The Ghana Chamber of Mines

PERFORMANCE OF THE MINING INDUSTRY IN 2016

A RESEARCH REPORT OF THE GHANA CHAMBER OF MINES

Review and Outlook of Global and Domestic Economic Performance

The World Bank estimates that growth in global economic activity slowed down from 2.7 per cent in 2015 to 2.3 per cent in 2016, representing a decline of 14.8 per cent. The weak growth outturn in 2016, which is also the slowest in the post- global financial crisis period, was largely due to the stagnation in global trade, sluggish investments and heightened policy uncertainty in the advanced economies as well as poor growth in the other economies.

Data from the US Bureau of Economic Analysis shows that economic growth in the United States reduced from 2.6 per cent in 2015 to 1.6 per cent in 2016. The deceleration in growth of Gross Domestic Product (GDP) reflects downturns in investments and State as well as local government spending. Even though the period recorded increased levels of federal government spending and exports, they were insufficient to sustain or accelerate economic growth relative to 2015.

In the Euro Area, the World Bank projects that contraction in exports and domestic demand for goods and services will lead to a lower GDP growth of 1.6 per cent in 2016 relative to 2.0 per cent in 2015. The sluggish growth outturn in the nineteen-member Union was driven by the relapse of recession in Greece and a string of poor growth outcomes in countries such as Belgium and Spain, which partially displaced expansion in measured economic activity in Germany, Netherlands and Finland. On the other hand, in Japan, steep decline in exports displaced modest growth in private sector consumption in 2016. As a result, the rate of GDP growth declined from 1.2 per cent in 2015 to 1.0 per cent in 2016.

Economic growth in the Emerging and Developing Economies (EMDEs) is forecasted to decrease marginally from 3.5 per cent in 2015 to 3.4 per cent in 2016 by the World Bank. The tapering of growth in China and sharp fall in economic activity in Sub-Saharan Africa (SSA) were the primary drivers of the relatively slow growth outturn in the region. Whereas China's GDP growth rate reduced to 6.7 per cent in 2016 relative to 6.9 per cent in 2015, GDP growth rate in SSA declined sharply from 3.1 per cent to 1.5 per cent over the same period. The relatively slow growth in China was mainly due to the reduction in private investments and rebalancing of the economy to promote the Services Sector as the growth pole of the economy. Conversely, the softening of oil prices was the main reason for the sluggish growth performance in the SSA region.

Growth prospects of the global economy remain clouded by the uncertainty arising from the political developments in Britain and European Union as well as inadequate information on the policy stance of the new political administration of the United States. Within the context of this deficit in information, the World Bank projects that the global economy will grow by 2.7 per cent in 2017. However, the accommodative monetary policies of Japan and European Union, planned fiscal stimulus programme of the new Government of United States and policy response of EMDEs could further increase the growth projections.

In Ghana, data from the Ghana Statistical Service indicates that GDP growth slowed down from 3.8 per cent in 2015 to 3.5 per cent in 2016. The 2016 growth outturn was largely due to the legacy effects of the shortfalls in supply of electricity, contraction in upstream oil production as a result of the damage of the turret bearing of FPSO Kwame Nkrumah and uncertainties arising from the outcome of the 2016 national elections.

In terms of sectoral growth, the Services Sector recorded the highest growth rate of 5.7 per cent whilst Agricultural Sector followed with a growth rate of 3.0 per cent in 2016. The corresponding outturn in 2015 for the Services and Agricultural Sectors were 6.3 per cent and 2.8 per cent respectively. In contrast, growth of the Industrial Sector deteriorated from negative 0.3 per cent in 2015 to negative 1.4 per cent in 2016, driven largely by developments in the oil and gas industry.

Specifically, the Petroleum sub-sector shrank by negative 16.9 per cent in 2016 as a result of the downtime associated with the repair of the damaged turret bearing of the FPSO Kwame Nkrumah. The associated slump in oil production crowded out the 11.4 per cent growth in mainstream mining and quarrying activities, leading to a negative 10.7 per cent contraction in the overall Mining and Quarrying sub-sector. However, the other sub-sectors of the Industrial Sector; Manufacturing, Electricity, Water and Sewerage and Construction, recorded growth rates of 2.7 per cent, 11.7 per cent, negative 3.2 per cent, and 2.9 per cent respectively in 2016.

On account of the dissimilar sectoral growth performance in 2016, the share of Services Sector in GDP increased by 2.3 percentage points, from 54.6 per cent in 2015 to 56.9 per cent in 2016. This implies that the Services Sector's share in 2016 national output is more than the combined output

of Agriculture and Industry, which accounted for 18.9 per cent and 24.2 per cent respectively. The growth outturns of Agriculture and Industry in 2016 represent a decline compared to their respective shares of 20.3 per cent and 25.1 per cent in 2015.

Anchored in generous tax incentives, full year oil and gas production from the Tweneboa, Enyenra Ntomme (TEN) fields and fresh oil and gas production from Sankofa Gye-Nyame (SGN) fields as well as far reaching reforms in monetary and fiscal policies, Ghana's growth prospect appears auspicious in the medium-term. While the World Bank estimates that real GDP will grow by 7.5 per cent in 2017, the Government's 2017 Budget Statement and Economic Policy forecasts growth to be 6.3 per cent in the same period. The over 100 basis points divergence in the GDP projections may mirror the uncertainty about the response of private sector to the initiatives announced by the new Government in its maiden Budget Statement and Economic Policy.

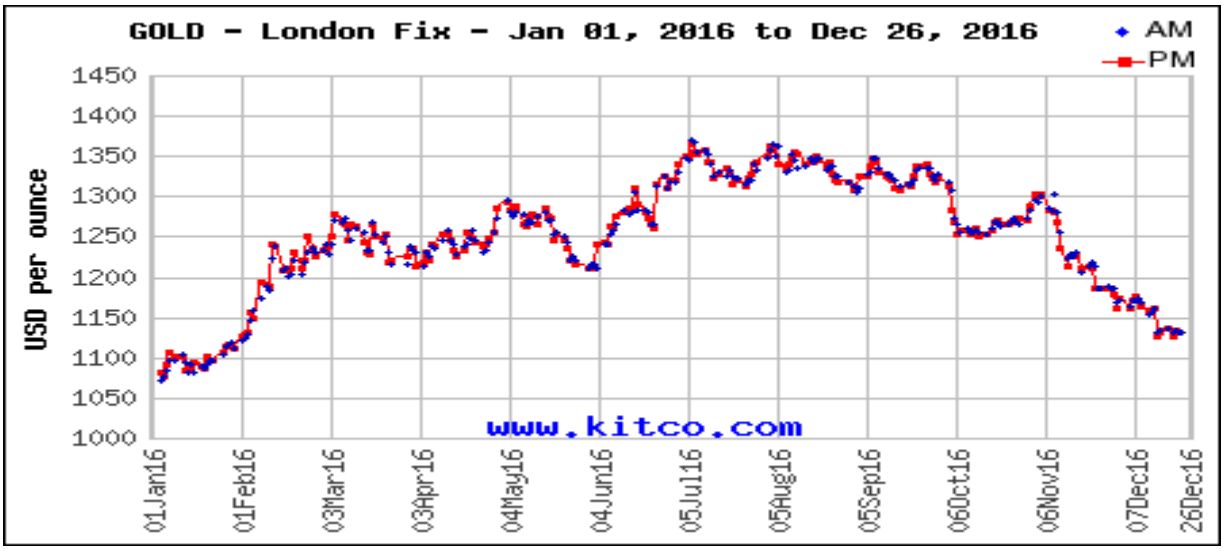
Overview of the Global Gold Industry in 2016

In the early part of 2016, the bullion market responded to the unexpected weak 2015 fourth quarter economic data from the United States with a surge in price. The disappointing data compelled most investors to revise their expectations about a possible hike in the Federal Reserve's fund rate and reorganize their portfolio investments in favour of the yellow metal. As a result, the price of gold rose from the year's opening price of USD 1,082 per ounce to USD 1,277 per ounce in March on the London Mercantile Exchange. Following bouts of short-lived dips and upward movements in the price of gold in the month of April, the traded price declined persistently to USD 1,212 per ounce on 2nd June, 2016. The tapering of the metal's price reflected investors' sentiments about the robust rebound of the global economy.

However, the uncertainty elicited by Britain's shock decision to exit the European Union triggered a bullish run of the gold price, recording its highest price of USD 1,366 per ounce in July. The price beat a retreat as investors adjusted to the shock of the referendum's outcome and oscillated between USD 1,300 per ounce and USD 1,350 per ounce until October, where it dropped to USD 1,253 per ounce. The US elections provided momentum for another price surge in mid-October and early November. After the conciliatory speech of the elected President, the price of gold remained bearish and closed the year at USD 1,145 per ounce. Overall, the cumulative

average price of the yellow metal in 2016 was 1,250 per ounce. This represents a 7.75 per cent increase over the cumulative average price of USD 1,160 per ounce recorded in 2015.

Fig 1.0: Trends in Gold Price



Source: www.kitco.com

In addition to the macroeconomic and Geo-Political environment, the movements in the traded price of gold were also a response to the underlying supply and demand conditions. Data from Thomson Reuters' GFMS Gold Survey shows that global mine production of gold increased marginally from 3,208 tonnes in 2015 to 3,222 tonnes in 2016, representing a growth rate of 0.4 per cent. The slow expansion in output was largely attributable to the declines in production by companies in Asia and South America, which was offset by growth in output from the remaining continents.

Production in Asia, which is the largest gold producer, nosedived by 13 tonnes in 2016, from 910 tonnes in 2015 to 897 tonnes in 2016. The continent's reduced output was driven mainly by production setbacks in Indonesia and Mongolia, which displaced the increase in output from China.

With respect to South America, gold production decreased marginally by 0.7 per cent to 551 tonnes in 2016 relative to 555 tonnes in 2015. The contraction in gold output was brought about by the

6.2 per cent downturn in production from Peru, from 175 tonnes in 2015 to 164 tonnes in 2016. The significant surge in output from Guyana and Dominican Republic was insufficient to compensate for the recession in output from South America's largest gold producer, Peru.

On the other hand, gold production from Europe was unchanged year-on-year at 303 tonnes in 2016. The Continent's largest producer of gold, Russia, recorded a 1.6 per cent increase in output to 253 tonnes in 2016, which was enough to neutralize the softening in output from the other producers.

In North America, all the three major gold producers, United States, Canada and Mexico, reported improvements in output. This culminated in the increase in gold production from 513 tonnes to 521 tonnes, equivalent to a growth rate of 2 per cent.

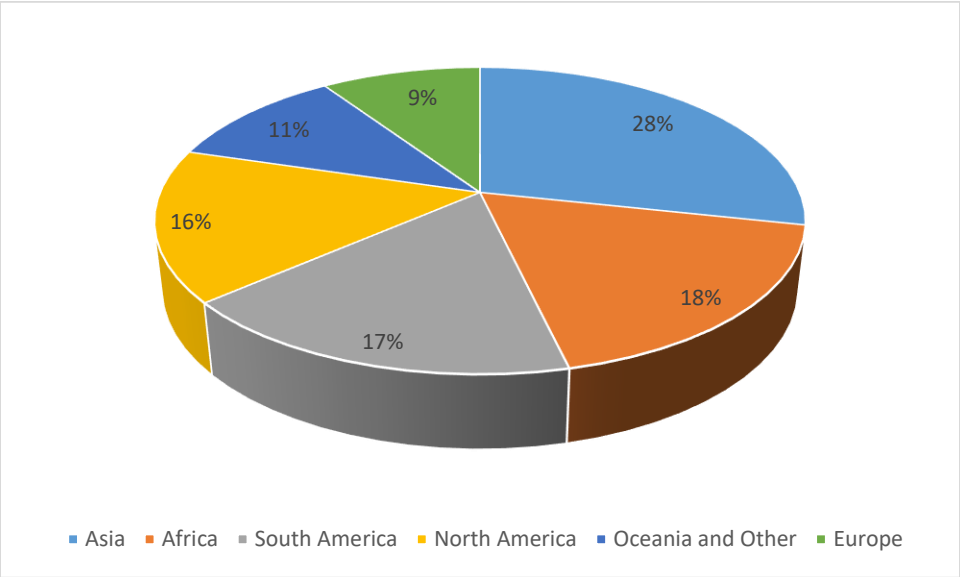
Whereas gold output from Africa rose by 2 per cent, from 575 tonnes to 587 tonnes in 2016, production in Oceania improved from 350 tonnes to 361 tonnes in the corresponding period. The growth in Africa's gold output emanated mainly from expansion in production in Sudan and Burkina Faso. Conversely, the 3 per cent increment in Oceania's output was driven primarily by producers in Australia.

In terms of contribution to global production, Asia continues to be the largest producer of gold with a share of 28 per cent. This is followed by Africa, South America and North America with respective shares of 18 per cent, 17 per cent and 16 per cent. Oceania and Europe complete the ranking with 11 per cent and 9 per cent of global gold production respectively as shown in Fig. 2.0.

Aside from the displacement of Peru as the sixth largest producer of gold by Canada, the list of top ten global gold producers in 2016 was unchanged relative to 2015. China consolidated its position as the world's largest producer of gold with a 3 tonne increase in its output, from 450 tonnes in 2015 to 453 tonnes in 2016. This implies that China accounted for 14 per cent of global gold production in 2016. Ghana's output plateaued at 95 tonnes in 2016, representing

approximately 3 per cent of global mines gold production. The country is also the tenth largest producer of gold in the world.

Fig 2.0: Distribution of 2016 Gold Production by Continent



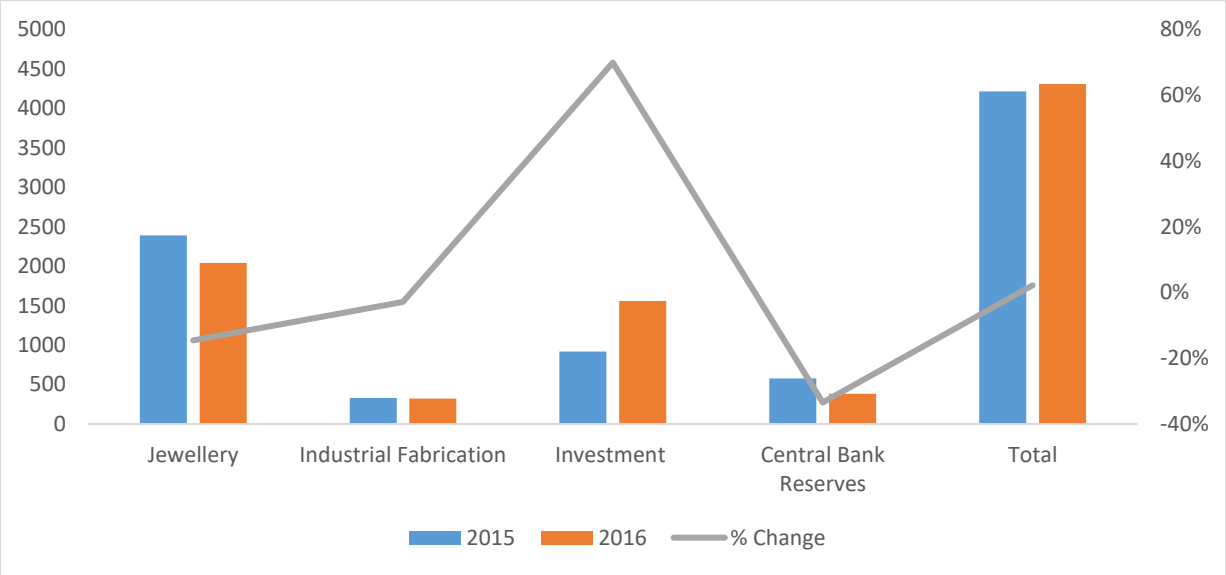
Source: Thomson Reuters (2017)

On the demand side, statistics from the World Gold Council show that global aggregate consumption of gold, including recycled gold, increased marginally from 4,251 tonnes in 2015 to 4,308 tonnes in 2016. The modest expansion in demand was attributable to the significant growth in investment demand for gold, which reached a four-year record high of 1,561 tonnes in 2016 relative to 918 tonnes in 2015. The 70 per cent upward swing in investment demand was partly due to the uncertain path of interest rate policies in the United States as well as geopolitical uncertainty.

In contrast, the other components of gold demand; jewellery, industrial fabrication and Central Bank Reserves, recorded declines. Whilst the gold reserves held by Central Banks decreased by 33 per cent to 383 tonnes in 2016 as compared to 576 tonnes in 2015, demand for jewellery and industrial fabrication dipped from 2,388 tonnes in 2015 to 2,041 tonnes in 2016 and 332 tonnes to 322 tonnes over the same period. The 14.5 per cent slump in jewellery demand was mainly due to the industrial action by manufacturers in India and relatively high price of gold in the period under

review. Likewise, severe economic conditions in Venezuela and high demand for foreign exchange in China and Jordan were responsible for the 33.5 per cent decline in Central Bank gold inventory in 2016. As well, the 3 per cent softening of gold demand for industrial fabrication could be partly ascribed to technological innovations.

Fig 3.0: Trends in Global Demand for Gold in 2016



Source: World Gold Council (2017)

Global Cost of Producing Gold in 2016

In the aftermath of the mining industry's downturn in 2013, most producers of gold realigned their business processes to optimize value for stakeholders. As a result, global cost of production, as measured by the World Gold Council's proprietary "all-in-sustaining cost" metric, has declined consistently since 2013. This trend continued in 2016, with a 2 per cent reduction in the global all-in-sustaining cost (AISC). The reduction in the AISC from USD 835 per ounce in 2015 to USD 818 per ounce in 2016 stemmed from the improved operational performance from producers in North and South America as well as the appreciation of the US Dollar relative to currencies of host mining countries.

Economic Contributions of Mining to Ghana

Statistics from the country's fiscal authority, Ghana Revenue Authority (GRA), shows that the mining and quarrying sector recaptured its position as the leading source of direct domestic revenue after being displaced by the Financial and Insurance Sector in 2015. Total fiscal receipts attributable to the mining and quarrying sector increased from GH₵ 1.35 billion in 2015 to GH₵ 1.65 billion in 2016, representing a growth of 22 per cent. This comprised payments of GH₵ 399.9 million, GH₵ 696.9 million, GH₵ 550.7 million and GH₵ 0.54 million in PAYE, Corporate Income Tax, Royalties and other taxes respectively.

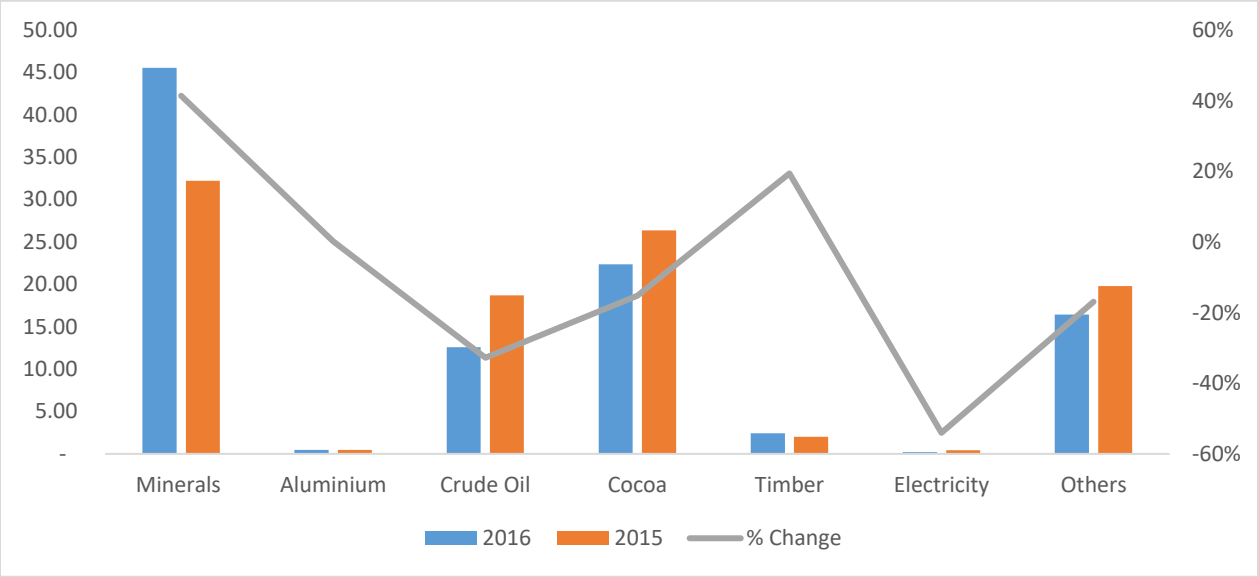
The mining fiscal revenue outturn in 2016 represents approximately 16 per cent of direct domestic revenue mobilized by the GRA and 5 per cent of total government revenue (including Grants). As well, the fiscal revenue performance of the Mining and Quarrying sector, which excludes payments of Ground Rent and Dividends to the State, compares favourably with the oil and gas sector's contribution of GH₵ 972.5 million reported in the 2017 Budget Statement and Economic Policy.

The health of the external sector of a relatively small and open economy, such as Ghana, is not only fundamental to currency movements and its pass-through effect on local price level but also the standard of living of the population. In that regard, proceeds from exportation play a critical role in ensuring a steady supply of forex to the financial intermediation system to settle liabilities denominated in foreign currency and meet the import demands of the country.

According to data from the Central Bank, the minerals industry consolidated its position as the country's leading export earner by improving its share in gross merchandize exports from 32.2 per cent in 2015 to 45.5 per cent in 2016. In nominal terms, the revenue realized from the export of minerals increased from USD 3.32 billion to USD 5.05 billion. Cocoa and crude oil followed with respective shares of 22.3 per cent and 12.5 per cent, which also translates into USD 2.48 billion and USD 1.39 billion of export receipts respectively. Thus, the proceeds from export of minerals is a little more than twice that of cocoa and more than three times the outturn of crude oil in 2016.

Apart from its role in decelerating the rate of the local currency's depreciation relative to other traded currencies in 2016, the 52 per cent increase in mineral export revenue was the primary reason for the positive outturn in the country's Balance of Payments. The January 2017 report of the Monetary Policy Committee of the Bank of Ghana observes that "For the first time since 2011, the provisional balance of payments in 2016 recorded a surplus. This largely reflected an improvement in the trade balance driven by a rise in gold export receipts and a fall in oil import prices."

Fig 4.0: Share of Commodity in Gross Merchandize Exports (%)



Source: Bank of Ghana

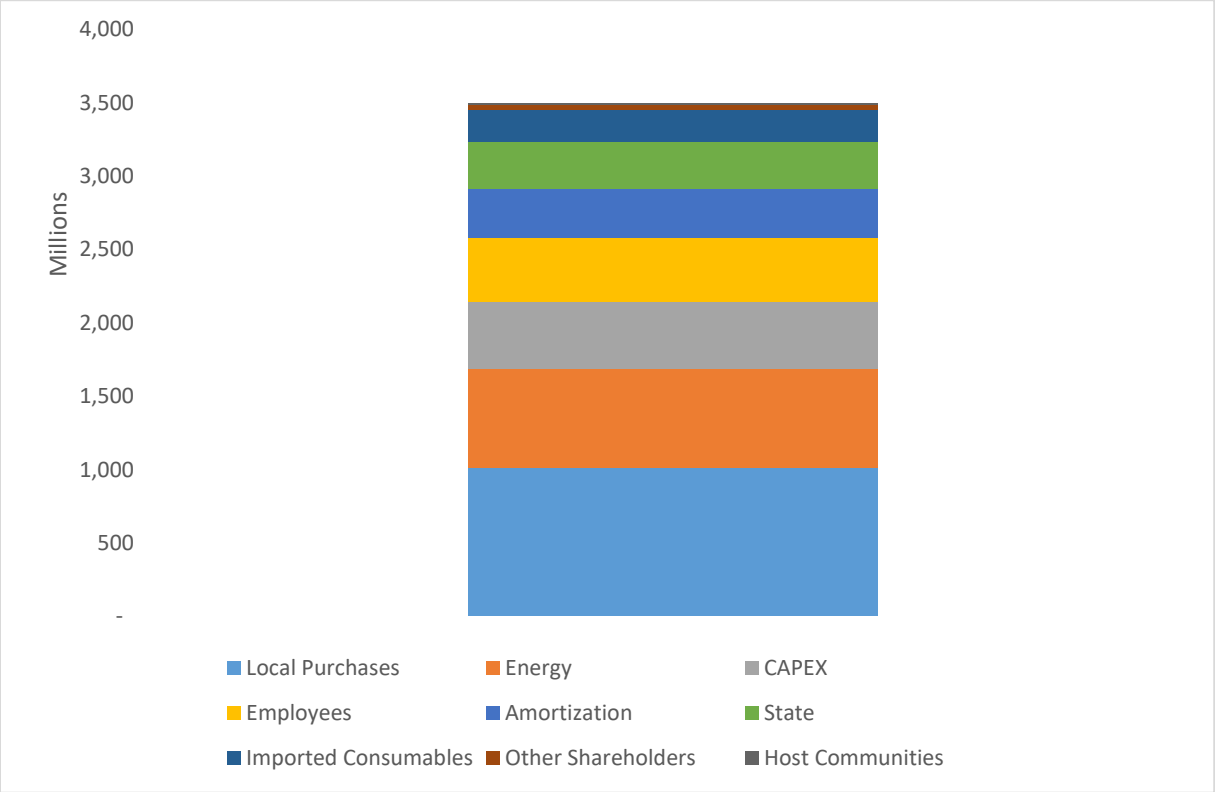
Local Impact of Mining Expenditure across the Value Chain

Producing member companies of the Chamber returned USD 2.30 billion out of their realized mineral revenue of USD 3.25 billion into the country, representing 70.9 per cent. USD 1.8 billion of the repatriated revenue was returned through the Commercial Banking system and the remaining USD 0.5 billion was ploughed back via the Central Bank. The relatively high share of revenue returned through the Commercial Banking system is as a result of the Bank of Ghana's decision to cede its statutory quota of export revenue to the forex market. In 2016, the Bank issued a directive that required all exporting companies to sell the equivalent of the mandatory surrender portion of their realized revenue to the Commercial Banks.

In the year under review, the producing mines spent USD 1.01 billion on purchases of goods and services (excluding diesel and power) in-country. This represents 31 per cent of realized mineral revenue and compares favourably with the outturn of USD 865 million recorded in 2015. The consecutive increase in spending on local goods and services by the producing member companies mirrors the Chamber's commitment to promoting local content in the mining industry. In addition, USD 375.9 million was spent on electricity, USD 301.1 million on diesel and USD 435.6 million as payments to employees. These represent 12 per cent, 9 per cent and 13 per cent of mineral receipts respectively. Furthermore, payments by the producing mines to the State amounted to USD 327.2 million while payments to other shareholders was USD 33 million, representing 10 per cent and 1 per cent respectively. The payments to the State include mineral royalty, social security, PAYE, property rates, customs duty, customs processing fee, concessionary levy on imports, export development levy, ECOWAS Levy, dividends, corporate tax and withholding tax on dividends, interest and services.

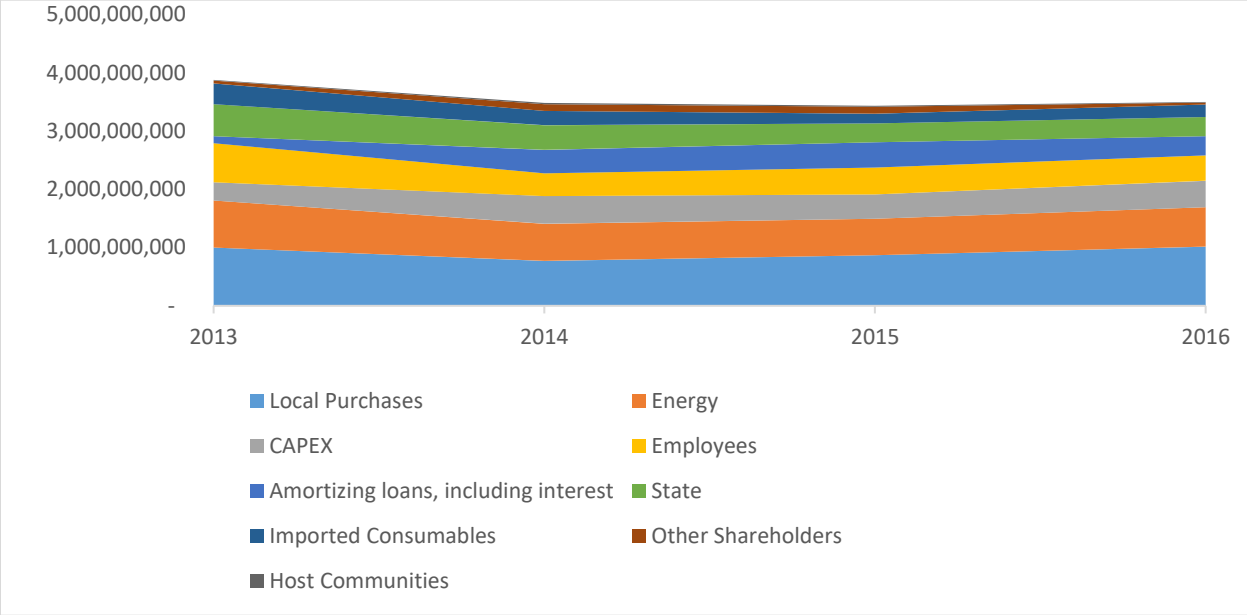
As well, USD 216.8 million, USD 452.9 million and USD 329.7 were spent on imported consumables, CAPEX and amortization respectively. These expenditures translate into 7 per cent, 14 per cent and 10 per cent of mineral receipts respectively. In furtherance of their commitment to support their host communities, the producing member companies of the Chamber invested USD 12.2 million in various social projects such as schools and health infrastructure.

Fig 5.0: Expenditure on Big Ticket Items in 2016



Source: Chamber of Mines

Fig 6.0: Trends in Distribution of Mineral Revenue (2013-2016)



Source: Chamber of Mines

Direct Employment in the Mining Industry

At the end of 2016, total direct employment by the producing member companies stood at 11,628, representing a 16 per cent increase relative to the outturn of 9,939 in 2015. The 2016 employment level comprises 11,438 Ghanaian employees and 190 expatriates, with the latter representing 1.63 per cent of employees.

Output and Revenue of Member Companies of the Chamber

Buoyed by relatively high prices and record export volume of gold and manganese, total mineral revenue of member companies of the Chamber increased for the first time since 2013. Production and purchases of gold increased from 2.84 million ounces in 2015 to 4.13 million ounces in 2016 while shipments of manganese rose from 1.2 million tonnes to 2.0 million tonnes over the same period. The 2016 outturn of purchases and production of gold as well as manganese is the highest level of exports in nearly four decades. The combination of 45 per cent and 57 per cent increase in gold and manganese exports respectively, crowded out the effect of the 23 per cent decline in exports of diamond by Precious Minerals Marketing Company (PMMC), from 0.18 million carats in 2015 to 0.14 million carats in 2016. As a result, aggregate mineral revenue member companies increased by 55 per cent to USD 5.26 billion in 2016, from USD 3.39 billion in 2015.

The steep upswing in the country's main mineral export, gold, from 2.8 million ounces in 2015 to 4.1 million ounces in 2016, was driven by fresh production from Asanko Gold Mine and substantial increase in exports through PMMC as well as growth in production at AngloGold Ashanti's Iduapriem and Newmont's Ahafo mines respectively, which moderated the decline in output from the remaining producing member companies of the Chamber. Accordingly, revenue from the export of gold surged from USD 3.32 billion in 2015 to USD 5.15 billion in 2016.

Gold production at Ghana's largest mine, Gold Fields' Tarkwa mine, decreased from 586,051 ounces in 2015 to 568,036 ounces in 2016. The 3 per cent reduction in output was precipitated mainly by the fall in yield from 1.35 g/t to 1.30 g/t as mining moved away from the Teberebie pillar and adjoining high-grade areas. Nonetheless, the share of Gold Fields' Tarkwa mine in total gold output of producing member companies of the Chamber increased from 20.6 per cent in 2015 to 22.2 per cent in 2016.

Similarly, production at Abosso Goldfields Limited's (AGL) Damang mine declined by 12 per cent to 147,720 ounces in 2016 as compared to 167,831 ounces in the preceding year. The downturn in output was partly due to the challenges in accessing the higher grade ore under the original Damang pit. On account of the decline in production, the share of Abosso Goldfields in total gold production softened to 5.8 per cent in 2016 as compared to 5.9 per cent in 2015.

A combination of higher throughput as a result of improved mill utilization and a marginal rise in mill recovery rates occasioned a 5 per cent increase in gold output from Newmont Ahafo's mine. Production increased from 331,507 ounces in 2015 to 348,861 ounces in 2016. Consequently, the mine's share in aggregate gold production of producing member companies increased from 11.6 per cent in 2015 to 13.6 per cent in 2016.

On the other hand, Newmont's Akyem mine recorded a slight dip in output, from 472,632 ounces in 2015 to 470,313 ounces in 2016. The 0.5 per cent contraction in output was on account of build-up of in-circuit inventory and lower grades. Notwithstanding, the share of Newmont Akyem in gold output of the producing member companies increased marginally from 16.6 per cent in 2015 to 18.4 per cent in 2016.

AngloGold Ashanti's Iduapriem mine produced 214,196 ounces of gold in 2016 relative to 192,522 ounces in 2015. The 11 per cent increase in output was triggered by increased plant availability and higher grades. Not surprisingly, its share in total gold production of producing member companies increased from 6.8 per cent in 2015 to 8.4 per cent in 2016. On the contrary, output at the Obuasi Mine of AngloGold Ashanti, which is under care and maintenance, tumbled by 94 per cent, from 52,648 ounces in 2015 to 3,072 ounces in 2016. The steep decline in Obuasi Mine's production lowered its contribution to aggregate gold output to 0.1 per cent in 2016 relative to1.8 per cent in 2015.

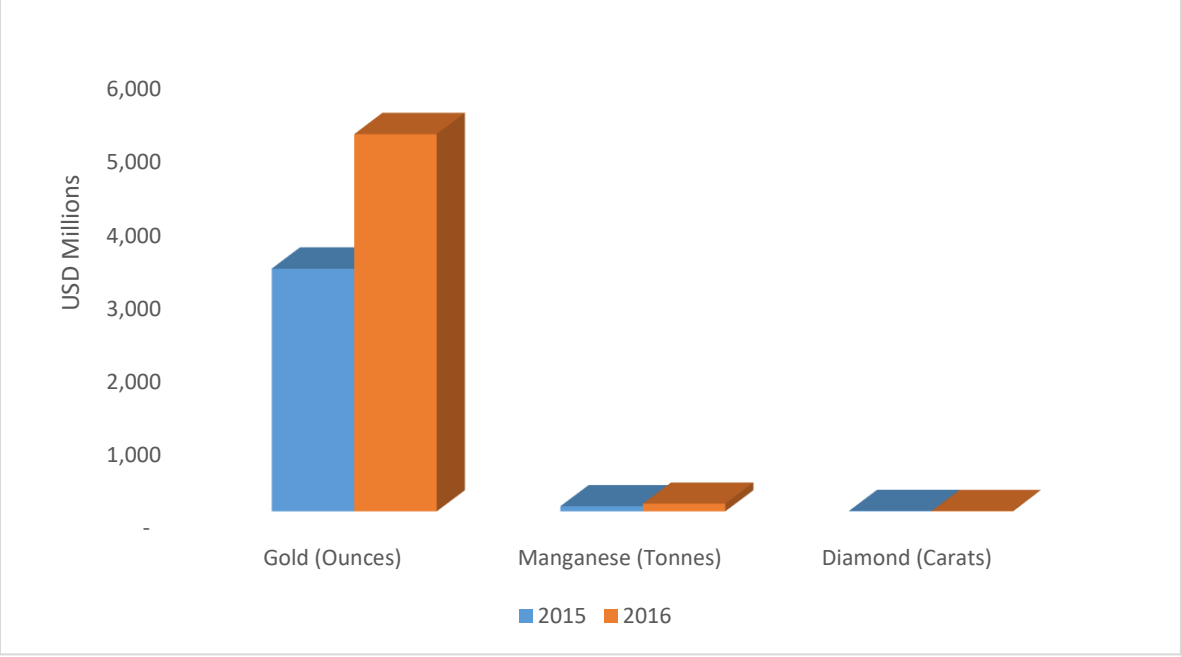
Although Golden Star Resources' Wassa Mine supplemented its output from the Wassa Main Pit with fresh production from the underground mine, total production shrank by 4 per cent. The reduction in output from 108,266 ounces in 2015 to 104,380 ounces in 2016 was primarily a

function of lower ore grade from the open pit. However, its share in total gold production increased marginally from 3.8 per cent in 2015 to 4.1 per cent in 2016.

In the same vein, a reduction in the mill throughput led to a 21 per cent fall in production at the Bogoso/Prestea mine of Golden Star Resources. Gold output contracted from 114,150 ounces in 2015 to 89,673 ounces in 2016. Against this backdrop, the mine accounted for approximately 3.5 per cent of total gold output attributable to producing member companies of the Chamber in 2016 as compared to 4.0 per cent in 2015.

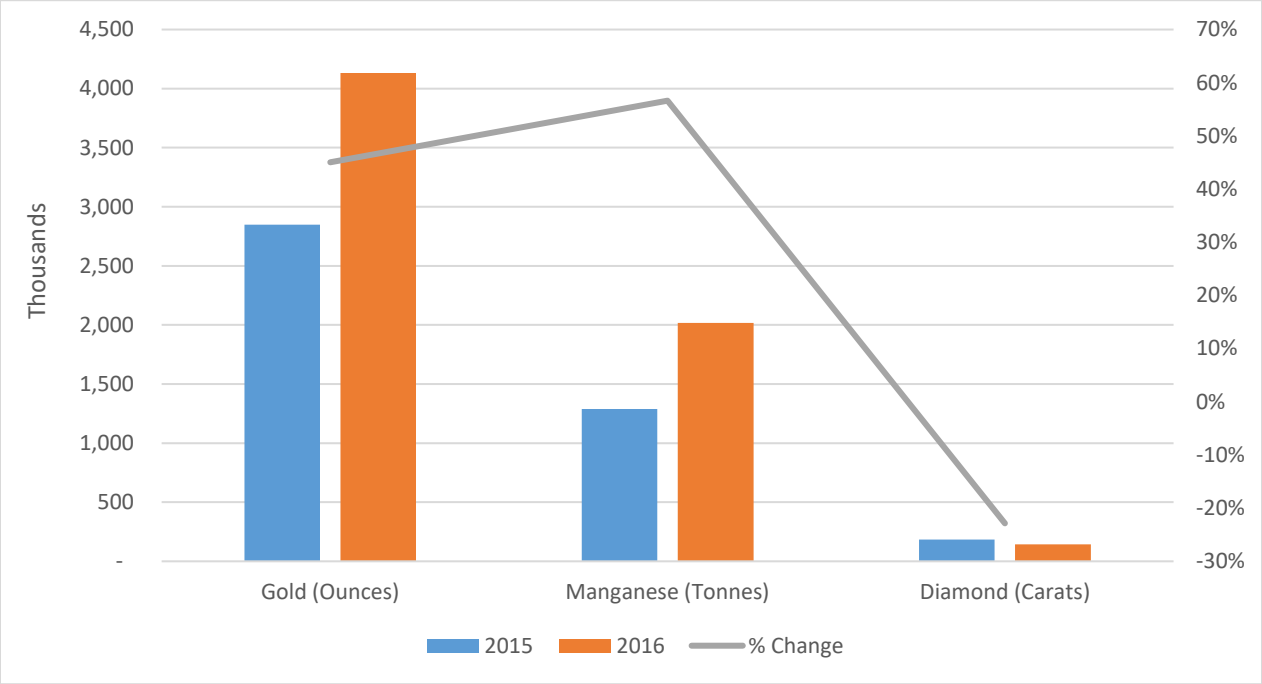
Output by Chirano Gold Mine plummeted from 255,377 ounces in 2015 to 211,440 ounces in 2016, mainly as a result of lower ore grade. The 2016 production outcome reflects a 17.2 per cent slump in gold output relative to 2015. On the back of the dip in production, the share of Chirano Gold Mine in total gold output of the Chamber declined to 8.3 per cent in 2016 relative to 9.0 per cent in the previous year.

Fig 7.0: Mineral Revenue of Member Companies (2015 and 2016)



Source: Ghana Chamber of Mines

Fig 8.0: Mineral Production by Type of Commodity (2015 and 2016)

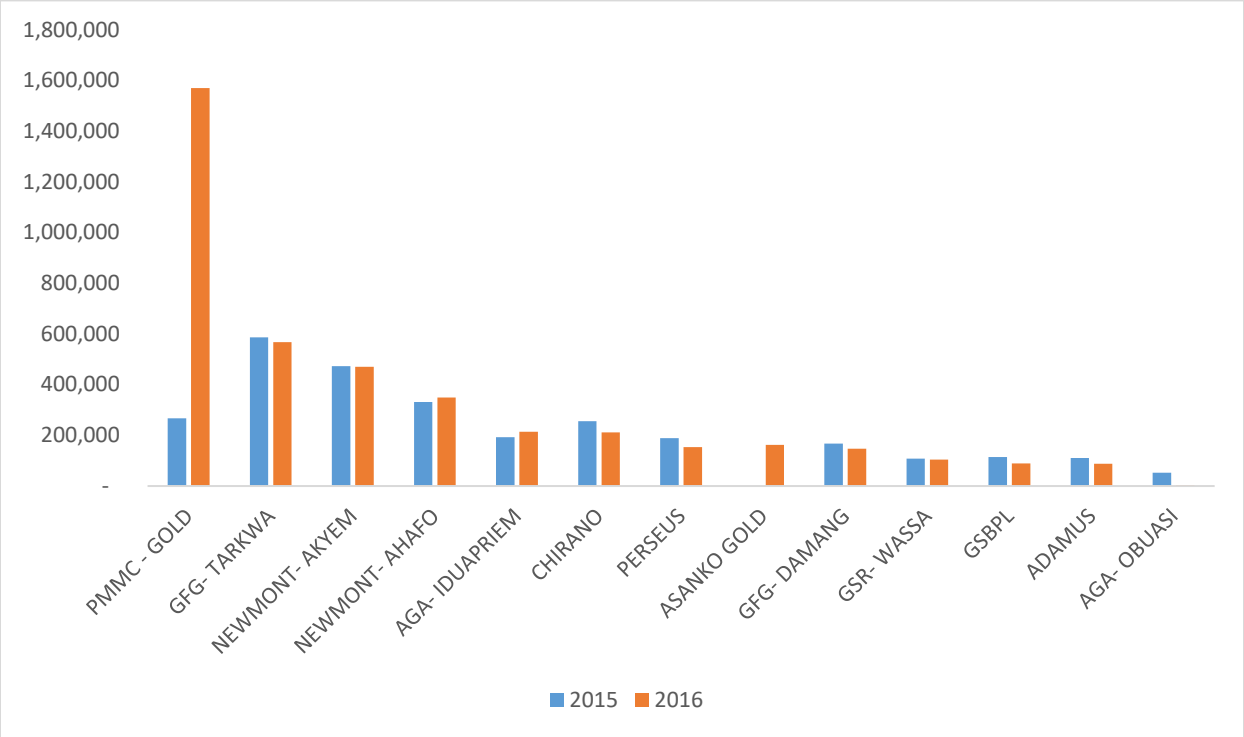


Source: Ghana Chamber of Mines

Owing to an ongoing pushback activity, 2016 was a transitional year for the Nzema Mine of Adamus Resources as supply of ore to the mill was limited to low grade ore and stockpiles. In that regard, production at the mine nosedived by 20 per cent, from 110,401 ounces in 2015 to 87,710 ounces in 2016. As a result, the contribution of Adamus to total gold production of producing member companies declined to 3.4 per cent in 2016 relative to 3.9 per cent in 2015.

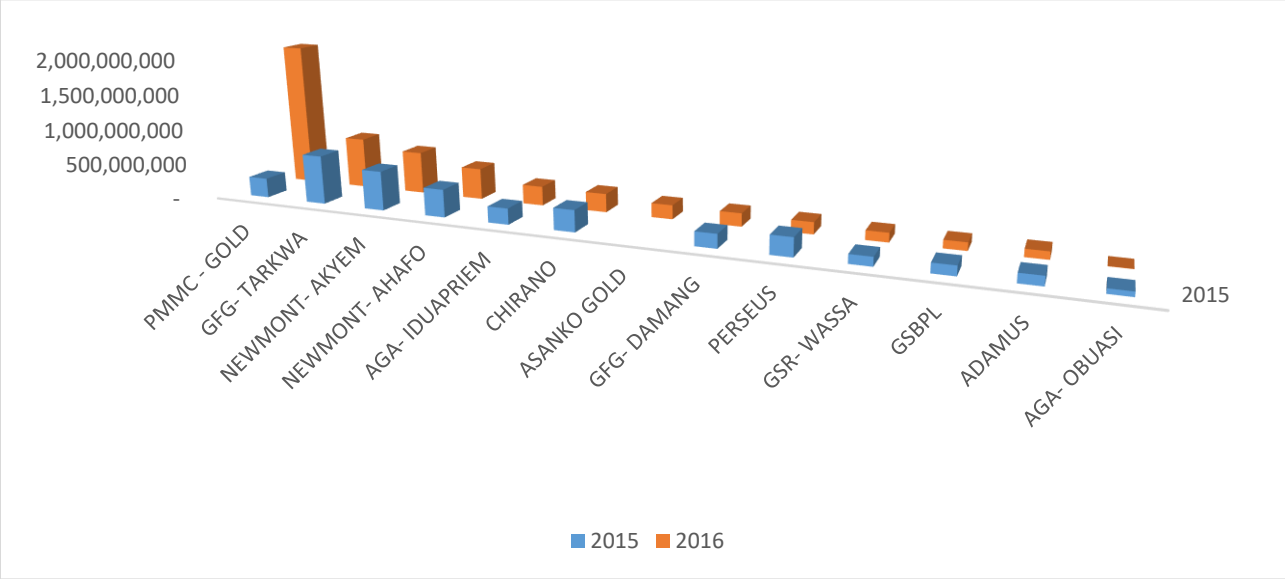
Production at the Edikan Mine of Perseus slowed down to 153,208 ounces in 2016 from 189,527 ounces in 2015. The 19.2 per cent recession in output was explained by lower average head grade and decreased recoveries. Consequently, its share in aggregate gold output dipped slightly to 6.0 per cent in 2016 as compared to 6.7 per cent in 2015.

Fig 9.0: Exports and Production of Gold by Member Companies of the Chamber (2015 and 2016)



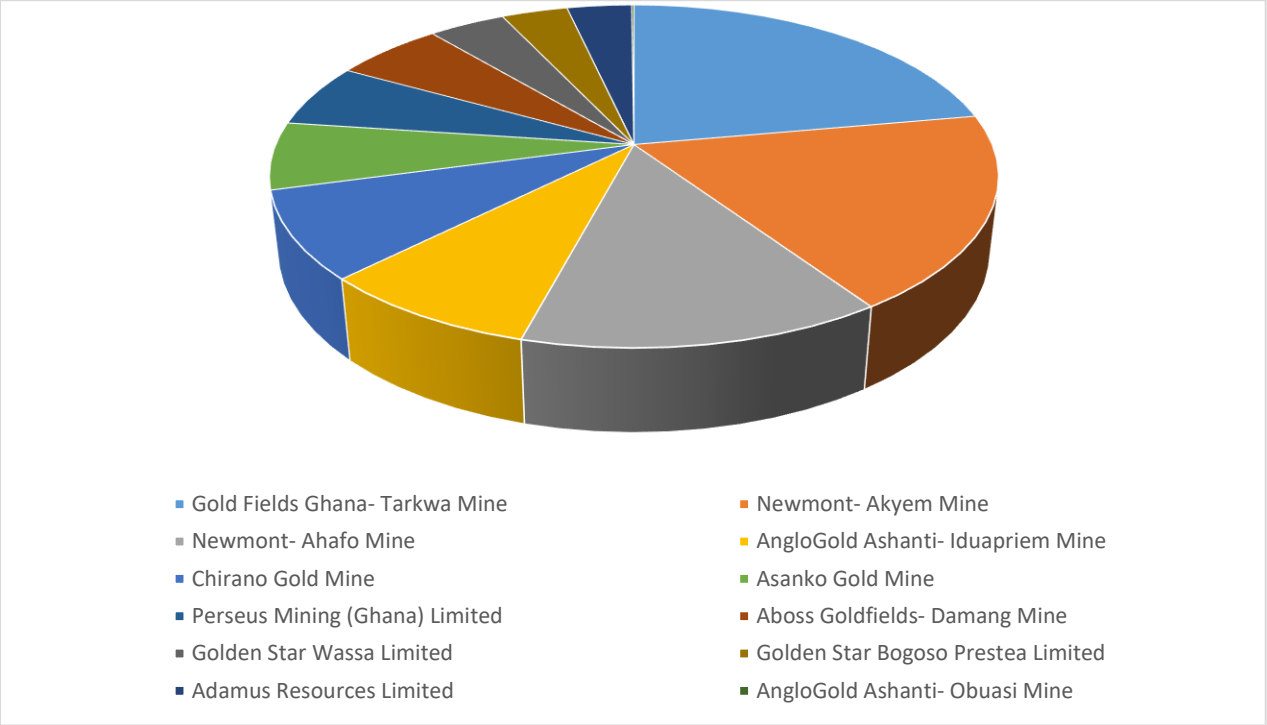
Source: Ghana Chamber of Mines

Fig 10.0: Realized Gold Revenue of Member Companies (2015 and 2016)



Source: Ghana Chamber of Mines

Fig 11.0: Share of Mine in Total Gold Production of Producing Member Companies (2016)



Source: Ghana Chamber of Mines

Following its first gold pour in the first quarter of 2016, Asanko Gold's end of year production was 162,802 ounces. This represents 6.4 per cent of total gold output of producing member companies. The above-projection output was achieved on the back of higher recovery and improved performance of the processing plant.

Purchases and exports of gold by PMMC increased significantly from 267,662 ounces in 2015 to 1,570,029 ounces in 2016. The Government's decision to clamp down on illegal exports of minerals provided the tailwinds for the 486 per cent hike in the purchases and exports of gold. Essentially, the directive required all licensed precious minerals buying companies to export minerals through the PMMC.

With respect to exports of diamond by PMMC, the volume of transactions declined from 185,376 carats in 2015 to 141,005 carats in 2016. The 23 per cent reduction in exports of diamond is largely on account of low production of diamonds by the small-scale miners.

The resurgence in the demand for iron and steel on the international market stimulated an increase in the production of manganese, which is a critical component for the manufacturing of these materials. In line with this development, Ghana Manganese Company, the sole producer of manganese in Ghana, increased its production fleet and varied its shift system from two (2) to three (3) streams. The reorganization of its production processes culminated in the shipment of a record 2,018,254 tonnes of manganese in 2016. This translates into a growth rate of 57 per cent relative to the outturn of 1,288,624 tonnes in 2015.

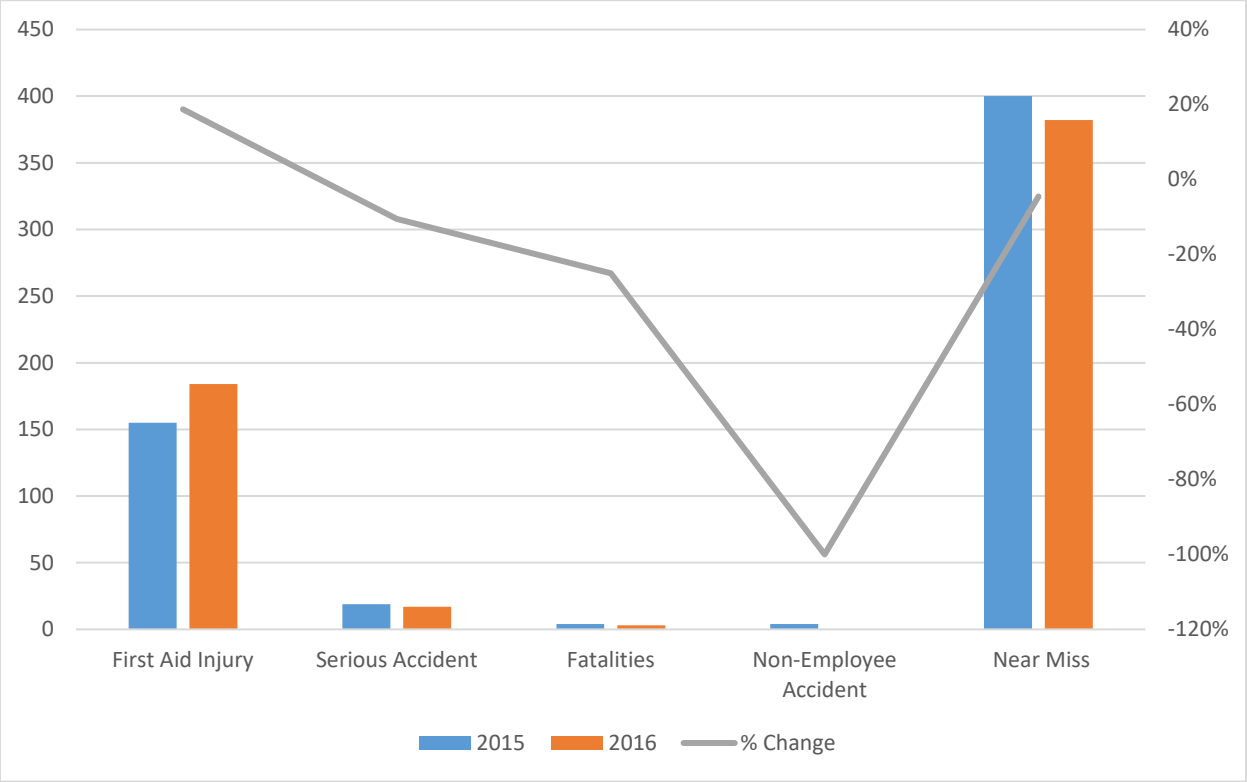
Health and Safety Performance of Ghana's Mining Industry in 2016

At the core of mining activities of our member companies is the enduring commitment to safety of employees and residents of host mining communities. In that regard, member companies of the Chamber continued to liaise with the regulatory institutions to adopt mining practices and technological innovation that mitigate the incidence of accidents on the mines. In 2016, the mining industry recorded a reduction in all classes of reportable incidents, except for First Aid Injury.

According to data from the Inspectorate Division of Minerals Commission (IDMC), cases of incidents requiring the administration of First Aid increased from one hundred and fifty-five (155) in 2015 to one hundred and eighty-four (184) in 2016. On the contrary, the frequency of Serious Accidents, which involves a loss time of more than fourteen (14) days, fell from nineteen (19) to seventeen (17) in 2015 and 2016 respectively.

Likewise, the recorded incidents of Fatalities decreased to three (3) in 2016 relative to four (4) in 2015. A fatality is an accident on the mine that leads to the death of an employee. Moreover, non-employee accidents declined to zero (0) in 2016. The corresponding rate in 2015 was four (4). Incidents on the mine, which did not result in injury, loss time, death or damage to an equipment, also lessened by eighteen (18), from four hundred (400) in 2015 to three hundred and eighty-two (382) in 2016. Such incidents are typically referred to as a Near Miss.

Fig 12.0: Frequency of Incidents in Ghana's Mining Industry (2015 and 2016)



Source: Inspectorate Division of Minerals Commission

Challenges

Illegal Mining and Small-Scale Mining

The worsening scale of illegal mining poses a major challenge for the country's natural resource sector and fiscal purse. The legacies of the illicit economic activity usually culminate in significant pollution, disruptions in social lives and a potential violation of international standards (Organization for Economic Cooperation and Development) relating to responsible minerals sourcing. In the case of the latter, gold exports from the country could be subjected to multiple checks or at worse, blacklisted.

In anticipation of these challenges, the Chamber conducted a study on artisanal and small-scale mining a number of years ago. The Chamber has since held policy dialogues with various duty bearers on the findings and recommendations for resolving the problem. A key recommendation from the study is that Government should conduct geological investigation into parcels of land

before granting them to small-scale miners under license. Other recommendations are the need to encourage the setting up of plant pools to provide equipment for the conduct of small-scale mining and the need to encourage rural banks to extend credit to the small-scale miners. The study also recommends the enforcement of Health, Safety and Environment standards through the engagement of competent Mining Engineers and Environmental Officers by small-scale miners. Such small-scale miners' services could be shared by a number of small-scale miners at different locations.

Decline in Competitiveness of the Mining Sector

The continuous relevance of the mining sector to the economy depends largely on the inflow of investments for both fresh and brownfield exploration. It therefore behoves the country to put in place a competitive policy environment to attract fungible mining investments. Whereas the country has a long history of mining, recent policy developments have eroded its competitiveness relative to other mining jurisdictions, especially in West Africa. A report by SNL Metals and Mining shows a higher exploration budget and activity for Burkina Faso than Ghana in the last five years. Similarly, the data indicates sharp increases in exploration spending in Mali and Cote D'Ivoire. Not surprisingly, gold production in Burkina Faso and Cote D'Ivoire increased by an annual average of 2.8% and 21% respectively from 2013 to 2015 while Ghana recorded an annual average decline of 3.8% over the same period.

In order to remain competitive, the Chamber proposes that the Government should review the mining sector fiscal regime. Specifically, we recommend that the royalty regime should be changed from the fixed rate to the sliding scale rates for all mining companies. As well, we propose that exploration companies, which provide the pipeline of future projects, should be exempted from the payment of VAT on big ticket items such as drilling and laboratory services.

Delays in Issuance of Permits by the Environmental Protection Agency (EPA)

The provisions of the Environmental Assessment Regulations, 1999 (L.I. 1652) empowers the EPA to process applications, evaluate Environmental Impact Assessments (EIAs), conduct public hearings and if mitigation measures for potential impacts are found to be adequate grant necessary permits to mining companies. In spite of the timelines enshrined in the legislation for the approval

of the permits, there are inordinate delays in the issuance of permits on critical mining projects. To address these challenges, the Chamber is collaborating with the EPA to fix the issues associated with obtaining environmental permits with the implementation of a Permit Application Tracking System. The System will be transparent, with clear timelines and accessible by all to review the status of applications without much difficulty.

It is our expectation that the implementation of the tracking system will improve the process of permitting and in particular shorten the lead time between the submission of permit applications and their consideration and issue of permits by the EPA. This will ensure that mining companies do not only concentrate on their core productive goals but also use a system that provides predictability to the permitting process and make Ghana a competitive destination for mining investments. This will ultimately help unlock investments (which could be channeled into projects in other jurisdictions) necessary to expand and develop mines in Ghana.

Utilization of Royalties and Poor Development Outcomes in Mining Communities

The proportion of the total mineral royalty, which goes directly to the fourteen (14) District Assemblies in whose jurisdiction mining takes place represents only 4.95 per cent of mineral royalty payments. In 2016, mining companies paid mineral royalty in the amount of GH₵ 550 million to the Government. This implies that only GH₵ 27 million is expected to be returned to the district assemblies for development. This amount is woefully inadequate for the stimulation of infrastructural development in the mining communities on account of their rather poor state.

Following the passage and assent of the Minerals Development Fund Act, 2016 (Act 912), an additional 4 per cent of mineral revenue is expected to be ploughed back to the community through the Mining Community Development Scheme. Although this development bodes well for the host mining communities, it pales in comparison to the funds required to accelerate development in these communities. It is on this premise that the Chamber maintains that the share of royalty ploughed to the community should be increased from the current rate of 13% to 30%. In addition, we urge the Sector Ministry to expeditiously inaugurate the Board of the Fund as well as the

Committees in each mining jurisdiction as stipulated in Act 912. No doubt the setting up of these bodies and the creation of the Fund will enable the nation to realize the benefits of the legislation.

Likewise, we urge government to promulgate a Mineral Revenue Management Act, a law that will be similar to the Petroleum Revenue Management Act, (Act 815), to guide the management and expenditure of mineral revenues. This will promote the sustainable use of mineral revenues as well as transparency and accountability in the management and expenditure of fiscal flows from the mining sector.

Deplorable State of Railway Infrastructure

The Western railway line, which was the primary mode of hauling bulk minerals to the Takoradi port, has deteriorated over the years as a result of obsolescence and limited investments. Consequently, the bulk mining companies, like the other producers of bulk export commodities, have had to make use of the more expensive road system. It is estimated that the cost of road haulage is 50% more expensive than the alternative of using the railway lines. This attenuates the bottom line of the bulk mineral producers and could compel them to fold up prematurely if a solution is not found sooner.

Successive Budget Statements and Economic Policies consistently points out the intention of government to rehabilitate the Western Rail network. Unfortunately, this is yet to happen. As an industry association, we believe that the benefits of a well-functioning railway system will not be a preserve of our industry but the entire economy. It could also serve as an alternative means of transporting life, foodstuff and other commodities across the country.

In that regard, the Chamber is pleased to know that the Government has set up a dedicated Ministry of Railway Development with impressive resources to undertake its mandate of rehabilitating and expanding railway infrastructure. Accordingly, we appeal to the Government to prioritize the rehabilitation of the Western Railway lines since it has the inherent potential to generate revenue to pay back the investment cost.

Harmonization of Royalty Regime in the Mining Industry

Following consultations with stakeholders of the mining industry, section 25 of the Minerals and Mining Act, 2006 (Act 703) was amended by the repeal of Act 794 and substituted with a provision that gives discretionary powers to the Minister responsible for mining to prescribe the rate and manner for payment of royalty to the Republic. These amendments are contained in the Minerals and Mining (Amendment) Act, 2015 (Act 900). Although, the Minister is yet to publish regulations on the rate and manner for the payment of royalty almost two years after the passage of Act 900, some mining companies continue to pay an amount equivalent to 5% of mineral revenue as required in the amended Act[1] while others are required to pay a variable royalty rate as shown in Table 1.0. The latter are mines that have investment agreements with the state and are relatively large gold producers.

In the considered view of the Chamber, the adoption of a sliding scale royalty regime based on the price of mineral is commendable as it enhances predictability in the fiscal regime and accommodates the volatile mood swings of the minerals market, especially the price of gold, the preponderant mineral mined in Ghana.

Table 1.0: Renegotiated Royalty Rates in Investment and Development Agreements

Royalty Rate (%)	*Gold Price (USD per ounce)*
3.0	Less than $1,300
3.5	$1,300- $1,499.99
4.0	$1,450- $2,299.99
5.0	$2,300 and above

Source: Ghana Chamber of Mines

On the downside, however, the selective application of the variable royalty regime culminates in a situation where mid-tier mines are heavily taxed. The current situation does not encourage marginal and mid-tier mines to increase investment and may reduce mine development, which

[1] Section 6(2) of the amended Act stipulates that "despite the repeal of Act 794, the rate of royalty in force immediately before the commencement of this Act shall continue in force until the rate is altered".

could be inimical to the sustainability of the mining industry. It may also result in high-grade mining and the associated sub-optimal development and harnessing of the country's mineral endowment. High grade mining is a form of mining that focuses on extraction of high grade ore bodies which will not allow Government to realize the full potential mineral revenue, including multipliers.

Furthermore, the state involuntarily penalizes the medium and marginal mines during periods of sluggish commodity prices. In the long run, the critical investments which are needed to supplement or extend the life of existing mines may not materialize since the companies may invest the capital in other mining jurisdictions with competitive royalty rates. Naturally, this will shrink Government revenue and weaken the State's ability to grow the economy on the back of the minerals industry.

Non-Recovery of VAT

The inability of our member companies to recover VAT refunds continue to be a major drag on their cash flow, especially in the context of high inflation and significant depreciation of the local currency. Statistics from our producing member companies show that they are owed GH₵ 279,367,251 in VAT refunds as at December, 2016. The outstanding VAT refunds effectively becomes another debt, compounding the challenges of our member companies. Even though the Government has attempted to address this challenge by allocating additional funds into the Refund Account, it still persists.

Moreover, the situation has been worsened by the Government's decision to stop the issuance of Treasury Credit Notes (TCN) which could be used to offset other liabilities. The rather long lead times for the GRA to conduct audits prior to refunds is also a source of concern to our member companies. Typically, it takes about nine (9) months before a VAT credit is audited and accepted by the GRA. It may take several months for the audited claim to be paid by the GRA. The inordinate delay in the refund process takes a negative toll on the cash flow of member companies.

We will therefore work with Government to put in place a predictable framework for the audit of claims and consequent timely payment of the resulting refund.

Pricing of Diesel

The Chamber commends the Government for its bold efforts and stated commitment to create an enabling environment for the profitable operation of the private sector. One of such strategies was the Government's decision to reduce the Special Petroleum Tax rate from **17.5% to 15%** in its maiden Budget and Economic Statement. While we welcome the reduction, we respectfully request the Government to further review some of the levies and taxes in the Price Build-Up (PBU) of diesel to improve the country's competitiveness in attracting mining investments.

Based on the price window of February 1, 2017 shown in Table 1.0, for instance, the total taxes, levies and margins on the price of diesel supplied to the mines is GHp 209.4993 per litre while the ex-refinery price is the equivalent of GHp 212.704. This implies that 49% of the price of diesel is made up of taxes and levies.

Given the large volume of diesel consumed in the extraction of ore and in some cases, generating electricity when power is unavailable from the national grid, mining companies incur significant cost on fuel. In a typical month, the mining industry consumes about 20 million litres of diesel. At the rates shown in Table 2.0, the industry pays GH₵ 41 million in taxes, levies and margins monthly. This contributes significantly to the relatively high cost of mining in Ghana, making the country less attractive relative to its peers in the sub-region.

Furthermore, the mining sector is not insulated from the price of diesel on the international market and the tariff for power since it is considered an export industry. The National Petroleum Authority (NPA) passes on the full price of diesel on to the mines. Accordingly, it is unfair for the industry to contribute to the Energy Sector Debt Levy and the Price Stabilization and Recovery Levy. It is therefore not surprising that compared to even landlocked mining countries, where diesel is double handled; the price to mines in Ghana is at a significant premium.

In view of the adverse effect of the tax-induced hike in the price of fuel on the operations of the mining firms, the Chamber is advocating for the removal of the Energy Debt Recovery Levy, Price Stabilization and Recovery Levy and 50% reduction in the Road Fund Levy. Mining companies procure electricity from Volta River Authority or Electricity Company of Ghana within the

framework of the Wholesale Electricity Market (WEM), where the cost of electricity is not subsidized.

Accordingly, the mining sector did not contribute to the creation of debts in the energy sector. It will only therefore be appropriate to exclude them from the payment of the Energy Debt Recovery Levy. Moreover, mining operations are in situ within a defined mining area and do not use their earth moving equipment on public roads. As a result, we request that the Road Fund levy in the PBU of diesel supplied to the mines should be reviewed downwards as the industry's support for mending public roads.

Table 2.0: Price Build-Up of Diesel (PBU) - Effective February 1, 2017

Item	Amount (GHp)
*Ex-refinery Price [2]	212.704119
**Price Stabilization Margin[3]	1.240881
Excise Duty	1.8000
Energy Debt Recovery Levy	41.0000
Road Fund Levy	40.0000
Energy Fund Levy	1.0000
Price Stabilization And Recovery Levy	10.0000
Primary Distribution Margin	6.5000
BOST Margin	3.0000
Fuel Marking Margin	1.5000
Special Petroleum Tax	57.0029
Marketers Margin	27.4555
Dealers (Retailers/Operators) Margin	19.0000

Source: National Petroleum Authority

[2] The ex-refinery price is typically quoted in USD. On the applicable date (1st February, 2017), it was quoted at 49.71 US Cents. We converted it into Cedis using an exchange rate of USD 1= 4.2789, as quoted by the Bank of Ghana.

[3] The Price Stabilization Margin is also quoted in USD. The applicable rate is 0.29 US Cents. The same conversion factor was used.

High Utility Tariff

The Chamber commends the Government for its commitment to invest in energy infrastructure and improve the operational performance of the utility companies. We also commend Government for the reduction in the Public Lighting Levy from 5% to 2% and National Electrification Levy from 5% to 3% in the 2017 Budget and Economic Statement. However, there is more scope to further review downwards the levies and taxes on electricity supplied to industrial consumers in order to reduce their cost of operations. Indeed, the escalation in price of electricity in recent years has been driven largely by the review and introduction of levies and taxes rather than the core tariffs.

In 2016, the Public Utilities Regulatory Commission approved an increase in the service charges of Ghana Grid Company (GRIDCo) without engaging the mining companies. Specifically, the Transmission Service Charge (TSC) was increased from 4.0453 GHp/kWh to 5.0384 GHp/kWh and the Regulatory Levy (RL) was also increased from 0.2505 GHp/kWh to 0.3155 GHp/kWh. This translates into an increment of 24.5% and 25.9% respectively. Likewise, the PURC approved the inclusion of new charges for Power Infrastructure and Risk Mitigation Charge (PIRMC) of 0.2306 GHp/kWh and Ancillary Services Charge (ASC) of 3.1523 GHp/kWh in the tariff of GRIDCo.

We respectfully request the Government to consider reducing the PIRMC and RL since it is a major driver of utility cost. Moreover, most mining companies have already invested in capacity banks to improve their power factor and would not require the assistance of GRIDCo in that regard. Thus, the Ancillary Services provided by GRIDCo is redundant and its continuous inclusion in the tariff build-up of GRIDCo for the mining industry is double billing. This is buttressed by the fact that industrial consumers of power are penalized by a surcharge for power factor below a defined threshold.

We therefore respectfully suggest that the Government should remove the ASC from the tariff of mining companies and other industrial consumers. Further, we appeal to the Government to urge PURC and the utility companies to engage its clients, including mining companies, prior to review of tariffs to facilitate their planning.

Value Added Tax (VAT) on Mining Companies for the Supply of Power

The VAT Act, 2013 (Act 870) stipulates in section 27 that the supply of any form of power heat, refrigeration or ventilation is a supply of goods. This provision also existed in the now repealed VAT Act, 1998, Act 546.

The GRA suggests that, as our member companies make their mining facilities/operations available to service providers, to the extent that these service providers consume electricity on the mine site, that consumption of electricity should be regarded as a supply of power and should be subject to VAT accordingly.

We believe that the supply of power issue should be looked at in various applicable contexts depending on the arrangements entered into between the member mining company and its service provider. This is on account of the following reasons:

1) Usage of the mine's electricity supply available to all Service Providers

Given the nature of mining (remote location, size of equipment etc.), certain technical and other service providers must transfer their equipment and specialist staff to the mine site to facilitate service delivery. In return, the mine makes available to them its facilities, supervisory staff and dedicated space amongst others. This is a recognised industry practice and the service providers' contractual arrangements and invoices to the mine take cognizance of this.

As the mine does not generate or supply electricity, all mine staff, contractors and service providers make use of the same electricity supply and there is no additional charge for electricity consumption. In such an instance, there has not been a separate supply of power. All service providers (caterers, transportation services, leisure services) make use of the same electricity supply and the amount that is billed to the mine takes cognizance of this.

As stated earlier, this is a business wide practice which is prevalent in other industries such as manufacturing, fabrication, among others.

2) Additional Contractual Charge for electricity consumed by stakeholders

As in the earlier example, service providers transfer their equipment and specialist staff to the mine site however the mine also makes available to them, a dedicated electricity supply. Such a dedicated electricity supply is contractually agreed to and chargeable as such and so should be subject to VAT.

In this instance, we would not disagree with the GRAs position that a supply of power has taken place in accordance with Act 870.

We are of the view that the contractual arrangements underpinning dealings between a mine and its service providers should be thoroughly reviewed in order to determine whether a supply of power has indeed taken place.

For example:

I. Does the service provider need a certain quantum of uninterrupted power in order to operate?
II. Does the contract stipulate that there will be an additional charge for electricity consumed?
III. Does the mine make the same electricity available to all of its service providers to enable them deliver on their obligations?
IV. Does the mine profit from there being a separate charge for electricity?

Whilst these are not exhaustive, they do attempt to determine whether electricity is available to all or whether indeed a separate supply of power has taken place. In the case of the former, no VAT. For the latter, VAT is duly applicable.

Unplanned Disruptions in *Supply of Power*

Frequent disruptions in the supply of electricity to mining companies do not only lead to damage of sensitive and expensive equipment but also have grave implications on the fiscal purse and employees. Specifically, unplanned interruptions in supply of electricity could result in the solidification of materials in the process plant, which takes approximately two (2) hours for sequential start up and normalization of process. It is against this backdrop that we urge the Government to address the bottlenecks associated with the supply side of the energy market, particularly, security of fuel for the thermal plants. We also request the Government to take steps

to expand the transmission capacity of GRIDCo to match the significant growth in the country's installed capacity to avert a situation where some generating plants will be stranded.

Statistical Appendix

Table 1.0: Production and Mineral Revenue (2015 and 2016)

	2015		2016	
COMPANY	**PRODUCTION**	**REVENUE (USD)**	**PRODUCTION**	**REVENUE (USD)**
Abosso Goldfields Limited	167,831	194,810,509	147,720	183,390,746
Adamus Resources Limited	110,401	128,341,506	87,710	107,150,748
AngloGold Ashanti Iduapriem Mine	192,522	223,433,033	214,196	268,261,229
AngloGold Ashanti Obuasi Mine	52,648	65,698,815	3,072	3,268,846
Asanko Gold Mine	-	-	162,802	195,388,905
Chirano Gold Mine	255,377	301,539,585	211,440	258,313,956
Gold Fields Ghana Limited (Tarkwa Mine)	586,051	680,689,902	568,036	708,864,563
Golden Star Bogoso Prestea Limited	114,150	133,303,230	89,673	111,970,441
Golden Star Wassa Limited	108,266	124,569,806	104,380	129,284,717
Newmont Ghana Gold Limited (Ahafo mine)	331,507	386,930,281	348,861	434,741,967
Newmont Golden Ridge Limited (Akyem mine)	472,632	548,633,233	470,313	586,878,575
Perseus Mining (Ghana) Limited	189,527	259,536,265	153,208	165,324,528
PMMC - Gold	267,662	273,149,043	1,570,029	1,999,943,636
Total (Gold)	**2,848,574**	**3,320,635,208**	**4,131,440**	**5,152,782,855**
PMMC - Diamond	185,376	6,639,040	143,005	4,931,157
Ghana Manganese Company	1,288,624	70,581,339	2,018,254	104,807,091
Total (All Minerals)		**3,397,855,587**		**5,262,021,498**

**Output of PMMC refers to purchases while that of Manganese refers to exports*

Source: Ghana Chamber of Mines

Table 2.0: All-In Sustaining Cost of Producing Member Companies (USD per ounce)

Company	2015	2016
Abosso Goldfields Limited	1,326	1,254
Adamus Resources	1,061	1,168
AngloGold Ashanti Iduapriem Limited	1,020	951
AngloGold Ashanti- Obuasi	2,750	17,907
Asanko Gold Mine	-	893
Chirano Gold Mine	908	1,203
Gold Fields Ghana (Tarkwa Mine)	970	959
Golden Star Bogoso Prestea Limited	1,127	841
Golden Star Wassa Limited	1,290	1,371
Newmont Ghana Gold Limited (Ahafo)	980	1,243
Newmont Golden Ridge Limited	583	589
Perseus Mining (Ghana) Limited	971	1,511

Source: Ghana Chamber of Mines