

MANAGEMENT DISCUSSION AND ANALYSIS

RESULTS FOR THE YEAR ENDED 31 DECEMBER 2020

For the purpose of management discussion and analysis, the Group's results for the year ended 31 December 2020 are compared with results for the year ended 31 December 2019.

YEAR ENDED 31 DECEMBER	2020 US\$ MILLION	2019 US\$ MILLION	CHANGE % FAV/(UNFAV)
Revenue	3,033.7	3,011.6	1%
Operating expenses	(1,590.6)	(1,538.1)	(3%)
Exploration expenses	(19.1)	(37.7)	49%
Administration expenses	(20.5)	(23.3)	12%
Other (expenses)/income	(23.8)	49.0	(149%)
EBITDA	1,379.7	1,461.5	(6%)
Depreciation and amortisation expenses	(927.8)	(969.6)	4%
Impairment expense	-	(150.0)	-
EBIT	451.9	341.9	32%
Net finance costs	(399.5)	(511.9)	22%
Profit/(loss) before income tax	52.4	(170.0)	131%
Income tax expense	(46.8)	(25.3)	(85%)
Profit/(loss) for the year after income tax	5.6	(195.3)	103%
Other comprehensive loss for the year after income tax ⁽ⁱ⁾	(14.5)	-	(100%)
Total comprehensive loss for the year	(8.9)	(195.3)	95%
Profit/(loss) attributable to:			
Equity holders of the Company	(64.7)	(230.4)	72%
Non-controlling interests	70.3	35.1	100%
Comprehensive profit/(loss) attributable to:			
Equity holders of the Company	(76.5)	(230.4)	67%
Non-controlling interests	67.6	35.1	93%

(i) Other comprehensive loss for the year represents items that may be reclassified to profit or loss. It is primarily made up of the fair value loss on hedging instruments designated as cash flow hedges, which as at 31 December 2020 were recorded in the cash flow hedge reserve.

PROFIT/(LOSS) ATTRIBUTABLE TO EQUITY HOLDERS OF THE COMPANY

MMG's profit of US\$5.6 million for the year ended 31 December 2020 includes losses attributable to equity holders of US\$64.7 million and profits attributable to non-controlling interests of US\$70.3 million. This compares to losses attributable to equity holders of US\$230.4 million and profits attributable to non-controlling interests of US\$35.1 million in 2019. Profits attributable to non-controlling interests relates to the 37.5% interest in Las Bambas not owned by the Company.

The following table provides a reconciliation of reported profit after tax attributable to equity holders.

YEAR ENDED 31 DECEMBER	2020 US\$ MILLION	2019 US\$ MILLION	CHANGE % FAV/(UNFAV)
Profit after tax – Las Bambas 62.5% interest	117.1	58.5	100%
Profit/(loss) after tax – Other operations	15.3	(38.5)	140%
Impairment expense – net of income tax benefit	-	(105.0)	-
Exploration expenses	(19.1)	(37.7)	49%
Administration expenses	(20.5)	(23.3)	12%
Net finance costs (excluding Las Bambas)	(99.5)	(106.3)	6%
Other	(58.0)	21.9	(365%)
Loss for the year attributable to equity holders	(64.7)	(230.4)	72%

OVERVIEW OF RESULTS FROM CONTINUING OPERATIONS

The Group's continuing operations comprise Las Bambas, Kinsevere, Dugald River and Rosebery. Exploration, corporate activities and other subsidiaries are classified as 'Other'.

YEAR ENDED 31 DECEMBER	REVENUE			EBITDA		
	2020 US\$ MILLION	2019 US\$ MILLION	CHANGE % FAV/(UNFAV)	2020 US\$ MILLION	2019 US\$ MILLION	CHANGE % FAV/(UNFAV)
Las Bambas	2,078.6	2,013.0	3%	1,196.3	1,221.3	(2%)
Kinsevere	418.9	386.0	9%	68.3	28.1	143%
Dugald River	331.3	336.0	(1%)	100.0	108.7	(8%)
Rosebery	280.7	272.8	3%	130.3	125.9	3%
Other	(75.8)	3.8	(2,095%)	(115.2)	(22.5)	(412%)
Total	3,033.7	3,011.6	1%	1,379.7	1,461.5	(6%)

The following discussion and analysis of the financial information and results should be read in conjunction with the financial information.

Revenue from operations increased by US\$22.1 million (1%) compared to 2019, driven by favourable realised net commodity price movements (US\$22.4 million), offset to a small degree by lower sales volumes (US\$0.3 million).

A favourable commodity price variance of US\$22.4 million was the result of higher realised prices for copper (US\$115.0 million), silver (US\$44.0 million) and gold (US\$33.4 million). This was offset by lower realised prices for zinc (US\$59.7 million), lead (US\$14.2 million) and molybdenum (US\$10.5 million), together with losses recognised in the profit and loss statement on copper (US\$78.8 million) and zinc (US\$6.8 million) commodity hedges. Copper hedges were transacted at a corporate level and are not reflected against individual site revenue. Zinc hedges were transacted at an operational level and have been recorded against Dugald River revenue.

Lower sales volumes of US\$0.3 million were primarily due to lower payable metal content in copper concentrate sold from Las Bambas (US\$82.7 million). This was partly offset by higher molybdenum sales volumes (US\$15.7 million), following the completion of de-bottlenecking work at the molybdenum plant which increased production. Further offsetting was an increase in payable metal sales volumes at Kinsevere (US\$23.3 million) and Dugald River (US\$40.5 million), a result of increased production at both sites. At Rosebery, lower zinc and lead sales volumes (US\$15.5 million) resulted from lower production of these metals, however this was more than offset by increased production and sale of precious metal by-products (US\$18.4 million).

MANAGEMENT DISCUSSION AND ANALYSIS CONTINUED

Further detail for each site is set out below in the mine analysis section.

REVENUE BY COMMODITY YEAR ENDED 31 DECEMBER	2020 US\$ MILLION	2019 US\$ MILLION	CHANGE % FAV/(UNFAV)
Copper (US\$ million)	2,178.6	2,167.1	1%
Zinc (US\$ million)	369.9	420.7	(12%)
Lead (US\$ million)	70.1	81.8	(14%)
Gold (US\$ million)	190.9	172.6	11%
Silver (US\$ million)	181.4	131.7	38%
Molybdenum (US\$ million)	42.8	37.7	14%
Total	3,033.7	3,011.6	1%

PRICE

Average LME metals prices for copper, gold and silver were higher in 2020 compared to 2019. The averages for zinc, lead and molybdenum were lower.

AVERAGE LME CASH PRICE YEAR ENDED 31 DECEMBER	2020	2019	CHANGE % FAV/(UNFAV)
Copper (US\$/tonne)	6,169	6,005	3%
Zinc (US\$/tonne)	2,265	2,549	(11%)
Lead (US\$/tonne)	1,824	1,998	(9%)
Gold (US\$/ounce)	1,770	1,393	27%
Silver (US\$/ounce)	20.51	16.20	27%
Molybdenum (US\$/tonne)	19,163	25,032	(23%)

SALES VOLUMES

PAYABLE METAL IN PRODUCT SOLD YEAR ENDED 31 DECEMBER	2020	2019	CHANGE % FAV/(UNFAV)
Copper (tonnes)	377,852	382,214	(1%)
Zinc (tonnes)	216,535	208,538	4%
Lead (tonnes)	45,088	43,981	3%
Gold (ounces)	109,336	120,061	(9%)
Silver (ounces)	8,418,940	8,061,622	4%
Molybdenum (tonnes)	2,609	1,866	40%

PAYABLE METAL IN PRODUCT SOLD YEAR ENDED 31 DECEMBER 2020	COPPER TONNES	ZINC TONNES	LEAD TONNES	GOLD OUNCES	SILVER OUNCES	MOLYBDENUM TONNES
Las Bambas	304,266	-	-	72,860	4,092,872	2,609
Kinsevere	72,024	-	-	-	-	-
Dugald River	-	152,573	23,301	-	1,583,186	-
Rosebery	1,562	63,962	21,787	36,476	2,742,882	-
Total	377,852	216,535	45,088	109,336	8,418,940	2,609

PAYABLE METAL IN PRODUCT SOLD YEAR ENDED 31 DECEMBER 2019	COPPER TONNES	ZINC TONNES	LEAD TONNES	GOLD OUNCES	SILVER OUNCES	MOLYBDENUM TONNES
Las Bambas	312,918	-	-	91,439	4,581,714	1,866
Kinsevere	67,881	-	-	-	-	-
Dugald River	-	138,409	20,291	-	1,193,303	-
Rosebery	1,415	70,129	23,690	28,622	2,286,605	-
Total	382,214	208,538	43,981	120,061	8,061,622	1,866

Operating expenses include expenses of operating sites, excluding depreciation and amortisation. Site expenses include mining and processing expenses, changes in inventories, royalty expenses, selling expenses and other operating expenses.

Total operating expenses increased by US\$52.5 million (3%) in 2020. This was largely attributable to Las Bambas (US\$46.5 million), with total operating expenses at other sites broadly in line with 2019 levels. Further detail for each site is set out below in the mine analysis section.

Exploration expenses decreased by US\$18.6 million (49%) to US\$19.1 million in 2020, largely due to exploration work in around existing hubs being disrupted by COVID-19. In particular, this resulted in lower exploration spend in relation to tenements in the DRC (US\$11.1 million) and at Las Bambas (US\$8.0 million).

Administrative expenses represent head office expenditure not re-charged to operating sites. Administrative expenses decreased by US\$2.8 million (12%) in 2020, predominantly driven by cost and efficiency improvement initiatives across group and support functions, resulting in lower people costs, consultant spend and travel expenses compared to 2019 (US\$11.6 million). The majority of this benefit was realised at a site level through lower re-charges.

Other income and expenses had an aggregate unfavourable impact on EBIT of US\$23.8 million in 2020, compared to a favourable impact in 2019 (US\$49.0 million). In 2020, other income and expenses were largely represented by net foreign exchange losses of US\$33.6 million (2019: US\$3.0 million gain). These losses include revaluation of the Century guarantee liability (US\$12.4 million), Peru VAT and income tax receivable balances (US\$11.5 million) and other realised and unrealised foreign exchange positions primarily related to further AUD and PEN exposures arising in the ordinary course of business. Foreign exchange losses were partly offset by US\$5.1 million of additional insurance proceeds received in relation to a conveyor belt failure at Las Bambas in 2017 (2019: US\$12.0 million) and a reduction in the Century bank guarantee liability (US\$3.7 million).

Depreciation and amortisation expenses decreased by US\$41.8 million (4%) to US\$927.8 million in 2020. This was largely driven by Kinsevere (US\$22.8 million), as a result of lower mining volumes following the temporary suspension of mining activities from late in the third quarter. At Rosebery, lower mining and production when compared to 2019 also resulted in reduced depreciation (US\$19.9 million).

Net finance costs of US\$399.5 million were lower by US\$112.4 million (22%) compared to 2019. Lower average LIBOR rates applicable to floating rate borrowings (US\$71.8 million) and interest savings associated with lower overall debt balances (US\$35.5 million) were the largest drivers of this reduction. A favourable movement in other finance costs and lower discount unwind in relation to lease liabilities, was partly offset by decreased interest income (US\$9.3 million), a result of lower average cash balances and interest rates available on bank deposits.

Income tax expense increased by US\$21.5 million, reflecting the increase in the Group's underlying profit before income tax from the prior year. Underlying income tax expense for 2020 of US\$46.8 million reflects the impacts of non-creditable withholding tax in Peru of US\$37.6 million (2019: US\$38.8 million), and other non-deductible items.

MINE ANALYSIS

LAS BAMBAS

2020 OVERVIEW

PRODUCTION

COPPER IN COPPER
CONCENTRATE

OWNERSHIP

62.5% MMG
22.5% GUOXIN INTERNATIONAL
INVESTMENT CO. LTD.
15.0% CITIC METALS CO. LTD.

REVENUE (US\$ million)

\$2,078.6

ORE MILLED (tonnes)

45,184,395

COPPER IN CONCENTRATE PRODUCED (tonnes)

311,020

IMAGE: Truck driver at Las Bambas mine.

MANAGEMENT DISCUSSION AND ANALYSIS

MINE ANALYSIS – LAS BAMBAS

YEAR ENDED 31 DECEMBER	2020	2019	CHANGE % FAV/(UNFAV)
Production			
Ore mined (tonnes)	57,999,845	51,653,616	12%
Ore milled (tonnes)	45,184,395	51,283,371	(12%)
Waste movement (tonnes)	137,484,467	128,286,976	7%
Copper in copper concentrate (tonnes)	311,020	382,518	(19%)
Payable metal in product sold			
Copper (tonnes)	304,266	312,918	(3%)
Gold (ounces)	72,860	91,439	(20%)
Silver (ounces)	4,092,872	4,581,714	(11%)
Molybdenum (tonnes)	2,609	1,866	40%

YEAR ENDED 31 DECEMBER	2020 US\$ MILLION	2019 US\$ MILLION	CHANGE % FAV/(UNFAV)
Revenue	2,078.6	2,013.0	3%
Operating expenses			
Production expenses			
Mining	(211.8)	(296.1)	28%
Processing	(216.1)	(243.5)	11%
Other	(323.5)	(335.2)	3%
Total production expenses	(751.4)	(874.8)	14%
Freight (transportation)	(69.0)	(63.0)	(10%)
Royalties	(62.6)	(58.1)	(8%)
Other ⁽ⁱ⁾	10.7	170.1	(94%)
Total operating expenses	(872.3)	(825.8)	(6%)
Other (expenses)/income ⁽ⁱⁱ⁾	(10.0)	34.1	(129%)
EBITDA	1,196.3	1,221.3	(2%)
Depreciation and amortisation expenses	(695.5)	(697.2)	0%
EBIT	500.8	524.1	(4%)
EBITDA margin	58%	61%	

(i) Other operating expenses include changes in inventories, corporate recharges and other costs of operations.

(ii) Effective from 2020, Other (expenses)/income includes Las Bambas related exploration expenditure, which was previously recognised at a corporate level. Prior year comparatives have been reclassified to reflect this change.

MANAGEMENT DISCUSSION AND ANALYSIS

MINE ANALYSIS – LAS BAMBAS

Las Bambas produced 311,020 tonnes of copper in 2020, 71,498 tonnes (19%) below 2019 volumes. COVID-19 associated restrictions on people movement, unplanned site maintenance requirements and community road blockages, some of which extended to inbound logistics, had a combined adverse impact on annual copper production of approximately 70,000 tonnes. Completion of de-bottlenecking works at the molybdenum plant in the third quarter did however result in a significant increase in molybdenum output, with production of 3,167 tonnes representing a 78% increase on the prior year.

In 2019, concentrate transport logistics at Las Bambas were disrupted for over 100 days as a result of community disruption. In 2020, community disruption accounted for 64 days of lost concentrate transportation, however when combined with a further 43 days of disruption due to COVID-19 the total figure was comparable to 2019. Despite this, total tonnages of concentrate sold in 2020 did increase slightly (6%) compared to prior year levels. Although the balance fluctuated throughout the year, this resulted in approximately 65,000 tonnes of copper metal remaining stockpiled at site as at 31 December 2020 (2019: 50,000 tonnes), with a build up toward year end the result of community disruptions in the fourth quarter. Of this balance, approximately 18,000 tonnes had been sold prior to balance date and although stored at site, it no longer forms part of Las Bambas' inventory. This, together with other unsold concentrate held at site will be progressively shipped over the first half of 2021.

Las Bambas' revenue of US\$2,078.6 million was 3% higher than 2019. The impact of higher realised commodity prices (US\$132.6 million) and higher molybdenum sales volumes (US\$15.7 million), was partly offset by lower payable metal content in copper concentrate sold compared to the prior year (US\$82.7 million).

Total production expenses of US\$751.4 million were 14% below 2019 levels. Lower mining costs of US\$84.3 million were largely the result of higher mining capitalisation (US\$49.0 million), with increased waste material movement compared to the prior year. In addition, lower mining costs also reflect the deferral of some maintenance activities (US\$30.4 million) into 2021, as a result of operational disruptions caused by COVID-19. Processing costs reduced by US\$27.4 million, driven by lower milling volumes, reduced maintenance costs and lower reagent unit prices.

Lower production expenses were offset by year-on-year stock movements, with a favourable net impact in 2019 resulting from a build-up in stockpiled concentrate following community disruptions (US\$183.7 million). As noted above, the balance of unsold copper stockpiled at site as at 31 December 2020 remains roughly in line with 2019 year end levels, however ore stockpiles did increase in line with the mine plan (US\$69.7 million). Total operating expenses were also impacted by the higher health and safety initiatives in response to COVID-19 (US\$27.5 million) and increased royalty and transport costs (US\$10.5 million), reflecting higher concentrate sales volumes and revenue.

A US\$44.1 million movement in other income and expenses largely resulted from the year-on-year impact of US\$33.6 million in one-off other income items during 2019. This related to the reversal of tax overprovisions and the impact of lease accounting adjustments.

C1 costs for 2020 were US\$1.00/lb, which is largely consistent with 2019 C1 costs of US\$0.99/lb. The impact of lower copper production was largely offset by reduced cash production expenses and higher by-product credits.

As a result of ongoing delays to the permitting and development of Chalcobamba (refer Development Projects section) and the impact of COVID-19 on the progress of other site development projects, Las Bambas copper concentrate production for 2021 is expected to be between 310,000 and 330,000 tonnes. Benefiting from the development of Chalcobamba, investment in mine fleet and the third ball mill, it is expected that annual production will increase to an average of 400,000 tonnes over the subsequent four-year period (2022-2025, inclusive).

C1 unit cost guidance of US\$1.10-1.20/lb for 2021 represents an increase on 2020. In large part this is attributable to increased pre-stripping, maintenance, community costs and project study expenditure, much of which has been held over from 2020 due to COVID-19 impacts. Cost pressures associated with increased mining and milling volumes and longer haul distances as the depth of the Ferrobamba pit increases and Chalcobamba comes into production, will continue to be partially offset by ongoing cost and efficiency programs. This will ensure Las Bambas remains one of the lowest cost mines of this scale in the world.

MINE ANALYSIS

KINSEVERE

2020 OVERVIEW

PRODUCTION
COPPER CATHODE

OWNERSHIP
100% MMG

REVENUE (US\$ million)
\$418.9

ORE MILLED (tonnes)
2,448,852

**COPPER CATHODE
PRODUCED** (tonnes)
72,007

IMAGE: Kinsevere processing plant.

MANAGEMENT DISCUSSION AND ANALYSIS

MINE ANALYSIS – KINSEVERE

YEAR ENDED 31 DECEMBER	2020	2019	CHANGE % FAV/(UNFAV)
Production			
Ore mined (tonnes)	1,925,609	2,462,037	(22%)
Ore milled (tonnes)	2,448,852	2,355,275	4%
Waste movement (tonnes)	8,773,208	17,024,362	(48%)
Copper cathode (tonnes)	72,007	67,935	6%
Payable metal in product sold			
Copper (tonnes)	72,024	67,881	6%

YEAR ENDED 31 DECEMBER	2020 US\$ MILLION	2019 US\$ MILLION	CHANGE% FAV/(UNFAV)
Revenue	418.9	386.0	9%
Operating expenses			
Production expenses			
Mining	(63.4)	(88.2)	28%
Processing	(85.0)	(103.3)	18%
Other	(104.1)	(111.7)	7%
Total production expenses	(252.5)	(303.2)	17%
Freight (export clearing costs)	(12.1)	(11.0)	(10%)
Royalties	(24.9)	(22.5)	(11%)
Other ⁽ⁱ⁾	(45.5)	(0.9)	(4,956%)
Total operating expenses	(335.0)	(337.6)	1%
Other expenses ⁽ⁱⁱ⁾	(15.6)	(20.3)	23%
EBITDA	68.3	28.1	143%
Depreciation and amortisation expenses	(117.2)	(140.1)	16%
EBIT (underlying)	(48.9)	(112.0)	56%
Impairment expense	-	(150.0)	-
EBIT (statutory)	(48.9)	(262.0)	81%
EBITDA margin	16%	7%	

(i) Other operating expenses include changes in inventories, corporate recharges and other costs of operations.

(ii) Effective from 2020, Other expenses includes Kinsevere related exploration expenditure, which was previously recognised at a corporate level. Prior year comparatives have been reclassified to reflect this change.

Kinsevere produced 72,007 tonnes of copper cathode in 2020, a 6% increase on the prior year. This was a result of a return to mining at the higher-grade Central pit together with sustained plant stability, with increased throughput, recovery and ore grades all contributing. Mined ore volumes decreased by 22% compared to 2019 levels. This followed a decision to temporarily suspend mining activity from late in the third quarter. It is expected that mining will resume in the second quarter of 2021, with ore stockpiles being consumed in the interim.

Revenue increased by \$32.9 million (9%) compared to 2019, driven by higher sales on the back of increased production (US\$23.6 million) and higher average realised copper prices (US\$9.3 million).

Total operating costs of US\$335.0 million were in line with 2019 (US\$337.6 million). A US\$50.7 million reduction in production expenses, as discussed below, was largely offset by unfavourable inventory movements, with a net drawdown of ore stockpiles in 2020 following the temporary suspension of mining (US\$25.4 million). This compares to a US\$25.8 million ore build-up in 2019, resulting in a year-on-year movement of US\$51.2 million. Increased freight and royalty costs were consistent with higher sales volumes, with a 16% reduction in depreciation reflecting lower mine output.

Mining costs were lower by US\$24.8 million, consistent with lower waste movement and mining volumes, in particular following the temporary suspension of mining at the end of September. Processing costs were lower by US\$18.3 million, with more favourable ore characteristics requiring less reagent and power consumption. This includes savings attributable to lower sulphuric acid consumption (US\$8.4 million) and reduced maintenance costs. Other production expenses were lower by US\$7.6 million mainly due to lower consumption of third-party ore (US\$13.8 million), however this was partially offset by increased health and safety costs in response to COVID-19 (US\$7.0 million).

C1 unit costs for 2020 of \$US1.81/lb reflected higher production volumes, together with benefits associated with a return to mining at the higher-grade Central pit. The temporary suspension of mining from late in the third quarter also contributed.

Copper cathode production for 2021 is expected to be in the range of 50,000 to 60,000 tonnes. This reflects expected ore grade declines, depleting oxide reserves, and a mine plan that assumes the Company will proceed with a transition to the mining and processing of sulphide ores in future years. As noted elsewhere in this report, the decision to proceed with this phase of development remains subject to Board approval. Reflecting a lower production guidance range and an anticipated increase in mining volumes once mining activity resumes, 2021 full year C1 costs are expected to be between US\$2.15 and US\$2.25/lb.

MINE ANALYSIS

DUGALD RIVER

2020 OVERVIEW

PRODUCTION

ZINC IN ZINC CONCENTRATE
LEAD IN LEAD CONCENTRATE

OWNERSHIP

100% MMG

REVENUE (US\$ million)

\$331.3

ORE MILLED (tonnes)

1,958,672

ZINC IN CONCENTRATE PRODUCED (tonnes)

177,704

IMAGE: Processing Operations personnel in the zinc flotation circuit, Dugald River Mine.

MANAGEMENT DISCUSSION AND ANALYSIS

MINE ANALYSIS – DUGALD RIVER

YEAR ENDED 31 DECEMBER	2020	2019	CHANGE % FAV/(UNFAV)
Production			
Ore mined (tonnes)	1,982,988	1,853,876	7%
Ore milled (tonnes)	1,958,672	1,975,569	(1%)
Zinc in zinc concentrate (tonnes)	177,704	170,057	4%
Lead in lead concentrate (tonnes)	23,847	23,154	3%
Payable metal in product sold			
Zinc (tonnes)	152,573	138,409	10%
Lead (tonnes)	23,301	20,291	15%
Silver (ounces)	1,583,186	1,193,303	33%

YEAR ENDED 31 DECEMBER	2020 US\$ MILLION	2019 US\$ MILLION	CHANGE% FAV/(UNFAV)
Revenue	331.3	336.0	(1%)
Operating expenses			
Production expenses			
Mining	(81.0)	(73.4)	(10%)
Processing	(60.8)	(67.0)	9%
Other	(57.4)	(59.1)	3%
Total production expenses	(199.2)	(199.5)	0%
Freight (transportation)	(12.6)	(13.2)	5%
Royalties	(11.3)	(12.3)	8%
Other ⁽ⁱ⁾	(4.0)	(2.8)	(43%)
Total operating expenses	(227.1)	(227.8)	0%
Other (expenses)/income ⁽ⁱⁱ⁾	(4.2)	0.5	(940%)
EBITDA	100.0	108.7	(8%)
Depreciation and amortisation expenses	(59.9)	(55.9)	(7%)
EBIT	40.1	52.8	(24%)
EBITDA margin	30%	32%	

(i) Other operating expenses include changes in inventories, corporate recharges and other costs of operations.

(ii) Effective from 2020, Other (expenses)/income includes Dugald River related exploration expenditure, which was previously recognised at a corporate level. Prior year comparatives have been reclassified to reflect this change.

MANAGEMENT DISCUSSION AND ANALYSIS

MINE ANALYSIS – DUGALD RIVER

Dugald River delivered record annual production of 177,704 tonnes of zinc in zinc concentrate during 2020, 4% above 2019 volumes. Annual records were also set for mining volumes, recovery and the production of lead and silver by-products. These significant achievements were a result of continued success in work to ramp up and optimise both the mine and processing plant.

Revenue decreased by US\$4.7 million (1%) compared to 2019, a result of lower average realised zinc and lead prices and losses realised on zinc commodity hedges. This was partly offset by higher zinc, lead and silver sales volumes and higher average realised silver prices.

Total operating expenses of US\$227.1 million were in line with 2019, despite increased production. Higher mining costs (US\$7.6 million) were driven by increased volumes and contractor costs. This was however largely offset by lower processing costs (US\$6.2 million), mainly attributable to reduced energy expenditure.

Full year C1 unit costs were US\$0.70/lb in 2020, consistent with the prior year. The favourable impact of higher volumes and increased by-product credits was offset by higher zinc treatment charges.

Dugald River is expected to produce between 180,000 and 190,000 tonnes of zinc during 2021, an increase on 2020 volumes. Anticipated 2021 C1 costs of US\$0.70/lb – US\$0.75/lb are in line with 2020. Higher production volumes, together with an expected fall in treatment charges and higher by-product credits will offset the impacts of what is anticipated to be a less favourable exchange rate environment.

MINE ANALYSIS

ROSEBERY

2020 OVERVIEW

PRODUCTION

ZINC IN ZINC CONCENTRATE
LEAD IN LEAD CONCENTRATE
COPPER IN COPPER CONCENTRATE
GOLD DORE

OWNERSHIP

100% MMG

REVENUE (US\$ million)

\$280.7

ORE MILLED (tonnes)

979,718

ZINC IN CONCENTRATE PRODUCED (tonnes)

67,393

IMAGE: Underground at the Rosebery Mine, operating a Diamond Drill Rig.

MANAGEMENT DISCUSSION AND ANALYSIS

MINE ANALYSIS – ROSEBERY

YEAR ENDED 31 DECEMBER	2020	2019	CHANGE % FAV/(UNFAV)
Production			
Ore mined (tonnes)	991,124	1,032,508	(4%)
Ore milled (tonnes)	979,718	1,030,016	(5%)
Copper in copper concentrate (tonnes)	1,537	1,510	2%
Zinc in zinc concentrate (tonnes)	67,393	83,463	(19%)
Lead in lead concentrate (tonnes)	23,272	24,549	(5%)
Gold contained in gold doré (ounces)	10,636	10,567	1%
Silver contained in gold doré (ounces)	6,137	6,051	1%
Payable metal in product sold			
Copper (tonnes)	1,562	1,415	10%
Zinc (tonnes)	63,962	70,129	(9%)
Lead (tonnes)	21,787	23,690	(8%)
Gold (ounces)	36,476	28,622	27%
Silver (ounces)	2,742,882	2,286,605	20%

YEAR ENDED 31 DECEMBER	2020 US\$ MILLION	2019 US\$ MILLION	CHANGE% FAV/(UNFAV)
Revenue	280.7	272.8	3%
Operating expenses			
Production expenses			
Mining	(69.2)	(74.3)	7%
Processing	(29.7)	(29.3)	(1%)
Other	(23.1)	(24.9)	7%
Total production expenses	(122.0)	(128.5)	5%
Freight (transportation)	(6.5)	(7.0)	7%
Royalties	(15.0)	(12.3)	(22%)
Other ⁽ⁱ⁾	(6.4)	0.9	(811%)
Total operating expenses	(149.9)	(146.9)	(2%)
Other expenses ⁽ⁱⁱ⁾	(0.5)	-	(100%)
EBITDA	130.3	125.9	3%
Depreciation and amortisation expenses	(50.8)	(70.7)	28%
EBIT	79.5	55.2	44%
EBITDA margin	46%	46%	

(i) Other operating expenses include changes in inventories, corporate recharges and other costs of operations.

(ii) Effective from 2020, Other expenses includes Rosebery related exploration expenditure, which was previously recognised at a corporate level. Prior year comparatives have been reclassified to reflect this change.

Rosebery produced 67,393 tonnes of zinc in 2020, 19% below the prior year however slightly above expectations. Declining zinc ore grades at depth was the key driver for the anticipated decline from prior year, in addition to lower mining and milling volumes – a result of constrained mine access for much of the year following seismic events in 2019. Lead production was also lower than prior year volumes (5%), however both gold and silver production increased.

Revenue increased by US\$7.9 million (3%) to US\$280.7 million in 2020, a result of higher sales volumes and realised prices for gold and silver. This was however offset by the impact of lower sales and average realised prices for zinc and lead.

Total production expenses were US\$6.5 million (5%) lower than 2019. Savings were largely attributable to reduced mining and milling volumes and an increase in capitalised mine development. This was however partly offset by higher backfill and additional tailings dam management expenditure. A slight increase in royalty payments was a result of increased revenue from precious metals.

Reflecting the strong contribution of precious metal by-products throughout the year, Rosebery's zinc C1 costs for 2020 were US\$0.01/lb. Also contributing to this result were lower production expenses, which offset the adverse impacts of reduced volumes and higher zinc treatment charges compared to the prior year.

MMG expects to produce between 60,000 and 70,000 tonnes of zinc in zinc concentrate in 2021. C1 costs are estimated at US\$0.00-0.10/lb, with this range remaining sensitive to by-product metal production and price and exchange rate fluctuations. These guidance ranges are broadly in line with 2020 results, reflecting the ability of the Company to continue efficiently operating the mine and maximizing output. This is despite longer term grade declines and higher costs associated with operating at depth.

MANAGEMENT DISCUSSION AND ANALYSIS CONTINUED

CASH FLOW ANALYSIS

NET CASH FLOW

YEAR ENDED 31 DECEMBER	2020 US\$ MILLION	2019 US\$ MILLION
Net operating cash flows	1,358.2	1,145.1
Net investing cash flows	(515.8)	(480.8)
Net financing cash flows	(867.2)	(1,048.7)
Net cash outflows	(24.8)	(384.4)

Net operating cash inflows increased by US\$213.1 million (19%) to US\$1,358.2 million. This largely reflects a US\$230.0 million year-on-year movement in cash flows associated with income tax (2020: US\$32.4 million refund / 2019: US\$197.6 million payment). Operating cashflow benefits associated with reduced exploration expenditure and lower cash production costs were largely offset by a decrease in cash receipts from customers and other timing differences.

Net investing cash outflows increased by US\$35.0 million (7%) to US\$515.8 million. This was primarily due to higher capital spend at Las Bambas (US\$40.5 million) in major projects such as the third-ball mill, tailings dam works, new mine fleet, de-bottlenecking of the Molybdenum plant and increased capitalised mining expenditure.

Net financing cash outflows decreased by US\$181.5 million (17%) in 2020 and included a US\$453.3 million net repayment of borrowings (2019: US\$511.4 million), together with payment of interest and financing costs of US\$380.7 million (2019: \$509.1 million).

FINANCIAL RESOURCES AND LIQUIDITY

AT 31 DECEMBER	2020 US\$ MILLION	2019 US\$ MILLION	CHANGE US\$ MILLION
Total assets	12,298.0	12,665.1	(367.1)
Total liabilities	(9,628.3)	(9,987.2)	358.9
Total equity	2,669.7	2,677.9	(8.2)

Total equity decreased by US\$8.2 million to US\$2,669.7 million at 31 December 2020. This was mainly due to the net profit for the year (US\$5.6 million), offset by the impact of an unfavourable change in fair value of derivative instruments that was recognised in the cashflow hedge reserve (US\$12.8 million).

The Group's objectives in managing capital are to safeguard its ability to continue as a going concern, support sustainable growth, enhance shareholder value and provide capital for potential acquisitions and investment.

The gearing ratio for the Group is set out below, with gearing defined as net debt (total borrowings excluding finance charge prepayments, less cash and cash equivalents) divided by the aggregate of net debt and total equity.

MMG GROUP	2020 US\$ MILLION	2019 US\$ MILLION
Total borrowings (excluding prepaid finance charges) ⁽ⁱ⁾	7,238.5	7,691.9
Less: cash and cash equivalents	(192.7)	(217.5)
Net debt	7,045.8	7,474.4
Total equity	2,669.7	2,677.9
Net debt + Total equity	9,715.5	10,152.3
Gearing ratio	0.73	0.74

(i) Borrowings at an MMG Group level reflect 100% of the borrowings of the Las Bambas Joint Venture Group. Las Bambas Joint Venture Group borrowings at 31 December 2020 were US\$4,400.2 million (2019: US\$4,852.1 million) and Las Bambas Joint Venture Group cash and cash equivalents at 31 December 2020 were US\$102.2 million (2019: US\$90.9 million). For the purpose of calculating the gearing ratio, Las Bambas Joint Venture Group borrowings and cash and cash equivalent balances have not been reduced to reflect the MMG Group's 62.5% equity interest. This is consistent with the basis of preparation of MMG's financial statements.

Under the terms of relevant debt facilities held by the Group, the gearing ratio for covenant compliance purposes is calculated exclusive of US\$2,261.3 million (2019: US\$2,261.3 million) of shareholder debt that was used to fund the MMG Group's equity contribution to the Las Bambas Joint Venture Group. For the purpose of the above, it has however been included as borrowings.

MANAGEMENT DISCUSSION AND ANALYSIS CONTINUED

AVAILABLE DEBT FACILITIES

At 31 December 2020, the Group (excluding the Las Bambas Joint Venture Group) had available to it undrawn debt facilities of US\$650.0 million (31 December 2019: US\$220.0 million). This was represented by:

- (i) US\$70.0 million (2019: nil) that was undrawn and available under a US\$300.0 million revolving credit facility provided by Top Create, for general corporate purposes. The facility, which matures in June 2021, was established in June 2020, to replace a US\$300.0 million revolving credit facility provided by ICBC, Melbourne Branch that was due to mature in December of 2020;
- (ii) US\$200.0 million (2019: US\$100.0 million) that was undrawn and available under a US\$200.0 million revolving credit facility provided by Top Create, for general corporate purposes. In May of 2020, the limit of this facility was increased from US\$100.0 million to US\$200.0 million and the maturity date extended from April to October 2021;
- (iii) US\$80.0 million that was an additional US\$85.0 million facility with China Development Bank maturing in September 2023; and
- (iv) US\$300.0 million that was a new US\$300.0 million revolving credit facility with ICBC maturing in December 2023.

At 31 December 2020, the Las Bambas Joint Venture Group had available to it undrawn debt facilities of US\$1,150.0 million (31 December 2019: US\$350.0 million). This was represented by:

- (i) US\$175.0 million (2019: US\$175.0 million) that was undrawn and available under a US\$175.0 million revolving credit facility provided by BOC Sydney, for general corporate purposes;
- (ii) US\$175.0 million (2019: US\$175.0 million) that was undrawn and available under a US\$175.0 million revolving credit facility provided by ICBC Luxembourg, for general corporate purposes; and
- (iii) US\$800.0 million (2019: nil) that was an additional US\$800.0 million three years revolving credit facility to support the operation through the COVID-19 pandemic with China Development Bank, Bank of China, Industrial and Commercial Bank of China Limited and The Export-Import Bank of China.

In addition, at 31 December 2020, the Las Bambas Joint Venture Group had an agreement with CMC and CITIC, each as direct or indirect off-takers of Las Bambas production, for early payment on cargoes already shipped and invoiced as well as pre-payments for inventory held at both port and site. Early payment and pre-payments are permitted up to an aggregate amount of US\$200.0 million, allocated to each party in their respective off-take proportions.

The Group's available external debt facilities are subject to covenant compliance requirements. The Group was not in breach of covenant requirements in respect of the Group's borrowings at 31 December 2020. Certain financial covenants are measured with reference to the financial performance of the Group or its subsidiaries and may be influenced by future operational performance and community related disruptions.

DEVELOPMENT PROJECTS

Drilling, permitting and engineering works continue at the Las Bambas Chalcobamba project, however progress in 2020 was delayed as a result of the COVID-19 pandemic. General political instability across Peru, in particular over the second half of 2020, also contributed to delays.

Formal government permitting is now anticipated to be received during the first quarter of 2021. The Company is also continuing to take steps to progress community engagement in the area. This is with an expectation of commencing significant development of the pit and accessing first ore during the first half of 2021.

There were no other major development projects noted during the year ended 31 December 2020.

CONTRACTS AND COMMITMENTS

635 contracts have been reviewed during 2020 through either market engagements or in-contract renegotiations. The approximate annual operational or capital values addressed by these activities totals US\$1,094.0 million.

Significant additional contracting activity was undertaken with respect to all of the Company's operations throughout 2020 to ensure security of supply for critical inputs and other requirements as necessary to enable continued operations and the management of risks throughout the COVID-19 pandemic.

LAS BAMBAS

New and revised agreements were finalised in the period to ensure a sustainable cost base and in support of optimising production and expansion options for Las Bambas including; contracts for the supply of blasting services and explosives, additional mobile equipment, temporary camp facilities, fixed plant components (and associated maintenance services), spares, earthmoving services and engineering services. Multiple IT contracts, site services contracts, contracts related to tailings storage facilities and other site infrastructure capital works, multiple contracts covering operations, studies and exploration drilling services, and various goods and services contracts were also finalised in support of the operations. These processes involved engagement with various local communities.

KINSEVERE

New and revised agreements were finalised with regard to various goods and services focussed on supporting production levels while improving operational cost performance. This included revision of mining and civil services contracts, operations and exploration drilling services contracts, multiple contracts covering material and service requirements for site infrastructure projects and various contracts for the supply of reagents and commodities. In addition, various engineering services and consultancy agreements were finalised in support of Kinsevere expansion and development studies.

DUGALD RIVER

New and revised agreements were finalised with regards to operations, including; revised concentrate logistics and drilling services contracts, multiple contracts for the supply of reagents and grinding media, multiple contracts covering goods and services requirements for infrastructure projects, and other site support services.

ROSEBERY

New and revised agreements were finalised with regards to various goods and services with a focus on supporting mine development activities and maintaining production performance. These included; drilling and site support services, multiple contracts for the supply of reagents and grinding media and various engineering, laboratory services and consultancy agreements.

GROUP

New and revised agreements were finalised with regards to various goods and services including; group-wide travel management contracts, IT related services and licence agreements, and multiple professional services and consultancy agreements.

MANAGEMENT DISCUSSION AND ANALYSIS CONTINUED

PEOPLE

As at 31 December 2020, the Group employed a total of 3,958 full-time equivalent employees (2019: 3,852) in its operations (excluding contractors) with the majority of employees based in Australia, Peru, the Democratic Republic of Congo, the Laos People's Democratic Republic and China.

Total employee benefits expenses for the Group's continuing operations for the year ended 31 December 2020, including Directors' emoluments, totalled US\$247.4 million – a reduction of 18.3% (2019: US\$302.9 million). This was primarily due to organisational transformation, an increase in capitalised mining at Las Bambas, operational efficiencies and the one-off impact of prior year collective agreements.

The Group has remuneration policies that align with market practice and remunerates its employees based on the responsibilities of their roles, their performance, market requirements and the performance of the Group. Employee benefits include market-competitive fixed remuneration, performance-related incentives, a limited long-term incentive scheme and, in specific cases, insurance and medical coverage. A range of targeted training and development programs are provided to employees across the Group that are designed to improve individual capability and enhance employee and Group performance.

EXPLORATION ACTIVITIES

Exploration expenditure for 2020 was US\$19.1 million (2019: US\$37.7 million). This reduction in expenditure was largely a result of exploration work in and around existing hubs being disrupted by COVID-19.

The 2020 exploration program at Las Bambas focused on further resource definition drilling at Chalcobamba as well as ongoing development drilling within the southwest extension of the Chalcobamba deposit (Chalcobamba Southwest Zone). Drilling the Chalcobamba Southwest Zone continues to extend and confirm the near surface skarn and porphyry copper mineralization that is expected to drive expansion of the Chalcobamba pit design and contributed to a 13% increase in copper resource at the Chalcobamba deposit. To the extent possible given COVID-19 restraints, surface exploration continued within the mining leases surrounding the currently identified mineral resources. Surface exploration programs include electrical and magnetic geophysical methods as well as surface geochemical surveys and are evaluating potential extensions to known mineral resources as well as recently identified exploration targets.

In the DRC, exploration activity has continued to focus on the discovery and delineation of satellite copper oxide deposits within a roughly 50km radius of the Kinsevere mine. This activity continues to confirm and define several compelling copper-cobalt targets at the Nambulwa, Mwepu, Sokaroshe II and Shandwe Projects.

At Dugald River, underground drilling in 2020 focussed on infilling in the South Mine. Orebody thicknesses intersected in the 2020 program exceeded 2019 interpretation, leading to an increase in the size of the zinc orebody. As reported in the Company's 2020 Mineral Resource and Ore Reserve statement, the tonnage of the primary zinc mineral resource at Dugald River increased by approximately 14% from the previous annual report. High grade lead and silver are also present in these areas of structural thickening. Further interpretation work has indicated that these thicknesses in the zinc orebody could be repeated within the current in-mine footprint requiring prioritised infill drilling.

At Rosebery, resource extension and near mine exploration drilling during 2020 continued to indicate further extensions to the resource. Further work will be undertaken in 2021.

Additional information is available in the Company's 2020 Mineral and Ore Reserves Statement, which is available at

PROJECT	HOLE TYPE	METERAGE (METRES)	NUMBER OF HOLES	AVERAGE LENGTH (METRES)
Africa				
Kinsevere RAD50	Diamond	3,617	27	134
	Reverse Circulation	6,704	57	118
Americas				
Las Bambas	Diamond	24,145	119	203
	Reverse Circulation	5,407	38	142
Australia				
Dugald River	Diamond	57,384	388	148
Rosebery	Diamond	75,248	295	255
Total		172,505	924	187

MATERIAL ACQUISITIONS AND DISPOSALS

The Group made no material acquisition or disposal in the year ended 31 December 2020.

EVENTS AFTER THE REPORTING DATE

Other than the matters outlined below and in other sections of the management discussion and analysis, there have been no matters that have occurred subsequent to the reporting date which have significantly affected, or may significantly affect the Group's operations, results or state of affairs in future years.

1. As noted under contingent liabilities for tax, MLB received SUNAT's assessment notice for Peru - Withholding Taxes (2014/15) in connection with audits undertaken in respect of the 2015 tax year. MLB intends to appeal the assessments and not to pay the assessed amount to SUNAT pending resolution of the appeal.
2. Subsequent to the reporting date, New Century Resources Limited ("New Century") announced an agreement for a reduction in the Estimated Rehabilitation Cost ("ERC") with the Queensland Government's Department of Environment and Science (DES) for A\$14.1 million. The Group currently holds a provision in respect of bank guarantee for the benefit of New Century, associated with the disposal of the Century Mine in 2017. In line with the reduction in the ERC, the bank guarantee liability is expected to reduce by approximately US\$11.0 million during 2021.

FINANCIAL AND OTHER RISK MANAGEMENT

The Group's activities expose it to a variety of financial risks, including commodity price risk, interest rate risk, foreign exchange risk, credit risk and liquidity risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the Group's financial performance. The Group can use derivative financial instruments such as foreign exchange contracts, interest rate swaps and commodity swaps to manage certain exposures. The Group does not and is prohibited from entering into derivative contracts for speculative purposes.

Financial risk management is carried out by the Group Treasury function under proposals approved by the Board. Group Treasury identifies, evaluates and manages financial risks in close cooperation with the Group's operating units. The Board approves written principles for overall risk management, as well as policies covering specific areas, such as those identified below.

MANAGEMENT DISCUSSION AND ANALYSIS CONTINUED

(a) Commodity price risk

The prices of copper, zinc, lead, gold, silver and molybdenum are affected by numerous factors and events that are beyond the control of the Group. These metal prices change on a daily basis and can vary significantly up and down over time. The factors impacting metal prices include both broader macro-economic developments and micro-economic considerations relating more specifically to the particular metal concerned.

During the year ended 31 December 2020, the Group entered into various commodity trades to hedge the sales prices for copper and zinc. This included hedging 110,300 tonnes of copper and 54,500 tonnes of zinc at prices ranging from US\$6,392/tonne to US\$6,750/tonne (copper) and US\$2,381/tonne to US\$2,395/tonne (zinc). Certain hedges will be settled in 2021 and the fair value of such derivatives is disclosed in the Financial Statements. The effective portion of such fair value movement, from hedge inception to date, has been recognised in other comprehensive loss amounting to US\$5.5 million. A change in commodity prices during 2021 can result in a favourable or unfavourable financial impact for the Group during 2021.

The following table contains details of the hedging instrument used in the Group's hedging strategy:

AT 31 DECEMBER 2020	Term	Carrying amount of hedging instrument US\$ million	Favourable/(Unfavourable) changes in fair value used for measuring ineffectiveness		Settled portion of hedging instrument realized losses US\$ million	Hedging loss recognised in cash flow hedge reserve US\$ million	Hedge ineffectiveness recognised in profit or loss US\$ million
			Hedging instrument US\$ million	Hedged item US\$ million			
Cash flow hedges:							
Derivative financial liabilities	January 2021 to March 2021	(7.9)	(7.9)	7.9	(6.8)	(5.5)	-

The following table details the sensitivity of the Group's financial assets balance to movements in commodity prices. Financial assets arising from revenue on provisionally priced sales are recognised at the estimated fair value of the total consideration of the receivable and subsequently remeasured at each reporting date.

As at the reporting date, if the commodity prices increased/(decreased) by 10% and taking into account the commodity hedges, with all other variables held constant, the Group's post-tax loss/profit would have changed as set out below:

Commodity	2020			2019	
	Commodity price movement	(Decrease)/Increase in profit US\$ million	Increase in OCI US\$ million	Commodity price movement	Decrease in loss US\$ million
Copper	+10%	(11.0)	-	+10%	44.0
Zinc	+10%	2.0	(6.3)	+10%	4.0
Total		(9.0)	(6.3)		48.0

Commodity	2020			2019	
	Commodity price movement	Decrease in profit US\$ million	Decrease in OCI US\$ million	Commodity price movement	Increase in loss US\$ million
Copper	-10%	(18.9)	-	-10%	(44.0)
Zinc	-10%	(2.0)	6.3	-10%	(4.0)
Total		(20.9)	6.3		(48.0)

(b) Interest rate risk

The Group is exposed to interest rate risk primarily through interest bearing borrowings and investment of surplus cash holdings. Deposits and borrowings at variable rates expose the Group to cash flow interest rate risk. Deposits and borrowings at fixed rates expose the Group to fair value interest rate risk. Details of the Group's cash and cash equivalents and the Group's borrowings are set out in the Financial Statements.

The Group regularly monitors its interest rate risk to ensure there are no undue exposures to significant interest rate movements. Any decision to hedge interest rate risk is assessed periodically in light of the overall Group's exposure, the prevailing interest rate market and any funding counterparty requirements. Regular reporting of the Group's debt and interest rates is provided to the Executive Committee.

During the year ended 31 December 2020, MLB entered into a notional US\$2,100 million 5-year amortising interest rate swap with respect to the floating 6-month LIBOR base rate applicable under its existing project facility, converting the floating rate to a fixed base rate. The main sources of hedge ineffectiveness are considered to be the effects of counterparty credit risks on the hedging instrument and uncertainty associated with benchmark interest rate reform. Further, if LIBOR rates become negative for a period of time, then this corresponding component of the hedging instrument will be ineffective from year two to year five. A floor is purchased on LIBOR at zero for the first year of the hedge instrument.

The following table contains details of the hedging instrument used in the Group's hedging strategy:

AT 31 DECEMBER 2020	Term	Notional amortising amount US\$ million	Carrying amount of hedging instrument US\$ million	Favourable/(Unfavourable) changes in fair value used for measuring ineffectiveness		Settled portion of hedging instrument realized losses US\$ million	Hedging loss recognised in cash flow hedge reserve US\$ million	Hedge ineffectiveness recognised in profit or loss US\$ million
				Hedging instrument US\$ million	Hedged item US\$ million			
Cash flow hedges:								
Derivative financial liabilities ¹	June 2020 - June 2025	2,020.0	(10.7)	(10.7)	10.7	(1.4)	(7.3)	-

1. During the year ended 31 December 2020, the Group has entered into a notional US\$2,100 million 5-year amortising interest rate swap with BOC Sydney. The purpose of the arrangement is to fix approximately half of the remaining interest rate exposure accompanying the floating interest rate MLB project facility (borrowings of US\$4,068.6 million outstanding at 31 December 2020, maturing in June 2032) from CDB, ICBC, BOC Sydney and The Export-Import Bank of China for a period of 5 years. The interest rate swap hedge will amortise in line with the MLB project facility and swap the 6-month LIBOR exposure for a fixed rate (0.5568% in the first year and 0.5425% from the year two to year five).

MANAGEMENT DISCUSSION AND ANALYSIS CONTINUED

At 31 December 2020 and 31 December 2019, if the interest rate had increased/(decreased) by 100 basis points, taking into account the interest rate swap, with all other variables held constant, post-tax profit/(loss) and other comprehensive income (OCI) would have changed as follows:

US\$ MILLION	2020				2019			
	+100 basis points		-100 basis points		+100 basis points		-100 basis points	
	Increase/ (decrease) in profit after tax	Increase/ (decrease) in OCI	Increase/ (decrease) in profit after tax	Increase/ (decrease) in OCI	(Increase)/ decrease in loss after tax	(Increase)/ decrease in OCI	(Increase)/ decrease in loss after tax	(Increase)/ decrease in OCI
Financial assets								
Cash and cash equivalents	1.3	-	(1.3)	-	1.5	-	(1.5)	-
Financial liabilities								
Borrowings (taking into account the impact of the interest rate swap)	(19.0)	39.1	(18.5)	(15.9)	(36.9)	-	36.9	-
Total	(17.7)	39.1	(19.8)	(15.9)	(35.4)	-	35.4	-

EFFECT OF BENCHMARK INTEREST RATES REFORM

Following the global financial crisis, the reform and replacement of benchmark interest rates such as US\$ LIBOR became a priority for global regulators. It is expected that LIBOR will no longer be published after December 2021. There is currently uncertainty around the timing and precise nature of these changes. The Group's risk exposure that is directly affected by the interest rate benchmark reform is its borrowings at variable rates. The Group has hedged US\$2,100.0 million of these borrowings with an amortising interest rate swap, and it has designated the swap as a cash flow hedge of the variability in cash flows of the debt. Under the amendments, hedge accounting is not discontinued solely because of the interest rate benchmark reform. Hedging relationships (and related documentation) are required to be amended to reflect modifications to the hedged item, hedging instrument and hedged risk. Amended hedging relationships should meet all qualifying criteria to apply hedge accounting, including effectiveness requirements. If, and when, LIBOR is replaced as the underlying variable rate applicable to the Group's borrowings, with an alternate benchmark rate, this may potentially impact the future interest payable on the Group's borrowings. The Group is closely monitoring the transition to new benchmark interest rates.

The Group's management has opted to early adopt Phase I and opted to early adopt Phase II of the Amendments to HKFRS 9, HKAS 39 and HKFRS 7 Interest Rate Benchmark Reform. In respect of the interest rate swap entered into by the Group, the amendments provide temporary relief from applying specific hedge accounting requirements to the hedging relationships if it directly gets affected by benchmark interest rates reform. This will prevent hedge accounting from terminating but may result in hedge ineffectiveness. Any hedge ineffectiveness continues to be recorded in the consolidated statement of profit or loss.

(c) Foreign exchange risk

The Group operates internationally and is exposed to foreign currency exchange risk. The Group's reporting currency and functional currency of the majority of subsidiaries within the Group is US dollars. The majority of revenue received by the Group is in US dollars. The Group's foreign currency exchange risk arises predominantly from the currency of the countries in which the Group's operations are located. Any decision to hedge foreign currency risk is assessed periodically in light of the Group's exposure, the prevailing foreign currency market and any funding counterparty requirements.

Based on the Group's net monetary assets and financial liabilities at 31 December 2020 and 2019, a movement of the US dollar against the principal non-functional currencies illustrated below, with all other variables held constant, would cause changes in post-tax profit/(loss) as follows:

US\$ MILLION	2020		2019	
	Weakening of US dollar	Strengthening of US dollar	Weakening of US dollar	Strengthening of US dollar
	(Decrease)/ increase in profit after tax	(Decrease)/ increase in profit after tax	(Increase)/ decrease in loss after tax	(Increase)/ decrease in loss after tax
10% movement in Australian dollar (2019: 10%)	(16.2)	16.2	(13.4)	13.4
10% movement in Peruvian sol (2019: 10%)	(10.0)	10.0	1.1	(1.1)
Total	(26.2)	26.2	(12.3)	12.3

(d) Credit risk

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial loss to the Group. The Group is exposed to counterparty credit risk through sales of metal products on normal terms of trade, through deposits of cash and settlement risk on foreign exchange transactions. While the most significant exposure to credit risk is through sales of metal products on normal terms of trade, the majority of sales for mining operations were made under contractual arrangements whereby provisional payment is received promptly after delivery and the balance within 30 to 120 days from delivery. The aging analysis of the trade receivables is provided in the Financial Statements, and 100% of the balance is aged less than six months based on invoice date. The carrying amount of the Group's trade receivables at fair value through profit or loss is also disclosed in the Financial Statements, representing their respective maximum exposure to credit risk. The Group holds no collateral over any of these balances.

Investments in cash, short-term deposits and similar assets are with approved counterparty banks. Counterparties are assessed prior to, during and after the conclusion of transactions to ensure exposure to credit risk is limited to acceptable levels. There has been no change in the estimation techniques or significant assumptions made during the year ended 31 December 2020 in assessing the expected credit loss for these financial assets. The limits are set to minimise the concentration of risks and therefore mitigate the potential for financial loss through counterparty failure. Impairment is provided for where the credit risk is perceived to exceed the acceptable levels and there are concerns on recoverability of the relevant assets. Management considers cash and cash equivalents that are placed on deposit with financial institutions that hold a high-grade credit rating to be low credit risk financial assets.

The Group's most significant customers are CMN, Citic Metal Peru Investment Limited (CITIC Metal), and Trafigura Pte Ltd (Trafigura). Revenue earned from these customers as a percentage of total revenue was:

	2020	2019
CMN	37.9%	36.4%
CITIC Metal	18.3%	16.9%
Trafigura	14.6%	14.0%

The Group's largest debtor at 31 December 2020 was CMN, with a balance of US\$121.1 million (2019: CMN with US\$60.4 million) and the five largest debtors accounted for 85.0% (2019: 77.6%) of the Group's trade receivables. Credit risk arising from sales to large concentrate customers is managed by contracts that stipulate a provisional payment of at least 90% of the estimated value of each sale. For most sales a second provisional payment is received within 60 days of the vessel arriving at the port of discharge. Final payment is recorded after completion of the quotation period and assaying. Credit risk by geographic region was:

US\$ MILLION	AT 31 DECEMBER	
	2020	2019
Asia	297.5	157.7
Europe	67.9	65.7
Australia	0.6	5.6
Other	3.2	11.6
	369.2	240.6

MANAGEMENT DISCUSSION AND ANALYSIS CONTINUED

(e) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting obligations associated with financial liabilities.

Management utilises short and long-term cash flow forecasts and other consolidated financial information to ensure that appropriate liquidity buffers are maintained to support the Group's activities.

The table below analyses the Group's non-derivative financial assets and liabilities by relevant maturity groupings based on the remaining period to contractual maturity as at the reporting date. The amounts disclosed in each maturity grouping are the contractual undiscounted cash flows for non-derivative financial instruments.

US\$ MILLION	Within 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years	Total	Total carrying value
At 31 December 2020						
Financial assets						
Cash and cash equivalents	192.7	-	-	-	192.7	192.7
Trade receivables	369.2	-	-	-	369.2	369.2
Other receivables	139.4	23.4	16.7	5.8	185.3	185.3
Other financial assets	1.7	-	-	-	1.7	1.7
Financial liabilities						
Trade and other payables	(470.2)	(112.2)	-	-	(582.4)	(582.4)
Other financial liabilities	-	-	-	(145.4)	(145.4)	(145.4)
Borrowings (including interest)	(1,152.6)	(969.2)	(4,418.1)	(1,999.6)	(8,539.5)	(7,179.5)
Lease liabilities (including interest)	(33.0)	(29.7)	(57.0)	(113.4)	(233.1)	(148.7)
Derivative financial liabilities	(35.8)	(6.0)	1.7	-	(40.1)	(40.0)
	(988.6)	(1,093.7)	(4,456.7)	(2,252.6)	(8,791.6)	(7,347.1)

US\$ MILLION	Within 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years	Total	Total carrying value
At 31 December 2019						
Financial assets						
Cash and cash equivalents	217.5	-	-	-	217.5	217.5
Trade receivables	240.6	-	-	-	240.6	240.6
Other receivables	83.6	92.9	-	-	176.5	176.5
Other financial assets	3.1	-	-	-	3.1	3.1
Financial liabilities						
Trade and other payables	(591.3)	-	-	-	(591.3)	(591.3)
Other financial liabilities	-	-	-	(135.7)	(135.7)	(135.7)
Borrowings (including interest)	(1,157.0)	(1,650.5)	(3,388.5)	(3,392.9)	(9,588.9)	(7,628.3)
Lease liabilities (including interest)	(36.5)	(28.5)	(64.0)	(128.6)	(257.6)	(160.8)
	(1,240.0)	(1,586.1)	(3,452.5)	(3,657.2)	(9,935.8)	(7,878.4)

(f) Sovereign risk

The Group conducts all of its operations outside of Hong Kong and, as such, it is exposed to various levels of political, economic and other risks and uncertainties. These risks and uncertainties vary from country to country. Material risks include, but are not limited to, regime or policy change, fluctuation in currency exchange rates, changes to licensing regimes and amendments to concessions, licences, permits and contracts, and changing political conditions and governmental regulations. Changes in any mining or investment policies or shifts in political attitudes in the jurisdictions in which the Group operates may adversely affect the Group's operations and profitability. The decline in growth and macroeconomic activity in many developing nations has resulted in governments seeking alternative means of increasing their income, including increases to corporate tax, VAT and royalty rates, coupled with increased audit and compliance activity. The DRC Government during 2018 made changes to the 2002 Mining Code and Mining Regulations. These changes were enacted (2018 Mining Code) and continue to result in an increased tax burden on mining companies.

Some of the countries in which the Group operates carry higher levels of sovereign risk. Political and administrative changes and reforms in law, regulations or taxation may impact sovereign risk. Political and administrative systems can be slow or uncertain and may result in risks to the Group including the ability to obtain tax refunds in a timely manner. The Group has processes in place to monitor any impact on the Group and implement responses to such changes.

CONTINGENT LIABILITIES

BANK GUARANTEES

Certain bank guarantees have been provided in connection with the operations of certain subsidiaries of the Company primarily associated with the terms of mining leases, mining concessions, exploration licences or key contracting arrangements. At the end of the reporting period, no material claims have been made under these guarantees.

The amount of these guarantees may vary from time to time depending upon the requirements of the relevant regulatory authorities. At 31 December 2020, these guarantees amounted to US\$417.7 million (2019: US\$373.4 million).

The Group has a A\$230.0 million (2019: A\$200.0 million), revolving bank guarantee facility with Bank of China Sydney, which is guaranteed by CMN. MMG has entered into a counter-indemnity agreement in favour of CMN for the maximum principal amount outstanding under the BG Facility.

Following the sale of Century mine in 2017, the Group has procured certain bank guarantees amounting to US\$145.4 million (2019: US\$135.7 million) for the benefit of New Century until 31 December 2023. New Century is legally required to punctually meet all obligations and must use best endeavours to ensure that no demand is made under the bank guarantees. New Century must ensure that, within 90 days of the end of each financial year, the bank guarantee is reduced by not less than 40% of the Century mine's EBITDA in respect of a financial year. In 2020, New Century sold its 49% interest in Lawn Hill and Riversleigh Pastoral Holding Company. In line with the Bank Guarantee Support Agreement in place with New Century, the bank guarantee has been reduced by US\$3.7 million (A\$4.8 million), representing 50% of the proceeds from such sale.

TAX RELATED CONTINGENCIES

The Group has operations in multiple countries, each with its own taxation regime. The nature of the Group's activities requires it to comply with various taxation obligations including corporation tax, royalties, withholding taxes, transfer pricing arrangements with related parties, resource and production-based taxes, environmental taxes and employment related taxes. Application of tax laws and interpretation of tax laws may require judgement to assess risk and estimate outcomes, particularly in relation to the application of income taxes and withholding tax to the Group's cross-border operations and transactions. The evaluation of tax risks considers both assessments received and potential sources of challenge from tax authorities. Additionally, the Group is currently subject to a range of audits and reviews by taxation authorities in Australia, Peru, Zambia and the DRC. No disclosure of an estimate of financial effect of the subject matter has been made in the consolidated financial statements as, in the opinion of the management, such disclosure may seriously prejudice the position of the Group in dealing with these matters.

MANAGEMENT DISCUSSION AND ANALYSIS CONTINUED

Tax matters with uncertain outcomes arise in the normal course of business and occur due to changes in tax law, changes in interpretation of tax law, periodic challenges and disagreements with tax authorities, and legal proceedings. The status of proceedings for such uncertain tax matters will impact the ability to determine the potential exposure and, in some cases, it may not be possible to determine a range of possible outcomes, including timing of resolution or determining a reliable estimate of the potential exposure.

Peru – Withholding Taxes (2014/15)

Included within such uncertain tax matters is an audit of the 2014 tax year for MLB in relation to withholding taxes on fees paid under certain loans, which were provided to MLB pursuant to facility agreements entered into among MLB and a consortium of Chinese banks in connection with the acquisition of the Las Bambas mine in 2014. MLB received an assessment notice (the “2014 Initial Assessment”) in July 2020 from the Peruvian tax authority (National Superintendence of Tax Administration of Peru or “SUNAT”), which advised that, in its opinion, MLB and the Chinese banks are related parties and thus a 30% withholding tax rate ought to be imposed rather than the 4.99% applied. The 2014 Initial Assessment of omitted tax is PEN 60,687,851 (approximately US\$17.3 million). The total 2014 Initial Assessment of omitted tax plus penalties and interest imposed by SUNAT is PEN 154,193,808 (approximately US\$44.0 million).

On 10 December 2020, SUNAT issued assessments to MLB for December 2014 tax year (the “2014 Supplementary Assessment”) in the amount of PEN 44,836,952 (approximately US\$13.0 million). This amount included interest until the estimated date of Peru Tax Court resolution, which is expected by June 2025. On 18 February 2021, MLB received assessment notices from SUNAT in connection with audits undertaken in respect of the 2015 tax year (the “2015 Assessment”) in the amount of PEN 521,152,714 (approximately US\$149.0 million). The 2015 Assessment and 2014 Supplementary Assessment are based upon the same interpretation of Peruvian tax law by SUNAT as the 2014 Initial Assessment.

In relation to these assessments, having received external legal and tax advice, the Group has formed the view that the Company and its controlled entities are not related parties to Chinese banks under Peruvian tax law. MLB notes that the Peruvian tax law was amended to apply from October 2017 onwards to provide expressly that parties are not related by being under state ownership for the purposes of withholding taxes. MLB intends to appeal the assessment and not to pay the assessed amounts to SUNAT pending resolution of the appeal. SUNAT could potentially bring a similar challenge regarding the rate of withholding tax applied by MLB in the 2016 tax years and the part of the 2017 tax year before the amendment to the Peruvian tax law. Where MLB is not successful in rebutting or appealing such challenge(s), this could result in significant additional tax liabilities.

Peru – VAT refund claims (2011/12)

Included as an uncertain tax matter is the decision from the Peru Tax Court in relation to SUNAT’s audit of MLB’s VAT refund claims in the 2011 and 2012 years. SUNAT conducted an audit of MLB’s tax affairs of the 2011 and 2012 financial years and challenged certain VAT matters. SUNAT disallowed MLB’s claim, despite MLB providing a substantial amount of documentary evidence to support its position during and after the audit, which MLB is of the opinion it is entitled to do, pursuant to Peruvian law. These matters were subsequently referred to the Peru Tax Court for further determination. The Peru Tax Court heard these matters on 15 August 2018, and informed MLB of its decision on 14 October 2020.

The Peru Tax Court upheld a majority of the assessment by SUNAT that US\$187 million of VAT, penalties and interest has been correctly assessed in respect of the 2011 and 2012 financial years when the Las Bambas mine was under the ownership of Glencore plc. On 26 October 2020, SUNAT issued a new assessment. The Group is contesting the calculation of the new assessment. Following the tax court ruling on the amount, payment will be required.

MLB has appealed the judgment. Appeals in the Peruvian Judiciary System may take several years to resolve.

The assessed amount relates to the pre-closing period under the agreement signed with Glencore in 2014 which clarified MMG can pursue indemnity and warranty claims against Glencore due to the matters before 2014 (“Share Purchase Agreement”) entered into with Glencore plc in respect of the acquisition of the Las Bambas mine, transacted by MMG with Glencore in 2014 (“Las Bambas Project”) in July 2014 and, if any assessed amount were to become payable, MLB may seek reimbursement of some or all of the amount from Glencore plc by way of indemnity or warranty claims under that agreement.

The Group continues to proactively cooperate with the relevant taxation authorities and to actively manage these audits and reviews. Where appropriate, the Group has filed appeals with either the relevant tax authority or the tax court. For all such open tax matters that the Group presently has, any ultimate obligation would depend on future resolution of the matters and currently, a payment is either not probable or cannot be measured reliably. As such, no provision has been reflected in the consolidated financial statements for such tax matters.

OTHER CONTINGENCIES

Mining Company Katanga SARL (“MCK”) filed a claim against MMG Kinsevere SARL (“MMG Kinsevere”), a subsidiary of the Group, to compensate MCK for losses suffered as a result of Kinsevere’s decision to not renew or extend the mining services contract with its associate entity MCK Trucks (then known as NB Mining SA) in 2018 on the basis that MCK was entitled to a “life of mine” agreement with Kinsevere.

MCK is seeking an award of losses suffered and punitive damages. MMG Kinsevere and the Company regard the claim as unfounded and opportunistic, and the amount claimed as completely disproportionate to the losses that could reasonably have been suffered. The Group is vigorously contesting the claim. Court proceedings between MMG Kinsevere and MCK in the DRC are continuing. MCK obtained freezing orders in February 2020 over certain assets of Kinsevere, which have been partly enforced over US\$15.0 million cash held in bank accounts in the DRC.

Considering the uncertainty around this matter and the fact that there is no present obligation for Kinsevere to make any payments, nor such payment being reliably estimated at this time, no provision has been recognised for this matter.

RE-CLASSIFICATION

Certain amounts in the prior period consolidated financial statements have been reclassified to conform to the presentation of the current period consolidated financial statements. These reclassifications had no effect on the previously reported total comprehensive loss for the year.

CHARGES ON ASSETS

At 31 December 2020, certain borrowings of the Group were secured as follows:

1. Approximately US\$4,307.6 million (2019: US\$4,852.1 million) from China Development Bank, ICBC, BOC Sydney and The Export-Import Bank of China was secured by share security over the entire share capital of MMG South America Management Co Ltd and each of its subsidiaries including MLB, a debenture over the assets of MMG South America Management Co Ltd, an assets pledge agreement and production unit mortgage in respect of all of the assets of MLB, assignments of shareholder loans between MMG South America Management Co Ltd and its subsidiaries and security agreements over bank accounts of MLB. Approximately US\$239.0 million (2019: US\$469.0 million) of these borrowings are guaranteed on a several basis by China Minmetals Non-ferrous Metals Holding Company Limited, Guoxin International Investment Corporation Limited and CITIC Corporation Limited in proportion to the respective shareholdings of MMG SA, Elion Holdings Corporation Limited and Citic Metal Peru Investment Limited in the Las Bambas Joint Venture Group.
2. Approximately US\$342.2 million (2019: US\$398.6 million) from China Development Bank and BOC Sydney was substantively secured by the shares and assets of MMG Dugald River Pty Ltd. This consists of a charge over the shares in MMG Dugald River, a real property mortgage over all of the interests in land of MMG Dugald River, a general security agreement in respect of all of the assets of MMG Dugald River, and specific security over certain assets owned by MMG Australia Limited relating to the Dugald River project, and a featherweight charge over all of MMG Australia Limited’s other assets. This borrowing is guaranteed by CMC.
3. Approximately US\$92.5 million (2019: nil) from ICBC Peru Bank, Banco de Crédito del Peru and Scotiabank Peru secured by mine fleet equipment procured under asset finance arrangements.

MANAGEMENT DISCUSSION AND ANALYSIS CONTINUED

FUTURE PROSPECTS

MMG's vision is to build the world's most respected mining company. We mine to create wealth for our people, host communities and shareholders with an ambition to double the size and value of MMG, and then double again by 2030. MMG has established strong foundations that support future growth and development. The Board is committed to sustaining the successful model that brings together the best fit management team and a strong relationship with China that draws upon the strength of the world's largest commodities consumer, provides deep understanding of markets and access to its sources of funding.

The Company is focused on containing costs, continually improving productivity, growing its resource base and strengthening the balance sheet. This will enable the Company to step into its next phase of disciplined growth.

In 2021, MMG expects to produce between 360,000 and 390,000 tonnes of copper and between 240,000 and 260,000 tonnes of zinc.

Las Bambas copper production in 2021 will continue to be impacted by COVID-19 and delays incurred during 2020 with respect to key development projects and commencement of mining at Chalcobamba. Las Bambas copper volumes are expected to recover from 2022 onwards, with average annual production of approximately 400,000 tonnes anticipated over the period 2022 to 2025. The Las Bambas tenements are highly prospective in nature, as demonstrated by positive early drilling results at the Chalcobamba Southwest Zone which are expected to drive expansion of the Chalcobamba pit design. Other greenfield exploration targets in the area will continue to be pursued in 2021.

In the DRC, the Company has built a valuable skill base in a world-leading copper province, established practices for the development and processing of third-party and satellite deposits and derived valuable in-country operating knowledge as part of the Kinsevere project. The Company continues to investigate options to extend the life of Kinsevere with a final investment decision anticipated in the first half of 2021 regarding the next phase of development of the Kinsevere project. This potential development includes the addition of a sulphide ore and cobalt processing circuit alongside the existing oxide circuit. Should it proceed, this project will enhance the value of MMG's operations in the DRC, provide an entry for the Company into the cobalt market, and enhance optionality for future potential investments in country. It is anticipated that the project would result in a return to annual copper cathode production of around 80,000 tonnes per year and annual cobalt production of between 3,000 and 5,000 tonnes per year. The project will also add approximately ten years to the life of the Kinsevere mine. This work is in addition to the continuation of regional exploration programs focused on proving up discoveries within a 50-kilometre radius of the Kinsevere mine.

In 2021, the Company will continue to progress its successful ramp-up of Dugald River, taking advantage of works carried out in 2020 to achieve increased mine output, enhanced processing performance and ultimately higher production. This work, together with a 14% increase in Dugald River's primary zinc resource following successful early drilling, positions Dugald River to achieve its stated target of sustained mine capacity in excess of two million tonnes per annum by 2022 and zinc production approaching 200,000 tonnes annually. It also supports the possibility of either mine life extension or expansion of the Dugald River operation. At Rosebery, work directed at extending the current mine life will continue to be pursued, including resource extension drilling and analysis of tailings disposal strategies.

Total capital expenditure in 2021 is expected to be between US\$750.0 million and US\$800.0 million. Of this, approximately US\$650.0 million is attributable to Las Bambas, including approximately US\$250.0 million related to capitalised deferred stripping activity. Costs related to the development of Chalcobamba, completion of the third ball mill project and expansion of the Las Bambas tailings dam facility, much of which was originally expected to fall in 2020 but was deferred as a result of COVID-19, all contribute to this higher level of capital expenditure. Capital expenditure for the Group is expected to reduce over subsequent years, to approximately US\$450.0 million (US\$650.0 million inclusive of capitalised mining) per annum. These figures do not include costs associated with the next phase of development at Kinsevere, details of which will be announced if and when the project receives formal approval.

MMG currently has no future plans for material investments or capital assets sanctioned by the Board other than those detailed in this report or announced to the market.