



cutting through complexity

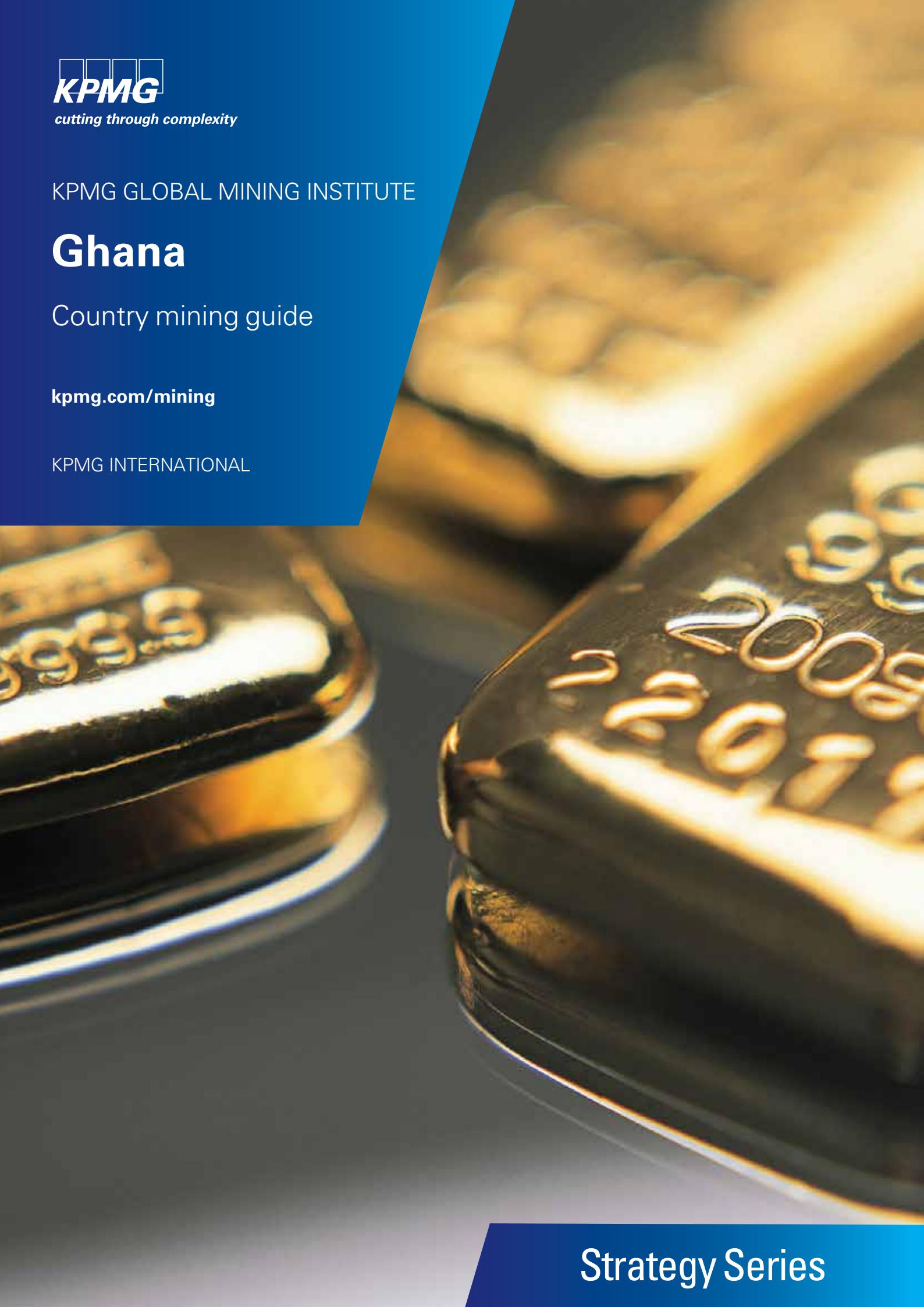
KPMG GLOBAL MINING INSTITUTE

Ghana

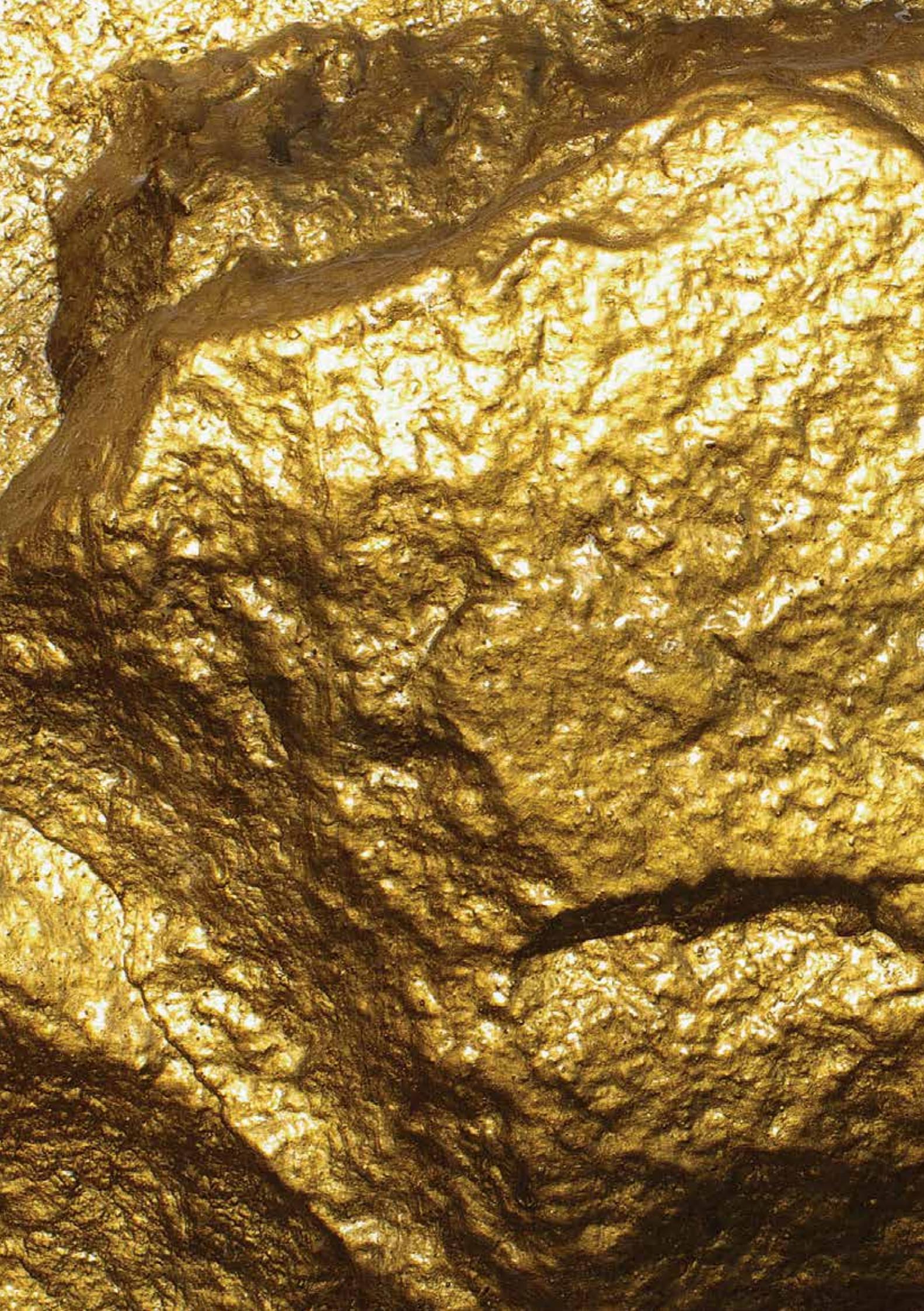
Country mining guide

kpmg.com/mining

KPMG INTERNATIONAL

A close-up, low-angle photograph of several gold bars stacked together. The bars are shiny and reflective, with some inscriptions visible on their surfaces, such as '9999' and '2008'. The lighting creates strong highlights and shadows, emphasizing the metallic texture of the gold.

Strategy Series





Contents

Executive summary	2
New geographic expansion risk framework	3
Country snapshot	4
World Bank ranking: Ease of doing business	5
Type of government	6
Economy and fiscal policy	7
Heritage Foundation of Economic Freedom	8
Fraser Institute rankings	8
Regulatory environment	10
Sustainability and environment	11
Inbound and outbound investment	16
Key commodities: Production and reserves	17
Major mining companies in Ghana	20
Foreign mining companies with operations in Ghana	21
Further insights from KPMG	22
Mining asset lifecycle	23
KPMG's mining strategy service offerings	23
KPMG's global mining practices	24
KPMG's footprint in Africa	25

Executive summary

Ghana presents a number of opportunities in the mining sector, especially in the gold industry. It is the second largest gold producer in Africa, after South Africa and 10th largest globally. The other important mineral resources are oil, diamond, bauxite (used in the manufacturing of aluminum), and manganese (an important input in steelmaking).

Despite possessing interesting mining opportunities, there are some infrastructure issues impacting operations in Ghana. While the government is making concerted and effective efforts to address problems in electricity supply, deficient transport infrastructure is a problem that will take more time to solve.

Despite having a generally sound economic and business environment, the current main issues with investment in Ghana's mining sector are economic, and the most serious is the government's fiscal policy. In recent years, there have been worrying indications of fiscal slippage, and this has had an effect on the exchange rate and on interest rates. To address the budget deficit (which stood at 11.8 percent of GDP in 2012), the government has reduced subsidies and increased taxes, raising the cost of doing business. Value-added tax (VAT) was raised in 2013, and there is talk of introducing a windfall tax. These new burdens, coupled with wage demands from workers who see their purchasing power eroded by inflation, are making the operating environment increasingly difficult for miners and some mining companies have already had to mothball parts of their operations.

Nevertheless, the outlook for FDI in Ghana in the long term remains strong. This will be supported by low political risk, a favorable business environment when compared to peers, oil and gas exploration, the availability of a number of minerals, and a growing retail sector and middle class.



Largest global gold producer in 2012
Ghana produced 89 ton of gold in 2012



753,000 tons
2012 bauxite production in Ghana



180,000 carats
2012 diamond production in Ghana



US\$3.3 billion
FDI inflows into Ghana in 2012

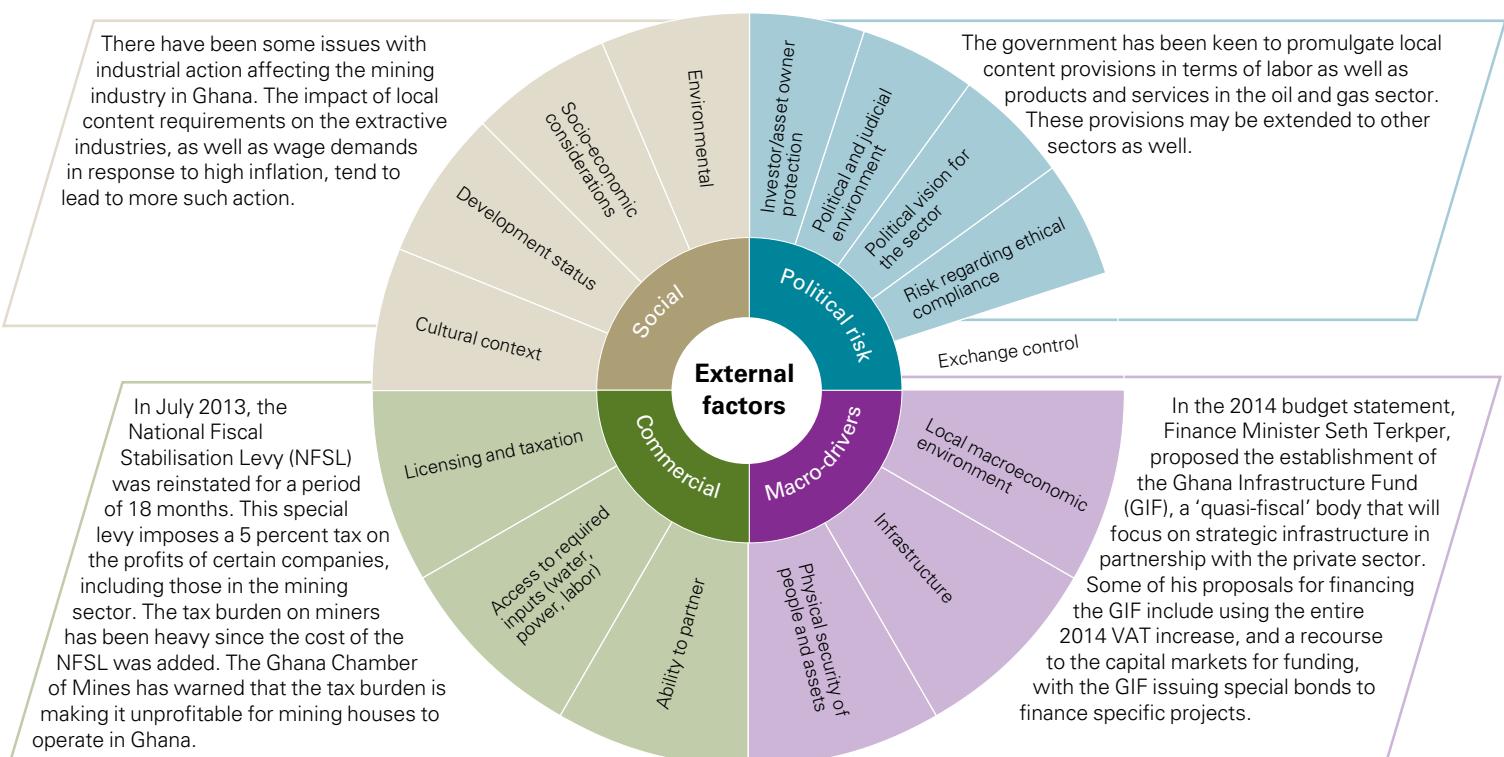
Source:

FDI = UNCTAD World Investment Report 2013 and on citation from Ghana Business News, and
Diamonds = US Geological Survey.

New geographic expansion risk framework

Risk framework to assess new geographic expansion

KPMG in Ghana's risk framework



Source: KPMG International 2012

Country snapshot^{1,2,3,4}

Ghana ^{1,2,3}	
Geography	<p>The Republic of Ghana, commonly known as Ghana, is located in West Africa, with a 539 km coastline on the Gulf of Guinea. Ghana shares its border in the north with the Republic of Burkina Faso, in the east with the Republic of Togo, and in the west with the Republic of Ivory Coast.</p> <p>The Greenwich meridian runs through Ghana, and its southernmost point is only five degrees north of the Equator. The total area of the country is approximately 238,500 km², of which 11,000 km² is water bodies, most notably Lake Volta, which constitutes a huge navigable waterway through the country.</p>
Climate	<p>The country has a tropical climate. While its eastern coastal belt is warm and comparatively dry, the southwest corner is hot and humid, and the northern part is hot and dry. In the north, the rainy season starts in April and lasts till September. In areas other than the north, two rainy seasons occur, first from April to July and second from September to November. Annual rainfall is in the range of about 1,100 mm in the north to about 2,100 mm in the southeast. During December–March, a dry north-easterly wind, the Harmattan, blows through the country.</p>
Population	<p>As of July 2013, Ghana's population was estimated to be about 25.2 million, with a median age of 20.7 years. Life expectancy at birth is 65.3 years.</p>
Currency	<p>The official currency of Ghana is the Ghana Cedi (GHS). The new cedi was introduced in July 2007 to replace the 'old' cedi after a period of severe depreciation.</p> <p>The following were the average exchange rates in October 2013:</p> <ul style="list-style-type: none"> • GHS 2.20: US\$1 • GHS 3.01: EUR1

Sources: CIA Factbook

¹ "The World Factbook, CIA, <https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html>, accessed 25 November 2013

² Climate, Ghanaweb.com, <http://www.ghanaweb.com/GhanaHomePage/geography/climate.php>, accessed 7 August 2013

³ United Nations Human Development Index, <http://hdrstats.undp.org/en/countries/profiles/GHA.html>, accessed 26 November 2013

⁴ Average Exchange Rates, Oanda.com, <http://www.oanda.com/currency/historical-rates>, accessed 25 November 2013

World Bank ranking: Ease of doing business⁵

Ghana ranked 67th among the 189 countries covered in the World Bank Doing Business 2014 Index. It slipped five places from its 2013 ranking, showing improvements in only two of the 10 measures that the bank uses in its scoring.

Ghana improved in the rankings for 'getting electricity' (up three places) and 'paying taxes' (up 24 places), but showed no change in two other measures and slipped in the remaining six. The deterioration was especially severe in the measure for 'starting a business' (down 17 places), where the World Bank notes that 'reform making it more difficult to do business'.

Table 1: Ghana ranking according to different parameters in the World Bank Doing Business 2014 Index

Parameter	Rank
Starting a business	128
Dealing with construction permits	159
Getting electricity	85
Registering property	49
Getting credit	28
Protecting investors	34
Paying taxes	68
Trading across borders	109
Enforcing contracts	43
Resolving insolvency	116

Sources: Doing Business 2014 report, World Bank

⁵ "Doing Business 2014, The World Bank, <http://www.doingbusiness.org/data/exploreeconomies/ghana>, accessed 25 November 2013

Type of government^{6,7,8,9}

Ghana is a constitutional democracy and a presidential republic in which the president is both head of state and head of government. The president and the vice-president are elected on the same ticket in a direct election by universal suffrage, which takes place at the same time as the legislative election but on a separate ballot. A presidential term is four years and presidents are constitutionally limited to two terms. If no candidate obtains an outright majority in the first round, a run-off election is held. The president chooses his ministers of state, who are approved by the Parliament.

John Dramani Mahama is the current president; he was vice-president to John Atta Mills and took over as president when the latter died in July 2012. He was re-elected in the first round of the presidential election in December 2012. His vice-president is Kwesi Amissah-Arthur.

The legislature is a unicameral parliament, which has 275 members elected on a first-past-the-post constituency system, and a Speaker. Members of the Parliament (MPs) are elected for four-year terms with no term limits. As of the December 2012 election, President Mahama's National Democratic Congress (NDC) has 147 seats (53.5 percent), the New Patriotic Party (NPP) has 123 (44.7 percent), the People's National Convention (PNC) has 1 seat and there are four independent MPs.

The judiciary is independent of the two other branches of the government. The court hierarchy is made up of, from highest to lowest: the Supreme Court, Court of Appeal, High Court of Justice, Regional Tribunals, Circuit Court, District Court and Magistrate Court. The Supreme Court has broad powers of judicial review, and is constitutionally mandated to rule on the constitutionality of any legislation or executive action at the request of any aggrieved citizen.

⁶ "The World Factbook", CIA, <https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html>, accessed 25 November 2013

⁷ "Ghana Annual Country Profile", NK C Independent Economists, 14 February 2013

⁸ "Government of Ghana: Official portal", <http://www.ghana.gov.gh/>, accessed 25 November 2013

⁹ "Ghana Members of Parliament", http://www.parliament.gh/members_list.php, accessed 25 November 2013

Economy and fiscal policy^{10,11}

In April 2013, the Ghana Statistical Service (GSS) revised the real GDP growth rate in 2012 to 7.9 percent from a previous estimate of 7.1 percent. GSS figures released in June 2013 showed that GDP expanded by 6.7 percent y-o-y in real terms in the first quarter of 2013. The services sector is estimated to have expanded by 12 percent y-o-y and the agricultural sector by 1.1 percent y-o-y, while the industrial sector is estimated to have contracted by 0.8 percent y-o-y. The International Monetary Fund (IMF) forecasts growth of 7.9 percent; the economically important agricultural sector (mostly cocoa) seems to have attained a plateau, and the mining sector is under some pressure. Ghana's manufacturing sector currently accounts for only 6.7 percent of the nominal GDP, and there is certainly room for expansion. Consumer price inflation stood at 13.1 percent y-o-y in October 2013, up from 11.9 percent y-o-y in the previous month.

Economic and fiscal policies in Ghana are generally sound. Relative to the sub-Saharan African norm, Ghana is fairly welcoming to foreign investment, and has an accommodative business environment. But in recent years, there have been worrying indications of fiscal slippage, and this has had an effect on the exchange rate and on retail interest rates. On economic policy, too, there are signs that the NDC (which is the more leftist of the two main parties) may be pursuing policies that will turn out to be detrimental to the economy, in order to pander to voters.

Since the discovery of oil, the government has been keen to promulgate local content provisions in the oil and gas sector. While nothing has been finalized, there has been talk of a requirement that 30 percent of the workforce and 50 percent of management must be local, with possible higher targets in time. Companies in the oil and gas industry will also be required to source products and services locally. These provisions may be extended to other sectors as well. Such a policy would be sure to discourage foreign direct investment (FDI), as it increases the cost of investing.

On 31 May 2013, the National Petroleum Authority (NPA) scrapped fuel subsidies in the country following a government directive. Since then, the prices for petrol, gas oil, and liquefied petroleum gas (LPG) have been market-determined, resulting in an immediate 3 percent increase in petrol and LPG prices, and a 2 percent increase in diesel prices. The Public Utilities Regulatory Commission (PURC) raised power and water tariffs by 79 percent and 52 percent, respectively, on 1 October. This will enable firms to recover their costs and provide a better quality service, and would also ease pressure on the fiscal position. In order to avert nationwide protests, however, the government recently agreed to absorb part of the announced increase in electricity tariffs. This effectively lowered the tariff increase from 79 percent to 59.2 percent, and means that the government will have to spend GHS 400 million more on subsidies this year than it had planned.

Fiscal policy remains Ghana's Achilles heel, with fiscal spending particularly loose in election years. The fiscal deficit widened to 11.8 percent of GDP in 2012, compared to an already revised target of 6.7 percent of GDP (from an original target of 4.8 percent of GDP). The 2013 deficit is expected to reach 10.2 percent of GDP by the end of 2013, higher than the original target of 9 percent of GDP. The overrun in the budget deficit target for this year comes despite higher taxes, and lower fuel and utility subsidies. The government is targeting a budget deficit of 8.5 percent of GDP for 2014, and real GDP growth of 8 percent.

¹⁰ Ghana Quarterly Update, NKC Independent Economists, 27 August 2013

¹¹ "IMF World Economic Outlook Database", IMF, <http://www.imf.org/external/pubs/ft/weo/2013/02/weodata/download.aspx>, October 2013, accessed 25 November 2013

Heritage Foundation of Economic Freedom

2013 Index of Economic Freedom¹²

The Heritage Foundation, in its 2013 Index of Economic Freedom (the most recent), gives Ghana an 'economic freedom score' of 61.3, which ranks it as the 77th most free economy of 177. Its overall score improved by 0.6 point from the 2012 index, thanks to notable improvements in the measures for 'fiscal freedom,' where Ghana went from 65th to 43rd, and 'investment freedom,' where it went from 50th to 37th. Ghana is ranks 7th of 46 sub-Saharan countries in the index, and its overall score is better than the world average. The 2013 index measures and ranks 177 countries across 10 specific freedoms. Economies with a score of 80 to 100 are seen as 'free'; Ghana's score places it in the 'moderately free' category.

Parameter	Score	Rank
Property Rates	50.0	53rd
Freedom from Corruption	39.0	67th
Fiscal Freedom	86.0	41st
Government Spending	52.5	121st
Business Freedom	61.5	104th
Labor Freedom	61.6	89th
Monetary Freedom	64.8	163rd
Trade Freedom	67.8	134th
Investment Freedom	70.0	37th
Financial Freedom	60.0	40th

Sources: 2013 Index of Economic Freedom, Heritage Foundation

¹² Heritage Foundation 2013 Index of Economic Freedom

Fraser Institute rankings

Economic Freedom of the World 2013 report¹³

Of the 152 countries ranked in the Fraser Institute's Economic Freedom of the World 2013 Report, Ghana ranked 90th with a score of 6.71 out of a possible 10. This represents a deterioration from the 2012 report, where Ghana ranked 71st with a score of 6.96.

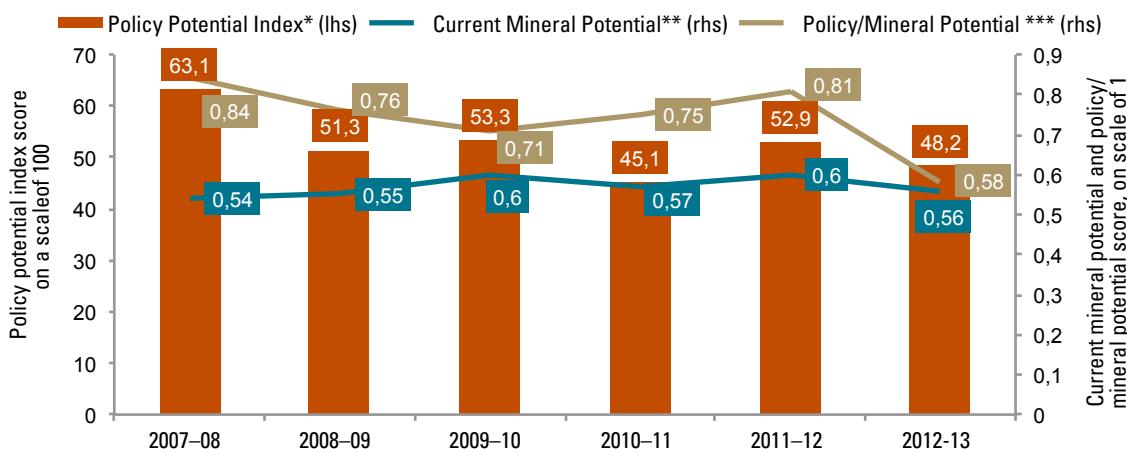
The annual report ranks countries around the world on the basis of their policies that encourage 42 different economic measures in the following areas:

- Size of government: expenditures, taxes and enterprises
- Legal structure and security of property rights
- Access to sound money
- Freedom to trade internationally
- Regulation of credit, labor and business

Survey of Mining Companies 2012/2013¹⁴

Ghana ranked 47th on Policy/Mineral Potential among the 96 jurisdictions covered by the Fraser Institute's Survey of Mining Companies 2012/2013. Figure 1 provides the country's scores on the key indices of the survey.

Figure 1: Ghana's scores, Fraser Institute's Survey of Mining Companies, 2007–13



Source: Survey of Mining Companies, Fraser Institute Annual Publications

Notes:

- * The Policy Potential Index is a composite index that measures the effects of government policies on exploration.
- ** The Current Mineral Potential index is based on respondents' answers to whether a jurisdiction's mineral potential under the current policy environment encourages or discourages exploration. It assumes current regulations and land-use restrictions.
- *** The Policy/Mineral Potential Index is based on respondents' answers to the question about mineral potential of jurisdictions, assuming their policies are based on "best practices." It assumes no land use restrictions and considers the industry "best practices."

¹³ Economic Freedom of the World 2013 Annual Report, Fraser Institute, 18 September 2013

¹⁴ Survey of Mining Companies: 2012/2013, Fraser Institute, February 2013

Regulatory environment¹⁵

Ghana's mining sector is regulated by the Minerals and Mining Act of 2006. Apart from this; most of the regulation that affects mining operations in the country, is promulgated in the annual budget drawn up by the Finance Ministry.

Property of minerals

The very first article of the Mining Act provides that "Every mineral in its natural state in, under or upon land in Ghana [...] is the property of the Republic and is vested in the President in trust for the people of Ghana." The government accordingly has a right of pre-emption of all minerals in Ghana, which can be exercised through the mining and minerals minister. The act gives extensive powers to the minister to classify or declassify land for exploration and to "negotiate, grant, revoke, suspend or renew mineral rights."

Licenses

The act makes provision for several different classes of license. The initial licenses, granted to companies in the early stages of a mining project, are awarded for short periods and apply to larger land areas. As the project advances and the company narrows down the area in which it is operating, licenses begin to apply to smaller areas but are awarded for longer periods.

The first licence a company applies for is a reconnaissance licence. A reconnaissance licence is granted for not more than one year, renewable once only on application to the Ministry of Lands and Natural Resources, and applies to a maximum of 5,000 contiguous 'blocks'. A block is a square area 15 seconds of latitude by 15 seconds of longitude, or 21.4 hectares in area. The holder of such a licence may engage only in 'reconnaissance' activity, such as searching for a specific mineral (or commodity) by geochemical and photo-geological surveys or other remote-sensing techniques, but not including drilling or excavation.

A prospecting license is the next license to be obtained. This license gives the holder the exclusive right to search for specific minerals or commodities by conducting geological, geophysical and geochemical investigations to determine the extent and economic value of any deposit within the license area. Drilling, excavation and other sub-surface techniques are permitted under the prospecting license. It is granted for three years for a maximum area of 750 contiguous blocks, and can be renewed for three-year periods. However, at the time of expiration of the initial term, the holder is required to surrender not less than half the number of blocks of the prospecting area as long as a minimum of 125 blocks remain subject to the license.

If a viable deposit is found by prospecting, the company may next apply for a mining lease. Such a lease grants the holder the right to mine and extract specified minerals (or commodities) within the lease area. It may be granted to the holder of a prospecting license or any person who establishes to the satisfaction of the Ministry of Lands and Natural Resources that a mineral (specified in the lease), exists in commercial quantities within the proposed lease area and can be mined at a profit. It is issued for up to 30 years and can be renewed for another 30 years. The lease may be granted over an area limited to 300 contiguous blocks for a single grant.

A restricted license or lease can be issued for the exploration and exploitation of industrial minerals and building materials. A restricted mining lease is granted for 15 years, instead of 30, and can be renewed for the same number of years.

Environmental provisions

The act imposes a number of obligations on licensees, including the obligation to obtain permission from the Forestry Commission and the Environmental Protection Agency before commencing works, as well as obtaining permission from the Water Resources Commission before undertaking any works that affect water resources.

¹⁵ "The Minerals and Mining Act, 2006", Parliament of Republic of Ghana, 22 March 2006

Sustainability and environment^{16,17,18,19}

Despite strong economic growth in recent years, poverty remains a problem, especially in rural areas where extreme poverty is severe. Although progress in this area should be noted the proportion of the population classified as poor has fallen from 51.7 percent in 1991-92 to 28.5 percent in 2005-06 poverty remains a serious problem, and efforts to address it **inform much of government policy**. This sometimes leads to the adoption of policies that constrain business.

Ghana ranked 135th of 187 countries in the United Nations (UN) Human Development Index 2013. In its report on the country, the UN notes that life expectancy in Ghana has increased steadily over the past two decades, from 53.1 years in 1980 to 64.6 years in 2012. The mean years of schooling completed by Ghanaian children has almost doubled, from 3.6 years in 1980 to seven years in 2012. And gross national income (GNI) per capita, measured in real terms, has increased by 71 percent over the same period, from US\$984 to US\$1,684.

Ghana is an ethnically very diverse country, home to more than 100 different ethnic groups. The chief ethnic groups in Ghana are the Akan (including the Fante, the Akyem, the Ashanti, the Kwahu, the Akuapem, the Nzema, the Bono, the Akwamu and the Ahanta), who make up 47.5 percent of the population; the Mole-Dagbon, at 16.62 percent; the Ewe, at 13.9 percent, and the Ga-Dangme, at 7.4 percent. Although the official language is English, most Ghanaians also speak at least one local language.

Most Ghanaians, 71.2 percent of the total, identify as Christian. Within this total, the majority are Pentecostal or Charismatic (28.3 percent of total population). Other important Christian denominations are Protestant (18.4 percent of total population), and Catholic (13.1 percent). Muslims make up 17.6 percent of the total population, and followers of traditional religions 5.2 percent.

Education is one of the main challenges in Ghana: less than 5 percent of Ghana's population have acquired higher education, although most Ghanaians have relatively easy access to primary and secondary education. All teaching in the country is conducted in English. Ghana has a six-year primary education system, after which students move to a three-year junior secondary system, and then a three-year senior high school system. At the end of the third year of junior high school (JHS), there is a Basic Education Certificate Examination (BECE). Those continuing must complete the three-year senior high school (SHS) program and take the West African Senior Secondary Certificate Examination (WASSCE) to enter university.

A universal healthcare system, through the National Health Insurance Scheme, has been established to provide reliable healthcare to the citizens of the country. Outcomes, especially in the area of primary care, have been encouraging, and maternal and infant mortality rates are in declining.

Ghana is part of the United Nations Framework Convention on Climate Change (UNFCCC) and is associated with the Copenhagen accord of 18 December 2009. The government launched the National Environment Policy in November 2012 with a vision to use and maintain natural resources in a sustainable way. The policy aims to maintain the ecosystem and ecological processes, ensure appropriate management of natural resources and the environment, protect adequately against harmful impacts and destructive practices, preserve biological diversity, guide the development in accordance with quality demands and eliminate pollutants, to integrate environmental considerations in sectoral structural and socio-economic planning at the national, regional, district and grassroots levels, and seek common solutions to environmental problems in Africa, West Africa, in particular, and the world, at large. The Ghana Environmental Protection Agency requires all investors whose activities will have an impact on the environment to provide a report on the environmental impact assessment of their activities; mining companies are further obliged to liaise with the Water Resource Commission, if applicable, as noted above.

Climate change can expedite the frequency and intensity of extreme events such as droughts, floods and storms, which can threaten human safety and health in Ghana. As per a survey by the World Food Programme, 700,000 people in Ghana are at a risk of hunger as climate change takes its toll on the country's food security.

¹⁶ Pharmaceutical Country Profile: Ghana, WHO, February 2012

¹⁷ Human Development Report, United Nations Development Programme, 2013

¹⁸ The World Factbook, CIA, <https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html>, accessed 8 August 2013

¹⁹ National Environmental Policy (Ghana), REDD Countries, http://www.theredddesk.org/countries/ghana/info/policy/national_environment_policy_ghana, accessed 8 August 2013; National Environmental Policy launched, Ghanaweb, 7 November 2012

Taxation^{20,21,22,23}

Since 2012, mining companies operating in Ghana have been subject to the following taxes:

- Corporate tax: 35 percent
- Capital gains tax: 15 percent
- Withholding tax: 15 percent
- Capital allowances: 20 percent for five years

In addition, the mining companies are required to pay a royalty of 5 percent of their total revenues.

In July 2013 the National Fiscal Stabilisation Levy (NFSL) was reinstated for a period of 18 months. This special levy imposes a 5 percent tax on the profits of certain companies, including those in the mining sector. The tax burden on miners has been heavy since the cost of the NFSL was added. The Ghana Chamber of Mines has warned that the tax burden is making it unprofitable for mining houses to operate in Ghana, and in November 2013 Gold Fields Ghana announced that it was 'considering' closing one of its mines.

Finance Minister Seth Terkper presented his proposed 2014 budget to Parliament on 19 November 2013. The budget contains some changes to the tax structure applicable to the mining industry. The minister said that the NFSL would be terminated in June 2014 rather than December 2014, but some other measures have resulted or will result in a heavier tax burden on taxpayers in general and on the mining sector in particular.

Value added tax (VAT) was raised two weeks before the budget speech, from 12.5 percent to 15 percent. The increase in VAT is to be committed to a new Ghana Infrastructure Fund (GIF), discussed in greater detail in the infrastructure section. This increase excludes the additional 2.5 percent National Health Insurance Levy on domestic and imported goods and services. This has been passed into the law by Act 870 effective 31 December 2013.

The budget speech further included plans to re-introduce a windfall tax, a proposal which was first tabled in 2012, but which was not adopted at the time. In 2012, the proposed windfall tax was 10 percent on extraordinary profits; discussions on the tax have now resumed and the government intends to re-introduce the bill concerning the windfall tax to Parliament 'after completion of the consultations with all stakeholders.'

The government extends some tax incentives to miners, however. In terms of the Minerals and Mining Act, 2006, the holder of a mineral right may be exempted from paying 'customs import duty for plant, machinery, equipment and accessories imported specifically and exclusively for the mineral operations,' staff may be granted exemption from the payment of income tax if furnished accommodation is provided at the mine site, and expatriate employees may be exempted from tax payable on money they transfer out of the country.

²⁰ Ghana Quarterly Update, NKC Independent Economists, 27 August 2013

²¹ The Minerals and Mining Act, 2006, Parliament of Republic of Ghana, 22 March 2006

²² 2014 Budget Statement, Ghana Ministry of Finance, <http://www.mofep.gov.gh/budget-statements>, accessed 24 November 2013

²³ Gold Fields Ghana considering shutting down Damang mine, Ghana Business News, 26 November 2013.

Power supply^{24,25,26,27,28,29}

The supply of electricity in Ghana is intermittent, and problems with power supply are one of the most serious impediments to investment and economic development. The government has accordingly identified the sector as a primary target for increased investment.

As of end May 2013, total installed capacity in Ghana was 2,578 megawatts (MW), with 267MW of that capacity installed in the first five months of the year. The main source of power in the country is hydroelectricity; mostly from the new hydro units at the Bui Dam. Projects already underway, mainly two thermal generation projects at Kpone and Takoradi, are projected to add another 342MW in 2014, and four projects for 2015 if all goes well will add another 1,060MW and bring the figure for total installed capacity to 4,247MW. The government plans to exceed 5,000MW of installed capacity in the course of 2016. This figure is respectable, and considerably higher than the figures in any other sub-Saharan country with a comparable population. Much of the capacity will be owned and operated by the Volta River Authority (VRA) and the Bui Power Authority (BPA), but the success of the planned expansion will depend on the success or otherwise of the independent power producers operating in concert with government.

Another important consideration that applies to the thermal units now in the planning stages is gas supply. The level of supply from Nigeria through the West African Transnational Gas Pipeline (WAGP) is currently at 1.42 million m³ per day, below the agreed levels, and even the full contractual supply of 2 million m³ per day might be insufficient to fuel the new generating units being planned. This problem led to the Western Corridor Gas Infrastructure project, which consists of a 60 km pipeline from the offshore Jubilee field to land at the refinery at Atuabo. From Atuabo, refined gas would be piped to one of the Takoradi thermal plants. The most recent available target completion date is the end of Q1 2014, more than a year behind schedule, but there has been some misallocation of capital on the project, and corruption concerns. In parallel, the VRA is conducting a feasibility study into a floating liquefied natural gas (LNG) terminal for the importation of LNG.

The government is not only focusing on generation; current projects in transmission and distribution, once complete, will also help to improve the supply of electricity to Ghana's companies and people. Several transmission lines and sub-stations are being built, and the government is co-operating with the governments of neighboring countries Burkina Faso and Mali to achieve comprehensive interconnectivity. Ghana has significant comparative advantage in the generation of hydro-electricity, and is seeking to leverage this into a solution that can benefit the entire region.

On distribution, too, the government is committed to expanding networks so as to connect more regions and people, rolling out pre-paid meters to improve revenue collection, introducing automated meter reading and billing for some customers, and improving security to limit fraud and illegal connections. The government intends to make special efforts to roll out electricity in the north, and has set itself the target of 80 percent of the country's total population having access to electricity from a current level of 75 percent. The national transmission system (NITS) is owned and operated by the state-owned Ghana Grid Company Limited (GRIDCO), while distribution is the responsibility of the state-owned Electricity Company of Ghana Limited (ECG) and the Northern Electricity Department (NED), a subsidiary of the VRA.

²⁴ Energy meet the press, Ghana Ministry of Energy and Petroleum, 4 July 2013, <http://www.ghana.gov.gh/images/documents/energymeettheppress.pdf>, accessed 26 November 2013.

²⁵ 2014 Budget Statement, Ghana Ministry of Finance, <http://www.mofep.gov.gh/budget-statements>, accessed 24 November 2013

²⁶ Ghana Infrastructure Plans, Ministry of Finance and Economic Planning, June 2012

²⁷ Energy sector in Ghana, UK Trade and Investment, 4 January, 2012

²⁸ Ghana gas project in danger, Ghana Business News, 1 October 2013

²⁹ Ghana plans oceanic gas terminal to drive electricity production, Business Day, 12 September 2013

Infrastructure development^{30,31,32,33}

Apart from power generation, the government is also making a concerted effort to improve infrastructure in other areas. Road and maritime transport are priorities. In the 2014 budget statement, Finance Minister Seth Terkper unveiled some plans to pay for this development: he proposed the establishment of a Ghana Infrastructure Fund (GIF), a 'quasi-fiscal' body which will focus on strategic infrastructure in partnership with the private sector. Some of Mr Terkper's proposals for financing the GIF include using the entirety of the 2014 VAT increase, and he also suggested a recourse to the capital markets for funding, with the GIF issuing special bonds to finance specific projects. The plan is for the GIF's board to advise the Finance Minister, who will be the Fund's official head, on projects to be financed through it. The 2014 budget allocates almost GHS 6 billion to capital expenditure, representing 17.7 percent of total spending in the fiscal year.

In 2011, the road network measured 66,200 km. Feeder roads comprised 42,192 km of this network, urban roads 12,400 km and trunk roads 11,628km. Road transport is the dominant mode of transport in Ghana and carries about 98 percent of freight and 97 percent of passenger traffic. In its 2011 overview of the country's infrastructure, a World Bank research team found that Ghana's road transport infrastructure indicators were well ahead of those found among low-income peers and nearing the levels expected of a middle-income country.

While the road network might be adequate in terms of density, the economy's high dependence on road travel has led to congestion and traffic problems, and this heavy traffic takes its toll on the condition of the infrastructure. In August 2013, only 41 percent of the road network was considered in good condition. For this reason, most of the government's projects related to road infrastructure involve improving the state of existing roads and widening the most heavily used ones. Eleven major road projects are underway in Ghana, including turning the Accra-Kumasi thoroughfare into a dual carriageway and widening the Accra-Tema motorway. A feasibility study has been commissioned into a project to turn the Accra-Takoradi road into a dual carriageway.

In 2011, Ghana's railway network comprised 1,300 km of tracks. Most of the network is concentrated in the south west, and dedicated to the transport of bauxite and manganese from mines around Kumasi to the harbor at Takoradi. The network in the west, where decent rail infrastructure could benefit the mining industry, is in poor condition, with ageing tracks and obsolete rolling stocks.

Port logistics in Ghana are fairly well developed, and maritime and inland water port infrastructure is considered to be adequate. The major maritime ports at Takoradi and Tema have developed fast, thanks to regional integration initiatives that have seen Ghana serve as a transit point for freight to its landlocked neighbors to the north. In 2011 the World Bank estimated that Ghanaian ports handled 684,000 twenty-foot equivalent units (TEUs) of cargo, comparable to considerably more populous countries like Kenya or Ivory Coast.

Addressing issues of congestion is one of the government's priorities in the area of infrastructure, and could be addressed at little expense as the problem is mainly an administrative one. Importers have to clear their inbound cargoes with several different agencies under the Ghana Ports and Harbours Authority (GPHA). Corruption is a further problem, as customs officers can be bribed to speed through certain shipments, which delays the processing of other freight. Government has expressed its intention to address the issue, but progress is likely to be slow. Ghana has been slower to use its inland waterways for transport, especially Lake Volta, which comprises a 1,110 km navigable network. The use of this network has been hampered by obsolete equipment, volatile ecological conditions and poor connectivity to the road network.

³⁰ Ghana Infrastructure Plans, Ministry of Finance and Economic Planning, June 2012

³¹ Ghana's Infrastructure: A Continental Perspective, World Bank, March 2011

³² Container port traffic, World Bank, <http://data.worldbank.org/indicator/IS.SHP.GOOD.TU>, accessed 26 November 2013

³³ Congestion at Ports: Clearance procedures too long, importers cry out, TV3, 19 July 2013, <http://tv3network.com/Business/congestion-at-ports-clearance-procedures-too-long-importers-cry-out.html>, accessed 26 November 2013.

Employment and labor conditions^{34,35,36,37,38}

Employment

It is difficult to quantify unemployment in Ghana. In surveys, many respondents self-report as employed when they are engaged in seasonal agricultural work or self-employed in trade. Agriculture employs about 56 percent of the working population, but incomes can be erratic. Employment in the formal sector is certainly worryingly low, especially for the effect that too-low employment of young graduates has on youth unemployment. Estimates from 2012 are that youth unemployment (in the cohort aged between 15 and 24) is around 16.5 percent, with the formal sector absorbing only about 6,000 graduates out of the 300,000 people that enter the labor market in a year. The qualifications that students obtain at Ghana's universities are often insufficient to ensure employment, and employers complain about a skills mismatch.

The government is attempting to address this problem in line with the NDC's broadly social-democratic political philosophy. The National Youth Employment Programme (NYEP) was implemented in 2006 to provide work to Ghanaians in the 18–35 age group. The program aims at providing the youth with employable skills and the requisite working experience. The NYEP had recruited, trained and employed over 108,000 unemployed youth by 2011, and at that time it projected that it would have engaged 400,000 by the end of 2013. There are other, similar schemes, like the Graduates Business Support Scheme (GEBSS) and the Ghana Youth Employment and Entrepreneurial Development Agency (GYEEDA), which aim to spur job creation by means of subsidies and incentives.

These projects are often misused, however, and the GYEEDA especially, was the subject of a corruption scandal in 2013, following which some companies involved in it were compelled to pay GHS 203 million back to the government. They also contribute to the treasury's fiscal difficulties, increasing the government's debt burden.

Labor

The labor force in Ghana is highly organized, vibrant and well educated. Organized labor is one of the parties to the tripartite committee, along with the government and the employers' association, which negotiates salaries and wages in the country. Child labor is an issue: according to the 2012 UNICEF Report, 34 percent of Ghanaian children between five and 14 are engaged in child labor. As per the report, children engaged in domestic work were among the worst affected and were at high risk of violence and abuse.

While the workforce is generally well educated, mining companies have reported difficulties in recruiting technical workers like welders and electricians. Mining houses have accordingly invested in efforts to educate and train workers, including through a promising international initiative called the African Mineral Skills Initiative (AMSI), managed under the aegis of the UN.

There have been some issues with industrial action affecting the mining industry. Gold Fields reported in April 2013 that it was losing around 2,200 ounces of gold production a day because of illegal industrial action at its Tarkwa and Damang mines, involving members of the Ghana Mineworkers Union (GMU) and its affiliates. The impact of local content requirements as described above, and wage demands in response

³⁴ The World Factbook, CIA, <https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html>, accessed 8 August 2013

³⁵ Ghana's Youth Unemployment: A threat to the nation's stability, Ghanaweb, 30 September 2013

³⁶ Ghana Quarterly Update, NKC Independent Economists, 27 August 2013

³⁷ Gold and iron ore mining in West Africa, Who Owns Whom, April 2013

³⁸ UNICEF report shows 34 percent Ghanaian children in child labor, Ghana Business News, 12 June 2013

to high inflation, may tend to lead to more such action at the same time as other costs increase, so further complicating the operating environment for mining companies.

Inbound and outbound investment^{39,40}

As per the World Investment Report 2013 released by UNCTAD, Ghana was the fifth-largest recipient of inflows into Africa in 2012. FDI inflows into the economy increased to US\$3.3 billion in 2012, up 2.2 percent from US\$ 3.2 billion received in 2011. Nevertheless, a number of factors currently weaken the outlook for FDI into Ghana. These include the prospect of higher taxes, especially for mining and oil companies, high interest rates, high inflation, and a shortage of electricity. To these factors could be added a global economic environment that is in general still very bleak and uncertain. FDI projects in the oil and gas sector should remain strong, while lower gold prices may put some expansion projects in the mining industry on hold.

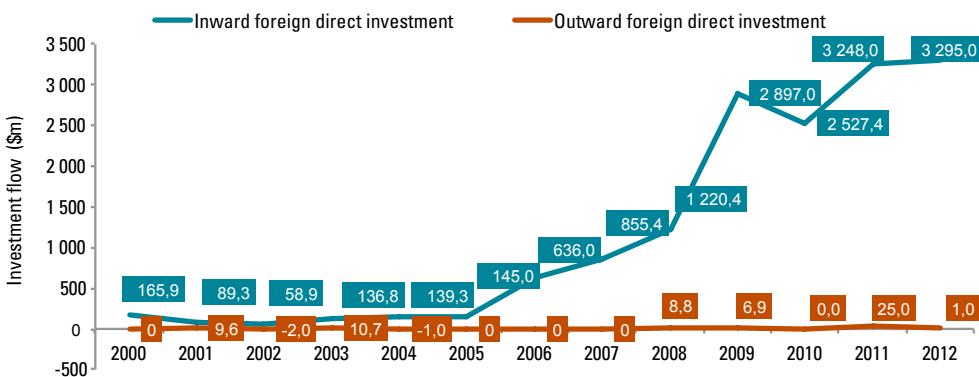
Despite the above concerns, the outlook for FDI in Ghana in the long term remains strong. This will be supported by low political risk, a favorable business environment when compared to peers, oil and gas exploration, the availability of a number of minerals, and a growing retail sector and middle class.

In specific investment news, United Steel Company will invest US\$ 100 million in Ghana in a new steel manufacturing plant with an annual capacity of 350,000 tons. The company will produce high tensile rebar, which will reportedly be 10 percent cheaper than steel products that are currently being imported, which will benefit the construction and real estate industries. Operations are expected to commence during 2014 H1. Grup Armangue, a Spanish consortium, also plans to build a steel manufacturing plant in Ghana to the value of US\$ 10 million. According to the Oxford Business Group (OBG), Ghana currently has installed annual steel production capacity of 600,000 tons. The biggest constraints faced by steel manufacturers include a lack of availability of raw materials, and intermittent electricity supply. According to data from Trade Map, Ghana imported US\$ 419.2 million worth of iron and steel in 2012, up 4.8 percent from the previous year.

Figure 2 shows inward and outward FDI in Ghana as per the World Investment Report 2013.

Figure 2: Trend for inward and outward direct investment in Ghana, 2000-12

Inward and outward direct investment Ghana, 2000-12



Source: World Investment Report, 2013, 2007, 2004, United Nations Conference on Trade and Development

³⁹ Ghana Quarterly Update, NKC Independent Economists, 27 August 2013

⁴⁰ Ghana drops to 5th largest receiver of FDI in Africa – UN, Ghana Business News, 3 July 2013

Key commodities: Production and reserves

Ghana's most important mineral resources are gold, diamonds, manganese and bauxite.

Gold

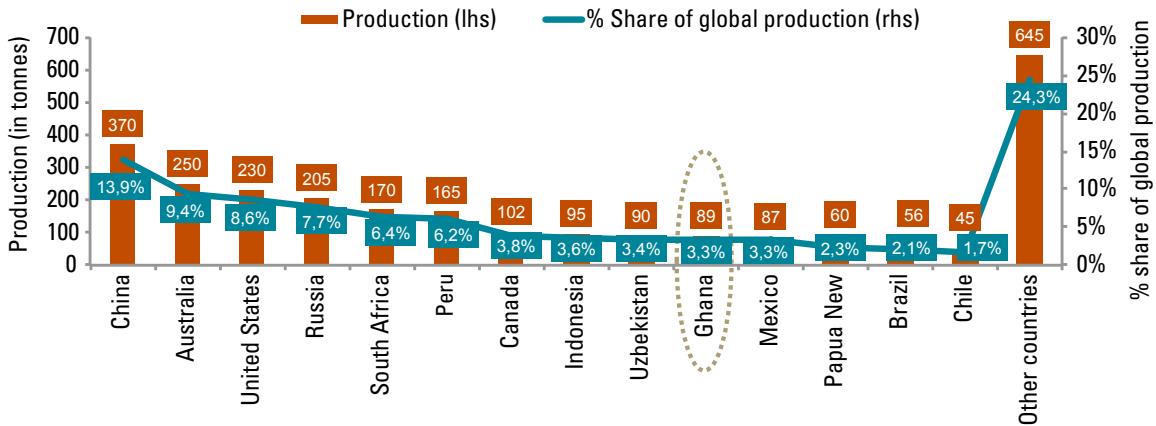
The country is the second-largest producer of gold in Africa, after South Africa, and accounted for 3.3 percent of world gold production in 2012, with an output of 89 tons, up 11.3 percent from output of 80 tonnes in 2011. Gold exports were worth US\$ 5.64 billion in 2012, up a healthy 14.9 percent from US in 2011. There were some signs of a slowdown early in 2013, however, in Q1 2013, gold exports declined by 17.2 percent y-o-y to US\$ 1.5 billion. NKC Independent Economists forecasts a drop in export earnings from gold to around US\$ 2 billion in both 2013 and 2014.

The United States Geological Survey estimates Ghana's gold reserves at 1,600 tons in 2013, worth US\$ 64.4 billion at the 26 November spot price of US\$1,252 per ounce.

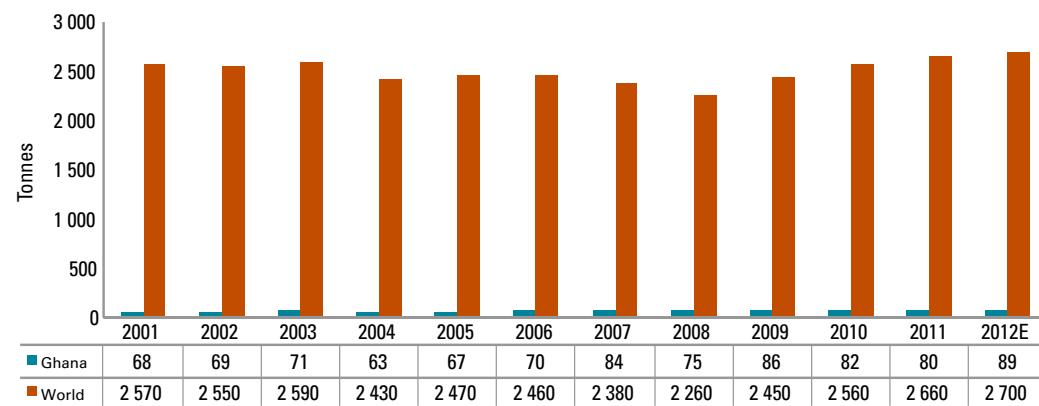
Figure 3 compares the production level of gold in Ghana with that of other countries in 2012 and figure 4 shows the production levels of gold in Ghana in comparison with global levels, during 2001-12.

Figure 3: Production level of gold in Ghana

Top gold-producing countries, 2012E

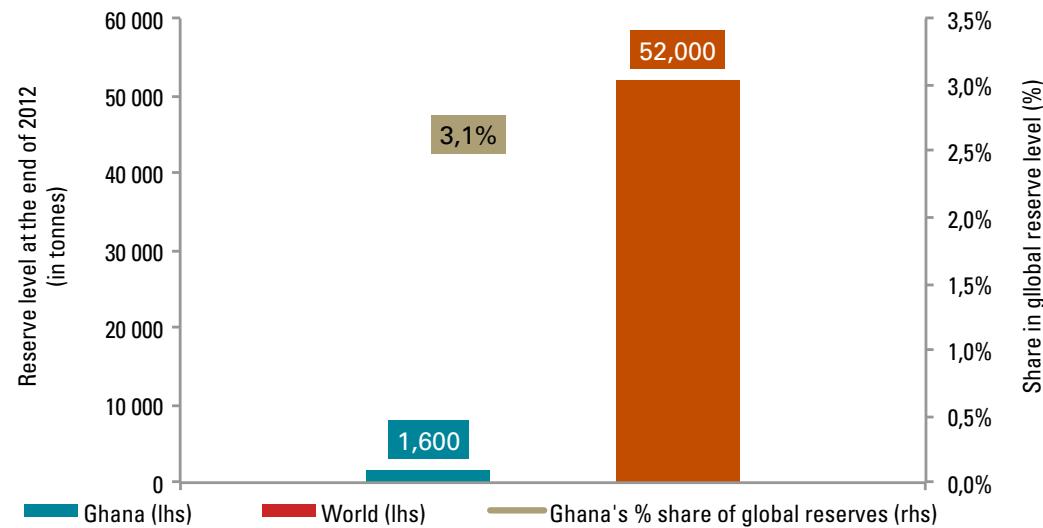


Source: US Geological Survey, Mineral Commodity Summaries 2013

Figure 4: Ghana and world gold production levels, 2001-12E**Gold production levels, 2001-12E**

Source: US Geological Survey, Mineral Commodity Summaries 2013

Figure 5 shows the global and Ghana's reserve levels of gold.

Figure 5: Ghana's gold reserves, 2012

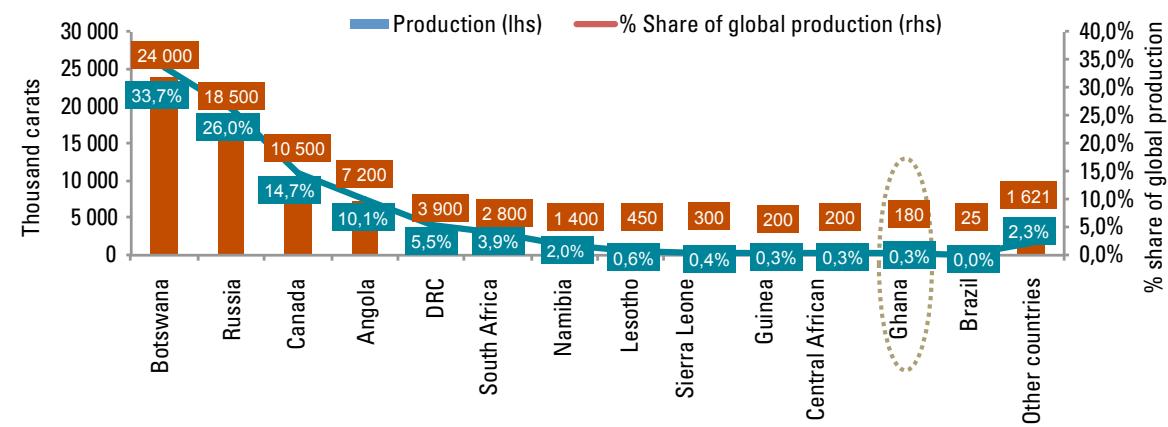
Source: US Geological Survey, Mineral Commodity Summaries 2013

Gemstones

Production levels of diamonds in Ghana appear to show a decline, having slipped from 240,000 carats in 2011 to 180,000 carats in 2012. Figure 6 compares the production level of gem diamonds in Ghana with that of other countries. Ghana contributed about 0.3 percent to the global production of gem diamonds in 2012.

Figure 6: Production level of gem diamonds in Ghana

Top gemstone-producing countries, 2012E



Source: US Geological Survey, Mineral Commodity Summaries 2013

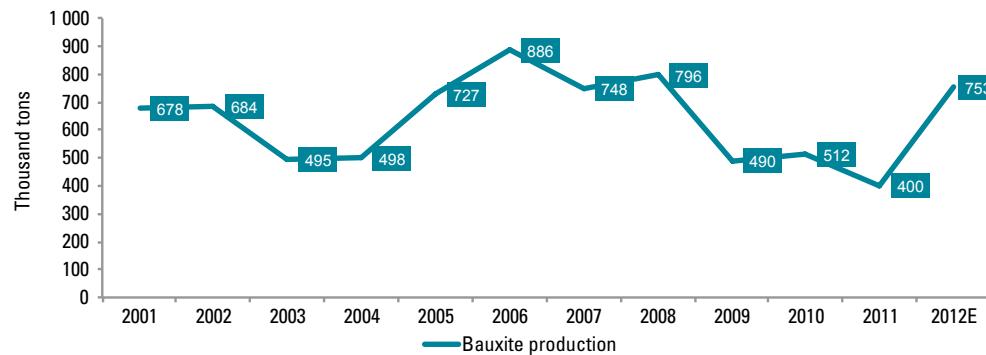
Bauxite

Bauxite is an aluminum ore, that has to be processed into alumina before the alumina can be transformed into aluminum by electrolysis. The mineral has been mined in Ghana since the 1940s; currently Chinese corporations are the most prominent in the industry through Bonsai Minerals Group's ownership of Ghana Bauxite Company.

Figure 7 shows the production levels of bauxite during 2001-12.

Figure 7: Ghana bauxite production levels, 2001-12E

Bauxite production in Ghana, 2001-12E



Sources: US Geological Survey Mineral Information–Ghana, Ghana Mining Report Q3 2013, Business Monitor International, May 2013

⁵³ "Central Africa Mining Report Q4 2013", Business Monitor International, July 2013

⁵⁴ Business Monitor International – "BMI Industry View - Positive Outlook for Diamonds & Coal", 29 August 2013, via Thomson Research/Investext, accessed 30 September 2013

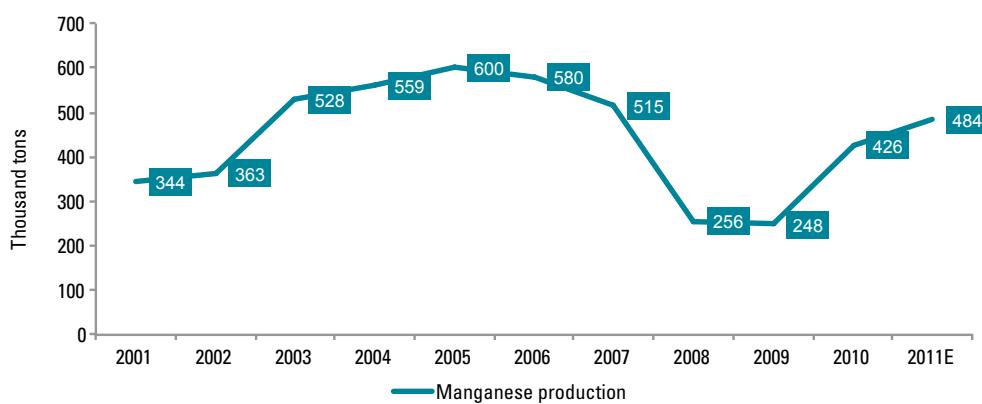
⁵⁵ Business Monitor International – "Market Overview - Steady Growth Ahead", 28 August 2013, via Thomson Research/Investext, accessed 30 September 2013

Manganese

Manganese is an important component of a number of metal alloys, including steel (which accounts for most of the global demand for manganese) and aluminum. The only operating manganese mine in Ghana belongs to Consolidated Minerals (Consmi), a Jersey-based company, through its 90 percent stake in the Ghana Manganese Company. Most manganese mining takes place in the vicinity of Takoradi, from where the mineral is exported. Reserves are still high, with Consmi estimating that only 3 percent of its concession has been mined: as of June 2011 the company estimated reserves of manganese carbonate at 24.4 million tons, with a manganese content of 29 percent.

Figure 8 shows the production levels of manganese during 2001-11.

Figure 8: Ghana manganese production levels, 2001-11E



Major mining companies in Ghana⁴¹

Key domestic players

- Adansi Gold Company Ltd.
- Ashanti Goldfields Co. Ltd.
- ButreAhanta Exploration Ltd.
- Central African Gold Ghana Ltd.
- Chinagold-GH Resources (Group) Co Li Ltd.
- Discovery Gold Ghana Ltd.
- Goknet Mining Company Ltd.
- Gold Recovery Ghana Ltd.
- Keegan Resources (Ghana) Ltd.
- Kumasko Mining Enterprise
- Leo Shield Exploration Ghana Ltd.
- Mikite Gold Resources Ltd.
- Newmont Ghana Gold Ltd.
- Noble Mining Ghana Ltd.
- Phoenix Resources Ltd.
- Quivira Gold Ltd.

⁴¹ Capital IQ, Accessed on 8 August 2013

Foreign companies with operations in Ghana

- Abore Mining Company Ltd.
- Abosso Goldfields Ltd.
- African Gemo Resources Ltd.
- African Gold Group Inc.
- AGG (Ghana) Ltd.
- Akoko Gold Ventures
- Akoto Stone Quarry Co Ltd.
- Akroma Gold Company Ltd.
- All Stars Associates Ltd.
- AngloGold Ashanti Ltd.
- AusdrillGh Ltd.
- Barnex (Prestea) Ltd.
- Birim Goldfield Inc.
- CAML Ghana Ltd.
- Cardero Ghana Ltd.
- Cluff Mining (West Africa) Ltd.
- Crew Gold Corp.
- Dbs Industries Ltd.
- Duraplast Ltd.
- Eastern Alloys Company Ltd.
- Ebi (Ghana) Ltd.
- General Metals Corporation
- Ghana Bauxite Company Ltd.
- Ghana Consolidated Diamonds Ltd.
- Gold Coast Resources Inc.
- Gold Fields Ltd.
- Golden Star Resources Ltd.
- Golden Star Wassa Ltd.
- Gyampo Mining Co. Ltd.
- Haber Mining Ghana Ltd.
- James Monroe Capital Corporation
- Leo Shield Exploration Ghana Ltd.
- Midras Mining Ltd.
- Newmont Ghana Gold Ltd.
- Nkroful Mining Ltd.
- Pioneer Gold Fields Ltd.
- Rancho Ghana Ltd.
- Resolute Amansie Ltd.
- Resolute Mining Ltd.
- Satellite Gold Fields Ltd.
- SEMS Exploration Services Ltd.
- Sian Gold Fields, Ltd.
- Vimetco Ghana (Bauxite) Ltd.
- Volta Aluminium Company Ltd.
- Wales Holding Corporation
- Waratah Investments Ltd.
- Westaf Pty Ltd.
- African Mining Services (Ghana) Pty Ltd.
- Nevsun Resources (Ghana) Ltd.
- Foraco International SA
- African Stellar (West Africa) Ltd.

* **Note:** The methodology used for the identification of mining companies:

- For the identification of mining sector companies in Ghana, we accessed Capital IQ to generate a list in the following industry sectors: Aluminum (Primary), Diversified Metals and Mining (Primary), Gold (Primary), Precious Metals and Minerals (Primary) and Steel (Primary). The list was then filtered to exclude unwanted results.
- The domestic companies list includes companies whose country of ultimate parent and geographic location is Ghana.
- The foreign companies list includes companies whose geographic location is Ghana but the country of ultimate parent was not Ghana.

Further insight from KPMG

Strategy Series



Country mining guides

This series of country guides provides an overview of the mining industry from a geographical, economic and legislative context. These country guides are invaluable for those already operating or considering an investment in the country.

Compliance Series



Business resilience in the mining industry: Conditioning the organization to succeed in an increasing risk environment

With uncertainty on all sides, mining organizations have to re-evaluate their approaches to organizational resilience.

KPMG International examined a number of existing and emerging risks faced by mining organizations around the world and identified the attributes of more resilient organizations. This paper moves ahead of those findings and looks at some practical solutions that mining executives can employ to increase resilience and provide a platform on which sustainable, profitable growth can continue.

Download this publication from kpmg.com/mining

Growth Series



Growth in a time of scarcity: Managing transactions in the mining sector

A combination of demand from the East, dwindling mineral resources and rising costs is reshaping the mining sector. As mining companies attempt to manage their asset life cycle in

this new landscape, their three main strategic priorities are growth, performance and compliance. Whether organically or (increasingly) through mergers and acquisitions, growth is a perennial objective in an industry where assets continually erode. This guide is the first in a series that discusses how mining companies can best navigate the asset life cycle, and covers the five key elements of the transaction phase: geographic expansion, financing and mergers & acquisitions, tax structuring, due diligence and integration.

Download this publication from kpmg.com/mining

Sustainability Series



Capitalizing on sustainability in mining

This publication examines how mining companies can leverage sustainable development to tackle resource constraints and sociopolitical challenges in remote areas in the world.

Performance Series



KPMG Mining Operational Excellence Framework

KPMG member firms have developed their own operational excellence framework over the last several years of association with leading mining companies. It helps organizations begin a journey of efficiency and then, over time, embeds such characteristics in order to make change sustainable over business cycles. This puts together all the capabilities necessary to assure the organization's leadership that it will be able to adapt to support their hunt for the next opportunity, whatever its nature.

Download this publication from kpmg.com/mining

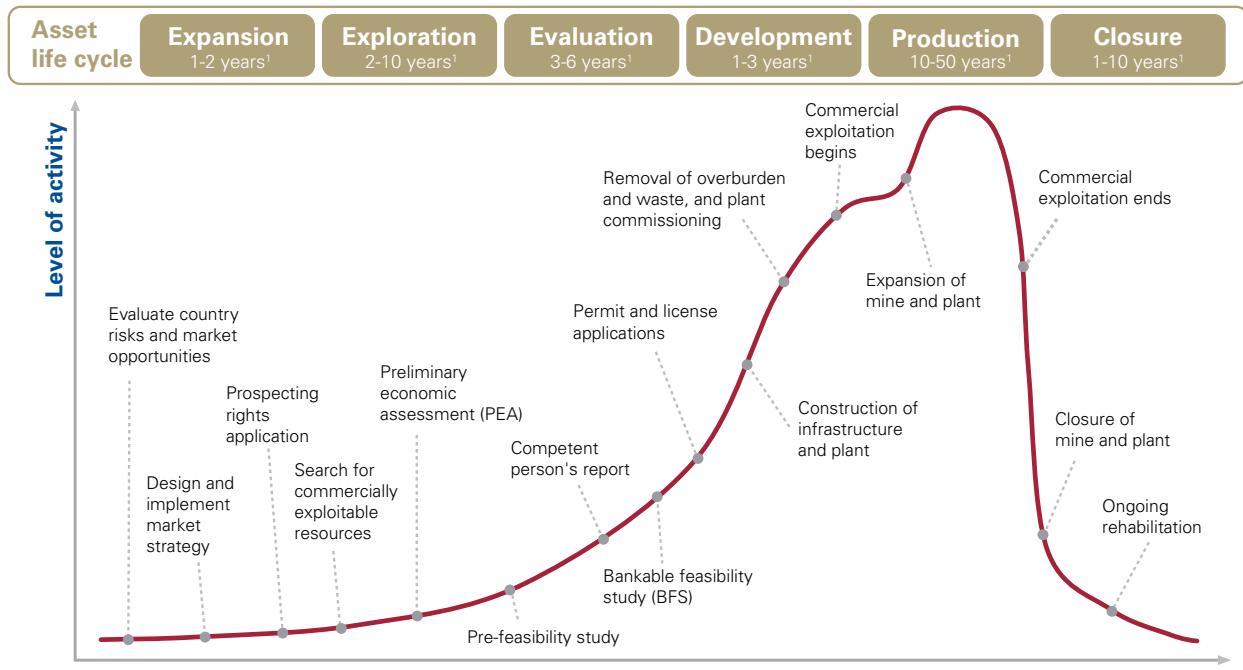
Commodity Insights Bulletins



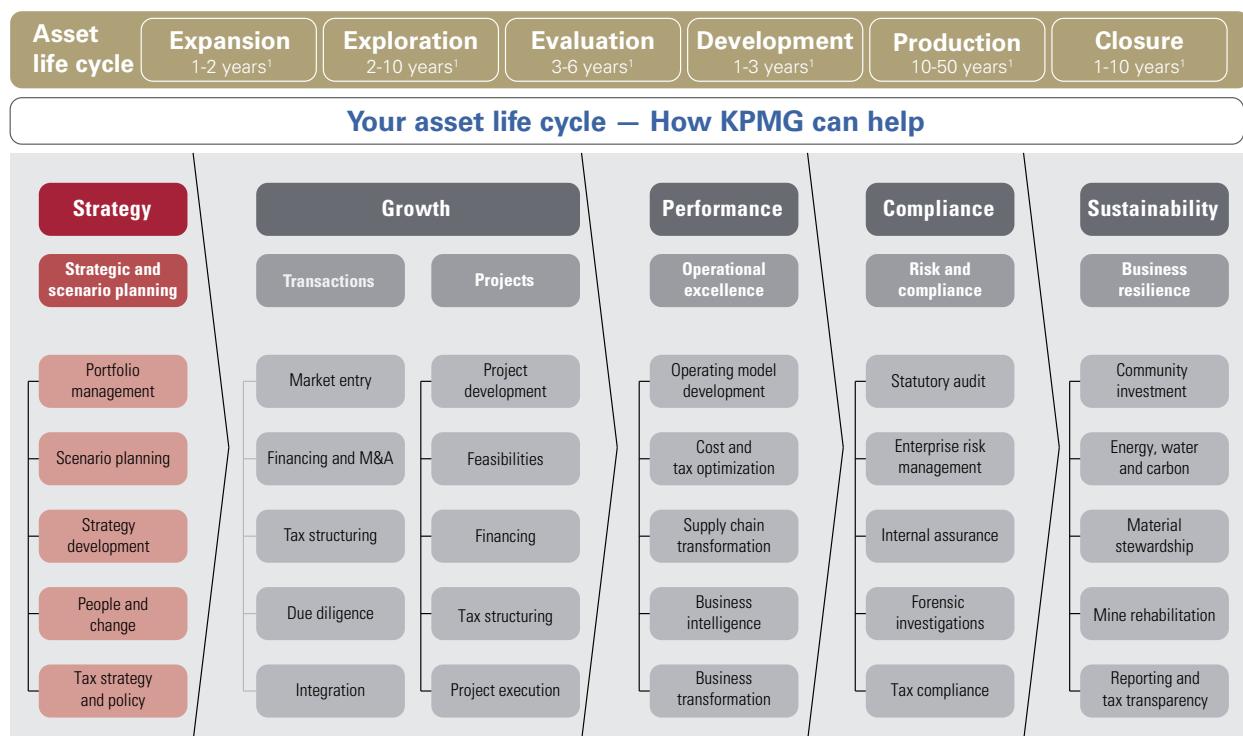
Our bulletins focus on key mining commodities. Each bulletin provides insight into trends, issues and changes within the key mining commodity sectors. The series currently includes bulletins focusing on our key mining commodities: Copper, Diamond, Gold, Iron ore, Metallurgical coal, Nickel, Platinum, Thermal coal and Uranium.

Download the bulletins from kpmg.com/mining

Mining asset life cycle



KPMG's mining strategy service offerings



KPMG's Global Mining practice

KPMG member firms' mining clients operate in many countries and have a diverse range of needs. In each of these countries, we have local practices that understand the mining industry's challenges, regulatory requirements and preferred practices.

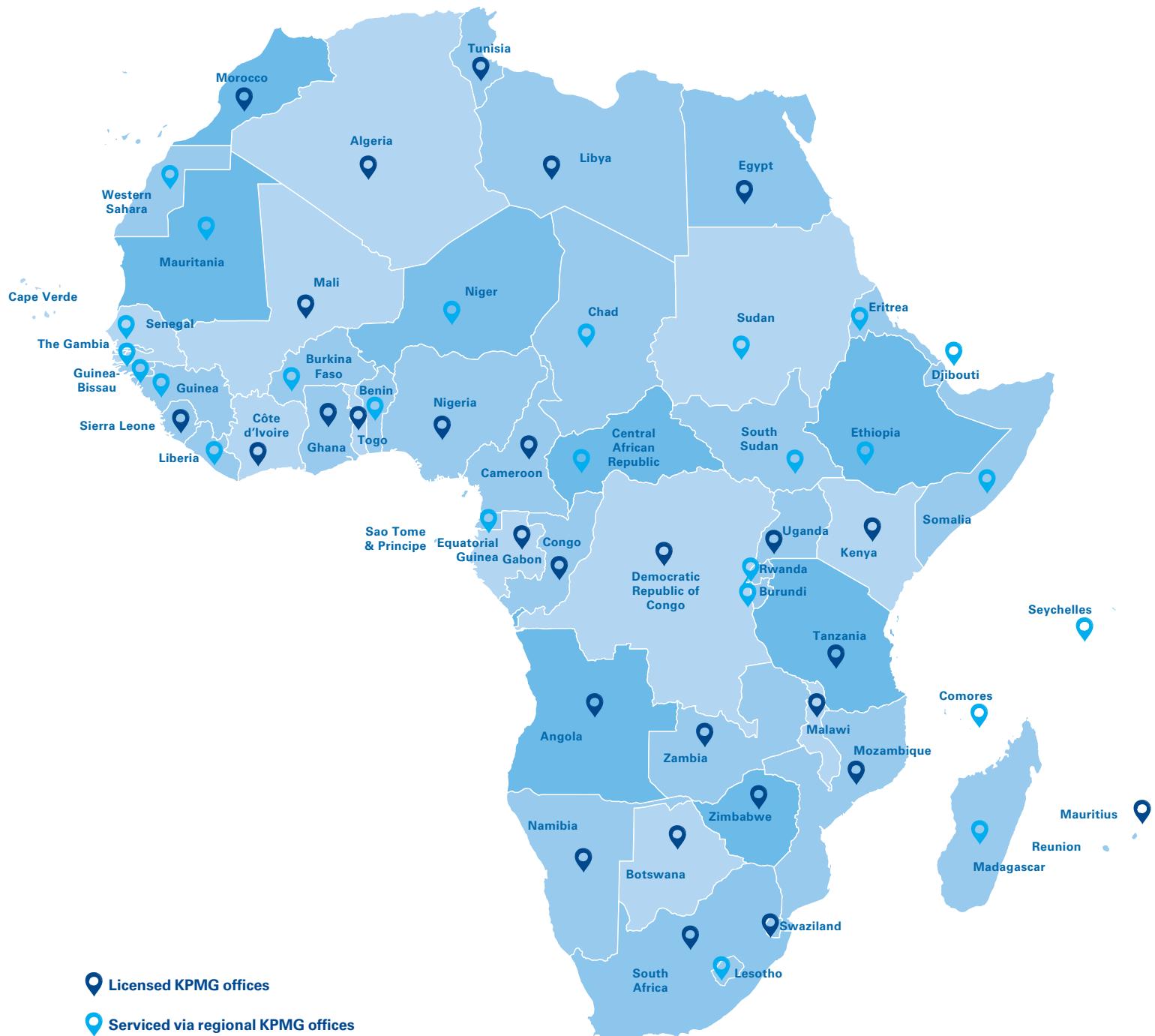
It is this local knowledge, supported and co-ordinated through KPMG's regional mining centers, that helps to ensure our mining clients consistently receive high-quality services and advice tailored to their specific challenges, conditions, regulations and markets. We offer global connectivity through our 14 dedicated mining centers in key locations around the world, working together as one global network. They are a direct response to the rapidly evolving mining sector and the resultant challenges that industry players face.

Located in or near areas that traditionally have high levels of mining activity, we have centers in Melbourne, Brisbane, Perth, Rio de Janeiro, Santiago, Singapore, Toronto, Vancouver, Beijing, Moscow, Johannesburg, London, Denver and Mumbai. These centers support mining companies around the world, helping them to anticipate and meet their business challenges.

For more information, visit kpmg.com/mining



KPMG's footprint in Africa



Licensed KPMG offices

Serviced via regional KPMG offices

As of July 2013

Contact us

KPMG in Ghana country contacts

Nii Amanor Dodox
National Sector Leader
T: +233 302 770 454
E: adodoo@kpmg.com

Nathaniel Harlley
Audit Sector Leader
T: +233 302 770 454
E: nharlley@kpmg.com

Daniel Adoteye
Advisory Sector Leader
T: +233 302 770 454
E: dadoteye@kpmg.com

Emmanuel O Asiedu
Tax Sector Leader
T: +233 302 770 454
E: easiedu@kpmg.com

kpmg.com/mining
kpmgafrica.com

kpmg.com/socialmedia



kpmg.com/app



The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

© 2014 KPMG International Cooperative ("KPMG International"), a Swiss entity. Member firms of the KPMG network of independent firms are affiliated with KPMG International. KPMG International provides no client services. No member firm has any authority to obligate or bind KPMG International or any other member firm vis-à-vis third parties, nor does KPMG International have any such authority to obligate or bind any member firm. All rights reserved.

The KPMG name, logo and "cutting through complexity" are registered trademarks or trademarks of KPMG International. MC11117