

## DIVISIONAL REVIEW COPPER ZAMBIA

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FY2017 WAS A  
CHALLENGING  
YEAR FOR  
PRODUCTION AT  
COPPER ZAMBIA.



KDMP shaft



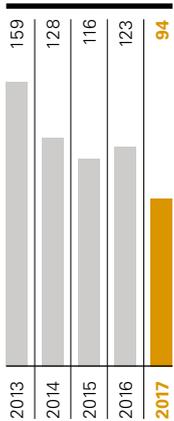
**STEVEN DIN**  
CEO, COPPER ZAMBIA

### The year in summary:

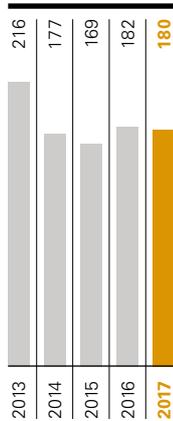
FY2017 was a challenging year for production at Copper Zambia. The focus was on accelerated dewatering and development initiatives to improve long-term production from Konkola mine, smelter throughput improvements, technology interventions to improve reliability of the Tailings Leach Plant and resumption of Nchanga underground mine in FY2017.

More positively, custom smelting delivered increased volumes. Spend bases are also well controlled, and we are achieving an overall reduction in the operational cost base. The turnaround actions required are understood and underway, and although there is much to be done, it remains a world-class asset with a 50-year mine life. It remains an integral part of our vision for the future.

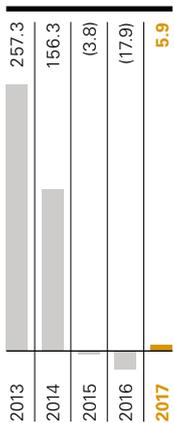
**PRODUCTION – MINED METAL**  
(KT)



**PRODUCTION – FINISHED COPPER**  
(KT)



**EBITDA**  
(US\$ MILLION)



**UNIT COSTS**  
(US CENTS PER LB)



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CEO, COPPER ZAMBIA

**SAFETY**

With deep regret we reported two fatalities during the year. One person died as a result of a blasting incident, and the other due to an accident leading to heart failure in the Konkola underground mine. While blasting-related safety risks are known in the mining industries, the second incident is very rare but has happened in other mines in the past. Both incidents were thoroughly investigated, and as a result, learnings have been shared and implemented across the business to avoid such incidents in future.

Separately, we were pleased to see an encouraging decline in lost time injuries, down from 20 in FY2016 to eight in FY2017. The lost time frequency rate improved from 0.54 to 0.32.

With preventative safety in mind, KCM conducted a risk assessment on the structural integrity of tailing dams. A third party consultant reviewed three dams and found no major deviation from the standard design or management practices.

KCM initiated the Chingilila programme, training mine captains to become safety champions who regularly visit every working area to improve the safety awareness in the field and in the workplace. In total, 112 leaders were trained in Company safety procedures and practices.

**ENVIRONMENT**

Improvement in water management remains the priority. Our water recycling rate recorded in FY2017 was 6%, compared to 8% in the previous year. We are committing more resources to this challenge and have targeted a recycling rate of 10% for FY2018.

We also take seriously the safe disposal of hazardous chemicals. In December 2016, we completed a project that enables expired materials to be processed through neutralisation and solidification at the Nkana Smelter Complex.



# DIVISIONAL REVIEW CONTINUED

## COPPER ZAMBIA

### PRODUCTION PERFORMANCE

	FY2017	FY2016	% change
<b>Production (kt)</b>			
Total mined metal	<b>94</b>	123	(23.5)%
Konkola	<b>36</b>	49	(27.0)%
Nchanga	<b>12</b>	18	(34.9)%
Tailings Leach Plant	<b>46</b>	55	(16.5)%
Finished copper	<b>180</b>	182	(1.0)%
Integrated	<b>96</b>	117	(18.4)%
Custom	<b>84</b>	64	30.8%

### UNIT COSTS (INTEGRATED PRODUCTION)

	FY2017	FY2016	% change
Unit costs (US cents per lb) excluding royalty	<b>208.6</b>	197.9	5.4%
Unit costs (US cents per lb) including royalty <sup>1</sup>	<b>278.9</b>	261.0	6.9%

<sup>1</sup> Including sustaining capex and interest cost.

### FINANCIAL PERFORMANCE

(IN US\$ MILLION, UNLESS STATED)

	FY2017	FY2016	% change
Revenue	<b>874.3</b>	972.5	(10.1)%
EBITDA	<b>5.9</b>	(17.9)	–
EBITDA margin	<b>0.7%</b>	(1.8)%	–
Depreciation and amortisation	<b>113.3</b>	179.5	(36.9)%
Operating loss before special items	<b>(107.4)</b>	(197.4)	45.6%
Share in Group EBITDA (%)	<b>0.2%</b>	(0.8)%	–
Capital expenditure	<b>28.3</b>	27.6	(2.5)%
Sustaining	<b>28.3</b>	27.6	(2.5)%
Growth	–	–	–

### OPERATIONS

In FY2017, mined metal production of 94,000 tonnes was 23.5% lower than in FY2016. The decrease was primarily due to lower production from the Nchanga underground mine, which was placed under care and maintenance in Q3 FY2016, as well as a lower availability of trackless equipment at the Konkola deep mine.

At Nchanga, open pit mine equipment availability and throughput constraints at the mills resulted in lower production.

At the Tailings Leach Plant, production was 46,000 tonnes, down by 16% year-on-year due to maintenance breakdowns at the tailing trails and lower feeds.

Improvement actions were put in place and stabilisation is underway. During Q3, trial mining began at the Nchanga underground mine and initial results for recovery and mining productivity were promising. Average ore production of 100kt per month was achieved in Q4 FY2017 and continued to improve in Q1 FY2018.

Custom volumes at 84,000 tonnes were 31% higher year-on-year due to improved third party concentrate availability and our ability to handle feed rates greater than 70 tonnes per hour at the smelter, following the biennial shutdown during Q3 FY2017.

We are working on the engineering design for accelerated dewatering and development to increase production from the Konkola mine.

The elevated temperature leach project, which will improve recoveries at the Tailings Leach Plant, was commissioned in Q3 FY2017 and is currently under stabilisation. Planning and engineering for phase II of the project has started.

The unit cost of production (excluding royalty) was higher by 5.4% at 209 US cents per lb. This was mainly due to lower volumes, higher power costs and lower credits, partly offset by cost initiatives to optimise stores, spares and consumables and the impact of kwacha appreciation on VAT receivables.

Excluding the impacts of an increased power tariff and the unrealised gain of kwacha appreciation on VAT receivables, the unit cost of production (excluding royalty) rose by 7.5% at 201 US cents per lb compared with 187 US cents per lb in the previous year.

The power tariff increase in January 2016 resulted in an adverse impact of US\$3 million per month on the cost of production. During FY2017, this increased our costs by 13 US cents per lb. Effective from 1 January 2017, Copperbelt Energy Corporation Plc has announced revised power tariffs that are ~15% lower than those launched in January 2016. Necessary amendments have been incorporated in the power supply agreement (PSA).

Water levels at Kariba Dam are improving and are currently at 50% compared with 23% at the end of FY2016.

In January 2017, KCM had successfully signed off a consent order with ZCCM-IH to settle its price participation liability. This outlined an amended schedule of repayment in three parts: US\$20 million by 31 January 2017, US\$22 million by 28 February 2017 and the balance in 24 equal monthly instalments. We see this as a positive step towards an amicable settlement of the case.

Revenue in FY2017 was lower at US\$874 million compared with US\$973 million in the previous year, mainly due to lower sales volumes, metal prices and lower credits. The EBITDA for the year was US\$6 million, an improvement of US\$24 million on the previous year's loss of US\$18 million, mainly due to the impact of kwacha appreciation on VAT receivable.

### OUTLOOK

#### KONKOLA UNDERGROUND MINE

The Konkola underground mine remains the focused priority for KCM.

Prioritisation strategies are underway to improve operating productivity levels, mobile fleet utilisation and to progress a deeper horizontal development level. A feasibility study is underway on the dry mine initiative and process re-engineering options to find opportunities for cost and efficiency improvements.



Concentrator mill at the KCM Nchanga operations

#### SMELTER AND REFINERY

We envisage continuous improvements as we step up production with an increase in third-party purchase concentrates, improved smelter reliability and the ability to handle feed rates higher than 80 tonnes per hour (tph) following the biennial smelter shutdown in Q3 FY2017.

We continue to focus on the refinery ramp up and gaining greater cost efficiencies by installing oil-fired boilers for electrolyte heating.

#### NCHANGA OPERATIONS

At Nchanga, we are focused on sustaining and improving the operations at the Tailings Leach Plant by treating stockpiled refractory ore and old tailings. We are also working on a new outsourcing model for focused maintenance operations and better equipment reliability.

The Nchanga underground trial operations are progressing well with improved grades and recoveries. We continue to focus on a further ramp up and to break through the two million tonne mark for ore production on an annual basis.

Full-year production is expected to ramp up further during FY2018, to around 190,000-210,000 tonnes with integrated production of c.110,000-120,000 tonnes, at a c1 cost of 160-180 US cents per pound.

#### OUR STRATEGIC PRIORITIES

- › To create a highly productive underground mine at Konkola with an additional horizontal development;
- › A reliable tailings leach facility with potential to increase recoveries through the application of thermos-applications;
- › Increased smelter utilisation from the processing of available third-party concentrates sourced from Zambia and the Democratic Republic of Congo; and
- › Sustained cost efficiencies through value-focused initiatives.