



2012 Minerals Yearbook

ASIA AND THE PACIFIC [ADVANCE RELEASE]

THE MINERAL INDUSTRIES OF ASIA AND THE PACIFIC

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The Asia and the Pacific region, which includes 30 countries and territories, has a total area of about 30 million square kilometers, which accounts for about 20% of the world total. The total population of about 3.9 billion accounted for about 55% of the world total in 2012. China and India, which were the world's two most populous countries, accounted for about 67% of the region's total population and about 37% of the world's total population. The economies of Afghanistan, Bhutan, Cambodia, China, East Timor, Laos, Mongolia, and Papua New Guinea were the fastest growing in the region in 2012, with real gross domestic product (GDP) growth rates of more than 7% (tables 1, 2).

Australia and China were among the world's leading mineral producers. Australia has large resources of bauxite, coal, cobalt, copper, diamond, gold, iron ore, lead, lithium, manganese, mineral sands, tantalum, and uranium. China has large resources of antimony, arsenic, barite, bauxite, coal, fluorite, gold, graphite, iron ore, magnesium, rare earths, strontium, tin, tungsten, and zinc. India was also one of the world's significant mineral producers; it has large resources of barite, bauxite, chromium, iron ore, manganese, rare earths, and salt. Other significant mineral producers in the region were Indonesia, which has large resources of bauxite, coal, copper, gold, nickel, and tin; Mongolia, which has large resources of copper, fluorspar, and molybdenum; Papua New Guinea, which has large resources of copper and gold; the Philippines, which has large resources of copper, gold, and nickel; and Thailand, which has large resources of feldspar, gypsum, and potash (table 4).

Despite the large amount and wide variety of resources of nonfuel minerals and coal in Australia, China, India, Indonesia, Mongolia, Papua New Guinea, the Philippines, and Thailand, the regional supplies of numerous nonfuel minerals [including aluminum, bauxite, copper, diamond, gold, iron ore, lead, phosphate rock, platinum-group metals (PGMs), silver, and zinc] and such major mineral fuels as coal, natural gas, crude petroleum, and refined petroleum products, were insufficient to satisfy the demand in the region in recent years. The shortage was caused largely by a substantial increase in the consumption of nonfuel minerals and mineral fuels by China and India; by continued high levels of consumption by such resource-poor industrialized countries as Japan, the Republic of Korea, Singapore, and Taiwan; and by the growing economies of such middle-income developing countries as Indonesia, Malaysia, and Thailand. In 2012, the region of Africa and the Middle East supplied a large percentage of the Asia and the Pacific region's requirements for natural gas, crude petroleum, and refined petroleum products. Africa, North America, and South America supplied a substantial percentage of the region's raw material requirements for ferrous and nonferrous metals.

China and Japan were the two major regional markets for crude and processed minerals. Japan was the region's leading consumer of imported ferrous and nonferrous metals because of its large manufacturing sector and poor indigenous resources. China, however, remained the region's leader in terms of growth in consumption, especially for such mineral commodities as aluminum, cement, coal, copper, iron and steel, lead, natural gas, crude petroleum, phosphate rock, rare earths, tin, and zinc. India, Indonesia, Malaysia, the Republic of Korea, Singapore, Taiwan, Thailand, and Vietnam also were significant consumers of such mineral commodities as aluminum, cement, copper, gold, iron ore, lead, phosphate rock, silver, steel, and zinc.

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- Laos—Ministry of Industry and Handicraft, Department of Geology and Mines;
- Malaysia—Ministry of Natural Resources and Environment, Minerals and Geoscience Department;
- Mongolia—Mineral Resources and Petroleum Authority;
- Nepal—Ministry of Industry, Commerce and Supplies, Department of Mines and Geology;
- Republic of Korea—Korea Institute of Geoscience and Mineral Resources;
- Sri Lanka—Geological Survey and Mines Bureau;
- Thailand—Ministry of Industry, Department of Primary Industries and Mines; and
- Vietnam—Vietnam Institute of Geosciences and Mineral Resources.

For key economic data—

- Asian Development Bank in Manila, Philippines;
- International Monetary Fund in Washington, DC; and
- The World Bank in Washington, DC.

For exploration and other mineral-related information—

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General Economic Conditions

The global economy remained weak in 2012, but economic activity started to pick up at the end of the year. The economies of countries in the Asia and the Pacific region grew at a respectable rate during 2012, and the region was expected to maintain its momentum of gross domestic product (GDP) expansion during the next 2 years. The global economy showed a more promising outlook in 2013, and the countries of the euro area, Japan, and the United States reported positive growth quarter-on-quarter for 2013 (International Monetary Fund, 2014).

The Chinese Government continued to tighten the availability of credit gradually, and its monetary policy was focused on supporting structural adjustment and promoting reform and transformation of the economy's growth pattern. In 2008–09, the Government authorized a large stimulus package to support the development of the industrial sector. The Central Government's debt increased to about 50% of the GDP in 2012 from less than 21% in 2007. Local government debt also increased significantly during the same period. In 2012, the Chinese Government refrained from rolling out another large stimulus package but continued to enact moderate measures in the infrastructure, public housing, and renewable energy sectors to ensure that economic growth did not fall below the target of 7.5%. China's economic outlook remained bright, although the balance between investment-led and consumption-based growth was a significant challenge to the Government. The Chinese Government had plans to reduce state intervention in the economy but faces the challenge of how to implement reforms to restructure the economy toward domestic demand and inclusive growth. The reforms are likely to have a profound effect on the country's capital, labor, and land markets. These changes could transform the country's economy from a social market economy to a market economy in the future (World Bank, The, 2013, p. 28–37).

In India, the slowdown in domestic investment affected the trend towards sustained economic growth in the country. Industrial development in India faced many obstacles, such as delays in land acquisitions and environmental approvals, which hampered investment in mining, and inadequate supplies of coal and water, which affected power generation. Given the gradual economic recovery in Europe and the United States, exports of goods were expected to increase in the next several years, and India's economy is expected to improve. The passage of several bills, including the Land Acquisition Bill, the Companies Bill, the Food Security Bill, and the Pension Bill was expected to help improve the investment climate in India (Asian Development Bank, 2013, p. 191–196).

Japan's economy rebounded from having a negative growth rate in 2011 to a positive rate of growth in 2012 because of a large increase in private consumption. A new set of policies introduced by the Japanese Government included aggressive monetary policy, a short-term flexible fiscal policy with medium-term consolidation, and institutional and regulatory

measures designed to strengthen the country's competitiveness with respect to other countries. The Bank of Japan announced that it would leave the asset purchase program unchanged in 2013 but would begin open-ended asset purchases in 2014. The Japanese Government announced a 23 trillion yen (equivalent to 4.8% of the GDP) economic stimulus package to ease the access to credit for farmers and small- and medium-sized enterprises. The Japanese Government planned to increase the consumption tax to 8% from 5% in April 2014, which would likely affect consumer spending, and introduced a blueprint for reducing the corporate tax. Japan had the oldest population in the region, and the decrease in the share of the population that was of working age was expected to affect the country's economic development. For example, the country's construction sector was facing labor shortages (Citigroup Global Markets Inc., 2013, p. 44).

Weak external and domestic demand continued to affect economic growth in the Republic of Korea. Exports were expected to remain the main driver of economic growth, and the improved overseas economic conditions were likely to increase the domestic demand. The Bank of Korea delayed tightening of its monetary policy to support the country's economic growth (Asian Development Bank, 2013, p. 165–168).

Economic growth among the member countries of the Association of Southeast Asian Nations (ASEAN) (Brunei, Burma, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, and Vietnam) plummeted during the worst of the global financial crisis in 2009 but rebounded quickly during the next several years. Robust domestic demand was a key factor in the region's ability to weather the global economic crisis. Before the crisis, these countries depended on exports of goods to developed countries in Europe and to the United States. During the past decade, however, the trade structure had changed. Total trade within ASEAN and with China and India increased by much more than did trade with the traditional partners. China was ASEAN's leading trading partner, and India had also become a significant trading partner with ASEAN. Consequently, the future economic development in these countries is likely to be affected by the economic activities in China and India. The current and projected slowdown of economic activity in China is expected to influence ASEAN's growth outlook. To capitalize on ASEAN's intensive production network, China and India were promoting the free flow of goods, investments, services, and skilled workers among China, India, and the ASEAN countries by 2020 (Asian Development Bank, 2013, p. 11–14).

Mongolia's economic growth rate was again greater than 10% in 2012. This continued growth was attributable mainly to growth in the mining sector—this sector accounted for more than 80% of export revenue and about 17% of Government revenue. The country was facing a shortage of skilled workers and high inflation. China was receiving more than 90% of Mongolia's mineral exports, and thus Mongolia's economic growth was expected to depend on stable global mineral commodity prices and continued strong economic growth in China. Mongolia's mining sector was expected to continue to grow slowly during the next several years (Asian Development Bank, 2013, p. 170–173).

Legislation

China's rapid, capital-intensive, export-oriented growth had been successful during the past three decades; however, the global markets it relied on were expected to be weaker in the future. The country's economic pattern of growth was energy- and natural-resource intensive and environmentally unsustainable. The constrained supply of major mineral commodities and environmental degradation were limiting the country's ability to maintain its past level of economic growth. The Government indicated that it intended to support and build a more energy-efficient and ecologically friendly society by upgrading the value chain in manufacturing while enhancing innovation and promoting the development of new strategic industries. Its plan to reduce carbon emissions was to be focused on the energy-intensive sectors, such as cement, chemicals, iron and steel, and nonferrous metals. The Government stated that the country's economic growth was expected to be less dependent on export markets, such as those of Europe and the United States, and that it was planning to transform the economy from one that is export focused to one that is consumer driven.

In Indonesia, the mining law enacted in 2009 prohibits the export of unprocessed minerals from Indonesia beginning on January 12, 2014. The purpose of the new provision is to increase the value of commodity exports and encourage development of the mineral processing and smelting sector in the country. Halting exports of unprocessed minerals could affect the global mineral sector in the next several years. The Indonesian Government planned to modify the guidelines by allowing exports of concentrates of copper, iron, lead, and zinc if companies commit to build smelters in the country by 2017. Minerals that have to be refined before export are bauxite, chromium, gold, nickel, silver, and tin. Mineral exports accounted for about 5% of the country's total exports.

The Indonesian Government required that foreign companies reduce their stakes in mines by the 10th year of production so that domestic ownership is at least 51%. Consequently, the Government was renegotiating existing contracts with Freeport McMoRan Copper & Gold Inc. and Newmont Mining Corp. (both of the United States) to adjust the ownership percentage. Freeport McMoRan owned 90.64% of the joint venture that operated the Grasberg copper and gold mine and the Government owned 9.36%; the company agreed to divest a 9.36% interest to a potential acquirer, such as the Province of Papua. Rio Tinto plc of the United Kingdom was expected to retain the rights to 40% of the mine production from the Grasberg Mine to 2021. Newmont Mining owned a minority stake in PT Newmont Nusa Tenggara in 2009. Newcrest Mining Ltd. of Australia, which owned an 82.5% stake in the Gosowong Mine (Antam owned the remaining 17.5%), would not be affected until its existing contract of work (COW) runs out in 2029. Kingsrose Mining Ltd. of Australia under its existing COW was supposed to start selling down its 85% stake in PT Natarang Mining to 49% beginning in 2012. Intrepid Mines Ltd., also of Australia, which had a mining concession for the Tujuh Bukit copper-gold-silver mine in East Java Province, might also be affected.

In 2012, the Government of Vietnam approved several decisions and decrees; these included ones that supported the implementation of the 2010 Mineral Law Directive 02/CT-TTg (Directive 02), Decree no. 15/2012/ND-CP (Decree 15), and Decree No. 22/2012/ND-CP (Decree 22). These directives were intended to help to attract international investor interest in the country's potential mineral industry. Also, the Government released Circular No. 41/2012/TT-BCT (Circular 41), which went into effect on February 4, 2013, which provides the guidelines for the export of minerals. The circular includes a list of minerals allowed to be exported, the specific quality of the material (that is, the percentage of the contained mineral), and the conditions under which the minerals may be exported.

Exploration

Australia's mineral exploration spending (for minerals and mineral fuels) for fiscal year 2013 (July 2012 to June 2013) was A\$7.8 billion (US\$7.4 billion), which was an increase of 9.9% from that of fiscal year 2012. The increase was accounted for largely by expenditures on oil and gas exploration, which increased to A\$4.79 billion (US\$4.55 billion). Exploration spending for iron ore, on the other hand, decreased by 13% to A\$1.01 billion (US\$960 million); gold, by 14% to A\$662 million (US\$628 million); coal, by 35% to A\$544 million (US\$517 million); and uranium, by 55% to A\$70 million (US\$66 million). The State of Western Australia accounted for more than 50% of the total exploration spending of Australia followed by Queensland, South Australia, the Northern Territory, and New South Wales. Brownfields exploration spending accounted for A\$1.91 billion (US\$1.82 billion) of the total (Bureau of Resources and Energy Economics, 2014, p. 169).

In 2012, China's exploration spending increased to \$21.0 billion from \$17.7 billion in 2011, of which oil and gas accounted for \$12.5 billion and the nonfuel sector accounted for \$7.5 billion. The Ministry of Land and Resources (MLR) announced that 10 large mineral resource provinces had been discovered during the past several years. These mineral resource provinces included copper in Xizang; gold in Dachang; iron ore in Awulale; nonferrous metals in Nyainqentanghla, Qimantage, Tianshan, and Yunnan; potash in Lop Nor Lake; and uranium in North China. At yearend 2012, China's mineral resources increased for coal to 55.7 billion metric tons (Gt); iron ore, 3.7 Gt; oil, 1.5 Gt; bauxite, 210 million metric tons (Mt), zinc, 6.4 Mt; lead, 3.4 Mt; copper, 3.2 Mt; molybdenum, 1.7 Mt; and natural gas, 961 billion cubic meters. The MLR encouraged companies to explore for and develop bauxite, copper, and iron ore deposits because China depended on imports of these mineral commodities. The Chinese Government would provide special funding for these projects (Ministry of Land and Resources, 2013, p. 9).

Based on the data compiled by the USGS, the three countries in Southeast Asia with the largest number of exploration sites were, in order of the number of active exploration sites, Indonesia, Papua New Guinea, and the Philippines, which together accounted for 66% of the active exploration sites in the region. Other countries that were active in exploration in 2012 include Burma, Cambodia, Fiji, Indonesia, the Republic of Korea, Laos, Malaysia, New Caledonia, New Zealand,

the Solomon Islands, and Vietnam. Exploration for gold and silver accounted for approximately 60% of all exploration investment in the Pacific region, and exploration for base metals accounted for about 40%; a minor amount of exploration activity was also conducted for iron ore, PGMs, and other minerals in 2012. Additionally, a number of sites were determined to have reached the feasibility stage and to have potential for development (table 3).

Commodity Overview

The estimates for the production of major mineral commodities for 2015 and beyond have been based upon a supply-side assumptions, such as announced plans for increased production, new capacity construction, and bankable feasibility studies. The outlook tables in this summary chapter show historic and projected production trends; therefore, no indication is made about whether the data are estimated or reported, and revisions are not identified (tables 5 through 20). Data on individual mineral commodities in tables in the individual country chapters are labeled to indicate estimates and revisions. The outlook segments of the mineral commodity tables are based on projected trends that could affect current producing facilities and on planned new facilities that operating companies, consortia, or Governments have projected to come online within the indicated timeframes. Forward looking information, which includes estimates of future production, exploration and mine development, the cost of capital projects, and timing of the start of operations, is subject to a variety of risks and uncertainties that could cause actual events or results to differ significantly from expected outcomes. Projects listed in the following section are presented as an indication of industry plans and are not a USGS prediction of what will take place.

Metals

Aluminum and Bauxite and Alumina.—The region's production of bauxite accounted for about 67% of the world total in 2012. Australia, which was the world's leading producer of bauxite, accounted for about 30% of the world total; it was followed by China (18%) and Indonesia (11%). Production of aluminum accounted for about 52% of the world total in 2012. China, which was the world's leading producer of aluminum, accounted for about 44% of the world total; it was followed by Australia and India (3% each) (table 4).

Regional production of bauxite and aluminum was expected to continue to increase at an average annual rate of about 2.6% for bauxite and 3.2% for aluminum between 2012 and 2019 (tables 5, 6). The projected figure for bauxite is based on reported capacity expansions in Australia, China, and Vietnam, and that for aluminum is based on projected capacity expansions in China.

Owing to increased demand for alumina in the world in recent years, Australian alumina producers planned to expand their refineries' output capacities. Bauxite Resources Ltd.'s Darling Range North project was expected to start production in 2013. Rio Tinto Alcan was conducting a feasibility study and an environmental impact study to develop the bauxite resource in an area south of the Embley River and the existing

Weipa Mine. The new operation would progressively replace depleted resources at the Andoom and the East Weipa mining areas in Weipa. The new development would increase output capacity to 50 million metric tons (Mt/yr) from the current 23 Mt/yr in the region south of the Weipa Peninsula, and it could extend the mine life in the area by 40 years. Whether or not Rio Tinto Alcan moves forward with the project depends on the supply of bauxite in the region. China's dependence on bauxite imports was expected to continue, and although Indonesia had been a source of bauxite for China, the Indonesian Government introduced regulations in 2012 to restrict the export of raw materials. As a result, the supply of bauxite in the Asia and the Pacific region could be uncertain. Once all major Government approvals have been granted, Rio Tinto Alcan's decision about whether to proceed with the project south of the Embley River will likely depend on market conditions at that time.

The government of the State of Queensland reopened the bidding for the development rights of the Aurnkun bauxite deposit in 2012 and subsequently finalized a short list of five bidders. They included Australian Indigenous Resources Ltd., Cape Alumina Consortium, Chalco of China, Glencore International plc of Switzerland, and Rio Tinto. The shortlisted companies had until September 2013 to submit detailed proposals for the development of the deposit. The right to mine would not be tied to the requirement to build an alumina refinery in the area.

In China, several bauxite mines were under construction in the Provinces of Guizhou, Henan, and Shanxi. China's bauxite production capacity was expected to increase by 7 Mt by 2017. Geologists continued to explore for bauxite resources in these Provinces and discovered several significant deposits in the Provinces of Guizhou and Henan that had bauxite resources of more than 1 Gt combined.

Vietnam National Coal Mineral Industries Holding Co. Ltd. completed the construction of the Tan Rai alumina and bauxite complex in 2012. Bauxite output was expected to be sufficient for production of 600,000 metric tons per year (t/yr) of alumina, which would meet the demand in Vietnam.

Despite the Chinese Government's macroeconomic policy regarding investment in certain commodities, the output of aluminum metal continued to increase rapidly. To take advantage of investment incentives offered by local governments, many aluminum companies, including Chalco, China Power Investment Corp., Shandong Xinfu Group, Tiashan Aluminum-Power Co. Ltd., and Zhonghe Aluminum Co. Ltd., moved some of their operations to the northwestern part of the country. The government of Xinjiang Uygur Autonomous Region urged enterprises to develop an integrated coal-power-metallurgy industry in the region. Primary aluminum output capacity in Xinjiang increased to 2.3 Mt/yr in 2012 from 50,000 t/yr in 2007; Qinghai Province, to 2.2 Mt/yr from 1 Mt/yr; Gansu Province, to 2.1 Mt/yr from 96,000 t/yr; and Shandong Province, to 4.9 Mt/yr from 2.1 Mt/yr. Domestic analysts estimated that about 5.3 Mt/yr of output capacity would be installed in 2013, of which Xinjiang would add 2.1 Mt/yr and Shandong would add 1 Mt/yr. The aluminum output capacity in Xinjiang was expected to increase to 13 Mt/yr by yearend 2015.

China's aluminum output capacity was expected to increase to more than 35 Mt/yr by 2019.

Cobalt.—The region's mined cobalt output accounted for about 14% of the world total in 2012. Most of the region's cobalt is produced as either a byproduct or coproduct of nickel operations. Regional production of mined cobalt was expected to continue to increase at an average annual rate of about 3.5% between 2012 and 2019 (table 7). In Papua New Guinea, the Ramu nickel/cobalt project started production in 2012 and was expected to reach its full production capacity in 2016. The Coral Bay Nickel Corp. planned to expand its Rio Tuba Nickel Mine production capacity at Palawan in the Philippines.

China was the leading cobalt producing country in the region. China had limited cobalt resources and was required to import a large quantity of cobalt concentrates to support the development of the cobalt battery sector. In 2012, China imported 166,491 metric tons (t) of cobalt concentrates and 9,979 t of unwrought cobalt. The cobalt content in these imported concentrates was about 6%, which was equal to about 10,000 t of cobalt. Domestic analysts estimated that the supply of cobalt in the Chinese market was about 37,000 t in 2012. The consumption of cobalt in batteries increased to 67% of the total cobalt consumption in 2012 from 50% in 2008; the total estimated consumption of cobalt was about 31,000 t in China. The slow growth of the domestic and global economies contributed to the decrease of cobalt consumption in China. As the global economy recovers during the next several years, the demand for cobalt batteries is expected to increase sharply. China is a major world producer of batteries for electronic devices, and the country is expected to increase its imports of cobalt concentrates and metal to meet its demand in the future.

Copper.—The region's production of mined copper accounted for about 20% of the world total in 2012. China was the leading regional producer followed by Indonesia and Australia. Production of primary refined copper accounted for about 43% of the world's total output in 2012. China was the leading world and regional producer of primary and secondary refined copper. Australia, India, Japan, and the Republic of Korea were also significant producers of refined copper in the region (table 4).

Between 2012 and 2019, regional production of mined and refined copper was expected to continue to increase at an average annual rate of about 5.9% and 2.6%, respectively. This estimate is based on reported capacity expansions of mined copper in Australia, China, Mongolia, and Pakistan, and on reported capacity expansions of refined copper in China (tables 8, 9).

Australia's copper mine production was expected to increase at an annual rate of less than 5%. Operations that were expected to increase the country's copper mine output included CuDeco Ltd.'s Rocklands project, Golden Cross Resources' Copper Hill project, and MMG Ltd.'s Golden Grove project. Australia was expected to export more than 50% of its output of copper concentrates.

In Mongolia, Oyu Togo LLC's Oyu Tolgoi mining complex planned to produce at least 544,000 t/yr of copper in concentrates for the first 10 years of operation starting in 2013. The Erdenet Oovo Mine, which was jointly owned

by Erdenet Mining Corp. and Samsung Corp. of Japan was scheduled to start production in 2012 and would reach full operational capacity in 2013. Mongolia was expected to export more than 90% of its output of copper concentrates, probably to China. Also, Tethyan Copper Co. in Pakistan planned to start producing 200,000 t/yr of copper in 2015.

In 2012, China's copper smelting and refining output capacities increased by 350,000 t and 930,000 t, respectively, and reached 4.4 Mt/yr and 7.9 Mt/yr, respectively. Several greenfield and brownfield copper projects were recently completed or were under construction, and the country's refining output capacity was expected to increase to about 9 Mt in 2017. The output of domestic mined copper was also expected to increase. Copper resources discovered in the western part of the country in Xinjiang Uygur Autonomous Region and Xizang Autonomous Region were expected to be put into development during the next several years. Copper resources in the Gangdise metallogenic belt in Xizang and the Tishan area in Xinjiang would be developed during the next several years. Significant copper resources were discovered recently in the southwestern part of the country and were expected to help replace depleted copper resources in the eastern part of the country.

Gold.—The region's production of mined gold accounted for about 31% of the world total in 2012 (table 4). China was the leading producer of mined gold in the region, followed by Australia and Indonesia (table 10). China and Australia ranked first and second, respectively, in the world production of gold. Indonesia and Papua New Guinea also were significant gold producers in the region. Between 2012 and 2019, regional production of mined gold was expected to continue to increase at an average annual rate of about 3.0%.

Australian gold production was expected to increase in the next few years. Citigold Ltd.'s Charters Town project and YTC Resources Ltd.'s Hera project were expected to be brought onstream during the next several years. In China, gold production was expected to increase by only about 2.5% per year, as the country was unlikely to have the strong production growth rate of the past several years. Many of China's gold mines had relatively high production costs and were small in scale. Gold production in Mongolia could increase because of access to exceptionally high-grade ore from the Oyu Tolgoi copper-gold mine, and output was expected to remain steady after 2013. The increase in gold production in Papua New Guinea would depend upon when the Frieda River Mine and the Yandera Mine are put into operation.

The Asia and the Pacific region was the world's major market for gold and accounted for about 54% of the world's total gold consumption in 2012. India was the world's leading consumer of gold, accounting for about 27% of the world total. Owing to continued strong economic growth and rising urban incomes (which led to increased demand for gold jewelry), China was the second ranked gold consumer, and its share of the world total increased to about 26%. Jewelry accounted for about 90% of the world's gold consumption. The growth in consumption in the Asia and the Pacific region is attributable to increased gold jewelry demand in China and India. Rising incomes in the region were expected to increase the affordability of jewelry and other fabricated gold products. China and India were likely to

continue to be the driving forces behind the increase in jewelry demand. China was likely to overtake India as the leading gold consuming country in 2013 because the Indian Government had issued regulations to limit demand, including establishing higher import duties and a quota on imports (World Gold Council, 2012, p. 21).

Iron and Steel.—The region's production of iron ore was estimated to account for, in terms of gross weight, about 70% of the world total in 2012. China ranked first in the world in the production of iron ore (in terms of iron content), and Australia and India ranked second and third in the region. The region's production of crude steel was estimated to account for about 66% of the world total. China, which was by far the world's leading producer of crude steel, accounted for about 46% of the world total, and Japan, India, and the Republic of Korea ranked among the top 10 producing countries in the world. China's crude steel output was more than the combined production total of, in order of output, Japan, the United States, Russia, India, and the Republic of Korea (table 4).

Regional production of iron ore and crude steel was expected to increase at an average annual rate of about 2.9% and 3.2%, respectively, between 2012 and 2019 (tables 11, 12). China was expected to lead in the expansion of crude steel production in the region.

East Asian countries, such as China, Japan, and the Republic of Korea, were the world's leading consumers and importers of iron ore. Australia was the region's and the world's leading supplier of iron ore. Australian iron ore producers had been expanding their iron ore production facilities during the past several years to meet expected increased demand from Australia's neighboring countries and this increased investment, in mine expansions and new mines was expected to support strong growth in iron ore exports from Australia. A number of greenfield and brownfield iron ore projects were at various stages of development. Rio Tinto Ltd.'s expansion of the capacity of its Pilbara iron ore operations to a total of 360 Mt/yr was scheduled to be completed in 2015. BHP Billiton Ltd. was expected to increase its production capacity to 220 Mt/yr in 2014. Fortescue Metals Group's Chichester Hub and Solomon Hub expansion projects were projected to increase the company's iron ore output capacity to 155 Mt/yr in 2014. In China, the Government granted mining licenses for the development of iron ore mines in the Provinces of Anhui, Liaoning, and Sichuan, and in Xinjiang Uygur Autonomous Region.

India's iron ore output increased sharply to meet domestic and regional demand. India was China's third ranked iron ore supplier after Australia and Brazil and was expected to remain in that position for the next several years. Brazil and South Africa would also continue to be major iron ore suppliers to the region. Imports of iron ore by East Asian countries were expected to continue to increase, especially imports by China to meet its steel industry's demand.

The Chinese Government continued its effort to curb the fast growing crude steel output capacity in the country, including by ordering iron and steel producers to phase out obsolete facilities. Major iron and steel enterprises continued to expand their output capacity, however, either by replacing smaller furnaces with

larger furnaces or by relocating to coastal areas and building steel complexes with larger output capacities. Anshan Iron and Steel (Group) Co. built greenfield iron and steel production facilities at Bayuquan in Yingkou and Chaoying which increased the company's output capacity by more than 8.5 Mt/yr during the past 5 years. Shougang and Tangshan Iron and Steel Co. jointly built a 10-Mt/yr iron and steel complex in Hebei Province. The Government approved Baogang and Wuhan Iron and Steel Group's construction of two iron and steel complexes in the Provinces of Guangdong and Guangxi, respectively. The Government also approved the merger of 12 privately owned iron and steel producers in Hebei Province to form a large iron and steel enterprise, Tangshan Bohai Iron and Steel (Group) Co. Ltd., which proposed to build a 15-Mt/yr iron and steel complex in the coastal area of Hebei. The government of Shandong Province planned to build a 17.5-Mt/yr iron and steel complex at Dongjiakou.

Nickel.—The region's production of mined nickel and refined nickel accounted for about 34% and 41%, respectively, of the world total in 2012. The Philippines was the leading mined-nickel-producing country in the region, followed by Australia and Indonesia (table 13). Between 2012 and 2019, regional production of mined nickel was expected to continue to increase at an average annual rate of about 3.7%.

The increase in the production of mined nickel took place mainly in Indonesia, New Caledonia, and Papua New Guinea. The Koniambo nickel-cobalt mine in New Caledonia was scheduled to start production in 2013. The Ramu nickel-cobalt mine in Papua New Guinea started operations in 2012 and was expected to reach its full output capacity in 2014. Also, the Tagaung Taung nickel mine in Burma started production in 2012. Australia's nickel mine production was forecast to decrease because several unprofitable operations were scheduled to shut down. The Indonesian Government banned the export of raw materials from the country, which could affect the development of Indonesia's nickel industry in the country and could lead to the shutting down of some operations.

Nickel is an important raw material for stainless steel production. China was the leading stainless-steel-producing country in the world. In recent years, China's nickel pig iron production had increased significantly. Nickel pig iron is produced by smelting low-grade nickel ore (laterite, 1% to 2% nickel) as a substitute for conventional refined ferronickel (which contains 20% to 40% nickel) for stainless steel production. The Philippines and Indonesia were major suppliers of laterite ore to China for production of nickel pig iron. India's nickel consumption is expected to increase during the next several years to support projected growth in India's iron and steel industry.

Tin.—The Asia and the Pacific region was the dominant producer of mined tin and tin metal in the world. Production of mined tin and refined tin accounted for 65% and 83%, respectively, of the world total in 2012. China ranked first in the world in the production of mined tin and refined tin and Indonesia ranked second. Other significant refined tin producers in the region were Malaysia and Thailand (table 4). Regional production of refined tin was expected to continue to increase at an average annual rate of about 2.3% between 2012 and 2019 (table 17).

Tin was used principally in the manufacturing of electronics, glass, iron and steel, and packaging.

China, which was the world's leading consumer of tin metal, accounted for about 40% of the world's total consumption. The region as a whole consumed about 50% of the world's total output of tin metal. Indonesia was the leading tin exporting country in the region. China's tin smelting capacity exceeded its mine output capacity; therefore, the country imported tin concentrates from such countries as, in order of volume (tonnage) of imports, Australia, Burma, Bolivia, Malaysia, Laos, and Vietnam to meet its needs. Owing to increased domestic tin consumption, the export volume of tin from China was expected to decrease in the future. Likewise, the Indonesian Government banned the export of raw material, and, as a result, the volume of tin exports from Indonesia to the world market also decreased. Burma was expected to replace Indonesia as the leading mined tin exporting country in the region in the future.

Industrial Minerals

Lithium.—Lithium is the lightest metallic element, and it is widely used in the manufacture of batteries and electronics. Australia was the leading lithium producer in the Asia and the Pacific region. Talison Minerals Group's lithium operation is located at Greenbushes in Western Australia. Talison planned to increase the output capacity of its processing plant to 740,000 t/yr of lithium concentrates in 2012. Windfield Holding Pty Ltd. [a subsidiary of Chengdu Tianqi Industry (Group) Co. Ltd. of China] agreed to acquire the balance of the ordinary shares of Talison that it did not already own as well as stock options in Talison for C\$7.50 (US\$7.90) per share. In China, lithium was produced from brine and spodumene. Qinghai CITIC Guoan Technology Development Co. Ltd., Tibet Mineral Development Co. Ltd., and Xinjiang Haoxin Lithium Salt Development Co. Ltd. were the major lithium producers, and the Government approved Chengdu Tianqi to develop the Ya'an lithium mine in Sichuan Province. These companies all planned to expand their output capacities, although high production costs and low recovery rates forced the companies to source raw material from overseas. Australia supplied about 80% of China's lithium demand. Overall regional lithium production was expected to increase at an average annual rate of about 1% between 2012 and 2019 (table 19).

Mineral Fuels

Coal.—The Asia and the Pacific region's overall production of coal, which included anthracite, bituminous, and lignite, accounted for about 60% of the world total in 2012. Production of anthracite coal, however, accounted for about 94% of the world total, and production of bituminous coal accounted for about 68%. China, which was by far the world's leading producer of anthracite and bituminous coals, accounted for about 68% and 49%, respectively, of the world total. Australia, India, and Indonesia were the other significant coal producers in the region (table 4). China overtook Japan to become the world's leading importer and the region's leading consumer of coal. Japan and the Republic of Korea imported virtually all

the coal required by their iron and steel and utility industries. Australia and Indonesia ranked as the world's leading coal exporters. The major regional coal exporters were Australia, Indonesia, and Vietnam.

Overall regional coal production was expected to increase at an average annual rate of about 2% between 2012 and 2019 (table 20). Australia's export of coal is expected to increase because of the continued strong demand from China and India. The additional output would be made possible by the completion of expansions at GlencoreXstrata's Rolleston Mine and Peabody Energy's North Goonyella and Middlemount operations.

The Indonesian Government had indicated that it would limit coal production in order to preserve resources, and that it planned to increase coal production by only 5% beginning in 2015. The Government intended to expand domestic coal consumption, however, and coal-fired powerplants were under construction. Thus, the increased production would supply mainly the domestic market, and the country's coal exports were expected to increase only slightly in the future.

Trade Review

During the past three decades, the main source of economic growth in the Asia and the Pacific region has shifted from the export of manufactured goods toward the export of machinery. This shift was initially led by Japan, followed by the newly industrialized economies of Hong Kong, the Republic of Korea, Singapore, and Taiwan, and, more recently, by Indonesia, Malaysia, the Philippines, and Thailand. Trade liberalization and investment policy reforms in developing countries in the region have reduced barriers to trade and investment. Both the cross-border transshipment of production components and assembly within the region increased during the past several years, and the composition of exports was shifted toward intermediate goods. The share of parts and components in manufactured imports also was trending upward in the region. By 2012, the volume of imports of parts and components had more than doubled in China, the Philippines, Thailand, and Vietnam. China had become one of the major export destinations for all economies in the region.

Outlook

The global economy is expected to improve during the next several years and the Asia and the Pacific countries are expected to benefit from that recovery. The Chinese Government's long-term development policy is focused on higher quality economic growth that includes improving air and water quality and reducing the growth of greenhouse gas emissions. The Chinese Government plans to promote market-based reform by setting interest rates and foreign exchange rates and instituting tax reform. The Government plans to continue with the expansion of industrial production and infrastructure development in China. As a result, the demand for energy and minerals is expected to continue to increase at a moderate rate during the medium term. Australia, which is the leading exporter of mineral commodities, is likely to benefit the most from increased demand for minerals from China. The Indonesian Government's restrictions on the export of raw materials could

affect the country's economic growth during the next several years and could cause mining companies to phase out their operations in Indonesia.

Economic growth in Mongolia will depend greatly on the development of its mineral industry. Foreign direct investment in both the mining and nonmining sectors in the country is expected to increase following the Parliament's enactment of a new investment law in 2013. The Parliament also plans to amend the Mineral Law and to issue guidelines for implementing the Mineral Law, the Petroleum Law, and the Law on Specially Protected Lands in 2014. The Government of Mongolia appears to be taking a pragmatic approach to promoting a more favorable environment for foreign investors to invest in the mining sector. The construction of railways between China and Mongolia is planned reduce the cost of shipping coal and copper ore to China from Mongolia.

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TABLE 1
ASIA AND THE PACIFIC: AREA AND POPULATION IN 2012

Country	Area ¹ (square kilometers)	Estimated population ² (thousands)
Afghanistan	652,230	29,824
Australia	7,741,220	22,683
Bangladesh	143,998	154,695
Bhutan	38,394	741
Brunei	5,765	412
Burma	676,578	52,797
Cambodia	181,035	14,864
China	9,596,961	1,350,695
Fiji	18,274	874
India	3,287,263	1,236,686
Indonesia	1,904,569	246,864
Japan	377,915	127,561
Korea, North	120,538	24,763
Korea, Republic of	99,720	50,004
Laos	236,800	6,645
Malaysia	329,847	29,239
Mongolia	1,564,116	2,796
Nepal	147,181	27,474
New Caledonia	18,575	258
New Zealand	267,710	4,433
Pakistan	796,095	179,160
Papua New Guinea	462,840	7,167
Philippines	300,000	96,706
Singapore	697	5,312
Solomon Islands	28,896	549
Sri Lanka	65,610	20,328
Taiwan	35,980	23,316 ³
Thailand	513,120	66,785
Timor-Leste	14,874	1,210
Vietnam	331,210	88,775
Total	29,958,011	3,873,616
World total (land only)	148,940,000	7,046,368

¹Source: U.S. Central Intelligence Agency, The World Factbook 2012.

²Source: The World Bank, 2012 World Development Indicators Database.

³Source: Statistics Monthly, Accounting and Statistics, Executive Yuan, Taiwan, June 2013.

TABLE 2
ASIA AND THE PACIFIC: GROSS DOMESTIC PRODUCT IN 2012^{1,2}

Country	Gross domestic product based on purchasing power parity		Real gross domestic product growth rate (percentage)		
	Gross value (million dollars)	Per capita (dollars)	2010	2011	2012
	Afghanistan	33,790	1055	8.2	6.1
Australia	961,014	41,954	2.7	2.4	3.7
Bangladesh	302,803	1,962	6.4	6.5	6.1
Bhutan	4,880	6,563	8.3	8.5	9.2
Brunei	21,635	54,114	2.6	3.4	0.9
Burma	102,622	1,611	5.5	5.9	6.3
Cambodia	36,540	2,395	6.0	7.1	7.3
China	12,261,270	9,055	10.3	9.3	7.7
Fiji	4261	4,740	0.3	1.9	2.2
India	4,715,600	3,842	10.1	6.3	3.2
Indonesia	1,203,630	4,923	6.1	6.5	6.2
Japan	4,575,530	35,855	4.0	-0.6	1.9
Korea, North ³	40,000	1,800	4.0	0.8	NA
Korea, Republic of	1,597,620	31,949	6.2	3.6	2.0
Laos	18,918	2,846	7.9	8.0	7.9
Malaysia	494,686	16,889	7.2	5.1	5.6
Mongolia	15,028	5,313	6.4	17.5	12.3
Nepal	40,026	1,456	4.6	3.4	4.8
New Caledonia ⁴	9,280	37,700	NA	NA	NA
New Zealand	130,882	29,481	1.7	1.4	2.6
Pakistan	546,691	3,055	3.8	3.6	4.3
Papua New Guinea	18,677	2,736	7.0	10.7	8.1
Philippines	419,572	4,379	7.6	3.6	6.8
Singapore	322,989	60,799	14.5	5.1	1.3
Solomon Islands	1,858	3,287	6.5	10.7	4.8
Sri Lanka	124,895	6,045	8.0	8.2	6.4
Taiwan	894,315	38,356	10.9	4.0	1.3
Thailand	645,172	9,502	7.8	0.1	4.5
Timor-Leste	23,194	20,112	6.1	12.0	8.2
Vietnam	336,214	3,787	6.8	6.2	5.2
Total	29,903,592	XX	XX	XX	XX
World total	83,193,420	XX	XX	XX	XX

NA Not available. XX Not applicable.

¹Source: International Monetary Fund, World Economic Outlook Database, October 2013.

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

³Based on 2011 to 2012 estimates. Source: U.S. Central Intelligence Agency, The World Factbook 2013.

⁴Based on 2008 estimate. Source: U.S. Central Intelligence Agency, The World Factbook 2013.

TABLE 3
ASIA AND THE PACIFIC: SELECTED EXPLORATION SITES IN 2012¹

Country	Type ²	Site	Commodity	Company	Resources ³
Australia	F	Central Eyre	Fe	Iron Road Ltd.	177 Mt Fe (ID)
Do.	E	Hillside	Cu, Au	Rex Minerals Ltd.	636,000 t Cu, 540,000 oz Au (PR)
Do.	P	Garden Well/Rosemont	Au	Regis Resources Ltd.	2.3 Moz Au (R)
Do.	F	Mt. Ida	Fe	Jupiter Mines Ltd.	321 Mt Fe (ID)
China	P	Jiama	Cu, Au, Pb, Ag, Mo	China Gold International Resources Corp.	2.8 Mt Cu, 2.6 Moz Au, 139 Moz Ag, 95,000 t Pb, 109,000 t Mo (R)
Do.	P	Ying	Ag, Pb, Zn, Au	Silvercorp Metals Inc.	79 Moz Ag, 396,000 t Pb, 137,000 t Zn, 19,000 oz Au (R)
Mongolia	E	Mandal Moly	Mo, W	Moly World Ltd.	254,000 t Mo, 54,000 t W (D)
Do.	E	Selenge	Fe	Haranga Resources Ltd.	44 Mt Fe (D)
Philippines	F	Bananghilig	Au	Medusa Mining Ltd.	608,000 oz Au (D)
Do.	E	Basay	Cu	Copper Development Corp.	629,000 t Cu (IF)

Do, Ditto

¹ Abbreviations used for commodities in this table include the following: Ag—silver; Au—gold; Cu—copper; Fe—iron ore; Mo—molybdenum; Pb—lead; W—tungsten; and Zn—zinc.

Abbreviations used for units of measure include the following: Moz—million troy ounces; Mt—million metric tons; oz—troy ounces; t—metric tons.

² E—Active exploration; F—Feasibility work ongoing or completed; P—Exploration associated with producing site.

³ Expressed in terms of contained metal in ore based on 2012 data reported from various sources; D—measured + indicated; ID—indicated; IF—inferred; PR—probable; R—proven + probable. Resource data have not been verified by the U.S. Geological Survey. In cases where resources data are not released, the site was considered noteworthy based on the level of exploration activity or regional significance.

TABLE 4
ASIA AND THE PACIFIC: PRODUCTION OF SELECTED COMMODITIES IN 2012¹
(Thousand metric tons unless otherwise specified)

Country	Metals													
	Aluminum		Copper			Gold, mine output,		Iron and steel		Iron		Lead		
	Alumina	Bauxite	Metal ²	Mine output, Cu content	Refined, primary	Au content (kilograms)	Ore, gross weight	Pig iron	Steel, crude	Mine output, Pb content	Refined, primary			
Afghanistan	--	--	--	--	--	NA ^e	--	--	--	--	--	--	--	
Australia	20,914	76,282	1,864	914	461	250,000	521,000 ^e	3,711	4,894	648	160			
Bangladesh ^e	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bhutan ^e	--	--	--	--	--	--	--	--	--	--	--	--	--	
Brunei	--	--	--	--	--	--	--	--	--	--	--	--	--	
Burma	--	--	--	19	19	NA	--	NA	NA	NA	--	--	--	
Cambodia ^e	--	--	--	--	--	--	--	--	--	--	--	--	--	
China ^e	37,700	47,000	24,500	1,550	3,930	403,000	1,310,000	663,500 ³	723,880 ³	2,800	3,300			
Fiji	--	1	--	--	--	1,653	--	--	--	--	--	--	--	
India ^e	3,900	19,000	1,700	34	671	--	144,000	48,000 ³	77,600 ³	118	122 ³			
Indonesia ^e	--	29,000	248 ³	360	272	58,800 ³	--	--	3,700	--	--	--	--	
Japan	250 ^e	--	168	--	1,271	7,233	--	81,405	107,232	--	--	--	--	
Korea, North ^e	--	--	--	12	15	2,000	5,300	900	1,300	13	9			
Korea, Republic of	--	--	--	--	591	336	593	NA	69,073	4	280			
Laos	--	--	--	63	86	6,415	48	--	--	5	--			
Malaysia	--	--	--	--	--	4,625	10,278	--	5,612	--	--			
Mongolia	--	--	--	122	2	5,995	7,561	--	68	--	--			
Nepal ^e	--	--	--	--	--	--	--	--	--	--	--			
New Caledonia	--	--	--	--	--	--	--	--	--	--	--			
New Zealand	--	--	327	--	--	10,164	--	669 ^e	912 ^e	--	--			
Pakistan ^e	--	12	--	19	--	--	380	380	450	27	--			
Papua New Guinea	--	--	--	125	--	52,100	--	--	--	--	--			
Philippines	--	--	--	65	98	15,762	346	--	1,200 ^e	--	--			
Singapore	--	--	--	--	--	--	--	--	NA	--	--			
Sri Lanka ^e	--	--	--	--	--	--	--	--	--	--	--			
Taiwan	--	--	--	--	--	--	--	11,800	21,083	--	--			
Thailand	--	--	--	--	--	4,158	103	--	4,000 ^e	--	--			
Vietnam ^e	--	100	--	11	8	3,500	2,874 ³	NA	2,992 ³	6	--			
Total	62,800	172,000	28,800	3,300	7,430	826,000	2,000,000	810,000	1,020,000	3,620	3,960			
Share of world total	66%	67%	52%	20%	43%	31%	70%	75%	66%	70%	80%			
United States	4,390	NA	2,070	1,170	962	235,000	54,200	32,100	88,700	345	111			
World total	95,000	256,000	55,000	16,800	17,100	2,700,000	2,980,000	1,080,000	1,560,000	5,200	4,980			

See footnotes at end of table.

TABLE 4—Continued
ASIA AND THE PACIFIC: PRODUCTION OF SELECTED COMMODITIES IN 2012¹
(Thousand metric tons unless otherwise specified)

Country	Metals											
	Manganese ore,		Mercury,		Nickel, metal content		Tin (metric tons)		Tungsten,		Zinc (metric tons)	
	mine output, Mn content	mine output, Hg content (metric tons)	Mine output	Refined metal	Mine output, Sn content	Mine output, Metal, primary	mine output, W content (metric tons)	Mine output, Zn content	Mine output, Metal ²			
Afghanistan ^e	--	--	--	--	--	--	--	--	--	--	--	--
Australia	3,080	--	246	129	5,849	--	80	1,541,000	498,000	--	--	--
Bangladesh	--	--	--	--	--	--	--	--	--	--	--	--
Bhutan	--	--	--	--	--	--	--	--	--	--	--	--
Brunei	--	--	--	--	--	--	--	--	--	--	--	--
Burma	115	--	5	--	10,600	30	140 ^e	10,000	--	--	--	--
Cambodia ^e	--	--	--	--	--	--	--	--	--	--	--	--
China ^e	2,900	1,350	93	229	110,000	148,000	64,000	4,900,000	4,890,000	--	--	--
Fiji	--	--	--	--	--	--	--	--	--	--	--	--
India ^e	800	--	--	--	--	--	--	750,000	800,000	--	--	--
Indonesia	40	--	228	--	41,000	42,000	--	--	--	--	--	--
Japan	--	--	--	170 ^e	--	1,133	--	--	571,312	--	--	--
Korea, North ^e	--	--	--	--	--	--	100	70,000	75,000	--	--	--
Korea, Republic of	--	--	--	20 ^e	--	--	--	2,868	875,000	--	--	--
Laos	--	--	--	--	762	--	--	5,250	--	--	--	--
Malaysia	429	--	--	--	3,726	37,792	--	--	--	--	--	--
Mongolia	--	--	--	--	--	--	20	119,100	--	--	--	--
Nepal ^e	--	--	--	--	--	--	--	--	--	--	--	--
New Caledonia	--	--	132	--	--	--	--	--	--	--	--	--
New Zealand	--	--	--	--	--	--	--	--	--	--	--	--
Pakistan	--	--	--	--	--	--	--	12 ^e	--	--	--	--
Papua New Guinea	--	--	5	--	--	--	--	--	--	--	--	--
Philippines	2	--	424	--	--	--	--	19,559	--	--	--	--
Singapore	--	--	--	--	--	--	--	--	--	--	--	--
Sri Lanka	--	--	--	--	--	--	--	--	--	--	--	--
Taiwan	--	--	--	11 ^e	--	--	--	--	--	--	--	--
Thailand ^e	6	--	--	--	124	20,000	83	31,000 ³	53,000 ³	--	--	--
Vietnam ^e	7	--	--	--	5,400	4,000	--	25,000	18,000	--	--	--
Total	7,380	1,350	1,130	559	177,000	253,000	64,400	7,470,000	7,780,000	--	--	--
Share of world total	47%	89%	34%	41%	65%	83%	87%	56%	63%	--	--	--
United States	--	NA	--	--	--	--	--	738,000	261,000	--	--	--
World total	15,600	1,520	3,360	1,370	273,000	305,000	73,800	13,300,000	12,400,000	--	--	--

See footnotes at end of table.

TABLE 4—Continued
ASIA AND THE PACIFIC: PRODUCTION OF SELECTED COMMODITIES IN 2012¹
(Thousand metric tons unless otherwise specified)

Country	Industrial minerals						Mineral fuels			
	Cement, hydraulic	Fluorspar (metric tons)	Graphite (metric tons)	Magnesite	Salt	Coal Anthracite	Bituminous	Natural gas, dry, marketed/ marketable (million cubic meters)	Petroleum, crude (thousand 42-gallon barrels)	
Afghanistan ^e	37	--	--	--	180	--	780	145	(4)	
Australia	8,600 ^e	--	--	300 ^e	10,821	--	365,000	55,970	119,200	
Bangladesh ^e	NA	--	--	--	1,400	--	820	21,000	--	
Bhutan	521	--	--	--	--	--	99	--	--	
Brunei	NA	--	--	--	--	--	--	NA	NA	
Burma ^e	540	--	--	--	100	--	--	12,500	6,500	
Cambodia	980 ^e	--	--	--	NA	--	--	--	--	
China ^e	2,210,000 ³	4,600,000	820,000	16,000	69,120 ³	500,000	2,830,000	95,000	1,510,000	
Fiji	110 ^e	--	--	--	--	--	--	--	--	
India ^e	270,000	13,600	160,000	355	17,000	--	550,000	35,000	270,000	
Indonesia ^e	51,000	--	--	--	700	100,000	140,000	74,000	342,000	
Japan	54,737	--	--	--	925	--	700 ^e	3,500 ^e	4,995	
Korea, North ^e	6,400	12,500	30,000	150	500	41,492 ³	--	--	--	
Korea, Republic of	48,000	--	--	--	309	2,000 ^e	--	--	--	
Laos	NA	--	--	--	12	134	--	--	--	
Malaysia	21,726	--	--	--	--	--	2,951	62,000	212,979	
Mongolia	350	346,000	--	--	2	--	28,561	--	3,636	
Nepal	3,900 ^e	--	--	--	--	--	11	--	--	
New Caledonia	124	--	--	--	--	--	--	--	--	
New Zealand	1,200 ^e	--	--	--	95 ^e	--	4,926	4,559	14,149	
Pakistan ^e	33,000	1,700	--	8	2,080	--	4,000	41,000	65,000	
Papua New Guinea ^e	--	--	--	--	--	--	--	100	10,000	
Philippines ^e	18,907 ³	--	--	--	720	--	7,000	4,000	2,500	
Singapore	--	--	--	--	--	--	--	--	--	
Sri Lanka ^e	2,400	--	5,000	--	12	--	--	--	--	
Taiwan	15,806	--	--	--	--	--	--	390 ^e	72	
Thailand	41,047	9,602	--	--	--	--	--	21,766 ⁵	37,164	
Vietnam	55,531	--	NA	--	1,178	42,383	--	9,403 ⁵	122,747	
Total	2,840,000	4,980,000	1,020,000	16,800	105,000	686,000	3,930,000	440,000	2,720,000	
Share of world total	75%	69%	87%	73%	39%	94%	68%	13%	10%	
United States	74,900	--	--	W	37,200	2,150	848,000	717,000	2,370,000	
World total	3,810,000	7,180,000	1,170,000	23,000	270,000	731,000	5,820,000	3,420,000	28,600,000	

See footnotes at end of table.

TABLE 4—Continued

ASIA AND THE PACIFIC: PRODUCTION OF SELECTED COMMODITIES IN 2012¹

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.

¹Totals may not add due to independent rounding. Percentages are calculated on unrounded data. Table includes data available as of May 7, 2014.

²Primary and secondary production.

³Reported figure.

⁴Less than ½ unit.

⁵Natural gas, gross production.

TABLE 5
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED BAUXITE MINE PRODUCTION, 2005–2019¹

(Thousand metric tons, gross weight)

Country	2005	2010	2012	2015 ^c	2017 ^c	2019 ^c
Australia	59,960	68,414	76,282	81,000	96,000	98,000
China	22,000	44,000	47,000	49,000	51,000	52,000
India	12,385	18,000	19,000	19,000	20,000	20,000
Indonesia	1,442	27,000	29,000	30,000	31,000	32,000
Malaysia	5	124	122	150	150	150
Other	33	112	110	1,500	3,500	3,800
Total	95,800	158,000	172,000	181,000	202,000	206,000

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 6
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED PRIMARY AND SECONDARY ALUMINUM METAL PRODUCTION, 2005–2019¹

(Thousand metric tons)

Country	2005	2010	2012	2015 ^c	2017 ^c	2019 ^c
Australia	2,030	2,060	1,864	1,650	1,600	1,600
China	9,740	20,200	24,500	27,000	29,000	30,000
India	942	1,607	1,700	1,800	1,900	2,000
Indonesia	252	253	248	250	260	270
Japan	240	180	168	170	180	200
New Zealand	373	343	327	330	330	330
Other	--	--	100	800	1,000	1,000
Total	13,600	24,600	28,900	32,000	34,000	35,000

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 7
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED COBALT MINE PRODUCTION, 2005–2019¹

(Metal content in metric tons)

Country	2005	2010	2012	2015 ^c	2017 ^c	2019 ^c
Australia	5,600	3,850	5,882	6,000	6,000	6,000
China	2,100	6,000	6,800	7,000	7,000	7,000
Indonesia	1,600	1,600	1,300	1,300	1,400	1,400
New Caledonia	--	--	3,500	3,500	4,000	4,000
Papua New Guinea	--	--	469	2,200	2,800	2,800
Philippines	300	2,200	2,600	4,000	5,000	5,000
Total	9,600	13,700	20,600	24,000	26,200	26,200

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 8
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED COPPER MINE PRODUCTION, 2005–2019¹

(Metal content in thousand metric tons)

Country	2005	2010	2012	2015 ^e	2017 ^e	2019 ^e
Australia	930	870	914	1,100	1,200	1,250
China	762	1,160	1,550	1,700	1,800	1,900
India	27	36	34	36	38	40
Indonesia	1,064	878	360	400	500	600
Mongolia	127	125	122	320	570	550
Papua New Guinea	193	160	121	70	50	150
Philippines	16	58	64	70	78	100
Other	73	55	56	98	150	240
Total	3,190	3,350	3,220	3,800	4,400	4,800

^eEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 9
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED REFINED COPPER METAL PRODUCTION, 2005–2019¹

(Thousand metric tons)

Country	2005	2010	2012	2015 ^e	2017 ^e	2019 ^e
Australia	461	417	460	500	310	310
China	2,600	4,650	5,880	7,000	7,300	7,500
India	497	664	671	700	720	740
Indonesia	263	278	272	360	380	400
Japan	1,395	1,549	1,516	1,500	1,600	1,600
Korea, Republic of	519	565	591	600	600	600
Other	270	266	220	300	310	330
Total	6,010	8,390	9,610	11,000	11,200	11,500

^eEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 10
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED GOLD MINE PRODUCTION, 2005–2019¹

(Metal content in kilograms)

Country	2005	2010	2012	2015 ^e	2017 ^e	2019 ^e
Australia	263,000	261,000	250,000	255,000	270,000	265,000
China	225,000	345,000	403,000	450,000	470,000	480,000
Indonesia	130,620	106,316	58,800	60,000	80,000	100,000
Japan	8,318	8,544	7,233	7,000	6,500	6,000
Laos	6,232	5,061	6,415	7,000	8,000	8,000
Mongolia	24,120	6,000	5,995	27,000	20,000	20,000
New Zealand	10,583	13,494	10,164	12,000	12,000	12,000
Papua New Guinea	68,483	62,900	52,100	57,000	60,000	73,000
Philippines	37,490	40,847	15,762	25,000	30,000	30,000
Other	19,000	19,800	19,600	23,000	26,000	27,000
Total	793,000	868,000	829,000	923,000	983,000	1,020,000

^eEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 11
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED BENEFICIATED IRON ORE PRODUCTION, 2005–2019¹

(Metal content in thousand metric tons)

Country	Average ore grade (% Fe)	2005	2010	2012	2015 ^c	2017 ^c	2019 ^c
Australia	62	163,000	271,000	315,000	350,000	360,000	370,000
China	64	134,000	350,000	406,000	460,000	480,000	500,000
India	64	97,500	134,000	92,000	100,000	130,000	170,000
Other		3,000	5,000	8,200	8,300	8,600	8,900
Total		398,000	760,000	820,000	920,000	980,000	1,000,000

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 12
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED CRUDE STEEL PRODUCTION, 2005–2019¹

(Thousand metric tons)

Country	2005	2010	2012	2015 ^c	2017 ^c	2019 ^c
Australia	7,790	7,408	4,894	5,000	5,000	5,000
China	353,240	637,230	723,880	820,000	860,000	890,000
India	45,800	68,300	77,600	90,000	95,000	100,000
Japan	112,470	110,000	107,200	105,000	112,000	120,000
Korea, Republic of	47,820	58,914	69,073	69,000	69,000	69,000
Malaysia	5,296	5,693	5,612	6,500	7,000	7,000
Taiwan	18,567	20,498	21,083	23,000	23,000	23,000
Thailand	5,161	4,145	4,000	4,000	4,000	5,000
Other	7,800	12,400	11,000	15,000	20,000	25,000
Total	604,000	925,000	1,020,000	1,140,000	1,200,000	1,250,000

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 13
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED NICKEL MINE PRODUCTION, 2005–2019¹

(Metal content in metric tons)

Country	2005	2010	2012	2015 ^c	2017 ^c	2019 ^c
Australia	189,000	170,000	246,000	210,000	200,000	200,000
Burma	10	--	5,000	18,000	21,000	24,000
China	72,700	80,000	93,300	100,000	105,000	110,000
Indonesia	135,000	235,800	228,000	450,000	460,000	480,000
New Caledonia	111,939	129,800	131,700	164,000	185,000	185,000
Papua New Guinea	--	--	5,283	25,000	31,000	31,000
Philippines	26,636	207,000	424,000	450,000	450,000	450,000
Total	535,000	823,000	1,130,000	1,400,000	1,450,000	1,480,000

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 14
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED PALLADIUM MINE PRODUCTION, 2005–2019¹

(Metal content in kilograms)

Country	2005	2010	2012	2015 ^c	2017 ^c	2019 ^c
Australia	550	650	300	300	300	300
China	450	650	650	650	700	700
Total	1,000	1,300	950	950	1,000	1,000

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 15
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED PLATINUM MINE PRODUCTION, 2005–2019¹

(Metal content in kilograms)

Country	2005	2010	2012	2015 ^c	2017 ^c	2019 ^c
Australia	111	130	90	100	100	100
China	700	750	700	700	700	750
Total	811	880	790	800	800	850

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 16
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED TIN MINE PRODUCTION, 2005–2019¹

(Metric tons)

Country	2005	2010	2012	2015 ^c	2017 ^c	2019 ^c
Australia	2,819	6,600	5,849	6,000	6,000	6,000
Burma	708	4,030	10,600	11,000	12,000	12,000
China	126,000	115,000	110,000	120,000	110,000	110,000
Indonesia	78,404	43,258	41,000	41,000	42,000	40,000
Malaysia	2,857	2,668	3,726	2,500	2,500	2,500
Thailand	158	291	124	150	200	300
Vietnam	5,400	5,400	5,400	5,400	5,400	5,400
Other	800	900	760	800	800	800
Total	217,000	178,000	177,000	187,000	179,000	177,000

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 17
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED TIN METAL PRODUCTION, 2005–2019¹

(Metric tons)

Country	2005	2010	2012	2015 ^e	2017 ^e	2019 ^e
Australia	994	400	400	500	500	500
China	122,000	149,000	148,000	165,000	170,000	180,000
Indonesia	65,300	43,832	42,000	42,000	43,000	41,000
Japan	754	841	1,133	1,000	1,100	1,200
Malaysia	36,924	38,737	37,792	40,000	40,000	40,000
Thailand	31,600	19,423	20,000	20,000	23,500	30,000
Other	1,800	3,100	4,000	4,000	4,000	4,000
Total	259,000	255,000	253,000	273,000	282,000	297,000

^eEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 18
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED DIAMOND PRODUCTION, 2005–2019¹

(Thousand carats)

Country	2005	2010	2012	2015 ^e	2017 ^e	2019 ^e
Australia	34,307	10,000	11,960	11,000	11,000	11,000
China	100	100	100	100	100	120
India	58	50	62	70	70	70
Indonesia	30	37	38	40	40	40
Total	34,500	10,200	12,200	11,000	11,000	11,000

^eEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 19
ASIA AND THE PACIFIC: HISTORIC AND PROJECTED LITHIUM PRODUCTION, 2005–2019¹

(Metal content in metric tons)

Country	2005	2010	2012	2015 ^e	2017 ^e	2019 ^e
Australia	4,800	8,200	12,700	13,000	13,500	14,000
China	3,600	6,000	9,500	10,000	10,000	10,000
Total	8,400	14,200	22,200	23,000	23,500	24,000

^eEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 20
 ASIA AND THE PACIFIC: HISTORIC AND PROJECTED SALABLE COAL PRODUCTION, 2005–2019¹

(Thousand metric tons)

Country	2005	2010	2012	2015 ^e	2017 ^c	2019 ^e
Australia	370,000	499,000	430,000	530,000	540,000	560,000
China	2,260,000	3,240,000	3,660,000	3,850,000	4,000,000	4,100,000
India	360,000	507,000	580,000	600,000	620,000	640,000
Indonesia	192,920	256,789	240,000	260,000	280,000	300,000
Korea, North	23,500	41,000	41,492	42,000	42,000	42,000
Korea, Republic of	2,832	2,500	2,000	2,200	2,500	2,800
Mongolia	8,256	25,246	28,561	45,000	58,000	55,000
New Zealand	5,267	5,335	4,926	6,000	6,000	6,000
Pakistan	3,367	3,429	4,000	4,100	4,200	4,300
Philippines	3,165	6,650	7,000	7,000	9,000	9,000
Thailand	21,429	17,907	12,072	15,000	18,000	21,000
Vietnam	34,093	44,835	42,383	50,000	50,000	50,000
Other	1,450	3,950	5,400	5,400	5,300	5,000
Total	3,290,000	4,650,000	5,060,000	5,420,000	5,600,000	5,800,000

^eEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.