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# Burkina Faso emerges as a gold-mining powerhouse (/latest-news/modern-mining-latest-news/4776burkina-faso-emerges-as-a-gold-mining-powerhouse)

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One of the most extraordinary developments seen in West Africa in recent years has been the emergence of Burkina Faso as a major gold producer. Roughly a decade ago the country did not have a single modern commercial-scale gold mine – the government-operated Poura mine having closed in 1999 – and cotton was the country's main export commodity. Today there are 10 goldmining operations in the country with another two gold mines under construction and gold now accounts for over 60 % of total exports. In this article, *Modern Mining's Arthur Tassell* looks at the gold mining scene in the country, including the prospects for further growth in the sector.



The GG2 pit at Endeavour Mining's Karma mine, which was commissioned last year (photo: Endeavour Mining).

According to the country's Ministry of Mines, Burkina Faso is predicted to produce around 45 tonnes (1,44 Moz) of gold in 2017. If this is achieved, it could possibly make the country Africa's fourth biggest gold producer after South Africa, Ghana and Mali given that Tanzania (which normally holds the fourth ranking) produced 1,42 Moz in 2016 and may not exceed this figure in 2017. Prospects for Burkina Faso's production to grow even further over the next several years are good with several projects already at an advanced stage of development and in some cases deemed to be 'shovel ready'.

The country scores reasonably well in the Fraser Institute's annual survey of mining jurisdictions around the world, being rated (in the 2016 survey) as the eighth most attractive investment destination in Africa – below some other West African countries such as Mali, Ivory Coast and Ghana but above Namibia, Tanzania and South Africa. The mining code of Burkina Faso entitles the state to a 10 % ownership of all mining operations on a free carry basis. Of the existing mines, the biggest single producer is **Essakane** with an annual gold production in the 370 000 to 380 000

ounce range. Owned by Canada's IAMGOLD Corp, it is located in the far north-east of the country (and close to the border with Niger).

IAMGOLD's involvement with Essakane dates back to its acquisition of Orezone Resources in 2009, when the project was in its development phase. Essakane began commercial production in July 2010. Mining is carried out using conventional open-pit methods by an owner fleet with the annual mining rate being in the vicinity of 50 Mt. In the first quarter of this year, the mine's production was 93 000 ounces at an AISC of US\$973/oz.

IAMGOLD announced earlier this year that the mine had entered into an agreement for the development of a 15 MW solar power plant to complement the existing 57 MW heavy fuel oil power plant on site. Commissioning is expected by the end of this year. Essakane has no major expansion on the horizon but is currently drilling and evaluating the **Falagountou East** deposit, which has the potential to deliver low-cost, high-grade saprolite ore. A resource estimate is expected later this year.

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Another major player in Burkina Faso's gold mining industry is Nordgold, now delisted from the LSE, which operates nine gold mines around the world including four in Russia. It has three mines in Burkina Faso – Taparko, Bissa and Bouly (although Bouly functions as a satellite of Bissa). The three operations produced around 324 000 ounces of gold in 2016 but this fi gure will grow in 2017 when a full year's production is registered by Bouly (which only came on line in September last year).

Taparko, located 200 km north-east of Ouagadougou, was the first 'new generation' gold mine to be built in Burkina Faso and poured its first gold in late 2007. Mining operations currently consist of three separate open pits located at Taparko and one satellite pit at **Bouroum** with the ore being processed in a conventional plant which includes three stages of crushing, ball milling and CIL circuits. Its gold production in 2016 totalled approximately 111 000 ounces – well up on the 2015 figure – at an AISC of US\$1 045/oz. The mine is currently working on the permitting of the satellite Goengo deposit in order to start its development and mining in H2 2017.

Nordgold's **Bissa** mine is its flagship operation in the country and is located 85 km north of Ouagadougou, Burkina Faso's capital. In production since early 2013, it is a multi-pit operation served by a straightforward ClL plant. In 2016 it produced just short of 186 000 ounces, well down on the 2015 figure of 235 000 ounces with Nordgold attributing the decrease to lower ore mined volumes and head grade mainly related to higher waste stripping activities performed in order to facilitate open pit cutbacks for higher grade ore supply in 2017.

The Bissa complex was expanded in 2016 with the launch of a heap leach operation at the nearby **Bouly** deposit. According to Nordgold, the project – representing an investment of US\$140 million – has been a huge success and has "delivered well aheadof expectations". It was built in 13 months, on schedule and under budget, and reached its full capacity within two months of commissioning. Bouly's average annual production will be approximately 120 koz over a mine life of 10 years. It produced 31,4 koz of gold in 2016, ahead of production guidance of 20 koz.

A company which is growing its footprint in Burkina Faso is Canada's SEMAFO, which operates the **Mana** mine, located 260 km southwest of Ouagadougou. Mana is reportedly the third largest mine in the country and has produced some 1,6 Moz since its first gold pour in 2008. The gold plant has been expanded four times since commissioning to a current capacity of over 7 200 tonnes per day. In 2016 Mana's gold production totalled 240 200 ounces.

A second mine in Burkina Faso for SEMAFO is on the way in the shape of **Boungou** (previously known as the **Natougou** project), which involves a capex of US\$231 million – which will be paid back in just 18 months. Located in the south-east of the country, Boungou will be a high-grade open-pit mine with the processing facility consisting of a 4 000 tonnes per day CIP plant.

It is expected to produce approximately 1,2 Moz over a projected life of mine in excess of seven years with average annual production of more than 226\_000 ounces in the first three years. During these three years, the average total cash cost is estimated at US\$283/oz and the AISC at US\$374/oz with the average head grade being 5,72 g/t. The mine is set for commissioning in the second half of 2018.

Acquired by SEMAFO from Orbis Gold in 2015, Boungou is already in construction, ceremony having been held at the end of March this year. In its quarterly report for the period ending 31 March 2017, SEMAFO said the bulk earthworks for the ounces of gold in 2017 at an AISC of US\$750 to US\$800/oz.

Endeavour is busy building a second mine, **Houndé**, in Burkina Faso. This will be an open-pit operation equipped with a 3,0 Mt/a gravity circuit/CIL plant and has an initial capital cost of US\$328 million, inclusive of US\$46 million for the owner-mining fleet. Construction – Lycopodium is the EPCM contractor – began in April 2016 and the first gold pour is expected in the fourth quarter of this year. The mine will have an average annual production of 190 000 ounces at an AISC of US\$709/oz over an initial 10-year mine life and will rank as Endeavour's flagship low-cost mine.

Endeavour recently reported that the project was running on time and within budget. It also noted that the site had achieved 4 million hours without a lost time injury (LTI). Mining of ore has started and Endeavour is planning to have 600\_000 tonnes of ore stockpiled on the ROM pad for plant commissioning.

An established mine which has encountered problems is **Inata**, located 200 km north of Ouagadougou and owned by Avocet Mining. In production since late 2009, it is a multi-pit operation served by a 1,6 Mt/a CIL plant that produced 72 485 ounces of gold in 2016. The mine has, however, faced a multitude of challenges in recent months including creditor pressure, tight margins, the seizure last year by bailiffs (acting on behalf of disaffected workers) of a 1 400-ounce gold shipment, and the mechanical availability of the mine fleet and the plant.

Avocet has said that the mine will produce between 75 000 and 85 000 ounces of gold in 2017 but it is not clear at the moment to what extent the mine is operational as Avocet announced on 10 May this year that the majority of workers had been put on what it terms "technical unemployment" for a period of three months. The company's shares on the LSE and the Oslo Bors were recently suspended after the company failed to publish its annual report within the stipulated time frame. The latest development is that the company has advised that it has reached a 'standstill' agreement with its major creditors for a two-month period. Inata has roughly three years of reserves remaining but – should it overcome its present problems – its life could be extended via three satellite deposits. Under current plans, the first to be brought into operation would be **Souma**, located 20 km from the Inata plant, which has measured, indicated and inferred resources of 11,63Mt at a grade of 1,81 g/t for 675\_000 ounces of gold. Avocet says that to bring Souma into production would require US\$5 to US\$7 million of funding to cover drilling and a feasibility study and a further US\$5 million in capex to cover pit works, a haul road and enhancements to the crusher.

A relatively new entrant to Burkina Faso is Avesoro Holdings (formerly MNG Gold Holdings), a Turkish group, which purchased the advanced **Balogo** project from Australia's Golden Rim Resources in 2015 and the operating **Youga** mine – which produced around 68\_000 ounces in 2015 – from Endeavour Mining in 2016. Both Balogo and Youga are situated in the south of the country near the border with Ghana and are now logistically linked via a 160\_km road rehabilitated in 2016 by Avesoro. Low-cost owner-operator mining began in March this year at Balogo (in the Netiana starter pit) with the ore being transported to Youga for processing by a fleet of 30 Volvo trucks purchased at a cost of US\$2,5 million. The trucking costs are reported to be US\$19/ton.

Both Youga and Balogo could become part of Avesoro Resources (formerly Aureus Mining), a company that runs the New Liberty gold mine in Liberia. Avesoro Resources – whose cornerstone shareholder is Avesoro Holdings – announced in May this year that it was considering a range of growth opportunities, including the acquisition of Youga and Balogo.

Moving from mines to advanced projects, a promising fully permitted, high grade, open-pit project is Banfora in the south west of Burkina Faso, acquired by Teranga Gold Corporation last year as part of its acquisition of ASX-listed Gryphon Minerals. Teranga, a Canadian-based company which owns Sabodala, the only commercial scale gold mine in Senegal, is expecting to complete a feasibility study on **Banfora** by mid-year and anticipates a construction and financing decision later this year. If the project is approved, the anticipated first gold pour would be in H1 2019. Gryphon had intended to develop Banfora – which has a roughly 3 Moz resource – utilising a 2 Mt/a heap leach facility but Teranga's preferred development path is based on an optimised CIL flowsheet.

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Also on line for a 2019 startup is Sanbrado (formerly known as Tanlouka), which is being developed by Perth-based West African Resources, listed on the ASX and the TSX-V. The company claims to be the largest ASX landholder in Burkina Faso controlling roughly 1 000 km2 of the country's greenstone belts and recently completed an open-pit feasibility study for the project, which has probable reserves of 894 000 oz (16,8 Mt at 1,7 g/t\_Au) and indicated resources of 1,3 Moz (29,75 Mt at 1,4 g/t Au) using a 0,5 g/t cut-off. Sanbrado is located approximately 90 km east-south-east of Ouagadougou. Another fully-permitted project in this area is Bomboré, controlled by Canada's Orezone Gold Corporation, which is listed on the TSX-V. Bomboré has a measured and indicated resource of 4,77 Moz. Orezone's plan is to develop a combined heap leach/CIL operation that does not require any grinding or cement agglomeration and should yield overall recoveries of 87 %. The initial focus would be on the shallow oxide resource although the company points out that the standard CIL circuit could be expanded to process the large underlying sulphide resource. The company is reviewing and updating the feasibility study on the project. This has been delayed slightly and is now expected in the third quarter of this year.

Finally, it should be stressed that the country's exploration scene remains very active. Among the companies with projects in the exploration phase are Canada's Nexus Gold, Sarama Resources and B2Gold and Australia's Golden Rim Resources, Centamin Mining and Predictive Discovery. In terms of resources, probably the biggest of the projects is B2Gold's Kiaka, which is low in grade but has a 4,6 Moz measured, indicated and inferred inventory, and Centamin's Konkera, which hosts a 3,2\_Moz indicated and inferred resource. Also very promising are Sarama's South Houndé, Karankasso and Bondi projects in the Houndé gold belt which collectively have 3,2 oz in inferred resources. Sarama is in joint venture with Acacia (Tanzania's biggest gold miner) at South Houndé and with Savary Gold, listed on the TSX-V, at Karankasso.







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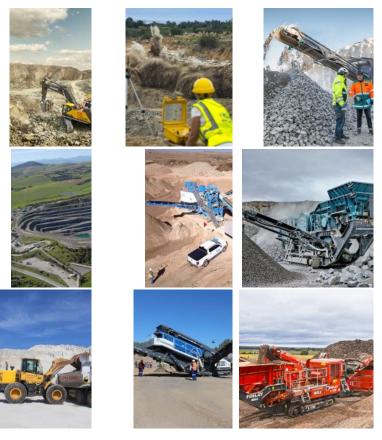


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