GDP. In 2016, the regional real GDP increased by 6.1% compared with 6.5% in 2015 and 6.4% in 2014 (tables 1, 2).

The leading mineral commodities produced in the Asia and the Pacific region in 2016 included, in order of the region's share of the world's total, mercury (Hg content of mine output), which accounted for 95.6% of the world's total production; anthracite coal, 94%; tungsten (W content of mine output), 91%; magnesite, 87%; fluorspar, 84.1%; graphite, 83%; tin (primary metal), 81.3%; tin (Sn content of mine output) and lead (primary, refined), 79% each; cement (hydraulic) and bituminous coal, 76.2% each; pig iron, 75.7%; alumina, 74%; raw steel, 70.4%; iron ore (gross weight), 69.1%; zinc (primary metal), 68%; aluminum (metal), 64%; bauxite, 61.6%; copper (primary, refined), 59.0%; nickel (Ni content of mine output), 58.3%; zinc (Zn content of mine output), 51%; and salt, 47%. Data on mineral production for selected mineral commodities, by country in the region, are in table 3.

Some countries of the Asia and the Pacific region were globally significant producers of metallic and industrial minerals, or mineral fuels and related materials. Australia accounted for 30% of the world's total bauxite production; China, 22%; and India, 9%. China accounted for 58% of the world's cement production; and India, 7%. China accounted for 62% of the world's graphite production; and India, 17%. China accounted for 50% of the world's raw steel production; Japan, 6%; India, 6%; and the Republic of Korea, 4%. China accounted for 31% of the world's tin (Sn content of mine output); Burma, 28%; and Indonesia, 15%. China accounted for 82% the world's tungsten (W content of mine output); and Vietnam, 8% (fig. 2).

Acknowledgments

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- Afghanistan—Central Statistics Organization and Ministry of Mines and Petroleum, Directorate of Cadastre and Afghan Gas Department;
- Fiji—Ministry of Lands and Mineral Resources, Mines Tenement Unit, Mineral Resources Department;
- Japan—Ministry of Economy, Trade and Industry, Research and Statistics Department;
- Malaysia—Ministry of Natural Resources and Environment, Minerals and Geoscience Department;
- Mongolia—Mineral Resources and Petroleum Authority of Mongolia;
- Nepal—Ministry of Industry, Commerce and Supplies, Department of Mines and Geology;
- New Caledonia—Institute of Statistics and Economic Studies;
- Pakistan—Pakistan Bureau of Statistics;
- Philippines—Mineral Economics, Information, and Publication Division;
- Republic of Korea—Korea Institute of Geoscience and Mineral Resources;
- Taiwan—Bureau of Mines, Ministry of Economic Affairs;
- Thailand—Ministry of Industry, Department of Primary Industries and Mines; and
- Vietnam—Department of Foreign Statistics and International Cooperation, General Statistics.

TABLE 1
ASIA AND THE PACIFIC: AREA AND POPULATION IN 2016

Country or territory	Area ¹ (square kilometers)	Estimated population ² (thousands)
Afghanistan	652,230	34,656
Australia	7,741,220	24,211
Bangladesh	148,460	162,952
Bhutan	38,394	798
Brunei	5,765	423
Burma	676,578	52,885
Cambodia	181,035	15,762
China	9,596,960	1,378,665
Fiji	18,274	899
India	3,287,263	1,324,171
Indonesia	1,904,569	261,115
Japan	377,915	126,995
Korea, North	120,538	25,369
Korea, Republic of	99,720	51,246
Laos	236,800	6,758
Malaysia	329,847	31,187
Mongolia	1,564,116	3,027
Nepal	147,181	28,983
New Caledonia	18,575	277
New Zealand	268,838	4,693
Pakistan	796,095	193,203
Papua New Guinea	462,840	8,085
Philippines	300,000	103,320
Singapore	719	5,607
Solomon Islands	28,896	599
Sri Lanka	65,610	21,203
Taiwan	35,980	23,540 ³
Thailand	513,120	68,864
Timor-Leste	14,874	1,269
Vietnam	331,210	94,569
Regional total	29,963,622	4,055,331
World total	148,940,000	7,444,157

¹Source: U.S. Central Intelligence Agency, The World Factbook.

²Source: The World Bank, 2018 World Development Indicators Database.

³Source: Statistical Yearbook, 2018, Statistical Bureau of the Republic of China (Taiwan).

TABLE 2
ASIA AND THE PACIFIC: GROSS DOMESTIC PRODUCT^{1,2}

Country or territory	Gross domestic product in 2016 based on purchasing power parity		Real gross domestic product growth rate (percentage)		
	Gross value (million dollars)	Per capita (dollars)			
			2014	2015	2016
Afghanistan	66,654	1,923	2.7	1.3	2.4
Australia	1,197,247	49,096	2.6	2.5	2.6
Bangladesh	630,032	3,901	6.3	6.8	7.2
Bhutan	6,515	8,234	4.0	6.1	6.4
Brunei	32,764	77,422	-2.5	-0.4	-2.5
Burma	302,565	5,790	8.0	7.0	5.9
Cambodia	59,015	3,741	7.1	7.2	7.0
China	21,290,131	15,397	7.3	6.9	6.7
Fiji	8,188	9,375	5.6	3.8	0.4
India	8,705,018	6,697	7.4	8.2	7.1
Indonesia	3,031,810	11,719	5.0	4.9	5.0
Japan	5,243,064	41,297	0.4	1.4	0.9
Korea, North ³	16,789	665	1.0	-1.1	3.9
Korea, Republic of	1,933,526	37,730	3.3	2.8	2.8
Laos	45,246	6,871	7.6	7.3	7.0
Malaysia	863,345	27,292	6.0	5.0	4.2
Mongolia	37,093	12,307	7.9	2.4	1.2
Nepal	71,817	2,477	6.0	3.3	0.4
New Caledonia ³	9,446	34,641	1.3	3.2	1.1
New Zealand	179,811	37,877	3.2	4.2	4.2
Pakistan	986,260	5,095	4.1	4.1	4.5
Papua New Guinea	29,078	3,597	12.5	8.0	2.4
Philippines	806,329	7,810	6.1	6.1	6.9
Singapore	499,627	89,103	3.9	2.2	2.4
Solomon Islands	1,259	2,097	2.3	2.5	3.5
Sri Lanka	261,716	12,343	5.0	5.0	4.5
Taiwan	1,132,920	48,128	4.0	0.8	1.4
Thailand	1,166,405	16,909	1.0	3.0	3.3
Timor-Leste	7,257	5,986	4.1	4.0	5.3
Vietnam	595,368	6,423	6.0	6.7	6.2
Regional total	49,216,295	12,136 ⁴	6.4 ⁵	6.5 ⁵	6.1 ⁵
World total	120,367,160	16,169 ³	2.8	2.8	2.5

¹Source: International Monetary Fund, World Economic Outlook Database, April 2018.

²Gross domestic product listed may differ from that reported in individual country chapters owing to differences in source or date of reporting.

³Source: United Nations data for 2016.

⁴Calculated as a gross domestic product divided by population.

⁵Annual change in regional gross domestic product.

TABLE 3
ASIA AND THE PACIFIC: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2016¹

(Thousand metric tons unless otherwise specified)

Country	Metals									
	Copper						Iron and steel			Lead
	Aluminum			Mine output, Cu content	Refined, primary	Gold, mine output, Au content (kilograms)	Iron		Refined, primary (metric tons)	
							Ore, gross weight	Pig iron		Steel, raw
Alumina	Bauxite	Metal ²								
Afghanistan	--	--	--	--	--	--	--	--	--	--
Australia	20,681	83,517	1,635	918 °	445	287,690	858,026	3,642	5,215	182,830
Bangladesh	--	--	--	--	--	--	--	--	--	--
Bhutan	--	--	--	--	--	--	28	--	--	--
Brunei	--	--	--	--	--	--	--	--	--	--
Burma	--	--	--	--	--	--	--	--	--	--
Cambodia	--	--	--	--	--	--	--	--	--	--
China	60,907	60,800	38,073	1,851	5,410 ⁴	453,500	1,280,000 ⁵	702,270	807,610	3,017,000
Fiji	--	58 °	--	--	--	1,499	--	--	--	--
India	6,028	23,886	2,723	34	773	1,700 °	184,501	63,714	95,477	134,000
Indonesia	600 °	1,400 °	250 °	716	252	85,000 °	3,900 °	120 °	4,900 °	--
Japan	18 °	--	789	--	1,259	6,455	--	80,186	104,775	84,660
Korea, North ^c	--	--	--	20	10	2,000	5,300	250	1,220	2,400
Korea, Republic of	--	--	--	(3)	522	205	445	46,336	68,575	441,000
Laos	--	--	--	89	--	6,765	1,200 °	--	--	--
Malaysia	--	1,000 °	620	--	--	2,149	1,847	--	2,764	--
Mongolia	--	--	--	337 °	--	18,435	7,146	--	17	--
Nepal	--	--	--	--	--	--	(3)	--	--	--
New Caledonia	--	--	--	--	--	--	--	--	--	--
New Zealand	--	--	339	--	--	9,866	--	670	577	--
Pakistan	--	90	--	14	--	--	471	--	3,553	--
Papua New Guinea	--	--	--	80 °	--	63,000 °	--	--	--	--
Philippines	--	--	--	84	185	23,053	7	--	1,075	--
Solomon Islands	--	238	--	--	--	--	--	--	--	--
Sri Lanka	--	--	--	--	--	--	--	--	--	--
Taiwan	--	--	--	--	--	--	--	14,830	21,751	--
Thailand	--	--	--	--	--	4,293	--	--	3,824	--
Vietnam	602	1,419	--	13 °	--	100 °	5,951	2,000 °	4,901	--
Regional total	88,836	172,408	44,429	4,156	8,856	965,710	2,348,822	914,018	1,126,234	3,861,890
Share of world total	74.0%	61.6%	64.4%	24.4%	59.0%	30.2%	69.1%	76.2%	70.4%	78.8%
United States	2,500	NA	841	1,430	1,180	228,000	41,800	22,300	78,500	--
Share of world total	2.1%	NA	1.2%	8.4%	7.9%	7.1%	1.2%	1.9%	4.9%	--
World total	120,000	280,000	69,000	17,000	15,000	3,200,000	3,400,000	1,200,000	1,600,000	4,900,000

See footnotes at end of table.

TABLE 3—Continued
ASIA AND THE PACIFIC: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2016¹

(Thousand metric tons unless otherwise specified)

Country	Metals								
	Manganese ore, mine output, Mn content	Mercury, mine output, Hg content (metric tons)	Nickel		Tin (metric tons)		Tungsten, mine output, W content (metric tons)	Zinc (metric tons)	
			Mine output, Ni content	Refined metal	Mine output, Sn content	Metal, primary		Mine output, Zn content	Metal, primary and secondary
Afghanistan	--	--	--	--	--	--	--	--	--
Australia	1,280	--	203	118	6,635	--	108	884,000	464,000
Bangladesh	--	--	--	--	--	--	--	--	--
Bhutan	--	--	--	--	--	--	--	--	--
Brunei	--	--	--	--	--	--	--	--	--
Burma	117	--	12 ^e	--	95,000 ^e	--	2 ^e	6,500 ^e	--
Cambodia	--	--	--	--	--	--	--	--	--
China	2,329	3,250 ^e	98	216	105,000	183,000	70,400	4,800,000	5,980,000
Fiji	--	--	--	--	--	--	--	--	--
India	745	--	--	--	13	3,800 ^e	--	636,000	611,814
Indonesia	38 ^e	--	130 ^e	--	52,000 ^e	45,000 ^e	--	--	--
Japan	--	--	--	63	--	1,620	--	--	438,650
Korea, North ^e	--	--	--	--	--	--	50	30,000	20,000 ²
Korea, Republic of	--	--	--	--	--	--	--	1,825	1,012,763
Laos	--	--	--	--	1,300 ^e	--	--	--	--
Malaysia	266 ^e	--	--	--	4,071	26,849	--	--	--
Mongolia	--	--	--	--	--	--	753	48,000	--
Nepal	--	--	--	--	--	--	--	--	--
New Caledonia	--	--	209	--	--	--	--	--	--
New Zealand	--	--	--	--	--	--	--	--	--
Pakistan	--	--	--	--	--	--	--	--	--
Papua New Guinea	--	--	22	--	--	--	--	--	--
Philippines	--	--	487 ^e	--	--	--	--	--	--
Solomon Islands	--	--	--	--	--	--	--	--	--
Sri Lanka	--	--	--	--	--	--	--	--	--
Taiwan	--	--	--	--	--	--	--	--	--
Thailand	4	--	--	--	92	11,088	30 ^e	30,000 ^e	72,813
Vietnam	(3)	--	4	--	4,579	4,919	6,500 ^e	12,000 ^e	10,000 ^e
Regional total	4,779	3,250	1,165	397	268,690	276,276	77,843	6,448,325	8,610,040
Share of world total	31.9%	95.6%	58.3%	39.7%	79.0%	81.3%	90.5%	51.2%	67.8%
United States	--	--	24	--	--	--	NA	805,000	15,000
Share of world total	--	--	1.2%	--	--	--	NA	6.4%	0.1%
World total	15,000	3,400	2,000	1,000	340,000	340,000	86,000	12,600,000	12,700,000

See footnotes at end of table.

TABLE 3—Continued
 ASIA AND THE PACIFIC: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2016¹

(Thousand metric tons unless otherwise specified)

Country	Industrial minerals					Mineral fuels			
						Coal		Natural gas, dry, marketed and (or) marketable (million cubic meters)	Petroleum, crude (thousand 42-gallon barrels)
	Cement, hydraulic	Fluorspar (metric tons)	Graphite (metric tons)	Magnesite	Salt	Anthracite	Bituminous		
Afghanistan	101	6,000 ^c	--	--	88	--	1,365	131	84
Australia	9,000	--	--	470 ^c	10,410	210	255,000	97,328	106,033
Bangladesh	18,000 ^c	--	--	--	1,477	--	1,022	27,559	2,500 ^c
Bhutan	940	--	--	--	--	--	118	--	--
Brunei	380 ^c	--	--	--	--	--	--	11,132	39,800
Burma	2,603 ⁵	--	--	--	221 ⁵	--	--	18,489 ⁵	4,298 ⁵
Cambodia	1,600	--	--	--	--	--	--	--	--
China	2,410,000	3,730,000	550,000 ^c	18,600 ^c	66,201	364,000	2,250,000	137,000	1,670,000
Fiji	219	--	--	--	--	--	--	--	--
India	280,000 ^c	1,920	149,019	317	52,500 ^c	--	647,344	28,100	280,100
Indonesia	62,000 ^c	--	--	--	600 ^c	--	74,000 ^c	81,500 ^c	306,443
Japan	53,255	--	--	--	928	--	800	2,754	3,453
Korea, North ^c	7,100	--	30,000	700	500	14,000	13,100	--	--
Korea, Republic of	56,747	--	--	--	323	1,727	--	--	--
Laos	2,000 ^c	--	--	--	9 ^c	110 ^c	--	--	--
Malaysia	22,330	--	--	--	--	24	36	64,428	245,000
Mongolia	429	202,000	--	--	2 ^c	--	7,400 ^c	--	8,249
Nepal	3,100	--	--	--	--	--	7	--	--
New Caledonia	104	--	--	--	--	--	--	--	--
New Zealand	360 ^c	--	--	--	100 ^c	--	59	4,843	12,701
Pakistan	37,020	6,625	14,000	23	3,252	--	2,400	41,500	31,300
Papua New Guinea	200 ^c	--	--	--	--	--	--	220 ^c	13,100 ^c
Philippines	25,000 ^c	--	--	--	1,030 ^c	--	1,700 ^c	3,979	2,500 ^c
Solomon Islands	--	--	--	--	--	--	--	--	--
Sri Lanka	2,695	--	4,210 ^c	--	106	--	--	--	--
Taiwan	12,126	--	--	--	--	--	--	334	53
Thailand	39,940	20,100	--	--	1,391	--	--	33,586	59,927
Vietnam	77,278	155,000 ^c	--	--	933	38,527	--	10,610	130,776
Regional total	3,124,527	4,121,645	747,229	20,110	140,071	418,598	3,254,351	563,493	2,916,317
Share of world total	76.2%	84.1%	83.0%	87.4%	46.7%	93.0%	75.7%	15.2%	9.4%
United States	85,000	--	--	W	41,800	2,000	366,000	766,000	3,440,000
Share of world total	2.1%	--	--	W	13.9%	0.4%	8.5%	20.7%	11.1%
World total	4,100,000	4,900,000	900,000	23,000	300,000	450,000	4,300,000	3,700,000	31,000,000

See footnotes at end of table.

TABLE 3—Continued
ASIA AND THE PACIFIC: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2016¹

⁶Estimated; estimated data, U.S. data, and world totals are rounded to no more than three significant digits. NA Not available. W Withheld to avoid disclosing company proprietary data; not included in world total. -- Zero or zero percent.

¹May not add to totals shown owing to independent rounding. Percentages are calculated using unrounded data. Table includes data available as of December 8, 2018.

²Includes secondary production.

³Less than ½ unit.

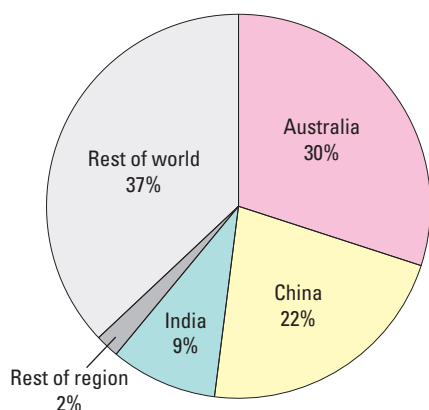
⁴Total production does not include leaching and electrowon.

⁵China data reported as crude ore

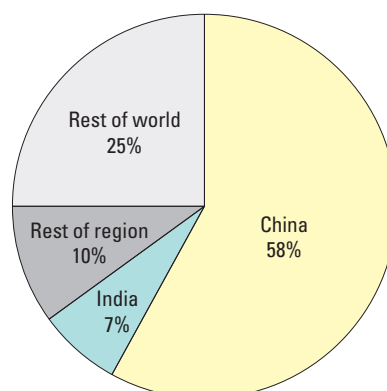
⁵Data are for fiscal year ending March 31 of the following year.

Asia and the Pacific region

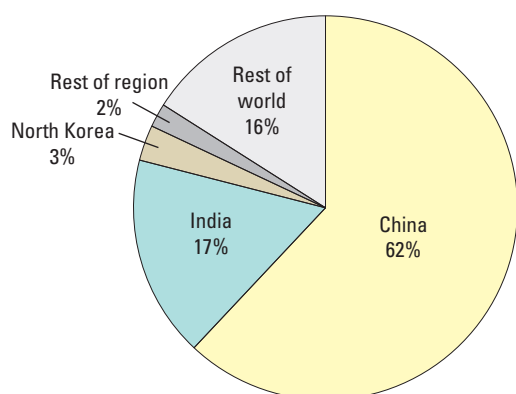
Bauxite



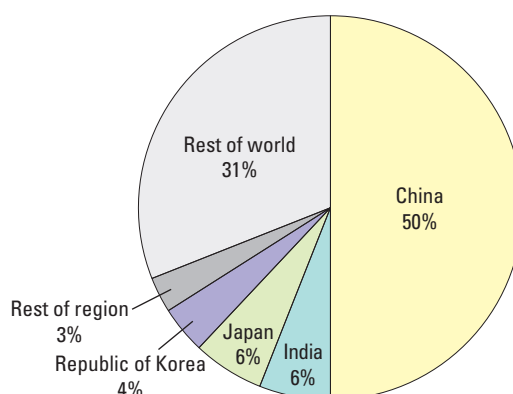
Cement, hydraulic



Graphite

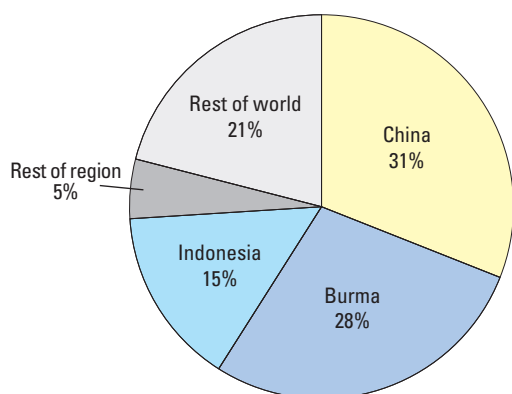


Steel, raw



Tin

(Sn content of mine output)



Tungsten

(W content of mine output)

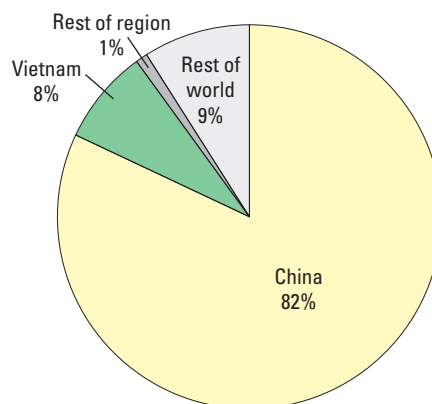


Figure 2. Pie charts showing percentage of world production of selected mineral commodities (bauxite, hydraulic cement, graphite, raw steel, tin, and tungsten) by countries of the Asia and the Pacific region in 2016. Individual countries of the region are labeled if they accounted for at least 3% of world production. All data are from table 3; however, percentages may differ slightly from those shown in table 3 because of independent rounding, and some may not add to 100%. Also, percentages may differ from those reported in individual country chapters owing to differences in the source or date of reporting.