NEWS RELEASE, 17 MARCH 2020

PRELIMINARY RESULTS ANNOUNCEMENT FOR THE YEAR ENDED 31 DECEMBER 2019
Record safety and production performance

Antofagasta plc CEO Iván Arriagada said: *"While Antofagasta emerges from 2019 with a record copper production and safety performance, a strong balance sheet and low cash costs resulting in EBITDA increasing by 9.5% to $2.4 billion, 2020 has begun with an unprecedented global challenge in the form of COVID-19. We are taking every measure possible to keep our colleagues safe and healthy, and our operations have not yet been impacted by the virus. The strength of our balance sheet, the flexibility of our cash flow due to our Cost and Competitiveness Programme and our strong safety and health culture means that the business is extremely robust in this challenging macro environment.*

"During 2019, our copper production increased to a record of 770,000 tonnes while cash costs improved to $1.22/lb. The Board has declared a final dividend of 23.4 cents per share, taking our full year dividend pay-out ratio to 67%.

"Looking ahead to the rest of 2020, while we can't predict the shape of the recovery from COVID-19, Antofagasta is in good shape. We expect to maintain our strong safety and operating performance with copper production in the range of 725-755,000 tonnes at a net cash cost of $1.30/lb, as guided previously. We are looking to reduce our expected total capital expenditure, while continuing to progress the delivery of our growth projects at Los Pelambres, Zaldívar and Centinela. We have the flexibility, with our strong cash flows and balance sheet, to remain resilient through the cycle."

HIGHLIGHTS

Financial performance

- **Revenue for the full year of $4,965 million was 4.9% higher** than 2018 reflecting the increase in copper and gold sales, partially offset by the decrease in the realised copper price
- **EBITDA[(1)] was $2,439 million**, 9.5% higher than the previous year on higher revenue and lower unit costs due to grade increases at all operations, particularly Centinela Concentrates
- **EBITDA margin[(2)] increased to 49.1%** from 47.1% in 2018
- **Cost and Competitiveness Programme generated savings of $132 million,** outperforming the original target of $100 million
- **Strong balance sheet with net debt of $563.4 million at the end of 2019,** a 5.5% decrease compared to 2018, equivalent to a Net Debt/EBITDA ratio of 0.23 times
- **Capital expenditure increased to $1,079 million[(3)],** below guidance of $1,200 million and $206 million higher than in 2018 with higher capital expenditure on the Los Pelambres Expansion project
- **Earnings per share from continuing operations of 50.9 cents per share,** were 1.2% lower than in 2018 with higher EBITDA offset by higher depreciation and amortisation, and tax
- **Final dividend of 23.4 cents per share declared,** bringing the total dividend for the year to 34.1 cents per share, which amounts to $336 million, equal to a 67% pay-out of net earnings and similar to last year's pay-out ratio

Operating performance

- **Safety is our top priority.** As previously announced, during 2019 the Group had its best safety performance ever with improved safety performance at all its mining and transport operations and no fatalities

- **Record copper production for the full year at 770,000 tonnes,** 6.2% higher than 2018 with a particularly strong performance at Centinela Concentrates
- **Cash costs before by-product credits[1] for the full year were $1.65/lb,** 7c/lb lower than last year due to higher production, tight cost control and the weaker Chilean peso
- **Net cash costs[1] for 2019 were $1.22/lb,** 5.4% lower than in 2018, due to lower cash costs before by-product credits and were below guidance

2020 Guidance

- **As previously announced, production in 2020 is expected to be 725-755,000 tonnes of copper, 180-200,000 ounces of gold and 12,500-14,000 tonnes of molybdenum.** Copper production is expected to decrease as Centinela Concentrates mines through lower grade areas
- **As previously announced, cash costs in 2020 before and after by-product credits are expected to be $1.70/lb and $1.30/lb respectively**
- **Capital expenditure in 2020 is expected to be in the range of $1.3-1.5 billion.** In view of the current global situation, the expenditure programme is being reviewed to identify possible savings or deferrals

Other

- 2019 was the driest year of a 10-year drought in Central Chile. Los Pelambres continues to review and optimise its water usage to ensure water availability under different drought scenarios
- Cost savings of $100 million targeted in 2020 under the Cost and Competitiveness Programme, which have been included in the unit cost guidance
- As previously announced, progress on the Los Pelambres Expansion project (engineering, procurement and construction) reached 31% as at the end of 2019
- The feasibility study and review of the Centinela second concentrator will be completed during the year and the final decision is scheduled for 2021. This expansion project could increase production by up to 180,000 tonnes of copper equivalent
- Construction of Zaldívar Chloride Leach and Esperanza Sur projects began during 2019. These projects will each add 10-15,000 tonnes of copper production from 2022
- During Q4 2019 Twin Metals filed a Mine Plan of Operations with both State and Federal agencies in the USA formally starting the environmental permitting process

YEAR ENDING 31 DECEMBER		2019	2018	%
Group revenue	$m	4,964.5	4,733.1	4.9
EBITDA[1]	$m	2,438.9	2,228.3	9.5
EBITDA margin[1, 2]	%	49.1%	47.1%	4.2
Underlying earnings per share[1] (continuing operations)	cents	50.9	51.5	(1.2)
Earnings per share (continuing and discontinued operations)	cents	50.9	55.1	(7.6)
Dividend per share	cents	34.1	43.8	(22.1)
Cash flow from operations (continuing and discontinued)	$m	2,570.7	1,877.0	37.0
Capital expenditure[3]	$m	1,078.8	872.9	23.6
Net debt at period end[1]	$m	563.4	596.3	(5.5)
Average realised copper price	$/lb	2.75	2.81	(2.1)
Copper sales	kt	772.2	717.6	7.6
Gold sales	koz	288.8	198.1	45.8
Molybdenum sales	kt	12.1	14.0	(13.6)
Cash costs before by-product credits[1]	$/lb	1.65	1.72	(4.1)
Net cash costs[1]	$/lb	1.22	1.29	(5.4)

Note: The financial results are prepared in accordance with IFRS, unless otherwise noted below.

(1) Non IFRS measures. Refer to the alternative performance measures in Note 29 to the preliminary results announcement

(2) Calculated as EBITDA/Group revenue. If Associates and JVs revenue is included EBITDA margin was 45.3% in 2019 and 43.6% in 2018.

(3) On a cash basis

A recording and copy of the 2019 Full Year Results presentation is available for download from the Company's website www.antofagasta.co.uk.

There will be a Q&A telephone conference call on 17 March 2020 at 10:00am GMT hosted by Iván Arriagada, Chief Executive Officer, and Alfredo Atucha, Chief Financial Officer. Participants can call any of the following numbers: United Kingdom 0330 336 9105, United States/Canada 800 239 9838, International +44 (0)330 336 9105. The call title is Antofagasta 2019 Full Year Results and the Confirmation Code is 8599722.

Register on our website to receive our email alerts at http://www.antofagasta.co.uk/investors/email-alerts/

Investors – London		**Media – London**	
Andrew Lindsay	alindsay@antofagasta.co.uk	Carole Cable	antofagasta@brunswickgroup.com
Telephone	*+44 20 7808 0988*	*Telephone*	*+44 20 7404 5959*
Andres Vergara	avergara@antofagasta.co.uk	Will Medvei	antofagasta@brunswickgroup.com
Telephone	*+44 20 7808 0988*	*Telephone*	*+44 20 7404 5959*
		Media – Santiago	
		Pablo Orozco	porozco@aminerals.cl
		Paola Raffo	praffo.van@aminerals.cl
		Telephone	*+56 2 2798 7000*

DIRECTORS' COMMENTS FOR THE YEAR ENDED 2019

2019 FINANCIAL HIGHLIGHTS

Revenue for the Group in 2019 was $4,964.5 million, 4.9% higher than in 2018 reflecting the higher copper and gold sales volumes, partially offset by lower copper realised price.

EBITDA increased by 9.5% to $2,438.9 million on higher revenue and lower unit cash costs compared to 2018. The EBITDA margin also increased, from to 47.1% to 49.1%.

Earnings per share from continuing operations for the year were 50.9 cents, a decrease of 0.6 cents or 1.2% compared with 2018 on higher EBITDA offset by higher depreciation and amortisation, and tax.

Cash flow from continuing and discontinued operations was $2,570.7 million, a $693.7 million increase compared to 2018 due to higher EBITDA and lower working capital requirements which included the refund of a one-off short-term VAT payment of $265 million made in December 2018.

During the year, copper production increased by 6.2% to 770,000 tonnes, compared to 2018. This was mainly due to higher production at Centinela, and also at Los Pelambres and Zaldívar.

Gold production was 282,300 ounces, 34.4% higher than in 2018, with expected higher grades and recoveries at Centinela offset by lower production at Los Pelambres.

Molybdenum production decreased by 14.7% to 11,600 tonnes compared to 2018, on expected lower grades at Los Pelambres.

The Transport division transported 6.5 million tonnes during 2019, a 7.7% increase to 2018 as new transport contracts began during the year.

The Group's Cost and Competitiveness Programme generated savings of $132 million during the year, outperforming the original target of $100 million. The focus of the Group has been on producing profitable tonnes by reducing costs, improving productivity and efficiency, and applying innovative solutions to operating challenges. One of the outcomes of these efforts is more consistent and reliable operations, which contributed to the record production for the year.

NET DEBT

During the year the $325 million Antucoya project financing was refinanced with a corporate loan with improved terms and Los Pelambres secured a $1.3 billion corporate loan facility for the financing of its expansion project, of which $469 million was drawn-down by the year end.

Net debt at the end of 2019 was $563.4 million, a 5.5% decrease compared to 2018, equivalent to a Net Debt/EBITDA ratio of 0.23 times.

DIVIDENDS

The Board has declared a final dividend for 2019 of 23.4 cents per share, which together with the interim dividend of 10.7 cents per share amounts to a total dividend of $336.2 million. This is equal to a 67% pay-out ratio, similar to last years. It is also in excess of the Group's minimum pay-out ratio policy of 35%.

COPPER MARKET IN 2019

The year started positively on strong fundamentals and with the threat of production disruptions pushing the copper price up from $2.70/lb at the beginning of the year to over $2.90/lb by April. However, sentiment deteriorated as the US-China trade negotiations continued and the threat of production disruptions receded leading to the price slipping to the $2.60-2.70/lb range. Trading continued in this range until towards the end of the year when increasing optimism that Phase 1 of the trade agreement would be signed improved sentiment and the copper price rose to end the year at $2.79/lb.

Although copper demand for the year was lower than had originally been expected so was production performance, leaving the market in balance. Visible exchange stocks were down 50,000 tonnes on the year and stocks in Chinese bonded warehouses were estimated to have decreased by 155,000 tonnes. However, total refined production is estimated to have marginally increased by 90,000 tonnes, representing less than 0.5% of the global refined supply with the extra refined production coming from scrap (secondary production).

The Group's realised copper price in 2019 was $2.75/lb, 2.3% lower than in 2018, the realised gold price was $1,416/oz compared with $1,256/oz in 2018, while the realised molybdenum price was $10.8/lb, a decrease of 12.7% compared to $12.4/lb in 2018.

COVID-19

Following the outbreak of COVID-19 in January 2020 the Group has been taking actions to mitigate the potential impact the virus may have on the health of its employees and contractors and on its operating activities.

The Group is evaluating the potential impact on its supply chain and its customers, and is seeking to secure access to critical supplies and to increase storage capacity for its products in case of cancelled sales. However, to date no employees, supplies or sales have been affected by the virus.

To minimise the potential for COVID-19 to spread to the operations, the Group has instigated strict procedures for access to the sites and hygiene levels at the sites. This has included a ban on all international travel.

The situation is being constantly monitored and contingency plans are in place that will be activated as necessary.

SAFETY AND HEALTH

Antofagasta puts people first and safety is the top priority.

The Group has had its best safety performance ever with no fatalities and improved safety performance at all its mining and transport operations.

The Lost Time Injury Frequency Rate (LTIFR) fell by 36% to 1.0, better than the target for the year and a new record. The Mining division's Total Recordable Injury Frequency Rate (TRIFR) of 0.5 was also a record and was one of the best performances of the members of the International Council on Mining and Metals (ICMM).

Continuous improvement in safety risk management remains central to the Group's activities.

ENVIRONMENT

Under contract arrangements already in place today, 65% of the Group's power will come from renewable sources in 2022 and negotiations are underway to increase this to 100%. This will allow us to achieve the Group's emissions reduction target set in 2018 to reduce our greenhouse gas emissions by 300,000 tonnes by 2022. It will also reduce the Group's energy costs.

During the year, there were no significant environmental incidents and no actions were initiated by the authorities that could result in sanctions.

Additionally, three internal environmental audits took place in 2019, two were performed by the Environmental Management team and one by Internal Audit. All of them were concluded successfully without any significant negative findings.

DROUGHT IN CENTRAL CHILE

2019 was the driest year of a 10-year drought in Central Chile where Los Pelambres is located. Los Pelambres has been regularly reviewing expected water availability under different scenarios and is focused on optimising its water usage.

Sea water accounted for 46% of the Mining division's water consumption in the year and once the desalination plant at Los Pelambres is completed at the end of 2021 this will increase further.

COMMUNITIES

Antofagasta seeks to build sustainable long-term relations with the communities near its operations, anchored in proactive and transparent dialogue. The benefits of this engagement for both the communities and the Group are measured to assess its impact.

In 2019, the Mining division revised its Social Management Model building on the existing Somos Choapa and Dialogues for Development programmes. It seeks to ensure that engagement principles, methodologies and practices, and the measurement of results are consistent across the Group. The model has four components, each with its own standards: Socio-Territorial Risk Management, Engagement, Initiative Management and Impact Measurement.

EVENTS IN CHILE

The Group's operations have not been immune to the social unrest seen in Chile since October. However, the effects have been managed in such a way that any production impact has been minimal and the operations have performed according to plan.

The unrest was triggered principally by social demands related to pensions, healthcare and education. Chile now has a unique opportunity to address these issues and positively affect people's wellbeing.

Another key issue is the proposal to rewrite the country's constitutional framework. It is important that this process, if it occurs, is carried out in an orderly fashion and results in a constitution supported by the majority of Chileans. From this point of view, the next 18-24 months will be important in determining whether changes are made for the better or whether there is further uncertainty and instability.

During this process, an impact on projects that have already been sanctioned is unlikely.

TAILINGS STORAGE FACILITIES

The Mining division has three main tailings storage facilities (TSFs). The El Mauro and Los Quillayes TSFs at Los Pelambres are conventional tailings dams. The latter, the operation's original, is no longer in regular use, and has limited remaining capacity, and now only serves as back-up for El Mauro.

The third main TSF is a thickened tailings deposit at Centinela. By reducing the contained water in the tailings, this technology improves water recovery, increases the deposit's stability, requires less surface than traditional TSFs, and reduces its environmental impact. In addition, at Zaldívar we have a very small TSF for the tailings from the flotation of some of its sulphides.

All the Group's TSFs are built using the downstream construction method. The largest, El Mauro, is designed to withstand severe earthquakes and extreme weather. Early warning and evacuation procedures are also in place and its physical and chemical monitoring system provides real-time information.

In 2019, Antofagasta participated in the public consultation on new standards proposed under the Global Tailings Review. This was established by the International Council on Mining and Metals (ICMM), the United Nations Environment Programme (UNEP) and the Principles for Responsible Investment (PRI). The Company supports recent proposals to introduce an international independent developed standard and classification system that monitors the safety risk of tailings storage facilities and will work with the ICMM and other bodies to ensure its success.

ZALDIVAR WATER PERMIT

An Environmental Impact Assessment (EIA) has been submitted for an extension of the mine life to 2031. A decision is expected in late 2020 or early 2021. This EIA includes the extension of the water permit for extraction to 2031 and remediation.

REKO DIQ PROJECT'S ARBITRATION

In July 2019 the World Bank's International Center for Settlement of Investment Disputes (ICSID) awarded $5.84 billion in damages (compensation and accumulated interest as at the date of the award) to Tethyan Copper Company Pty Limited (Tethyan), a joint venture held equally by the Company and Barrick Gold Corporation, in relation to arbitration claims filed against the Islamic Republic of Pakistan following the unlawful denial of a mining lease for the Reko Diq project in Pakistan in 2011.

In November 2019, Pakistan applied to ICSID to annul the award and on 13 March 2020, ICSID appointed a committee to consider this application, which is expected to reach a conclusion in the next one to two years. Tethyan is currently stayed from taking action to collect the award. Whether such stay remains in place will be an issue litigated before the ICSID appointed committee.

The proceeds of the award will only be recognised in Antofagasta's financial accounts once they are received.

CAPITAL EXPENDITURE

Capital expenditure in 2019 was $1,079 million, less than the $1.2 billion originally guided, of which $392 million was sustaining capital expenditure, $347 million mine development and $279 million development expenditure.

FUTURE GROWTH

The Group has a pipeline of growth projects which it is currently advancing through a disciplined process of project evaluation.

Construction of the Los Pelambres Expansion project started in early 2019 and is expected to be fully completed in 2022. It will increase production by an average of 60,000 tonnes of copper per year over the first 15 years of operation at an estimated capital cost of $1.3 billion. The project includes $500 million for a desalination plant and water pipeline that will supply water for the expansion and will act as a back-up for the existing operation in dry conditions such as those the region has been experiencing recently.

The feasibility study and review of the Centinela Second Concentrator project is expected to be completed in 2020 with a decision on whether to proceed with the project expected in 2021. The prefeasibility study estimate of the capital cost in 2015 was $2.7 billion and the Company is investigating ways of reducing this, including through the use of a third party to construct and manage the operation's water assets. The project is expected to produce some 180,000 tonnes of copper equivalent a year.

The Zaldívar Chloride Leach and Esperanza Sur projects were both approved during the year and will initially increase the Group's copper production by 20-30,000 tonnes a year from 2022. The capital cost of each project is $190 million and $175 million respectively.

In 2019, Twin Metals, a copper/nickel/PGM greenfield project in the United States, filed its Mine Plan of Operations. This is an important milestone for Twin Metals as it is the start of the formal permitting process.

2020 GUIDANCE

As announced on 22 January, Group copper production for 2020 is expected to be 725-755,000 tonnes, a 2-6% decrease on 2019. This lower production is due to grades at Centinela Concentrates falling to 0.54% for the year.

Group gold production for 2020 is expected to be in the range of 180-200,000 ounces, as grades decrease at Centinela Concentrates.

Molybdenum production is expected to be in the range of 12,500-14,000 tonnes, higher than in 2019 with higher grades at Centinela partially offset by lower production at Los Pelambres.

Group cash costs in 2020 before and after by-product credits are expected to increase to $1.70/lb and $1.30/lb respectively, which includes targeted savings from operational improvements under the Group's Cost and Competitiveness Programme of some $100 million. These will partly compensate for expected production falls as grades decline, particularly at Centinela Concentrates.

In view of the current global situation, the capital expenditure programme is being reviewed to identify whether any savings or deferrals are possible that would reduce the level of expenditure from the original $1.5 billion guided, which in any event is being favourably affected by the weaker Chilean peso. The review process is underway and the revised estimate is expected to be in the range of $1.3-1.5 billion.

MARKET OUTLOOK

The outbreak of COVID-19 is impacting global GDP growth and the outlook for the year. This, together with the resulting uncertainty, depressed copper demand expectations and copper prices have fallen below $2.50/lb. It is not clear how long copper will trade at these levels, which will depend on how quickly the spread of COVID-19 is controlled and how quickly the Chinese and other major economies return to normal.

Globally, demand growth over the coming years is largely driven by the rate of urbanisation, the adoption of electric vehicles and the use of power from renewable sources. These dominant trends are impacting demand growth at different rates in different countries, but the strongest growth is expected to be in China and southeast Asia.

On the supply side growth is expected to be limited in 2020. No major greenfield projects are planned to come on-stream during the year and it is estimated that the general industry decline in the copper grade will result in some 200–300,000 tonnes less copper being produced during the year from existing operations. Further out, some new production is expected to come into production in 2021 and 2022 while the impact of grade decline will continue.

REVIEW OF OPERATIONS

LOS PELAMBRES

2019 Performance

Operating Performance

Los Pelambres had a strong 2019, meeting its production guidance and outperforming its cost guidance for the full year, despite disruptions to its mine supplies during the fourth quarter. This again confirms its position as a stable and reliable world-class operation.

EBITDA at Los Pelambres was $1,384 million, compared with $1,428 million in 2018, reflecting slightly lower sales volumes and lower realised prices, partially offset by lower operating costs.

Production

Copper production for the year increased by 1.6% to 363,400 tonnes due to higher copper grades.

Molybdenum production in 2019 was 11,200 tonnes, 15.8% lower than in 2018 due to lower grades. Gold production was 59,700 ounces, 5.5% lower than the previous year.

Costs

Cash costs before by-product credits at $1.40/lb were 7.9% or 12c/lb lower than in 2018, reflecting strong cost performance during the year and the weaker Chilean peso. Net cash costs for the full year were $0.91/lb, the same as in 2018, despite lower by-product credits.

Capital expenditure

Capital expenditure during 2019 was $494 million, including $129 million on mine development and $235 million on development.

Outlook for 2020

The forecast production for 2020 is 350–360,000 tonnes of copper, 10–11,000 tonnes of molybdenum and 50–60,000 ounces of gold. Cash costs before by-product credits are forecast to be approximately $1.45/lb and net cash costs of $1.00/lb.

CENTINELA

2019 Performance

Operating Performance

Centinela had a year of record copper production as the sulphide ore grade increased by 21.1%.

EBITDA at Centinela was $960 million, compared with $645 million in 2018, on higher copper and gold sales volumes and lower unit costs.

Production

Copper production for the full year was 276,600 tonnes, 11.5% higher than in 2018 primarily as a result of higher grades at Centinela Concentrates, partially offset by lower grades at Centinela Cathodes. Production of copper in concentrates for the full year was 25.7% higher than in 2018 at 195,500 tonnes due to higher grades and recoveries. Cathode production in 2019 was 81,100 tonnes, 12.3% lower than 2018 due to lower oxide grades, partially compensated for by higher throughput.

Gold production was 222,600 ounces, 51.5% higher than in 2018 as a result of expected higher grades and recoveries.

Costs

Cash costs before by-product credits for the full year were $1.83/lb, 3.2% lower than in 2018, mainly as a result of higher production and the weaker local currency, partially offset by higher input prices.

Net cash costs were $1.26/lb, 16.6% lower than the previous year, reflecting the lower cash costs before by-product credits and $0.19/lb higher by-product credits as gold production increased by over 50%.

Capital expenditure

Capital expenditure was $458 million, including $213 million on mine development.

Outlook for 2020

Production for 2020 is forecast at 240–250,000 tonnes of copper, 130–140,000 ounces of gold and 2,500–3,000 tonnes of molybdenum. Cash costs before by-products are forecast to be approximately $2.00/lb and net cash costs $1.50/lb.

ANTUCOYA

2019 Performance

Operating Performance

Antucoya had a challenging 2019 due to lower than expected plant availability. Several measures have been implemented in the plant and the spent ore stacking process to improve continuity of the operation.

EBITDA was $86 million compared with $142 million in 2018, reflecting lower realised prices and higher operating costs.

Production

Antucoya produced 71,900 tonnes of copper, similar to last year’s production as lower throughput was offset by higher grades and recoveries.

Costs

Cash costs for 2019 were $2.17/lb, 9.0% higher than in 2018, mainly because of higher input prices, particularly acid and higher costs in the spent ore reclaiming and stacking process.

Capital expenditure

Capital expenditure was $50 million, including $5 million on mine development.

Outlook for 2020

Production is forecast to be 80–85,000 tonnes of copper and cash costs are expected to be approximately $1.90/lb.

ZALDÍVAR

2019 Performance

Operating Performance

Mining entered a high-grade zone of the deposit improving production and unit costs.

Attributable EBITDA was $113 million compared with $87 million in 2018.

Production

Copper production was 58,100 tonnes, 22.8% higher than 2018, mainly due to higher grades, which increased from 0.82% to 1.04%, and higher plant throughput.

Costs

Cash costs were $1.75/lb, 9.8% lower than the previous year, mainly because of the higher production and the weaker Chilean peso, partially offset by higher input prices.

Capital expenditure

Attributable capital expenditure for 2019 was $45 million, including approximately $18 million of mine development.

Outlook for 2020

Attributable copper production is forecast to be 55–60,000 tonnes at a cash cost of approximately $1.70/lb.

TRANSPORT DIVISION

2019 Performance

Operating performance

During 2019, transport volumes were 6.5 million tonnes, 7.7% higher than in 2018, as new transport contracts began during the year. Growth was mainly driven by higher sulphuric acid volumes transported to mining clients.

EBITDA was $80.8 million in 2019, which was 9% lower than the previous year, mainly due to a lower margin client sales mix, temporary higher costs during the commissioning of one of the new contracts, the impact of adverse weather and the effects of the civil unrest in the fourth quarter of 2019.

Costs

Cost management is focused on optimising the division's business processes to ensure its long-term competitiveness. The Cost and Competitiveness Programme (CCP) has been applied at the division to improve its cost structure and operating standards and achieved benefits of some $3 million. The main areas of improvement were lower costs in selected contracts and raw materials, and improved operating and maintenance management.

During the year, with more new locomotives being added to the fleet, reliability and availability improved significantly.

Outlook for 2020

Over the coming years the Company will transport an increasing quantity of bulk materials and is currently working on a project to further increase transport volumes, particularly of copper concentrates.

The division will continue to develop new business opportunities and expects significant future growth from the award of new contracts. Improvements are expected in maintenance using knowledge gained from the Mining division and best practices in the railway industry, and benefiting from the new locomotives and higher fleet availability.

GROWTH PROJECTS AND OPPORTUNITIES

Los Pelambres Expansion

This expansion project is divided into two phases.

Phase 1

This phase is designed to optimise throughput within the limits of the existing operating, environmental and water extraction permits. Construction started in early 2019 and by the end of the year the project progress to completion was 31%.

Throughput at the plant will increase from the current capacity of 175,000 tonnes of ore per day to an average of 190,000 tonnes of ore per day and first production is expected by the end of 2021. The plant expansion includes an additional SAG mill, ball mill and the corresponding flotation circuit with six additional cells.

Annual copper production will be increased by an average of 60,000 tonnes per year over 15 years, starting at approximately 40,000 tonnes per year for the first four to five years and growing to 70,000 tonnes for the rest of the period as the hardness of the ore increases and the benefit of higher milling capacity is fully realised.

The capital cost of the project is $1.3 billion, which includes $500 million for a 400-litres per second desalination plant and water pipeline. The desalination plant will supply water for the expansion and will act as a back-up for the existing operation in dry conditions such as those the region has been experiencing recently. Desalinated water will be pumped from the coast to the Mauro tailings storage facility, where it will connect with the existing recycling circuit returning water to the Los Pelambres concentrator plant.

Phase 2

In the second phase of expansion, throughput will increase to 205,000 tonnes of ore per day increasing copper production by 35,000 tonnes per year. As part of this development the Group will submit a new EIA to increase the capacity of the Mauro tailings storage facility and the mine waste dumps, as well as extend certain operating permits. The granting of these permits will extend the mine's life by 15 years beyond the current 15 years, accessing a larger portion of Los Pelambres's 6 billion tonne mineral resources base.

Work began on the environmental baseline study for the new EIA in 2017, along with the early stages of community engagement activities. Critical studies on tailings and waste storage capacity have been undertaken and are now progressing towards the feasibility study stage.

Capital expenditure for this phase was estimated in the pre-feasibility study in 2014 at approximately $500 million, the majority of the expenditure is being spent on mining equipment and increasing the capacity of the concentrator and the Mauro tailings facilities. The conveyors from the primary crusher in the pit to the concentrator plant will also have to be repowered to support the additional throughput.

Esperanza Sur pit

The Board has approved a project to open the Esperanza Sur pit at Centinela. Esperanza Sur is 4 km south of the Esperanza pit and is close to Centinela's concentrator plant. The deposit contains 1.4 billion tonnes of reserves with a grade of 0.4% copper, 0.13 g/t of gold and 0.012% of molybdenum.

Stripping is expected to start in 2020 and to be completed by the end of 2021 at a capital cost of $175 million. The stripping will be capitalised and will be carried out by a contractor. The Company is currently evaluating whether to use autonomous mining equipment once stripping is completed.

Opening the Esperanza Sur pit will improve Centinela's flexibility to supply its concentrator and the higher-grade material, over the initial years, will increase production by some 10–15,000 tonnes of copper per year, compared to how much would be produced if material was solely supplied from the Esperanza pit. This greater flexibility will allow Centinela to smooth and optimise its year-on-year production profile, which has in the past been variable.

Centinela Second Concentrator

The construction of a second concentrator and tailings deposit some 7 km from the existing concentrator in two phases is currently being evaluated. Phase 1 would have an ore throughput capacity of approximately 90,000 tonnes per day, producing copper, and gold and molybdenum as by-products, with an annual production of approximately 180,000 tonnes of copper equivalent. Once Phase 1 has been completed and is operating successfully, a further expansion is possible increasing the capacity of the concentrator to 150,000 tonnes of ore per day with annual production increasing to 250,000 tonnes of copper equivalent, maximising the potential of Centinela's large resource base.

Ore for the second concentrator would be sourced initially from the Esperanza Sur deposit and later from Encuentro Sulphides. The latter lies under the Encuentro Oxides reserves, which are expected to be depleted by 2026.

The EIA for both phases of the project was approved in 2016 and the completion of the feasibility study and review for Phase 1 is expected to be completed during 2020. The capital cost estimated in the 2015 pre-feasibility study for Phase 1 was $2.7 billion, which included capitalised stripping, mining equipment, a concentrator plant, a new tailings deposit, water pipeline and other infrastructure, plus the owner's and other costs. The optimised feasibility study will update these estimates as well as including an evaluation of the potential disposal of Centinela's existing water infrastructure and the evaluation of a new milling and crushing strategy using high pressure grinding rolls rather than the more traditional SAG mills. In addition, a third party may be invited to provide water to the site and build the new pipeline.

Zaldívar Chloride Leach

The Board approved the Zaldívar Chloride Leach project during the second half of 2019. The project is expected to increase copper recoveries by approximately 10 percentage points with further upside in recoveries possible, depending on the type of ore being processed. This will increase production at Zaldívar by approximately 10–15,000 tonnes per annum of copper over the remaining life of the mine. Work will begin early in 2020 and the first full year of production is expected to be 2022.

The project requires an upgrade of the Solvent Extraction (SX) plant and the construction of additional washing ponds at an estimated capital cost of $190 million.

As the Group equity accounts its interest in Zaldívar, capital expenditure at the operation is not included in Group total capital expenditure amounts.

Twin Metals Minnesota

In December 2019, Twin Metals Minnesota presented its Mine Plan of Operations (MPO), a prerequisite for permitting applications, to the US Bureau of Land Management and a Scoping Environmental Assessment Worksheet Data Submittal to the Minnesota Department of Natural Resources. These submissions start a multi-year scoping and environmental review process that will thoroughly evaluate the proposed project. The review process will include additional baseline data collection, impact analyses, and multiple opportunities for public input and is expected to take some five years.

Twin Metals Minnesota is a wholly owned copper, nickel and platinum group metals (PGM) underground mining project, which holds the Maturi, Maturi Southwest, Birch Lake and Spruce Road copper-nickel PGM deposits in north-eastern Minnesota, US. In 2018 an update of the pre-feasibility study was completed on an 18,000 tonnes of ore per day project producing an average of 42,000 tonnes of copper per year plus nickel and PGM as by-products, the equivalent of some 65,000 tonnes of copper per year.

FINANCIAL REVIEW FOR THE YEAR ENDED 31 DECEMBER 2019

	Year ended 31.12.2019	Year ended 31.12.2018
	$m	$m
Revenue	**4,964.5**	4,733.1
EBITDA (including results from associates and joint ventures)	**2,438.9**	2,228.3
Total operating costs	**(3,588.7)**	(3,388.1)
Operating profit from subsidiaries	**1,375.8**	1,345.0
Net share of results from associates and joint ventures	**24.4**	22.2
Total profit from operations, associates and joint ventures	**1,400.2**	1,367.2
Net finance expense	**(51.0)**	(114.5)
Profit before tax	**1,349.2**	1,252.7
Income tax expense	**(506.1)**	(423.7)
Profit from continuing operations	**843.1**	829.0
Discontinued operations	**-**	51.3
Profit for the year	**843.1**	880.3
Attributable to:		
Non-controlling interests	**341.7**	336.6
Profit for the financial year attributable to the owners of the parent	**501.4**	543.7
Basic earnings per share	**US cents**	US cents
From continuing operations	**50.9**	51.5
From discontinued operations	**-**	3.6
Total continuing and discontinued operations	**50.9**	55.1

The $42.3 million decrease in the profit for the financial year attributable to the owners of the parent from $543.7 million in 2018 to $501.4 million in the current year was mainly due to the impact of the profit from discontinued operations in 2018. Excluding this one-off gain, the profit from continuing operations attributable to the owners of the parent in 2018 was $507.8 million, and so the decrease in 2019 was $6.4 million or 1.3%. The full reconciliation between 2018 and 2019 is as follows:

	$m
Profit for the financial year attributable to the owners of the parent in 2018	**543.7**
Increase in revenue	231.4
Increase in total operating costs	(200.6)
Increase in net share of profit from associates and joint ventures	2.2
Decrease in net finance expenses	63.5
Increase in income tax expense	(82.4)
Decrease in profit from discontinued operations	(51.3)
Increase in non-controlling interests	(5.1)
	(42.3)
Profit for the financial year attributable to the owners of the parent in 2019	**501.4**

Revenue

The $231.4 million increase in revenue from $4,733.1 million in 2018 to $4,964.5 million in the current year reflected the following factors:

	$m
Revenue in 2018	**4,733.1**
Increase in copper sales volumes	276.5
Decrease in realised copper price	(100.7)
Increase in treatment and refining charges	(7.6)
Increase in gold revenue	159.7
Decrease in molybdenum revenue	(93.4)
Increase in silver revenue	9.2
Decrease in transport division revenue	(12.3)
	231.4
Revenue in 2019	**4,964.5**

Revenue from the Mining division

Revenue from the Mining division increased by $243.7 million, or 5.3%, to $4,804.0 million, compared with $4,560.3 million in 2018. The increase reflected a $168.2 million improvement in copper sales and a $75.5 million increase in by-product revenues.

Revenue from copper sales

Revenue from copper concentrate and copper cathode sales increased by $168.2 million, or 3.9%, to $4,083.4 million, compared with $3,915.2 million in 2018. The increase reflected the impact of $276.7 million of higher sales volumes, partly offset by $100.7 million of lower realised prices and $7.6m of higher treatment and refining charges.

(i) Copper volumes

Copper sales volumes reflected within revenue increased by 6.6% from 671,100 tonnes in 2018 to 715,500 tonnes in 2019, increasing revenue by $276.5 million. This increase was due to higher copper sales volumes at Centinela (46,900 tonne increase) as a result of its increased production volumes and decrease in finished goods inventories, and at Antucoya (300 tonne increase), partly offset by lower sales volumes at Los Pelambres (2,800 tonne decrease).

(ii) Realised copper price

The average realised price decreased by 2.1% to $2.75/lb in 2018 (2018 – $2.81/lb), resulting in a $100.7 million decrease in revenue. While the LME average market price decreased by 8.1% to $2.72/lb (2018 - $2.96/lb), this was offset by a positive provisional pricing adjustment of $27.3 million. The provisional pricing adjustment mainly reflected the increase in the period-end mark-to-market copper price to $2.81/lb at 31 December 2019, compared with $2.71/lb at 31 December 2018.

Realised copper prices are determined by comparing revenue (gross of treatment and refining charges for concentrate sales) with sales volumes in the period. Realised copper prices differ from market prices mainly because, in line with industry practice, concentrate and cathode sales agreements generally provide for provisional pricing at the time of shipment with final pricing based on the average market price in future periods (normally around one month after delivery to the customer in the case of cathode sales and normally four months after delivery to the customer in the case of concentrate sales).

Further details of provisional pricing adjustments are given in Note 5 to the preliminary results announcement.

(iii) Treatment and refining charges

Treatment and refining charges (TC/RCs) for copper concentrate increased by $7.6 million to $252.1 million in 2019 from $244.5 million in 2018, mainly due to the increase in the concentrate sales volumes at Centinela, partly offset by lower average TC/RC rates. Treatment and refining charges are deducted from concentrate sales when reporting revenue and hence the increase in these charges has had a negative impact on revenue.

Revenue from molybdenum, gold and other by-product sales

Revenue from by-product sales at Los Pelambres and Centinela relate mainly to molybdenum and gold and, to a lesser extent, silver. Revenue from by-products increased by $75.5 million or 27.7% to $720.6 million in 2019, compared with $645.1 million in 2018. This increase was mainly due to higher gold revenue partly offset by lower molybdenum sales.

Revenue from gold sales (net of treatment and refining charges) was $407.7 million (2018 - $248.0 million), an increase of $159.7 million which mainly reflected an increase in volumes as well as a higher realised price. Gold sales volumes increased by 45.8% from 198,100 ounces in 2018 to 288,800 ounces in 2019, mainly due to higher grades and recoveries at Centinela. The realised gold price was $1,416.0/oz in 2019 compared with $1,256.3/oz in 2018, reflecting the average market price for 2019 of $1,393.5/oz (2018 - $1,269.6/oz), adjusted for a positive provisional pricing adjustment of $7.4 million.

Revenue from molybdenum sales (net of roasting charges) was $254.6 million (2018 - $348.0 million), a decrease of $93.4 million. The decrease was due to the lower realised price of $10.8/lb (2018 – $12.4/lb) and decreased sales volumes of 12,100 tonnes (2018 – 14,000 tonnes).

Revenue from silver sales increased by $9.2 million to $58.3 million (2018 - $49.1 million). The increase was due to higher sales volumes of 3.6 million ounces (2018 – 3.3 million ounces) as well as an increase in the realised silver price to $16.4/oz (2018 - $15.3/oz).

Revenue from the Transport division

Revenue from the Transport division (FCAB) decreased by $12.3 million or 7.1% to $160.5 million, mainly due to lower revenue from the sales volumes of industrial water ($4.8 million impact), lower tonnages transported relating to some Bolivian customers and the impact of the weaker Chilean peso, partly offset by slightly higher tonnages transported relating to Chilean customers.

Total operating costs

The $200.6 million increase in total operating costs from $3,388.1 million in 2018 to $3,588.7 million in the current year reflected the following factors:

	$m
Total operating costs in 2018	**3,388.1**
Increase in mine-site operating costs	25.2
Increase in other Mining division costs	2.8
Increase in exploration and evaluation costs	13.5
Increase in corporate costs	9.4
Decrease in Transport division operating costs	(3.5)
Increase in depreciation, amortisation and loss on disposals	153.2
	200.6
Total operating costs in 2019	**3,588.7**

Operating costs (excluding depreciation, amortisation and loss on disposals) at the Mining division

Operating costs (excluding depreciation, loss on disposals and impairments) at the Mining division increased by $50.9 million to $2,556.0 million in 2019, an increase of 2.0%. Of this increase, $25.2 million is attributable to higher mine-site operating costs. This increase in mine-site costs reflected the higher production volumes and activity levels in the year, higher key input prices and higher administrative and commercial costs, partly offset by cost savings from the Group's Cost and Competitiveness Programme, the adoption of the new IFRS 16 *Leases* accounting standard and the weaker Chilean peso. However, on a unit cost basis, weighted average cash costs excluding by-product credits (which are reported as part of revenue) and treatment and refining charges for concentrates (which are deducted from revenue) decreased from $1.55/lb in 2018 to $1.49/lb in 2019.

The Cost and Competitiveness Programme has been implemented to reduce the Group's cost base and improve its competitiveness within the industry. During 2019 the programme achieved benefits of $132 million, of which $104 million reflected cost savings and $28 million reflected the value of productivity improvements. Of the $104 million of cost savings, $82 million related to Los Pelambres, Centinela and Antucoya, and therefore impacted the Group's operating costs, and $22 million related to Zaldívar (on a 100% basis) and therefore impacted the share of results from associates and joint ventures.

Other Mining division costs increased by $2.8 million. Exploration and evaluation costs increased by $13.5 million to $111.1 million (2018 – $97.6 million), with the most significant factor being the increased drilling work at Los Pelambres, Centinela and Antucoya in relation to the reserve and resource estimates. Corporate costs increased by $9.4 million.

Operating costs (excluding depreciation, amortisation and loss on disposals) at the Transport division

Operating costs (excluding depreciation, amortisation and loss on disposals) at the Transport division decreased by $3.5 million to $105.7 million, mainly due to lower fuel consumption and a slightly lower diesel price, and the impact of the weaker Chilean peso.

Depreciation, amortisation and disposals

The depreciation and amortisation charge increased by $153.8 million from $760.5 million in 2018 to $914.3 million. This mainly reflected increased depreciation of lease assets as a result of the implementation of IFRS 16 *Leases*, higher amortisation of IFRIC 20 stripping costs, decreased deferral of depreciation in inventories and increased depreciation of the Centinela concentrator plant due to the increased production volumes. The loss on disposal of property, plant & equipment was $12.7 million, a decrease of $0.6 million (2018 - $13.3 million)

Operating profit from subsidiaries

As a result of the above factors, operating profit from subsidiaries increased in 2019 by 2.3% to $1,375.8 million (2018 - $1,345.0 million).

Share of results from associates and joint ventures

The Group's share of results from associates and joint ventures was a profit of $24.4 million in 2019, compared with $22.2 million in 2018, with the increase mainly reflecting higher profits from Zaldívar. In August 2018 the Group disposed of its interest in El Arrayan for cash consideration of $28.0 million, resulting in a profit on disposal of $5.8 million, which is included within the total $22.2 million share of results from associates and joint ventures for the prior year.

EBITDA

EBITDA (earnings before interest, tax, depreciation and amortisation) increased by $210.6 million or 9.5% to $2,438.9 million (2018 - $2,228.3 million). EBITDA includes the Group's proportional share of EBITDA from associates and joint ventures.

EBITDA from the Group's Mining division increased by 10.2% from $2,139.4 million in 2018 to $2,358.1 million this year. This reflected the higher revenue explained above, partly offset by slightly higher mine-site costs and increased exploration and evaluation expenditure.

EBITDA at the Transport division decreased by $8.1 million to $80.8 million in 2019, reflecting the decreased revenue explained above partly offset by the lower operating costs.

Commodity price and exchange rate sensitivities

The following sensitivities show the estimated approximate impact on EBITDA for 2019 of a 10% movement in the average copper, molybdenum and gold prices and a 10% movement in the average US dollar / Chilean peso exchange rate.

The impact of the movement in the average commodity prices reflects the estimated impact on the relevant revenues during 2019, and the impact of the movement in the average exchange rate reflects the estimated impact on Chilean peso denominated operating costs during the year. These estimates do not reflect any impact in respect of provisional pricing or hedging instruments, any potential inter-relationship between commodity price and exchange rate movements, or any impact from the retranslation or changes in valuations of assets or liabilities held on the balance sheet at the year-end.

	Average market commodity price / average exchange rate during the year ended 31.12.19	Impact of a 10% movement in the commodity price / exchange rate on EBITDA for the year ended 31.12.19 $m
Copper price	$2.72/lb	460
Molybdenum price	$11.4/lb	30
Gold price	$1,393/oz	40
US dollar / Chilean peso exchange rate	703	125

Net finance expense

Net finance expense decreased by $63.5 million to $51.0 million, compared with $114.5 million in 2018.

	Year ended 31.12.19 $m	Year ended 31.12.18 $m
Investment income	47.1	30.1
Interest expense	(111.1)	(113.5)
Other finance items	13.0	(31.1)
Net finance expense	**(51.0)**	**(114.5)**

Interest income increased from $30.1 million in 2018 to $47.1 million in 2019, mainly due to the increase in average interest rates as well as a higher average cash balance.

Interest expense decreased slightly from $113.5 million in 2018 to $111.1 million in 2019. This reflected a lower average borrowing balance due to loan repayments, which was largely offset by the increase in the average LIBOR rate and the adoption of the new accounting standard IFRS 16 *Leases* which resulted in an additional $10 million of interest expenses in the year, as explained in Note 1 to the Preliminary Results Announcement.

Other finance items were a net gain of $13.0 million (2018 – net expense of $31.1 million). This reflected an expense of $22.7 million for the unwinding of the discounting of provisions (2018 - $12.7 million) and a gain of $35.8 million in respect of foreign exchange due to the weakening of the Chilean peso (2018 – expense of $18.3 million).

Profit before tax

As a result of the factors set out above, profit before tax increased by 7.7% to $1,349.2 million (2018 - $1,252.7 million).

Income tax expense

The tax charge for 2019 was $506.1 million (2018 – $423.7 million) and the effective tax rate was 37.5% (2018 – 33.8%).

	Year-ended 31.12.2019		Year-ended 31.12.2018	
	$m	**%**	$m	%
Profit before tax	**1,349.2**		1,252.7	
Tax at the Chilean corporate tax (first category tax) rate of 27.0%	**(364.3)**	**27.0**	(338.2)	27.0
Mining tax (royalty)	**(66.6)**	**4.9**	(82.5)	6.5
Deduction of mining tax (royalty) as an allowable expense in determination of first category tax	**19.1**	**(1.4)**	21.1	(1.7)
Items not deductible from first category tax	**(11.9)**	**0.9**	(10.8)	0.9
Adjustment in respect of prior years	**4.3**	**(0.3)**	2.6	(0.2)
Withholding taxes	**(59.3)**	**4.4**	(4.5)	0.4
Tax effect of share of results of associates and joint ventures	**4.7**	**(0.4)**	3.0	(0.2)
Unrecognised tax losses	**(33.0)**	**2.5**	(13.8)	1.1
Net other items	**0.9**	**(0.1)**	(0.6)	-
Tax expense and effective tax rate for the year	**(506.1)**	**37.5**	(423.7)	33.8

The effective tax rate varied from the statutory rate principally due to the mining tax (royalty) (net impact of $47.5 million / 3.5% including the deduction of the mining tax (royalty) as an allowable expense in the determination of first category tax), the withholding tax relating to the remittance of profits from Chile (impact of $59.3 million / 4.4%), unrecognised tax losses (impact of $33.0 / 2.5%) and items not deductible for Chilean corporate tax purposes, principally the funding of expenses outside of Chile (impact of $11.9 million / 0.9%), partly offset by adjustments in respect of prior years (impact of $4.3 million / 0.3%) and the impact of the recognition of the Group's share of profit from associates and joint ventures, which are included in the Group's profit before tax net of their respective tax charges (impact of $4.7 million / 0.4%).

Profit from discontinued operations

In 2019 there were no discontinued operations in the Group. On 11 September 2018 the Group completed the disposal of Centinela Transmisión SA, which holds the electricity transmission line supplying Centinela and others external parties, for cash consideration of $117.0 million. The profit on disposal was $49.2 million, which along with the $2.1 million profit from Centinela Transmisión for the period prior to the disposal, resulted in a total profit from discontinued operations of $51.3 million in 2018.

Non-controlling interests

Profit for 2019 attributable to non-controlling interests was $341.7 million, compared with $336.6 million in 2018, an increase of $5.1 million.

Earnings per share

	Year ended 31.12.19 $ cents	Year ended 31.12.18 $ cents
Earnings per share from continuing operations	**50.9**	51.5
Earnings per share from discontinued operations	**-**	3.6
Earnings per share from continuing and discontinued operations	**50.9**	55.1

Earnings per share calculations are based on 985,856,695 ordinary shares.

As a result of the factors set out above, profit attributable to equity shareholders of the Company was $501.4 million compared with $543.7 million in 2018, and total earnings per share from continuing and discontinued operations was 50.9 cents per share (2018 – 55.1 cents per share). Earnings per share from continuing operations was 50.9 cents per share (2018 – 51.5 cents per share).

Dividends

Dividends per share declared in relation to the period are as follows:

	Year ended 31.12.19 $ cents	Year ended 31.12.18 $ cents
Ordinary dividends:		
Interim	**10.7**	6.8
Final	**23.4**	37.0
Total dividends to ordinary shareholders	**34.1**	43.8

The Board determines the appropriate dividend each year based on consideration of the Group's cash balance, the level of free cash flow and underlying earnings generated during the year and significant known or expected funding commitments. It is expected that the total annual dividend for each year would represent a payout ratio based on underlying net earnings for that year of at least 35%.

The Board has declared a final dividend of 2019 of 23.4 cents per ordinary share, which amounts to $230.7 million and will be paid on 22 May 2020 to shareholders on the share register at the close of business on 24 April 2020.

The Board declared an interim dividend for the first half of 2019 of 10.7 cents per ordinary share, which amounted to $105.5 million.

This gives total dividends proposed in relation to 2019 (including the interim dividend) of 34.1 cents per share or $336.2 million in total (2018 – 43.8 cents per ordinary share or $431.8 million in total) equivalent to a payout ratio of 67.0%.

Capital expenditure

Capital expenditure increased by $205.9 million from $872.9 million in 2018 to $1,078.8 million, mainly due to expenditure on the Los Pelambres Expansion project.

NB: capital expenditure figures quoted in this report are on a cash flow basis, unless stated otherwise.

Derivative financial instruments

The Group periodically uses derivative financial instruments to reduce its exposure to commodity price, foreign exchange and interest rate movements. The Group does not use such derivative instruments for speculative trading purposes. At 31 December 2019 the derivative financial instruments in place had a negative fair value of $7.3 million (2018 – positive $0.8 million).

Cash flows

The key features of the cash flow statement are summarised in the following table.

	Year ended 31.12.19 $m	Year ended 31.12.18 $m
Cash flows from continuing operations	**2,570.7**	**1,877.0**
Income tax paid	(403.6)	(498.0)
Net interest paid	(35.3)	(41.8)
Capital contributions and loans to associates	(1.8)	(8.1)
Disposal of subsidiary and associate	-	145.2
Purchases of property, plant and equipment	(1,078.8)	(872.9)
Dividends paid to equity holders of the Company	(470.3)	(466.9)
Dividends paid to non-controlling interests	(400.0)	(120.0)
Dividends from associates and joint ventures	58.0	16.6
Other items	1.8	(0.2)
Changes in net debt relating to cash flows	**240.7**	**30.9**
Other non-cash movements	(214.3)	(154.3)
Effects of changes in foreign exchange rates	6.5	(16.5)
Movement in net debt in the period	**32.9**	**(139.9)**
Net debt at the beginning of the year	(596.3)	(456.4)
Net debt at the end of the year	**(563.4)**	**(596.3)**

Cash flows from continuing operations were $2,570.7 million in 2019 compared with $1,877.0 million in 2018. This reflected EBITDA from subsidiaries for the year of $2,302.8 million (2018 – $2,118.9 million) adjusted for the positive impact of a net working capital decrease of $291.9 million (2018 – working capital increase of $240.3 million) and a non-cash decrease in provisions of $24.0 million (2018 – decrease of $1.6 million). The working capital decrease was mainly due to the $275 million refund of the one-off short-term VAT payment which had been made in December 2018 and was refunded to the Group as expected in January 2019.

The net cash outflow in respect of tax in 2019 was $403.6 million (2018 – $498.0 million). This amount differs from the current tax charge in the consolidated income statement of $354.4 million (2018 – $404.5 million) mainly because cash tax payments for corporate tax and the mining tax partly include the settlement of outstanding balances in respect of the previous year's tax charge of $29.5 million (2018 - $147.2 million), payments on account for the current year based on the prior year's profit levels of $456.4 million, as well as the recovery of $82.3 million in 2019 relating to prior years.

In 2018 the cash inflow from the disposal of a subsidiary and an associate of $145.2 million related to proceeds from the disposal of Centinela Transmisión ($117.2 million) and El Arrayan ($28.0 million).

Contributions and loans to associates and joint ventures of $1.8 million relate to Tethyan Copper Company.

Capital expenditure in 2019 was $1,078.8 million compared with $872.9 million in 2018. This included expenditure of $493.8 million at Los Pelambres (2018 – $255.5 million), $457.6 million at Centinela (2018 –

$502.4 million), $49.9 million at Antucoya (2018 – $42.8 million), $15.9 million at the corporate centre (2018 – $4.5 million) and $61.6 million at the Transport divisions (2018 - $67.7 million).

Dividends paid to equity holders of the Company were $470.5 million, of which $364.8 million related to the payment of the final element of the previous year's dividend and $105.7 million to the interim dividend declared in respect of the current year. Dividends paid by subsidiaries to non-controlling shareholders were $400.0 million (2018 – $120.0 million). Dividends received from associates and joint ventures of $58.0 million (2018 – $16.6 million) mainly related to a $50.0 million dividend received from Zaldívar.

Financial position

	At 31.12.19 **$m**	At 31.12.18 $m
Cash, cash equivalents and liquid investments	**2,193.4**	1,897.6
Total borrowings	**(2,756.8)**	(2,493.9)
Net debt at the end of the period	**(563.4)**	(596.3)

At 31 December 2019 the Group had combined cash, cash equivalents and liquid investments of $2,193.4 million (31 December 2018 – $1,897.6 million). Excluding the non-controlling interest share in each partly-owned operation, the Group's attributable share of cash, cash equivalents and liquid investments was $1,849.6 million (31 December 2018 – $1,615.2 million).

Total Group borrowings at 31 December 2019 were $2,756.8 million, an increase of $262.9 million on the prior year (31 December 2018 – $2,493.9 million). The increase reflected $469.0 million of additional borrowings at Los Pelambres in respect of the Expansion project, $131.7 million of lease liabilities recognised upon the implementation of IFRS 16 Leases at 1 January 2019 (as explained in Note 1 to the Preliminary Results Announcement), further leases of $45.3 million recognised during the 2019 and non-cash net increases of $37.7 million (principally accrued interest), partly offset by net repayments of loans and finance leases of $408.5 million and decreases due to the effects of changes in foreign exchange rates of $12.3 million. The repayments of borrowings and finance leases of $408.5 million reflected repayments at Los Pelambres of $138.2 million, Centinela of $196.0 million, Antucoya of $39.8 million, the corporate centre of $3.5 million and the transport division of $31.0 million.

Excluding the non-controlling interest share in each partly-owned operation, the Group's attributable share of the borrowings was $2,041.3 million (31 December 2018 – $1,890.5 million).

This resulted in net debt at 31 December 2019 of $563.4 million (31 December 2018 - $596.3 million). Excluding the non-controlling interest share in each partly-owned operation, the Group's attributable net debt was $191.7 million (31 December 2018 - $275.3 million).

Cautionary statement about forward-looking statements

This preliminary results announcement contains certain forward-looking statements. All statements other than historical facts are forward-looking statements. Examples of forward-looking statements include those regarding the Group's strategy, plans, objectives or future operating or financial performance, reserve and resource estimates, commodity demand and trends in commodity prices, growth opportunities, and any assumptions underlying or relating to any of the foregoing. Words such as "intend", "aim", "project", "anticipate", "estimate", "plan", "believe", "expect", "may", "should", "will", "continue" and similar expressions identify forward-looking statements.

Forward-looking statements involve known and unknown risks, uncertainties, assumptions and other factors that are beyond the Group's control. Given these risks, uncertainties and assumptions, actual results could differ materially from any future results expressed or implied by these forward-looking statements, which apply only as at the date of this report. Important factors that could cause actual results to differ from those in the forward-looking statements include: global economic conditions, demand, supply and prices for copper and other long-term commodity price assumptions (as they materially affect the timing and feasibility of future projects and developments), trends in the copper mining industry and conditions of the international copper markets, the effect of currency exchange rates on commodity prices and operating costs, the availability and costs associated with mining inputs and labour, operating or technical difficulties in connection with mining or development activities, employee relations, litigation, and actions and activities of governmental authorities, including changes in laws, regulations or taxation. Except as required by applicable law, rule or regulation, the Group does not undertake any obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Past performance cannot be relied on as a guide to future performance.

Consolidated Income Statement

	Notes	**Year ended 31.12.2019 $m**	Year ended 31.12.2018 $m
Revenue	2,5	**4,964.5**	4,733.1
Total operating costs		**(3,588.7)**	(3,388.1)
Operating profit from subsidiaries	2,4	**1,375.8**	1,345.0
Net share of profit from associates and joint ventures	2,4	**24.4**	22.2
Total profit from operations, associates and joint ventures		**1,400.2**	1,367.2
Investment income		**47.1**	30.1
Interest expense		**(111.1)**	(113.5)
Other finance items		**13.0**	(31.1)
Net finance expense	7	**(51.0)**	(114.5)
Profit before tax		**1,349.2**	1,252.7
Income tax expense	8	**(506.1)**	(423.7)
Profit for the period from continuing operations		**843.1**	829.0
Discontinued operations			
Profit for the period from discontinued operations	9	**-**	51.3
Profit for the period		**843.1**	880.3
Attributable to:			
Non-controlling interests		**341.7**	336.6
Profit for the period attributable to the owners of the parent		**501.4**	543.7
Basic earnings per share			
From continuing operations	10	**50.9**	51.5
From discontinued operations	10	**-**	3.6
Total continuing and discontinued operations		**50.9**	55.1

Consolidated Statement of Comprehensive Income

	Notes	Year ended 31.12.2019 $m	Year ended 31.12.2018 $m
Profit for the financial year		**843.1**	880.3
Items that may be or were subsequently reclassified to profit or loss:			
Gains on cash flow hedges - time value		**0.4**	6.8
(Losses)/gains on cash flow hedges - intrinsic value		**(7.7)**	1.4
Losses in fair value of cash flow hedges transferred to the income statement		**(0.8)**	(0.6)
Current tax effects arising on amounts transferred to income statement		**2.0**	-
Share of other comprehensive losses of equity accounted units, net of tax	**14**	**-**	(0.4)
Total items that may be or were subsequently reclassified to profit or loss		**(6.1)**	7.2
Items that will not be subsequently reclassified to profit or loss:			
Actuarial (losses)/gains on defined benefit plans	**18**	**(4.7)**	3.9
Tax on items recognised through OCI which will not be reclassified to profit or loss in the future		**0.9**	-
Gains/(losses) in fair value of equity investments	**15**	**0.3**	(1.3)
Share of other comprehensive losses of equity accounted units, net of tax		**(0.3)**	-
Total Items that will not be subsequently reclassified to profit or loss		**(3.8)**	2.6
Total other comprehensive (expense)/income		**(9.9)**	9.8
Total comprehensive income for the year period		**833.2**	890.1
Attributable to:			
Non-controlling interests		**338.6**	339.3
Equity holders of the Company		**494.6**	550.8

Consolidated Statement of Changes in Equity

For the year ended 31 December 2019

	Share capital $m	Share premium $m	Other reserves (note 22) $m	Retained earnings (note 22) $m	**Net equity $m**	Non-controlling interests $m	**Total $m**
Balance at 1 January 2019	89.8	199.2	(14.5)	7,084.9	**7,359.4**	2,078.7	**9,438.1**
Profit for the year	-	-	-	501.4	**501.4**	341.7	**843.1**
Other comprehensive income for the year	-	-	(3.6)	(3.2)	**(6.8)**	(3.1)	**(9.9)**
Dividends	-	-	-	(470.3)	**(470.3)**	(400.0)	**(870.3)**
Balance at 31 December 2019	**89.8**	**199.2**	**(18.1)**	**7,112.8**	**7,383.7**	**2,017.3**	**9,401.0**

For the year ended 31 December 2018

	Share capital $m	Share premium $m	Other reserves (Note 22) $m	Retained earnings (Note 22) $m	**Net equity $m**	Non-controlling interests $m	**Total $m**
Balance at 31 December 2017	89.8	199.2	(12.5)	7,041.9	**7,318.4**	1,823.2	**9,141.6**
Adoption of new accounting standards	-	-	(5.8)	1.1	(4.7)	(2.0)	(6.7)
Balance at 1 January 2018	**89.8**	**199.2**	**(18.3)**	**7,043.0**	**7,313.7**	**1,821.2**	**9,134.9**
Profit for the year	-	-	-	543.7	**543.7**	336.6	**880.3**
Other comprehensive income for the year	-	-	3.8	3.3	**7.1**	2.7	**9.8**
Transfer to Non-controlling interest	-	-	-	(38.2)	**(38.2)**	38.2	**-**
Dividends	-	-	-	(466.9)	**(466.9)**	(120.0)	**(586.9)**
Balance at 31 December 2018	**89.8**	**199.2**	**(14.5)**	**7,084.9**	**7,359.4**	**2,078.7**	**9,438.1**

Consolidated Balance Sheet

		At 31.12.2019	At 31.12.2018
Non-current assets	**Notes**	**$m**	$m
Intangible asset	12	**150.1**	150.1
Property, plant and equipment	13	**9,556.7**	9,184.1
Other non-current assets		**2.1**	2.6
Inventories	16	**208.0**	172.7
Investment in associates and joint ventures	14	**1,024.8**	1,056.1
Trade and other receivables		**48.2**	56.1
Derivative financial instruments		**1.7**	-
Equity investments	15	**5.1**	4.7
Deferred tax assets		**8.2**	37.2
		11,004.9	10,663.6
Current assets			
Inventories	16	**586.4**	576.3
Trade and other receivables		**682.4**	873.5
Current tax assets		**140.2**	90.7
Derivative financial instruments	6	**3.1**	0.8
Liquid investments	24	**1,539.7**	863.2
Cash and cash equivalents	24	**653.7**	1,034.4
		3,605.5	3,438.9
Total assets		**14,610.4**	14,102.5
Current liabilities			
Short-term borrowings and leases	17	**(723.9)**	(646.0)
Derivative financial instruments	6	**(9.6)**	-
Trade and other payables		**(750.6)**	(608.3)
Short-term decommissioning & restoration provisions		**(22.0)**	(30.9)
Current tax liabilities		**(42.8)**	(52.8)
		(1,548.9)	(1,338.0)
Non-current liabilities			
Medium and long-term borrowings and leases	17	**(2,032.9)**	(1,847.9)
Derivative financial instruments	6	**(2.5)**	-
Trade and other payables		**(8.2)**	(7.7)
Liabilities in relation to joint ventures	14	**(1.8)**	(1.0)
Post-employment benefit obligations		**(118.7)**	(107.4)
Decommissioning & restoration provisions		**(391.2)**	(378.9)
Deferred tax liabilities		**(1,105.2)**	(983.5)
		(3,660.5)	(3,326.4)
Total liabilities		**(5,209.4)**	(4,664.4)
Net assets		**9,401.0**	9,438.1
Equity			
Share capital	21	**89.8**	89.8
Share premium	21	**199.2**	199.2
Other reserves	22	**(18.1)**	(14.5)
Retained earnings	22	**7,112.8**	7,084.9
Equity attributable to equity holders of the Company		**7,383.7**	7,359.4
Non-controlling interests		**2,017.3**	2,078.7
Total equity		**9,401.0**	9,438.1

The preliminary information was approved by the Board of Directors on 16 March 2020.

Consolidated Cash Flow Statement

	Notes	At 31.12.2019 $m	At 31.12.2018 $m
Cash flows from continuing operations	**23**	**2,570.7**	1,877.0
Interest paid		**(76.3)**	(68.2)
Income tax paid		**(403.6)**	(498.0)
Net cash from continuing operating activities		**2,090.8**	1,310.8
Investing activities			
Capital contributions to joint ventures	**14**	**(1.8)**	(8.1)
Dividends from associates	**14**	**58.0**	16.6
Disposal of subsidiary and associate		**-**	145.2
Acquisition of mining properties		**(5.2)**	-
Cash desrecognised due to loss of control of subsidiary		**-**	(13.2)
Proceeds from sale of property, plant and equipment		**1.9**	0.7
Purchases of property, plant and equipment		**(1,073.6)**	(872.9)
Net (increase)/decrease in liquid investments	**19**	**(676.5)**	305.5
Interest received		**41.0**	26.4
Net cash used in investing activities		**(1,656.2)**	(399.8)
Financing activities			
Dividends paid to equity holders of the Company		**(470.3)**	(466.9)
Dividends paid to preference shareholders of the Company		**(0.1)**	(0.1)
Dividends paid to non-controlling interests		**(400.0)**	(120.0)
Proceeds from issue of new borrowings	**19**	**741.4**	420.0
Repayments of borrowings	**19**	**(588.1)**	(733.8)
Principal elements of lease payments	**19**	**(92.5)**	(33.3)
Net cash used in financing activities		**(809.6)**	(934.1)
Net decrease in cash and cash equivalents	**19**	**(375.0)**	(23.1)
Cash and cash equivalents at beginning of the year		**1,034.4**	1,083.6
Net decrease in cash and cash equivalents	**19**	**(375.0)**	(23.1)
Effect of foreign exchange rate changes	**19**	**(5.8)**	(26.1)
Cash and cash equivalents at end of the year	**19**	**653.7**	1,034.4

Notes

1. General information and accounting policies

a) General information

This preliminary results announcement is for the year ended 31 December 2019. While the financial information contained in this preliminary results announcement has been prepared in accordance with International Financial Reporting Standards ("IFRS"), this announcement does not itself contain sufficient information to comply with IFRS. For these purposes, IFRS comprise the Standards issued by the International Accounting Standards Board ("IASB") and IFRS Interpretations Committee ("IFRS IC") that have been endorsed by the European Union. The Group will send its full financial statements that comply with IFRS to shareholders in April 2020.

The financial information contained in this preliminary results announcement has been prepared on the going concern basis. Details of the factors which have been taken into account in assessing the Group's going concern status are set out within the Financial Review.

This preliminary results announcement does not constitute the Group's statutory accounts as defined in section 434 of the Companies Act 2006 (the "Act") but is derived from those accounts. The statutory accounts for the year ended 31 December 2019 have been approved by the Board and will be delivered to the Registrar of Companies following the Company's Annual General Meeting which will be held on 20 May 2020. The auditor has reported on those accounts and their report was unqualified, with no matters by way of emphasis, and did not contain statements under section 498(2) of the Act (regarding adequacy of accounting records and returns) or under section 498(3) (regarding provision of necessary information and explanations).

The information contained in this announcement for the year ended 31 December 2018 also does not constitute statutory accounts. A copy of the statutory accounts for that year has been delivered to the Registrar of Companies. The auditor's report on those accounts was unqualified, with no matters by way of emphasis, and did not contain statements under sections 498(2) or (3) of the Companies Act 2006.

The information contained in Notes 29 and 30 of this preliminary results announcement is not derived from the statutory accounts for the years ended 31 December 2019 and 2018 and is accordingly not covered by the auditor's reports.

b) Adoption of new accounting standards

IFRS 16 Leases

The Group has applied IFRS 16 Leases in the current period. IFRS 16 has resulted in most of the Group's operating leases being accounted for similarly to finance leases under the previous IAS 17 Leases, resulting in the recognition of additional assets within property, plant and equipment in respect of the right-of-use lease assets, and additional lease liabilities. The Group has applied the optional transitional provisions of IFRS 16 which resulted in the initial impact of the new standard being recognised as an adjustment to the balance sheet as at 1 January 2019, with no restatement of the comparative period. The Group also applied the transition option to recognise the right-of-use assets as at 1 January 2019 at amounts equal to the corresponding lease liabilities, with no overall impact on net assets or retained earnings as at 1 January 2019. For leases previously classified as finance leases the carrying amounts of the lease assets and lease liabilities immediately prior to transition on 31 December 2018 have been recognised as the carrying amounts of the right of use assets and the lease liabilities at the date of initial application on 1 January 2019.

In applying IFRS 16 for the first time, the group has used the following practical expedients permitted by the standard:

- the use of a single discount rate to a portfolio of leases with reasonably similar characteristics
- reliance on previous assessments on whether leases are onerous
- the use of hindsight in determining the lease term where the contract contains options to extend or terminate the lease; and
- the accounting for operating leases, with a total lease term of less than 12 months, as short-term leases.

The implementation of IFRS 16 on 1 January 2019 resulted in the recognition of additional lease assets within property, plant and equipment and additional lease liabilities as at 1 January 2019 of $132 million in each case.

The weighted average incremental borrowing rate applied to the Group's lease liabilities recognised on the balance sheet at 1 January 2019 was 5.1%.

For the year ended 31 December 2018, operating lease costs of $107 million were recognised within operating expenses before depreciation (impacting EBITDA). The adoption of IFRS 16 has resulted in the following impact to the 2019 income statement: a decrease in operating expenses before depreciation (and therefore an increase in EBITDA) of $56 million, an increase in depreciation of $52 million, an increase in finance costs of $7 million and a reduction in profit before tax of $3 million.

The operating lease commitments as at 31 December 2018 disclosed in Note 32 of the Group's 2018 Annual Report is reconciled to the lease liabilities recognised at 1 January 2019 in the table below:

	$m
Total operating lease commitments per Note 32 of the 2018 Annual Report	**142.6**
Impact of discounting operating lease commitments to present value	(12.5)
Other adjustments	1.6
Former operating leases recognised on the balance sheet at 1 January 2019	**131.7**
Finance leases previously recognised at 31 December 2018	171.8
IFRS 16 lease liabilities at 1 January 2019	**303.5**
New leases entered into in the year ended 31 December 2019	45.0
Repayments of lease liabilities	(92.4)
Foreign exchange	(12.0)
Other movements	(0.1)
IFRS 16 lease liabilities at 30 June 2019	**244.0**
Analysed between:	
Current liabilities	75.6
Non-current liabilities	168.4

The recognised right-of-use assets relate to the following types of assets:

	31 December 2019	1 January 2019
Mining equipment & Plant	146.8	169.0
Trucks	82.6	110.5
Facilities and infrastructure	2.7	0.3
Pickup trucks	2.7	4.3
Office equipment	24.8	25.6
Total right-of-use assets	**259.6**	**309.7**

In respect of the presentation in the cash flow statement, repayments of lease liabilities are separated into a principal portion (within financing activities) and an interest portion (within operating activities). Until 2018 lease repayments were recognised within cash flows from operating activities.

Accounting policy for leases

Until 2018 leases were classified as operating leases or finance leases. Rental costs under operating leases were charged to the income statement account in equal annual amounts over the term of the lease. Assets under finance leases were recognised as assets of the Group at inception of the lease at the lower of fair value or the present value of the minimum lease payments derived by discounting at the interest rate implicit in the lease. The interest element was charged within financing costs so as to produce a constant periodic rate of interest on the remaining balance of the liability.

From 1 January 2019, leases are recognised as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the group. Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable
- variable lease payment that are based on an index or a rate
- amounts expected to be payable by the lessee under residual value guarantees
- the exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and
- payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- restoration costs

Other accounting standards

The following accounting standards, amendments and interpretations became effective in the current reporting period but the application of these standards and interpretations had no material impact on the amounts reported in these condensed consolidated financial statements:

- Prepayment Features with Negative Compensation (Amendments to IFRS 9)
- Long-term Interests in Associates and Joint Ventures (Amendments to IAS 28)
- Annual Improvements to IFRS Standards 2015–2017 Cycle
- IFRIC 23, Uncertainty over Income Tax Treatments
- Plan Amendment, Curtailment or Settlement (Amendments to IAS 19)

c) Accounting standards issued but not yet effective

The following accounting standards, interpretations and amendments have been issued by the IASB, but are not yet effective:

New Standards	**Effective date (Subject to EU endorsement)**
IFRS 17, Insurance Contracts	Annual periods beginning on or after January 1, 2021
Amendments to IFRSs	**Effective date (Subject to EU endorsement)**
Sale or Contribution of Assets between an Investor and its Associate or Joint Venture (Amendments to IFRS 10 and IAS 28)	Effective date deferred indefinitely
Amendments to References to the Conceptual Framework in IFRS Standards	Annual periods beginning on or after January 1, 2020
Definition of a Business (Amendments to IFRS 3)	Annual periods beginning on or after January 1, 2020
Definition of Material (Amendments to IAS 1 and IAS 8)	Annual periods beginning on or after January 1, 2020
Classification of Liabilities as Current or Non-Current (Amendments to IAS 1)	Annual periods beginning on or after January 1, 2022

The Group is continuing to evaluate the impact of adopting these new standards and amendments.

2. Total profit from operations, associates and joint ventures

	Year ended 31.12.2019 $m	Year ended 31.12.2018 $m
Revenue	**4,964.5**	4,733.1
Cost of sales	**(2,963.6)**	(2,807.7)
Gross profit	**2,000.9**	1,925.4
Administrative and distribution expenses	**(445.9)**	(422.7)
Other operating income	**31.2**	26.9
Other operating expenses	**(210.4)**	(184.6)
Operating profit from subsidiaries	**1,375.8**	1,345.0
Net share of income from associates and joint ventures	**24.4**	22.2
Total profit from operations, associates and joint ventures	**1,400.2**	1,367.2

Other operating expenses comprise $111.0 million of exploration and evaluation expenditure (2018 - $97.6 million), $24.8 million in respect of the employee severance provision (2018 - $18.7 million) and $74.5 million of other expenses (2018 - $53.5 million). A credit of $2.8 million related with the closure provision cost is shown as part of other income (2018 - $14.8 million charge included within other expenses).

3. Asset sensitivities

There were no indicators of potential impairment, or reversal of previous impairments, for the Group's operations at the 2018 year-end, and accordingly no impairment reviews have been performed. However, in order to provide an indication of the sensitivities of the recoverable amount of the Group's mining operations, a valuation and sensitivity analysis has been performed.

The recoverable amount is the higher of fair value less costs of disposal and value in use. Fair value less costs of disposal reflects the net amount the Group would receive from the sale of the asset in an orderly transaction between market participants. For mining assets this would generally be determined based on the present value of the estimated future cash flows arising from the continued use, further development or eventual disposal of the asset. Value in use reflects the expected present value of the future cash flows which the Group would generate through the operation of the asset in its current condition, without taking into account potential enhancements or further development of the asset. The fair value less costs of disposal valuation will normally be higher than the value in use valuation, and accordingly the Group typically applies this valuation estimate in its impairment or valuation assessments.

This valuation exercise demonstrated positive headroom for all of the Group's mining operations, with the recoverable amount of the assets in excess of their carrying value.

The assumption to which the value of the assets is most sensitive is the future copper price. The copper price forecasts (representing the Group's estimates of the assumptions that would be used by independent market participants in valuing the assets) are based on the forward curve for the short term and consensus analyst forecasts including both investment banks and commodity consultants for the longer term. A long-term copper price of $3.10/lb has been used in the base valuations. As an additional down-side sensitivity, a valuation was performed with a 5% reduction in the long-term copper price. Los Pelambres, Centinela and Zaldivar still showed positive headroom in this alternative down-side scenario. However the Antucoya valuation indicated a potential deficit of $80 million. This was a simple sensitivity exercise, looking at an illustrative change in the forecast long-term copper price in isolation. In reality, a deterioration in the long-term copper price environment is likely to result in corresponding improvements in a range of input cost factors. In particular, given that copper exports account for over 50% of Chile's exports, movements in the US dollar/Chilean peso exchange rate are highly correlated to the copper price, and a decrease in the copper price is likely to result in a weakening of the Chilean peso, with a resulting reduction in the Group's operating costs and capital expenditure. These likely cost reductions, as well as potential operational changes which could be made in a weaker copper price environment, could partly mitigate the impact of the lower copper price modelled in these estimated potential sensitivities.

In addition to the future copper price, the valuations are sensitive to the assumptions in respect of the discount rate used to determine the present value of the future cash flows, future operating costs, sustaining and development capital expenditure, and the US dollar/Chilean peso exchange rate. In the case of Centinela, a significant element of the valuation relates to the planned construction of the second concentrator, and a substantial change in the plans for that development could have a considerable impact on the valuation. A real post-tax discount rate of 8% has been used in determining the present value of the forecast future cash flow from the assets.

4. Segmental analysis

The Group's reportable segments are as follows:

- Los Pelambres
- Centinela
- Antucoya
- Zaldivar
- Exploration and evaluation
- Corporate and other items
- Transport división

For management purposes, the Group is organised into two business divisions based on their products – Mining and Transport. The mining division is split further for management reporting purposes to show results by mine and exploration activity. Los Pelambres produces primarily copper concentrate and molybdenum as a by-product. Centinela produces copper concentrate containing gold as a by-product, molybdenum concentrates and copper cathodes. Antucoya and Zaldivar produce copper cathodes. The transport division provides rail and road cargo transport together with a number of ancillary services. All the operations are based in Chile. The Exploration and evaluation segment incurs exploration and evaluation expenses. "Corporate and other items" comprises costs incurred by the Company, Antofagasta Minerals S.A., the Group's mining corporate centre and other entities, that are not allocated to any individual business segment. Consistent with its internal management reporting, the Group's corporate and other items are included within the mining division.

The Chief Operating decision-maker monitors the operating results of the business segments separately for the purpose of making decisions about resources to be allocated and assessing performance. Segment performance is evaluated based on the operating profit of each of the segments.

a) Segment revenues and results

For the year ended 31 December 2019

	Los Pelambres	Centinela	Antucoya	Zaldivar	Exploration and evaluation[2]	Corporate and other items	**Total Mining**	**Transport division**	**Total**
	$m	$m	$m	$m	$m	$m	**$m**	**$m**	**$m**
Revenue	2,363.9	2,007.9	432.2	-	-	-	**4,804.0**	160.5	**4,964.5**
Operating costs excluding depreciation	(979.8)	(1,048.4)	(345.9)	-	(111.1)	(70.8)	**(2,556.0)**	(105.7)	**(2,661.7)**
Depreciation and amortisation	(258.5)	(532.2)	(92.2)	-	-	(7.9)	**(890.8)**	(23.5)	**(914.3)**
Loss on disposals	(10.5)	(1.5)	-	-	-	-	**(12.0)**	(0.7)	**(12.7)**
Operating profit/(loss)	1,115.1	425.8	(5.9)	-	(111.1)	(78.7)	**1,345.2**	30.6	**1,375.8**
Equity accounting profit /(losses)	-	-	-	15.5	-	(2.5)	13.0	11.4	24.4
Investment income	11.1	7.9	1.4	-	-	26.2	46.6	0.5	47.1
Interest expense	(7.7)	(36.5)	(42.7)	-	-	(21.7)	(108.6)	(2.5)	(111.1)
Other finance items	8.8	3.4	(0.5)	-	-	1.8	13.5	(0.5)	13.0
Profit/(loss) before tax	1,127.3	400.6	(47.7)	15.5	(111.1)	(74.9)	**1,309.7**	39.5	**1,349.2**
Tax	(341.4)	(88.5)	(0.2)	-	-	(68.2)	**(498.3)**	(7.8)	**(506.1)**
Profit/(loss) for the year from continuing operations	785.9	312.1	(47.9)	15.5	(111.1)	(143.1)	**811.4**	31.7	**843.1**
Non-controlling interests	(309.0)	(69.4)	36.7	-	-	-	**(341.7)**	-	**(341.7)**
Profit/(loss) for the year attributable to owners of the parent	**476.9**	**242.7**	**(11.2)**	**15.5**	**(111.1)**	**(143.1)**	**469.7**	**31.7**	**501.4**
EBITDA[1]	**1,384.1**	**959.5**	**86.3**	**112.6**	**(111.1)**	**(73.3)**	**2,358.1**	**80.8**	**2,438.9**
Additions to non-current assets									
Capital expenditure	573.0	535.9	43.0	-	-	16.0	**1,167.9**	68.6	**1,236.5**
Segment assets and liabilities									
Segment assets	4,251.1	5,792.2	1,647.1	-	-	1,548.8	**13,239.2**	346.4	**13,585.6**
Investment in associates and joint ventures	-	-	-	-	961.8	-	**961.8**	63.0	**1,024.8**
Segment liabilities	(1,696.7)	(1,789.6)	(933.3)	-	-	(694.0)	**(5,113.6)**	(95.8)	**(5,209.4)**

[1]EBITDA refers to Earnings Before Interest, Tax, Depreciation and Amortisation. EBITDA is calculated by adding back depreciation, amortisation, profit or loss on disposals and impairment charges to operating profit. This comprises 100% of the EBITDA from the Group´s subsidiaries, and the Group´s proportional share of the EBITDA of its associates and joint ventures.
[2]Operating cash outflow in the exploration and evaluation segment was $43.0 million

For the year ended 31 December 2018

	Los Pelambres	Centinela	Antucoya	Zaldivar	Exploration and evaluation[2]	Corporate and other items	**Total Mining**	**Transport division**	**Total**
	$m	$m	$m	$m	$m	$m	**$m**	**$m**	**$m**
Revenue	2,493.5	1,609.2	457.6	-	-	-	**4,560.3**	172.8	**4,733.1**
Operating costs excluding depreciation	(1,065.9)	(964.2)	(316.0)	-	(97.6)	(61.4)	**(2,505.1)**	(109.2)	**(2,614.3)**
Depreciation and amortisation	(243.3)	(415.4)	(78.7)	-	-	(7.2)	**(744.6)**	(15.9)	**(760.5)**
Loss on disposals	(10.5)	-	-	-	-	-	**(10.5)**	(2.8)	**(13.3)**
Operating profit/(loss)	**1,173.8**	**229.6**	**62.9**	**-**	**(97.6)**	**(68.6)**	**1,300.1**	**44.9**	**1,345.0**
Equity accounting profit/(loss)	-	-	-	14.2	-	(2.9)	**11.3**	10.9	**22.2**
Investment income	6.0	5.1	1.2	-	-	17.0	**29.3**	0.8	**30.1**
Interest expense	(5.8)	(35.5)	(49.6)	-	-	(20.5)	**(111.4)**	(2.1)	**(113.5)**
Other finance items	(13.2)	(7.8)	(3.1)	-	-	0.4	**(23.7)**	(7.4)	**(31.1)**
Profit/(loss) before tax	**1,160.8**	**191.4**	**11.4**	**14.2**	**(97.6)**	**(74.6)**	**1,205.6**	**47.1**	**1,252.7**
Tax	(371.8)	(18.7)	0.9	-	-	(20.1)	**(409.7)**	(14.0)	**(423.7)**
Profit/(loss) for the year from continuing operations	**789.0**	**172.7**	**12.3**	**14.2**	**(97.6)**	**(94.7)**	**795.9**	**33.1**	**829.0**
Profit for the year from discontinued operations	-	51.3	-	-	-	-	**51.3**	-	**51.3**
Profit/(loss) for the year	**789.0**	**224.0**	**12.3**	**14.2**	**(97.6)**	**(94.7)**	**847.2**	**33.1**	**880.3**
Non-controlling interests	(315.5)	(35.8)	14.7	-	-	-	**(336.6)**	-	**(336.6)**
Profit/(loss) for the year attributable to owners of the parent	**473.5**	**188.2**	**27.0**	**14.2**	**(97.6)**	**(94.7)**	**510.6**	**33.1**	**543.7**
EBITDA[1]	**1,427.6**	**645.0**	**141.6**	**87.4**	**(97.6)**	**(64.6)**	**2,139.4**	**88.9**	**2,228.3**
Additions to non-current assets									
Capital expenditure	364.8	535.2	65.7	-	-	4.5	**970.2**	67.7	**1,037.9**
Segment assets and liabilities									
Segment assets	4,003.7	5,312.8	1,942.0	-	-	1,444.5	**12,703.0**	343.4	**13,046.4**
Investment in associates and joint ventures	-	-	-	996.4	-	-	**996.4**	59.7	**1,056.1**
Segment liabilities	(1,218.0)	(1,746.1)	(948.8)	-	-	(632.2)	**(4,545.1)**	(119.3)	**(4,664.4)**

[1]EBITDA refers to Earnings Before Interest, Tax, Depreciation and Amortisation. EBITDA is calculated by adding back depreciation, amortisation, profit or loss on disposals and impairment charges to operating profit. This comprises 100% of the EBITDA from the Group´s subsidiaries, and the Group´s proportional share of the EBITDA of its associates and joint ventures.
[2]Operating cash outflow in the exploration and evaluation segment was $81.0 million

b) Entity wide disclosures

Revenue by product[1]

	Year ended 31.12.2019	Year ended 31.12.2018
	$m	$m
Copper		
- Los Pelambres	**2,009.1**	2,040.3
- Centinela concentrates	**1,137.7**	827.9
- Centinela cathodes	**504.4**	589.4
- Antucoya	**432.2**	457.6
Gold		
- Los Pelambres	**75.2**	78.5
- Centinela	**332.5**	169.5
Molybdenum		
- Los Pelambres	**249.0**	340.2
- Centinela	**5.6**	7.8
Silver		
- Los Pelambres	**30.7**	34.4
- Centinela	**27.6**	14.7
Total Mining	**4,804.0**	4,560.3
Railway and transport services	**160.5**	172.8
	4,964.5	4,733.1

Revenue by location of customer[1]

	Year ended 31.12.2019	Year ended 31.12.2018
	$m	$m
Europe		
- United Kingdom	152.3	125.3
- Switzerland	612.4	587.0
- Spain	158.0	152.9
- Germany	102.7	117.3
- Rest of Europe	85.0	131.7
Latin America		
- Chile	213.8	248.1
- Rest of Latin America	95.3	73.9
North America		
- United States	88.9	199.4
Asia Pacific		
- Japan	1,561.5	1,413.0
- China	517.2	481.2
- Singapore	692.1	633.9
- South Korea	371.2	322.0
- Hong Kong	171.0	117.1
- Rest of Asia	143.1	130.3
	4,964.5	4,733.1

1 Figures include both revenue from the sale of products and the associated income from the provision of shipping services.

Information about major customers

In the year ended 31 December 2019 the Group´s mining revenue included $711.9 million related to one large customer that individually accounted for more than 10% of the Group’s revenue (year ended 31 December 2018 – one large customer representing $678.1 million).

Non-current assets by location of asset

	Year ended 31.12.2019 $m	Year ended 31.12.2018 $m
- Chile	**10,827.8**	10,449.0
- USA	**176.8**	172.6
- Other	**0.1**	0.1
	11,004.7	10,621.7

Notes to geographical information

The non-current assets balance disclosed by location of assets excludes financial instruments, equity investments and deferred tax assets.

5. Revenue

Copper and molybdenum concentrate sale contracts and copper cathode sale contracts generally provide for provisional pricing of sales at the time of shipment, with final pricing being based on the monthly average London Metal Exchange copper price or monthly average molybdenum price for specified future periods. This normally ranges from one to four months after shipment to the customer. For sales contracts which contains provisional pricing mechanisms the total receivable balance is measured at fair value through profit or loss. Gains and losses from the mark-to-market of open sales are recognised through adjustments to revenue in the income statement and to trade receivables in the balance sheet. The Group determines mark-to-market prices using forward prices at each period end for copper concentrate and cathode sales, and period-end month average prices for molybdenum concentrate sales due to the absence of a futures market in the market price references for that commodity in the majority of the Group's contracts.

The total revenue from contracts with customers and the impact of provisional pricing adjustments in respect of concentrate and cathode sales is as follows:

	Year ended 31.12.2019 $m	Year ended 31.12.2018 $m
Revenue from contracts with customers		
Sale of products	**4,693.4**	4,660.0
Rendering of transport services	**160.5**	172.8
Shipping services	**92.9**	74.4
Provisional pricing adjustments in respect of copper, gold and molybdenum	**17.7**	(174.1)
Total revenue	**4,964.5**	4,733.1

The categories of revenue which are principally affected by different economic factors are the individual product types. A summary of revenue by product is set out in Note 4.

In addition to mark-to-market and final pricing adjustments, revenue also includes realised gains and losses relating to derivative commodity instruments. Details of these realised gains or losses are shown in the tables that follow.

Copper, gold and molybdenum concentrate sales are stated net of deductions for tolling charges, as shown in the tables that follow.

For the year ended 31 December 2019[1]

	$m	$m	$m	$m	$m	$m	$m	$m
	Los Pelambres	Centinela	Centinela	Antucoya	Los Pelambres	Centinela	Los Pelambres	Centinela
	Copper concentrate	Copper concentrate	Copper cathodes	Copper cathodes	Gold in concentrate	Gold in concentrate	Molybdenum concentrate	Molybdenum concentrate
Provisionally invoiced gross sales	**2,144.9**	**1,222.3**	**506.1**	**434.8**	**76.2**	**325.3**	**298.1**	**7.4**
Effects of pricing adjustments to previous year invoices								
Reversal of mark-to-market adjustments at the end of the previous year	**23.6**	**9.5**	**0.7**	**0.7**	**-**	**(0.7)**	**(0.7)**	**-**
Settlement of sales invoiced in the previous year	**0.3**	**9.9**	**(1.0)**	**(0.9)**	**(1.3)**	**1.4**	**(8.4)**	**-**
Total effect of adjustments to previous year invoices in the current period	**23.9**	**19.4**	**(0.3)**	**(0.2)**	**(1.3)**	**0.7**	**(9.1)**	**-**
Effects of pricing adjustments to current period invoices								
Settlement of sales invoiced in the current period	**(41.3)**	**(14.6)**	**(1.8)**	**(2.9)**	**0.5**	**6.4**	**(7.0)**	**(0.8)**
Mark-to-market adjustments at the end of the current period	**29.1**	**15.2**	**0.4**	**0.4**	**-**	**1.2**	**(0.4)**	**-**
Total effect of adjustments to current period invoices	**(12.2)**	**0.6**	**(1.4)**	**(2.5)**	**0.5**	**7.6**	**(7.4)**	**(0.8)**
Total pricing adjustments	**11.7**	**20.0**	**(1.7)**	**(2.7)**	**(0.8)**	**8.3**	**(16.5)**	**(0.8)**
Realised losses on commodity derivatives	**-**	**-**	**-**	**0.1**	**-**	**-**	**-**	**-**
Revenue before deducting tolling charges	**2,156.6**	**1,242.3**	**504.4**	**432.2**	**75.4**	**333.6**	**281.6**	**6.6**
Tolling charges	**(147.5)**	**(104.6)**	**-**	**-**	**(0.2)**	**(1.1)**	**(32.6)**	**(1.0)**
Revenue net of tolling charges	**2,009.1**	**1,137.7**	**504.4**	**432.2**	**75.2**	**332.5**	**249.0**	**5.6**

The revenue from the individual products shown in the above table is reconciled to total revenue in Note 4.
[1]Figures include both revenue from the sale of products and the associated income from the provision of shipping services.

For the year ended 31 December 2018[1]

	$m	$m	$m	$m	$m	$m	$m	$m
	Los Pelambres	Centinela	Centinela	Antucoya	Los Pelambres	Centinela	Los Pelambres	Centinela
	Copper concentrate	Copper concentrate	Copper cathodes	Copper cathodes	Gold in concentrate	Gold in concentrate	Molybdenum concentrate	Molybdenum concentrate
Provisionally invoiced gross sales	2,325.7	957.3	599.1	465.0	79.6	171.1	358.6	8.0
Effects of pricing adjustments to previous year invoices								
Reversal of mark-to-market adjustments at the end of the previous year	(54.1)	(20.0)	(1.7)	(2.7)	-	(0.2)	(4.6)	-
Settlement of sales invoiced in the previous year	14.2	8.8	0.6	1.6	0.4	(0.2)	18.9	-
Total effect of adjustments to previous year invoices in the current period	(39.9)	(11.2)	(1.1)	(1.1)	0.4	(0.4)	14.3	-
Effects of pricing adjustments to current period invoices								
Settlement of sales invoiced in the current period	(59.8)	(26.3)	(7.9)	(6.2)	(1.2)	(1.3)	0.2	0.6
Mark-to-market adjustments at the end of the current period	(23.6)	(9.5)	(0.7)	(0.7)	-	0.7	0.7	-
Total effect of adjustments to current period invoices	(83.4)	(35.8)	(8.6)	(6.9)	(1.2)	(0.6)	0.9	0.6
Total pricing adjustments	(123.3)	(47.0)	(9.7)	(8.0)	(0.8)	(1.0)	15.2	8.6
Realised gains on commodity derivatives	-	-	-	0.6	-	-	-	-
Revenue before deducting tolling charges	2,202.4	910.3	589.4	457.6	78.8	170.1	373.8	8.6
Tolling charges	(162.1)	(82.4)	-	-	(0.3)	(0.6)	(33.6)	(0.8)
Revenue net of tolling charges	2,040.3	827.9	589.4	457.6	78.5	169.5	340.2	7.8

The revenue from the individual products shown in the above table is reconciled to total revenue in Note 4.

[1]Figures include both revenue from the sale of products and the associated income from the provision of shipping services.

(i) ***Copper concentrate***

The typical period for which sales of copper concentrate remain open until settlement occurs is a range of approximately three to four months from shipment date.

		At 31.12.2019	At 31.12.2018
Quantity open at period end	Tonnes	**158,600**	177,400
Average mark-to-market price	$/lb	**2.81**	2.71
Average provisional invoice price	$/lb	**2.68**	2.79

(ii) Copper cathodes

The typical period for which sales of copper cathodes remain open until settlement occurs is approximately one month from shipment date.

		At 31.12.2019	At 31.12.2018
Quantity open at period end	Tonnes	**12,000**	14,300
Average mark-to-market price	$/lb	**2.80**	2.70
Average provisional invoice price	$/lb	**2.77**	2.75

(iii) Gold in concentrate

The typical period for which sales of gold in concentrate remain open until settlement is approximately one month from shipment date.

		At 31.12.2019	At 31.12.2018
Quantity open at period end	Ounces	**21,200**	22,100
Average mark-to-market price	$/oz	**1,542**	1,284
Average provisional invoice price	$/oz	**1,485**	1,253

(iv) Molybdenum concentrate

The typical period for which sales of molybdenum remain open until settlement is approximately two months from shipment date.

		At 31.12.2019	At 31.12.2018
Quantity open at period end	Tonnes	**1,900**	3,600
Average mark-to-market price	$/lb	**9.2**	12.1
Average provisional invoice price	$/lb	**9.3**	12.1

As detailed above, the effects of gains and losses from the marking-to-market of open sales are recognised through adjustments to revenue in the income statement and to trade receivables in the balance sheet. The effect of mark-to-market adjustments on the balance sheet at the end of each period are as follows:

	Gain/(loss) on debtors of period end mark-to-market adjustments	
	Year ended 31.12.2019	Year ended 31.12.2018
	$m	$m
Los Pelambres - copper concentrate	**29.1**	(23.6)
Los Pelambres - molybdenum concentrate	**(0.4)**	0.7
Centinela - copper concentrate	**15.2**	(9.5)
Centinela - gold in concentrate	**1.2**	0.7
Centinela - copper cathodes	**0.4**	(0.7)
Antucoya - copper cathodes	**0.4**	(0.7)
	45.9	(33.1)

6. Financial instruments

a) Categories of financial instruments

The carrying value of financial assets and financial liabilities is shown below:

	At fair value through profit and loss	At fair value through other comprehensive income	Held at amortised cost	Total
				2019
	$m	$m	$m	$m
Financial assets				
Derivative financial assets	4.8	-	-	**4.8**
Equity investments	-	5.1	-	**5.1**
Loans and receivables	571.3	-	159.3	**730.6**
Cash and cash equivalents	-	-	653.7	**653.7**
Liquid investments	1,539.7	-	-	**1,539.7**
	2,115.9	**5.1**	**813.0**	**2,933.9**
Financial liabilities				
Derivative financial liabilities	(12.1)	-	-	**(12.1)**
Trade and other payables	(0.4)	-	(758.4)	**(758.8)**
Borrowings and leases	-	-	(2,756.8)	**(2,756.8)**
	(12.5)	**-**	**(3,515.2)**	**(3,527.7)**

	At fair value through profit and loss	At fair value through other comprehensive income	Held at amortised cost	Total
				2018
	$m	$m	$m	$m
Financial assets				
Derivative financial assets	0.8	-	-	**0.8**
Equity investments	-	4.7	-	**4.7**
Loans and receivables	510.2	-	419.4	**929.6**
Cash and cash equivalents	-	-	1,034.4	**1,034.4**
Liquid investments	863.2	-	-	**863.2**
	1,374.2	**4.7**	**1,453.8**	**2,832.7**
Financial liabilities				
Trade and other payables	(34.5)	-	(581.5)	**(616.0)**
Borrowings and leases	-	-	(2,493.9)	**(2,493.9)**
	(34.5)	**-**	**(3,075.4)**	**(3,109.9)**

The fair value of financial assets and financial liabilities carried at amortised cost is not materially different from the carrying value presented above.

Fair value of financial instruments

An analysis of financial assets and financial liabilities measured at fair value is presented below:

	Level 1	Level 2	Level 3	Total
				Year ended 31.12.2019
	$m	$m	$m	$m
Financial assets				
Derivatives financial assets (a)	-	4.8	-	**4.8**
Equity investments (b)	5.1	-	-	**5.1**
Loans and receivables (c)	-	571.3	-	**571.3**
Liquid investment (d)	1,539.7	-	-	**1,539.7**
	1,544.8	576.1	-	**2,120.9**

	Level 1	Level 2	Level 3	Total
Financial liabilities				
Derivatives financial liabilities (a)	-	(12.1)	-	**(12.1)**
Trade and other payables	-	(0.4)	-	**(0.4)**
	-	(12.5)	-	**(12.5)**

				Year ended 31.12.2018
	Level 1 $m	**Level 2 $m**	**Level 3 $m**	**Total $m**
Financial assets				
Derivative financial assets (a)	-	0.8	-	**0.8**
Equity investments (b)	4.7	-	-	**4.7**
Loans and receivables (c)	-	510.2	-	**510.2**
Liquid investment (d)	863.2	-	-	**863.2**
	867.9	511.0	-	**1,378.9**
Financial liabilities				
Trade and other payables	-	(34.5)	-	**(34.5)**
	-	(34.5)	-	**(34.5)**

Recurring fair value measurements are those that are required in the balance sheet at the end of each reporting year.

a) Derivatives in designated hedge accounting relationships are valued using a discounted cash flow analysis valuation model, which includes observable credit spreads and using the applicable yield curve for the duration of the instruments for non-optional derivatives, and option pricing models for optional derivatives. These are level 2 inputs as described below. Hedging instruments at 31 December 2019 relate to foreign exchange options with a nominal amount of $280 million.

b) Equity investments are investments in shares on active markets and are valued using unadjusted quoted market values of the shares at the financial reporting date. These are level 1 inputs as described below.

c) Provisionally priced metal sales for the period are marked-to-market at the end of the period. Gains and losses from the marking-to-market of open sales are recognised through adjustments to revenue in the income statement and trade receivables in the balance sheet. Forward prices at the end of the period are used for copper sales while period-end average prices are used for molybdenum concentrate sales. These are level 2 inputs as described below.

d) Liquid investments are highly liquid current asset investments that are valued using market prices at the period end. These are level 1 inputs as described below.

The inputs to the valuation techniques described above are categorised into three levels, giving the highest priority to unadjusted quoted prices in active markets (level 1) and the lowest priority to unobservable inputs (level 3 inputs):

- Level 1 fair value measurement inputs are unadjusted quoted prices in active markets for identical assets or liabilities.

- Level 2 fair value measurement inputs are derived from inputs other than quoted market prices included in level 1 that are observable for the asset or liability, either directly or indirectly.

- Level 3 fair value measurement inputs are unobservable inputs for the asset or liability.

The degree to which inputs into the valuation techniques used to measure the financial assets and liabilities are observable and the significance of these inputs in the valuation are considered in determining whether any transfers between levels have occurred. In the year ended 31 December 2019, there were no transfers between levels in the hierarchy.

b) Derivative financial instruments

the Group periodically uses derivative financial instruments to reduce exposure to foreign exchange, interest rate and commodity price movements. The Group does not use such derivative instruments for trading purposes. The Group has applied the hedge accounting provisions of IFRS 9 Financial Instruments. The effective portion of changes in the fair value of derivative financial instruments that are designated and qualify as hedges of future cash flows have been recognised directly in equity, with such amounts subsequently recognised in profit or loss in the period when the hedged item affects profit or loss. Any ineffective portion is recognised immediately in profit or loss. Realised gains and losses on commodity derivatives recognised in profit or loss are recorded within revenue. The time value element of changes in the fair value of derivative options is recognised within other comprehensive income. Derivatives embedded in other financial instruments or other host contracts are treated as separate derivatives when their risks and characteristics are not closely related to those of host contracts and the host contracts are not carried at fair value. Changes in fair value are reported in profit or loss for the year.

7. Net finance expense

	Year ended 31.12.2019 $m	Year ended 31.12.2018 $m
Investment income		
Interest receivable	**9.8**	9.9
Gains on fair value through profit or loss	**37.3**	20.2
	47.1	30.1
Interest expense		
Interest expense	**(111.1)**	(113.5)
	(111.1)	(113.5)
Other finance items		
Unwinding of discount on provisions	**(22.7)**	(12.7)
Preference dividends	**(0.1)**	(0.1)
Foreign exchange	**35.8**	(18.2)
	13.0	(31.1)
Net finance expense	**(51.0)**	(114.5)

During 2019, amounts capitalised and consequently not included within the above table were as follows: $3.0 million at Centinela (year ended 31 December 2018 - $4.5 million) and $6.0 million at Los Pelambres (year ended 31 December 2018 - $0.9 million).

8. Taxation

The tax charge for the period comprised the following:

	Year ended 31.12.2019 $m	Year ended 31.12.2018 $m
Current tax (charge)/credit		
Corporate tax (principally first category tax in Chile)	**(255.5)**	(321.2)
Mining tax (royalty)	**(67.2)**	(78.1)
Withholding tax	**(32.4)**	(4.5)
Exchange gains / (losses) on corporate tax balances	**0.7**	(0.7)
	(354.4)	(404.5)
Deferred tax (charge)/credit		
Corporate tax (principally first category tax in Chile)	**(125.1)**	(14.6)
Mining tax (royalty)	**0.6**	(4.6)
Withholding tax	**(27.2)**	-
	(151.7)	(19.2)
Total tax charge	**(506.1)**	(423.7)

The rate of first category (i.e. corporate) tax in Chile is 27.0% (2018 – 27.0%).

In addition to first category tax and the mining tax, the Group incurs withholding taxes on any remittance of profits from Chile. Withholding tax is levied on remittances of profits from Chile at 35% less first category (i.e. corporation) tax already paid in respect of the profits to which the remittances relate.

The Group’s mining operations are also subject to a mining tax (royalty). Production from Los Pelambres, Antucoya, Encuentro (oxides), the Tesoro North East pit and the Run-of-Mine processing at Centinela Cathodes is subject to a rate of between 5–14%, depending on the level of operating profit margin, and production from Centinela Concentrates and the Tesoro Central and Mirador pits is subject to a rate of 5% of taxable operating profit.

	Year ended 31.12.2019 $m	%	Year ended 31.12.2018 $m	%
Profit before tax	**1,349.2**		**1,252.7**	
Tax at the Chilean corporate tax rate of 27% (2017 – 25.5%)	**(364.3)**	**27.0**	**(338.2)**	**27.0**
Mining tax (royalty)	(66.6)	4.9	(82.5)	6.5
Deduction of mining tax (royalty) as an allowable expense in determination of first category tax	19.1	(1.4)	21.1	(1.7)
Items not deductible from first category tax	(11.9)	0.9	(10.8)	0.9
Adjustment in respect of prior years	4.3	(0.3)	2.6	(0.2)
Withholding tax	(59.3)	4.4	(4.5)	0.4
Tax effect of share of profit of associates and joint ventures	4.7	(0.3)	3.0	(0.2)
Unrecognised tax losses	(33.0)	2.4	(13.8)	1.1
Net other items	0.9	(0.1)	(0.6)	-
Tax expense and effective tax rate for the year	(506.1)	37.5	(423.7)	33.8

The effective tax rate varied from the statutory rate principally due to the mining tax (net impact of $47.5 million / 3.5%), the withholding tax relating to the remittance of profits from Chile (impact of $59.3 million / 4.4%), unrecognised tax losses (impact of $33.0 / 2.5%) and items not deductible for Chilean corporate tax purposes, principally the funding of expenses outside of Chile (impact of $11.9 million / 0.9%), partly offset by adjustments in respect of prior years (impact of $4.3 million / 0.3%) and the impact of the recognition of the Group's share of profit from associates and joint ventures, which are included in the Group's profit before tax net of their respective tax charges (impact of $4.7 million / 0.4%). The main factors which could impact the sustainability of the Group's existing effective tax rate are:

- The level of future distributions made by the Group's Chilean subsidiaries out of Chile, which could result in increased withholding tax charges.
- The impact of expenses which are not deductible for Chilean first category tax. Some of these expenses are relatively fixed costs, and so the relative impact of these expenses on the Group's effective tax rate will vary depending on the Group's total profit before tax in a particular year.

There are no significant tax uncertainties which would require critical judgements, estimates or potential provisions.

9. Discontinued operation

On 11 September 2018 the Group completed the disposal of Centinela Transmission, which holds the electricity transmission line supplying Centinela and other external parties, for cash consideration of $117 million. The net results of Centinela Transmission for the comparative 2018 year are shown in the income statement on the line for "Profit for the period from discontinued operations.

10. Earnings per share

	Year ended 31.12.2019 $m	Year ended 31.12.2018 $m
Profit for the period attributable to equity holders of the Company	**501.4**	543.7
	Number	Number
Ordinary shares in issue throughout each period	**985,856,695**	985,856,695
	Year ended 31.12.2019 US cent	Year ended 31.12.2018 US cent
Basic earnings per share		
From continuing operations	**50.9**	51.5
From discontinued operations	**-**	3.6
Total continuing and discontinued operations	**50.9**	55.1

Basic earnings per share are calculated as profit after tax and non-controlling interests, based on 985,856,695 (2018: 985,856,695) ordinary shares.

There was no potential dilution of earnings per share in either year set out above, and therefore diluted earnings per share did not differ from basic earnings per share as disclosed above.

		Year ended 31.12.2019	Year ended 31.12.2018
Profit for the year attributable to equity holders of the Company	$m	**501.4**	543.7
Less: profit for discontinued operations	$m	**-**	(35.9)
Profit from continuing operations	$m	**501.4**	507.8
Ordinary shares	Number	**985,856,695**	985,856,695
Basic earnings per share from continuing operations	US cent	**50.9**	51.5

11. Dividends

The Board has recommended a final dividend of 23.4 cents per ordinary share or $230.7 million in total (2018 – 37.0 cents per ordinary share or $364.8 million in total). The interim dividend of 10.7 cents per ordinary share or $105.7 million in total was paid in 12 September 2019 (2018 interim dividend of 6.8 cents per ordinary share or $67.0 million in total). This gives total dividends proposed in relation to 2019 (including the interim dividend) of 34.1 cents per share or $336.2 million in total (2018 – 43.8 cents per share or $431.8 million in total).

Dividends per share actually paid in the year and recognised as a deduction from net equity under IFRS were 47.7 cents per ordinary share or $470.5 million in total (2018 – 47.4 cents per ordinary share or $466.9 million in total) being the interim dividend for the year and the final dividend proposed in respect of the previous year.

Further details of the currency election timing and process (including the default currency of payment) are available on the Antofagasta plc website (www.antofagasta.co.uk) or from the Company's registrar, Computershare Investor Services PLC on +44 370 702 0159.

12. Intangible asset

	At 31.12.2019 $m	At 31.12.2018 $m
Balance at the beginning of the year	**150.1**	150.1
Balance at the end of the year	**150.1**	150.1

The $150.1 million intangible asset reflects the value of Twin Metals' mining licences assets included within the corporate segment. The mining licences will be amortised once production commences.

13. Property, plant and equipment

	Mining $m	Railway and other transport $m	At 31.12.2019 $m	At 31.12.2018 $m
Balance at the beginning of the year	8,959.2	224.9	**9,184.1**	9,064.3
Adoption of new accounting standards	129.6	1.8	**131.4**	-
Additions	1,105.8	68.6	**1,174.4**	989.5
Additions – depreciation capitalized	62.6	-	**62.6**	48.4
Reclassifications	19.3	0.6	**19.9**	16.5
Adjustment to capitalised decommissioning provisions	24.8	-	**24.8**	(24.0)
Depreciation	(890.7)	(23.6)	**(914.3)**	(761.1)
Depreciation capitalised in PP&E	(62.6)	-	**(62.6)**	(48.4)
Depreciation capitalised in inventories	(49.7)	-	**(49.7)**	(86.4)
Asset disposals and write off	(12.7)	(1.2)	**(13.9)**	(14.0)
Balance at the end of the period	9,285.6	271.1	**9,556.7**	9,184.1

At 31 December 2019 $112.3 million (31 December 2018 – $134.8 million) of depreciation in respect of assets relating to Los Pelambres, Centinela and Antucoya has been capitalised within property, plant and equipment or inventories, and accordingly is excluded from the depreciation charge recorded in the income statement as shown in Note 3(a).

At 31 December 2019, the Group had entered into contractual commitments for the acquisition of property, plant and equipment amounting to $863.3 million (31 December 2018 - $561.4 million).

There have been no indicators of potential impairments during 2019, and accordingly no impairment reviews have been performed as at 31 December 2019.

Depreciation capitalised in property, plant and equipment of $62.6 million related to the depreciation of assets used in mine development (operating stripping) at Centinela, Los Pelambres and Antucoya (at 31 December 2018 – $48.4 million).

14. Investment in associates and joint ventures

	Inversiones Hornitos [i]	**ATI** [ii]	**Minera Zaldívar(iii)**	**Tethyan Copper** [iv]	**At 31.12.2019**	At 31.12.2018
	$m	**$m**	**$m**	**$m**	**$m**	$m
Balance at the beginning of the year	54.6	5.1	996.4	-	**1,056.1**	1,069.7
Obligations on behalf of JV	-	-	-	(1.0)	**(1.0)**	(2.0)
Capital contribution	-	-	-	1.8	**1.8**	8.1
Disposal [III]	-	-	-	-	**-**	(20.3)
Gains in fair value of cash flow hedges deferred in reserves of associates	-	-	-	-	**-**	(0.4)
Derecognition of investment in associate upon reclassification to subsidiary [V]	-	-	-	-	**-**	(0.2)
Share of profit/(loss) before tax - for the current year	13.8	1.5	23.8	(2.6)	**36.5**	33.7
Share of tax	(3.5)	(0.4)	(8.2)	-	**(12.1)**	(16.9)
Share of income/(loss) from associate - for the current year	10.3	1.1	15.6	(2.6)	**24.4**	16.8
Dividends received	(8.0)	-	(50.0)	-	**(58.0)**	(16.6)
Balance at the end of the year	56.9	6.2	962.0	-	**1,025.1**	1,056.1
Obligations on behalf of JV	-	-	-	(1.8)	**(1.8)**	(1.0)

	Inversiones Hornitos	**ATI**	**Minera Zaldívar**	**Tethyan Copper**	**At 31.12.2019**	At 31.12.2018
	$m	**$m**	**$m**	**$m**	**$m**	**$m**
Share of income/(loss) from associate	10.3	1.1	15.6	(2.6)	**24.4**	**16.8**
Profit on disposal	-	-	-	-	**-**	5.8
Purchase price adjustment	-	-	-	-	**-**	(0.4)
Other comprehensive income of associates to profit for the year	-	(0.1)	(0.2)	-	**(0.3)**	-
Net share of profit from associates and joint ventures	10.3	1.0	15.4	(2.6)	**24.1**	22.2

The investments which are included in the $1,025.1 million balance at 31 December 2019 are set out below:

Investment in associates

(i) The Group's 40% interest in Inversiones Hornitos SA, which owns the 165MW Hornitos thermoelectric power plant operating in Mejillones, in Chile's Antofagasta Region. The Group has a 7-year power purchase agreements with Inversiones Hornitos SA for the provision of up to 180MW of electricity for Centinela.

(ii) The Group's 30% interest in ATI, which operates a concession to manage installations in the port of Antofagasta.

Investment in joint ventures

(iii) The Group's 50% interest in Minera Zaldívar SpA ("Zaldívar"), an open-pit, heap-leach copper mine located in Northern Chile, which produces approximately 100,000 tonnes of copper cathodes annually.

(iv) The Group's 50% interest in Tethyan Copper Company Limited ("Tethyan"), which is a joint venture with Barrick Gold Corporation in respect of the Reko Diq project in Pakistan. Tethyan has been pursuing arbitration claims against the Islamic Republic of Pakistan ("Pakistan") following the unlawful denial of a mining lease for the project in 2011. Details in respect of the arbitration are set out in Note 26.

As the net carrying value of the interest in Tethyan is negative it is included within non-current liabilities, as the Group is liable for its share of the joint venture's obligations.

(v) Investment in associates, during 2018 The Group´s former 30% interest in El Arrayan, which operates an 115MW wind-farm project. The Group has a 20-year power purchase agreements with El Arrayan for the provision of up to 40MW of electricity for Los Pelambres. In August 2018, the Group disposed of its interest in El Arrayan for cash consideration of $28.0 million, resulting in a profit on disposal of $5.8 million.

Investment in joint ventures, during 2018 the Group acquired the remaining 49.9% interest in Energia Andina from Origin Geothermal Chile Limitada and accordingly Energia Andina became a subsidiary of the Group during the year.

Summarised financial information for the associates at December 2019 is as follows:

	Inversiones Hornitos 31.12.2019	**ATI 31.12.2019**	**Total 31.12.2019**	Total 31.12.2018
	$m	$m	**$m**	$m
Cash and cash equivalents	29.3	0.8	**30.1**	1.0
Current assets	26.0	13.2	**39.2**	49.9
Non-current assets	265.1	112.5	**377.6**	394.5
Current liabilities	(43.8)	(18.3)	**(62.1)**	(65.4)
Non-current liabilities	(153.9)	(90.0)	**(243.9)**	(238.8)
Revenue	139.9	52.2	**192.1**	197.3
Profit/(loss) from continuing operations	25.8	3.6	**29.4**	27.1
Other comprehensive expense	-	(0.3)	**(0.3)**	-
Total comprehensive income	25.8	3.3	**29.1**	27.1

Summarised financial information for the joint ventures at December 2019 is as follows:

	Minera Zaldivar 31.12.2019	**Tethyan Copper 31.12.2019**	**Total 31.12.2019**	Total 31.12.2018
	$m	$m	**$m**	$m
Cash and cash equivalents	138.7	1.7	**140.4**	127.2
Current assets	631.3	-	**631.3**	602.6
Non-current assets	1,846.8		**1,846.8**	1,921.2
Current liabilities	(118.7)	(5.1)	**(123.8)**	(107.6)
Non-current liabilities	(517.9)	(0.1)	**(518.0)**	(547.7)
Revenue	687.6	-	**687.6**	599.5
Profit/(loss) after tax	53.0	(5.1)	**47.9**	14.3
Other comprehensive expense	(0.4)	-	**(0.4)**	-
Total comprehensive income/(expense)	52.6	(5.1)	**47.5**	14.3

The above summarised financial information is based on the amounts included in the IFRS Financial Statements of the associate or joint venture (ie. 100% of the results or balances of the associate or joint venture, rather than the Group's proportionate share), after the Group's fair value adjustments.

15. Equity investments

	At 31.12.2019	At 31.12.2018
	$m	$m
Balance at the beginning of the year	**4.7**	6.5
Movements in fair value	**0.3**	(1.3)
Foreign currency exchange difference	**0.1**	(0.5)
Balance at the end of the year	**5.1**	4.7

Equity investments represent those investments which are not subsidiaries, associates or joint ventures and are not held for trading purposes. The fair value of all equity investments are based on quoted market prices.

16. Inventories

	At 31.12.2019 $m	At 31.12.2018 $m
Current:		
Raw materials and consumables	**219.9**	227.0
Work in progress	**276.7**	262.8
Finished goods	**89.8**	86.5
	586.4	576.3
Non-current:	**208.0**	172.7
Work in progress	**794.4**	749.0

17. Borrowings and leases

		At 31.12.2019 $m	At 31.12.2018 $m
Los Pelambres			
Senior loan	(i)	**(469.4)**	-
Short-term loan		-	(100.0)
Leases	(ii)	**(115.0)**	(114.1)
Centinela			
Senior loan	(iii)	**(298.8)**	(445.1)
Subordinated debt	(iv)	**(205.9)**	(207.1)
Short-term loan	(v)	**(200.0)**	(200.0)
Leases	(vi)	**(81.0)**	-
Antucoya			
Senior loan	(vii)	**(325.4)**	(349.3)
Subordinated debt	(viii)	**(391.9)**	(368.3)
Short-term loan	(ix)	**(75.0)**	(75.0)
Leases	(x)	**(27.7)**	(35.2)
Corporate and other items			
Senior loan	(xi)	**(499.2)**	(500.1)
Leases	(xii)	**(19.3)**	(22.1)
Railway and other transport services			
Senior loan	(xiii)	**(44.6)**	(74.2)
Leases	(xiv)	**(1.0)**	(0.4)
Preference shares	(xv)	**(2.6)**	(3.0)
Total		**(2,756.8)**	(2,493.9)

(i) Senior loan at Los Pelambres represents a $1,300 million US dollar denominated syndicated loan divided in two tranches. The first tranche has a remaining duration of 6.1 years and have an interest rate of LIBOR six-month rate plus 1.2%. The second tranche has a remaining duration of 9.1 years and have an interest rate of LIBOR six-month rate plus 0.85%. As at 31 December 2019 $482 million of the loan facility had been drawn-down, with the remaining $818 million of the total facility remaining undrawn and available at that date. The loans are subject to financial covenants which require that specified net debt to EBITDA and EBITDA to finance expense ratios are maintained.

(ii) Leases at Los Pelambres are denominated in a mixture of US dollars and Chilean pesos, with a weighted average interest rate of 5.0% and a remaining duration of 4 years.

(iii) Senior loan at Centinela represents a US dollar denominated syndicated loan. This loan has a remaining duration of 0.6 years and has an interest rate of LIBOR six-month rate plus 1.0%. The loans are subject to financial covenants which require that specified net debt to EBITDA and EBITDA to finance expense ratios are maintained. Subsequent to the year-end in February 2020 the senior loan was repaid, and replaced with a new $500 million senior loan with a duration of 5 years and an interest rate of LIBOR six-month rate plus 0.95%.

(iv) Subordinated debt at Centinela is US dollar denominated, provided to Centinela by Marubeni Corporation with a remaining duration of 1.1 years and a weighted average interest rate of LIBOR six-month rate plus 4.5%. Subordinated debt provided by Group companies to Centinela has been eliminated on consolidation.

(v) The short-term loan (PAE) at Centinela is US dollar denominated, comprising a working capital loan for a period of 1 year and with an interest rate of LIBOR six-month plus a weighted average spread of 0.33%.

(vi) Leases at Centinela are mainly Chilean peso denominated, with a weighted average interest rate of 5.1% and a remaining duration of 4 years.

(vii) Antucoya repaid its previous senior loan during the year, and put in place a new senior loan. The senior loan at Antucoya represents a US dollar denominated syndicated loan. This loan has a remaining duration of 4.9 years and has an interest rate of LIBOR six-month rate plus 1.3%. The loan is subject to financial covenants which require that specified net debt to EBITDA and EBITDA to finance expense ratios are maintained.

(viii) Subordinated debt at Antucoya is US dollar denominated, provided to Antucoya by Marubeni Corporate with a remaining duration of 6.5 years and an interest rate of LIBOR six-month rate plus 3.65%. Subordinated debt provided by Group companies to Antucoya has been eliminated on consolidation.

(ix) The short- duration loan at Antucoya is US dollar denominated, comprising a working capital loan for an average period of 1 year and has an interest rate of LIBOR six-month rate plus a weighted average spread of 0.53%.

(x)Leases at Antucoya are denominated in a mixture of US dollars and Chilean pesos, with a weighted average interest rate of 4.6% and a remaining duration of 4 years.

(xi) Senior loan at Corporate (Antofagasta plc) of $500.0 million has an interest rate of LIBOR six-month rate plus 1.5% and has a remaining duration of 1.1 years.

(xii)Leases at Corporate and other items are denominated in Unidades de Fomento (ie inflation-linked Chilean pesos) and have a remaining duration of 8.2 years and are at fixed rates with an average interest rate of 5.3%.

(xiii)Long-term loans at The Transport division are US dollar denominated, with a remaining duration of 4 years and an interest rate of LIBOR six-month rate plus 1.06%.

(xiv) Leases at the Transport division are mainly in Unidades de Fomento (ie inflation-linked Chilean pesos), with a weighted average interest rate of 2.13% and a remaining duration of 2 years.

(xv) The preference shares are Sterling-denominated and issued by Antofagasta plc. There were 2 million shares of £1 each authorised, issued and fully paid at 31 December 2018. The preference shares are non-redeemable and are entitled to a fixed cumulative dividend of 5% per annum. On winding up they are entitled to repayment and any arrears of dividend in priority to ordinary shareholders, but are not entitled to participate further in any surplus. Each preference share carries 100 votes in any general meeting of the Company.

	At 31.12.2019	At 31.12.2018
	$m	$m
Short-term borrowings	**(723.9)**	(646.0)
Medium and long-term borrowings	**(2,032.9)**	(1,847.9)
Total	**(2,756.8)**	(2,493.9)

At 31 December 2019 $199.3 million (31 December 2018 - $103.1 million) of the borrowings has fixed rate interest and $2,530.5 million (December 2018 - $2,387.8 million) has floating rate interest. The Group periodically enters into interest rate derivative contracts to manage its exposure to interest rates.

18. Post-employment benefit obligation

	At 31.12.2019	At 31.12.2018
	$m	$m
Balance at the beginning of the year	**(107.4)**	(114.0)
Current service cost	**(24.8)**	(18.7)
Actuarial (losses)/gains	**(4.9)**	3.9
Interest cost	**(4.7)**	(5.0)
Paid in the year	**15.3**	13.4
Foreign currency exchange difference	**7.8**	13.0
Balance at the end of the year	**(118.7)**	(107.4)

The post-employment benefit obligation relates to the provision for severance indemnities which are payable when an employment contract comes to an end, in accordance with normal employment practice in Chile and other countries in which the Group operates. The severance indemnity obligation is treated as an unfunded defined benefit plan, and the calculation is based on valuations performed by an independent actuary.

19. Decommissioning and restoration and other long term provisions

	At 31.12.2019	At 31.12.2018
	$m	$m
Balance at the beginning of the year	**(409.8)**	(433.0)
Charge to operating profit in the year	**2.8**	(14.8)
Unwind of discount to net interest in the year	**(17.8)**	(7.6)
Capitalised adjustment to provision	**(24.8)**	24.0
Utilised in the year	**30.9**	21.6
Foreign currency exchange difference	**5.5**	-
Balance at the end of the year	**(413.2)**	(409.8)

	At 31.12.2019	At 31.12.2018
	$m	$m
Short-term provisions	**(22.0)**	(30.9)
Long-term provisions	**(391.2)**	(378.9)
Total	**(413.2)**	(409.8)

Decommissioning and restoration costs relate to the Group's mining operations. Costs are estimated on the basis of a formal closure plan and are subject to regular independent formal review. It is estimated that the provision will be utilised from 2020 until 2064 based on current mine plans.
The Pelambres, Centinela and Zaldivar balances have been updated to reflect the new plans approved by Sernageomin during the year. There have been a number of changes and updates to the closure provision balances, but the net impact of these is not significant.

20. Deferred tax assets and liabilities

	At 31.12.2019	At 31.12.2018
	$m	$m
Net position at 31 December 2018 / 2017	**(946.3)**	925.0
Adoption of new accounting standards	-	(2.1)
Net position at 1 January 2019 / 2018	**(946.3)**	(927.1)
Charge to tax on profit in year	**(151.8)**	(19.2)
Deferred tax recognised directly in equity	**1.1**	-
Disposal	-	(1.1)
Acquisition	-	1.1
Net position at the end of the year	**(1,097.0)**	(946.3)
Analysed between:		
Deferred tax assets	**8.2**	37.2
Deferred tax liabilities	**(1,105.2)**	(983.5)
Net position	**(1,097.0)**	(946.3)

The deferred tax balance of $1,097.0 million (2018 – $946.3 million) includes $1,039.0 million (2018 – $967.1 million) due in more than one year. All amounts are shown as non-current on the face of the balance sheet as required by IAS 12 Income Taxes.

21. Share capital and share premium

There was no change in share capital or share premium in the year ended 2019 or 2018. Details are shown in the Consolidated Statement of Changes in Equity.

22. Other reserves and retained earnings

	At 31.12.2019 $m	At 31.12.2018 $m
Hedging reserve (1)		
At 31 December 2018/2017	**(1.1)**	(0.4)
Adoption of new accounting standards	**-**	(5.8)
At 1 January	**(1.1)**	(6.2)
Parent and subsidiaries' net cash flow hedge fair value gains / (losses)	**(4.5)**	5.5
Parent and subsidiaries' net cash flow hedge (gains) / losses transferred to the income statement	**(0.6)**	(0.4)
Tax on the above	**1.2**	-
At 31 December	**(5.0)**	(1.1)
Equity investment revaluation reserve (2)		
At 1 January	**(11.1)**	(9.8)
(Losses) / Gains on equity investment	**0.3**	(1.3)
At 31 December	**(10.8)**	(11.1)
Foreign currency translation reserve (3)		
At 1 January	**(2.3)**	(2.3)
Parent and subsidiaries' currency translation and exchange adjustments	**-**	-
Tax on the above	**-**	-
At 31 December	**(2.3)**	(2.3)
Total other reserves per balance sheet	**(18.1)**	(14.5)
Retained earnings		
At 31 December 2018 / 2017	**7,084.9**	7,041.9
Adoption of new accounting standards	**-**	1.1
At 1 January	**7,084.9**	**7,043.0**
Parent and subsidiaries' profit for the period	**477.0**	521.5
Equity accounted units' profit/(loss) after tax for the period	**24.4**	22.2
Transfer to Non-controlling interest(5)	**-**	(38.2)
Actuarial gains (4)	**(3.2)**	3.3
Total comprehensive income for the period	**7,583.1**	7,551.8
Dividends paid	**(470.3)**	(466.9)
At 31 December	**7,112.8**	7,084.9

(1) The hedging reserve records gains or losses on cash flow hedges that are recognised initially in equity, as described in Note 6.
(2) The equity investment revaluation reserves record fair value gains or losses relating to equity investments, as described in Note 15.
(3) The equity investment revaluation reserves record fair value gains or losses relating to equity investments, as described in Note 15.
(4) Actuarial gains or losses relate to long-term employee benefits.
(5) Mainly reflects an increase in the net assets attributable to NCIs as a result of the Centinela and Encuentro merger.

23. Reconciliation of profit before tax to net cash inflow from operating activities

	At 31.12.2019	At 31.12.2018
	$m	$m
Profit before tax from continuing operations	**1,349.2**	1,252.7
Depreciation and amortisation	**914.3**	760.5
Net loss on disposals	**12.6**	13.3
Net finance expense	**51.1**	(22.2)
Share of profit from associates and joint ventures	**(24.3)**	114.5
Increase in inventories	**(7.6)**	(81.7)
Decrease/(Increase) in debtors	**211.5**	(151.5)
Increase/(Decrease) in creditors	**88.0**	(7.0)
Decrease in provisions	**(24.1)**	(1.6)
Cash flow from continuing and discontinued operations	**2,570.7**	1,877.0

24. Analysis of changes in net debt

	At 31.12.2018	Adoption of new accounting standards	At 01.01.2019	Cash flows	Fair value gains	New leases	Amortisation of finance costs	Capitalisation of interest	Other	Reclassification	Exchange	**At 31.12.2019**
	$m		$m	$m	$m	$m	$m	$m	$m	$m	$m	**$m**
Cash and cash equivalents	1,034.4	-	1,034.4	(375.0)	-	-	-	-	-	-	(5.7)	**653.7**
Liquid investments	863.2	-	863.2	676.5	-	-	-	-	-	-	-	**1,539.7**
Total	1,897.6	-	1,897.6	301.5	-	-	-	-	-	-	(5.7)	**2,193.4**
Borrowings due within one year	(607.2)	-	(607.2)	100.0	-	-	-	-	4.3	(145.5)	-	**(648.4)**
Borrowings due after one year	(1,711.9)	-	(1,711.9)	(253.3)	-	-	(4.5)	(37.6)	-	145.5	-	**(1,861.8)**
Leases due within one year	(38.8)	-	(38.8)	30.0	-	-	-	-	(3.3)	(63.5)	-	**(75.6)**
Leases due after one year	(133.0)	(131.7)	(264.7)	62.5	-	(45.0)	-	-	3.5	63.5	11.8	**(168.4)**
Preference shares	(3.0)	-	(3.0)	-	-	-	-	-	0.1	-	0.3	**(2.6)**
Total borrowings	(2,493.9)	(131.7)	(2,625.6)	(60.8)	-	(45.0)	(4.5)	(37.6)	4.6	-	12.1	**(2,756.8)**
Net (debt)/cash	(596.3)	**(131.7)**	(728.0)	240.7	-	(45.0)	(4.5)	(37.6)	4.6	-	6.4	**(563.4)**

	Adoption of new accounting standars	At 01.01.2018	Cash flows	Re-classification to disposal group	Fair value gains	New leases	Amortisation of finance costs	Capitalisation of interest	Other	Reclassication	Exchange	**At 31.12.2018**
		$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	**$m**
Cash and cash equivalents	-	1,083.6	(9.9)	(13.2)	-	-	-	-	-	-	(26.1)	**1,034.4**
Liquid investments	-	1,168.7	(306.3)	-	0.8	-	-	-	-	-	-	**863.2**
Total	-	2,252.3	(316.2)	(13.2)	0.8	-	-	-	-	-	(26.1)	**1,897.6**
Borrowings due within one year	-	(732.2)	247.0	-	-	-	-	-	-	(122.0)	-	**(607.2)**
Borrowings due after one year	(2.5)	(1,858.6)	66.8	-	-	-	(5.9)	(33.7)	-	122.0	-	**(1,711.9)**
Finance leases due within one year	-	(21.5)	-	-	-	-	-	-	-	(17.3)	-	**(38.8)**
Finance leases due after one year	-	(93.4)	33.3	-	-	(94.6)	-	-	(5.3)	17.3	9.7	**(133.0)**
Preference shares	-	(3.0)	-	-	-	-	-	-	-	-	-	**(3.0)**
Total borrowings	(2.5)	(2,708.7)	347.1	-	-	(94.6)	(5.9)	(33.7)	(5.3)	-	9.7	**(2,493.9)**
Net (debt)/cash	**(2.5)**	(456.4)	**30.9**	**(13.2)**	**0.8**	**(94.6)**	**(5.9)**	**(33.7)**	**(5.3)**	-	**(16.4)**	**(596.3)**

Net debt

Net debt at the end of each period was as follows:

	At 31.12.2019	At 31.12.2018
	$m	$m
Cash, cash equivalents and liquid investments	**2,193.4**	1,897.6
Total borrowings	**(2,756.8)**	(2,493.9)
Net debt	**(563.4)**	(596.3)

25. Related party transactions

a) Joint ventures

The Group has a 50% interest in Tethyan Copper Company Limited ("Tethyan"), which is a joint venture with Barrick Gold Corporation over Tethyan's mineral interests in Pakistan. During 2019 the Group contribution was $1.8 million (2018 - $8.1 million) to Tethyan.

The Group has a 50% interest in Zaldívar, which is a joint venture with Barrick Gold Corporation. During 2019 the Group has received dividends of $50.0 million from Zaldívar (2018 - nil).

b) Associates

The Group has a 40% interest in Inversiones Hornitos S.A. During 2018 the Group paid $187.7 million (2018 – $162.2 million) to Inversiones Hornitos in relation to the energy supply contract at Centinela. During 2019 the Group has received dividends from Inversiones Hornitos S.A. of $8.0 million (2018 - $16.6 million).

c) Other related parties

The ultimate parent company of the Group is Metalinvest Establishment, which is controlled by the E. Abaroa Foundation, in which members of the Luksic family are interested. The Company's subsidiaries, in the ordinary course of business, enter into various sale and purchase transactions with companies also controlled by members of the Luksic family, including Banco de Chile S.A., Madeco S.A. and Compañía Cervecerías Unidas S.A., which are subsidiaries of Quiñenco S.A., a Chilean industrial and financial conglomerate the shares of which are traded on the Santiago Stock Exchange. These transactions, all of which were on normal commercial terms, are in total not considered to be material.

The Group holds a 51% interest in Antomin 2 Limited ("Antomin 2") and Antomin Investors Limited ("Antomin Investors"), which own a number of copper exploration properties. The Group originally acquired its 51% interest in these properties for a nominal consideration from Mineral invest Establishment, a company controlled by the Luksic family, which continues to hold the remaining 49% of Antomin 2 and Antomin Investors. The Group is responsible for any exploration costs relating to the properties held by these entities. During 2019 the Group incurred $0.1 million (2018 - $0.2 million) of exploration costs at these properties.

The transactions which Group companies entered into with related parties who are not members of the Group are set out below. There are no guarantees given or received and no provisions for doubtful debts related to the amount of outstanding balances.

d) Quiñenco SA

Quiñenco SA ("Quiñenco") is a Chilean financial and industrial conglomerate, the shares of which are traded on the Santiago Stock Exchange. The Group and Quiñenco are both under the control of the Luksic family, and three Directors of the Company, Jean-Paul Luksic, Andronico Luksic and Gonzalo Menéndez, who are also directors of Quiñenco.
The following transactions took place between the Group and the Quiñenco group of companies, all of which were on normal commercial terms at market rates:

- the Group earned interest income of $4.0 million (2018 – $2.8 million) during the year on deposits with Banco de Chile SA, a subsidiary of Quiñenco. Deposit balances at the end of the year were $67.9 million (2018 – $47.0 million);
- the Group earned interest income of $0.2 million (2018 – $1.4 million) during the year on investments with BanChile Corredores de Bolsa SA, a subsidiary of Quiñenco. Investment balances at the end of the year were $6.0 million (2018 – $6.5 million);
- the Group made purchases of fuel from ENEX SA, a subsidiary of Quiñenco, of $159.3 million (2018 – $221.6 million). The balance due to ENEX SA at the end of the year was nil (2018 – nil).
- the Group purchased shipping services from Hapag Lloyd, an associate of Quiñenco, for $1.0 million (2018 – nil). The balance due to Hapag Lloyd at the end of the year was nil (2018 – nil).

e) SLM Rio Turbio Comuna Paihuano

During 2019 the Group sold certain property rights which were assessed as having no commercial value to the Group to SLM Rio Turbio Comuna Paihuano, a company controlled by Andronico Luksic, a director of the Company, for a consideration of $30,000 reflecting the original cost and related fees in respect of those property rights.

26. Tethyan arbitration award

On 12 July 2019 an international arbitration tribunal of the World Bank's International Centre for Settlement of Investment Disputes ("ICSID") awarded $5.84 billion in damages to Tethyan Copper Company Pty Limited ("TCC"), the joint venture held equally by the Company and Barrick Gold Corporation, in relation to the arbitration claims filed against the Islamic Republic of Pakistan ("Pakistan") following the unlawful denial of a mining lease for the Reko Diq project in Pakistan in 2011.

Damages include compensation of $4.087 billion by reference to the fair market value of the Reko Diq project at the time of the mining lease denial, and interest until the date of the award of $1.753 billion. The Tribunal also awarded TCC just under $62 million in costs incurred in enforcing its rights. Compound interest applies to the compensation and cost awards from 12 July 2019 at a rate of US Prime +1% per annum until the award is paid.

On 8 November 2019, Pakistan applied to ICSID to annul the award and on 13 March 2020, ICSID appointed a committee to consider this application which is expected to reach a conclusion in the next one to two years. TCC is currently stayed from taking action to collect the award. Whether this stay remains in place will be an issue litigated before the ICSID appointed committee.

It is not expected that proceeds of the award will be recognised in Antofagasta's financial statements until received.

27. Currency translation

Assets and liabilities denominated in foreign currencies are translated into US dollars and sterling at the year-end rates of exchange. Results denominated in foreign currencies have been translated into US dollars at the average rate for each year.

	2019
Year-end rate	$1.2860=£1; $1 = Ch$748.74
Average rates	$1.2760=£1; $1 = Ch$702.82

28. Distribution

The Annual Report and Financial Statements for the year ended 31 December 2019, together with the Notice of the 2020 Annual General Meeting, will be posted to all shareholders in April 2020. The Annual General Meeting will be held at Church House Conference Centre, Dean's Yard, Westminster, London SW1P 3NZ from 10.00am on Wednesday 20 May 2020.

29. Alternative performance measures (not subject to audit or review)

This preliminary results announcement includes a number of alternative performance measures, in addition to IFRS amounts. These measures are included because they are considered to provide relevant and useful additional information to users of the accounts. Set out below are definitions of these alternative performance measures, explanations as to why they are considered to be relevant and useful, and reconciliations to the IFRS figures.

a) Underlying earnings per share

Underlying earnings per share is earnings per share from continuing operations, excluding exceptional items. This measure is reconciled to earnings per share from continuing and discontinued operations (including exceptional items) on the face of the income statement. This measure is considered to be useful as it provides an indication of the earnings generated by the on-going businesses of the Group, excluding the impact of exceptional items which are non-regular or non-operating in nature. There were no exceptional items in the year.

b) EBITDA

EBITDA refers to Earnings Before Interest, Tax, Depreciation and Amortisation. EBITDA is calculated by adding back depreciation, amortisation, profit or loss on disposals and impairment charges to operating profit. This comprises 100% of the EBITDA from the Group´s subsidiaries, and the Group´s proportional share of the EBITDA of its associates and joint ventures.

EBITDA is considered to provide a useful and comparable indication of the current operational earnings performance of the business, excluding the impact of the historic cost of property, plant & equipment or the particular financing structure adopted by the business.

c) Net Earnings

Net Earnings represent profit for the period attributable to the owners of the parent

At 31 December 2019

	Los Pelambres	Centinela	Antucoya	Zaldívar	Exploration and evaluation	Corporate and other items	**Mining**	**Railway and other transport services**	**Total**
	$m	$m	$m	$m	$m	$m	**$m**	**$m**	**$m**
Operating profit/(loss)	1,115.1	425.8	(5.9)	-	(111.1)	(78.7)	**1,345.2**	30.6	**1,375.8**
Depreciation and amortisation	258.5	532.2	92.2	-	-	7.9	**890.8**	23.5	**914.3**
Profit on disposals	10.5	1.5	-	-	-	-	**12.0**	0.7	**12.7**
EBITDA from subsidiaries	**1,384.1**	**959.5**	**86.3**	**-**	**(111.1)**	**(70.8)**	**2,248.0**	**54.8**	**2,302.8**
Proportional share of the EBITDA from associates and JVs	-	-	-	112.6	-	(2.5)	**110.1**	26.0	**136.1**
Total EBITDA	**1,384.1**	**959.5**	**86.3**	**112.6**	**(111.1)**	**(73.3)**	**2,358.1**	**80.8**	**2,438.9**

At 31 December 2018

	Los Pelambres	Centinela	Antucoya	Zaldívar	Exploration and evaluation	Corporate and other items	**Mining**	**Transport division**	**Total**
	$m	$m	$m	$m	$m	$m	**$m**	**$m**	**$m**
Operating profit/(loss)	1,173.8	229.6	62.9	-	(97.6)	**(68.6)**	**1,300.1**	44.9	**1,345.0**
Depreciation and amortisation	243.3	415.4	78.7	-	-	7.2	**744.6**	15.9	**760.5**
Profit on disposals	10.5	-	-	-	-	-	**10.5**	2.8	**13.3**
EBITDA from subsidiaries	**1,427.6**	**645.0**	**141.6**	**-**	**(97.6)**	**(61.4)**	**2,055.2**	**63.6**	**2,118.8**
Proportional share of the EBITDA from associates and JV	**-**	**-**	**-**	**87.4**	**-**	**(3.2)**	**84.2**	**25.3**	**109.5**
Total EBITDA	**1,427.6**	**645.0**	**141.6**	**87.4**	**(97.6)**	**(64.6)**	**2,139.4**	**88.9**	**2,228.3**

d) Cash costs

Cash costs are a measure of the cost of operational production expressed in terms of cents per pound of payable copper produced.

This is considered to be a useful and relevant measure as it is a standard industry measure applied by most major copper mining companies which reflects the direct costs involved in producing each pound of copper. It therefore allows a straightforward comparison of the unit production cost of different mines, and allows an assessment of the position of a mine on the industry cost curve. It also provides a simple indication of the profitability of a mine when compared against the price of copper (per lb).

	At 31.12.2019	At 31.12.2018
Reconciliation of cash costs excluding tolling charges and by-product revenue:		
Total Group operating costs (Note 4) ($m)	**3,588.7**	3,388.1
Zaldívar operating costs	**224.3**	202.3
Less:		
Total – Depreciation and amortisation (Note 4) ($m)	**(914.3)**	(760.5)
Total – Loss on disposal (Note 4) ($m)	**(12.7)**	(13.3)
Elimination of non-mining operations		
Corporate and other items – Total operating cost (Note 4) ($m)	**(70.8)**	(61.4)
Exploration and evaluation – Total operating cost (Note 4) ($m)	**(111.1)**	(97.6)
Railway and other transport services – Total operating cost (Note 4) ($m)	**(105.7)**	(109.2)
Closure provision and other expenses not included within cash costs ($m)	**(81.8)**	(78.8)
Inventories Variations	**3.0**	(0.5)
Total cost relevant to the mining operations' cash costs ($m)	**2,519.6**	2,469.1
Copper production volumes (tonnes)	**769,970**	725,300
Cash costs excluding tolling charges and by-product revenue ($/tonne)	**3,272**	3,404
Cash costs excluding tolling charges and by-product revenue ($/lb)	**1.48**	1.55

	At 31.12.2019	At 31.12.2018
Reconciliation of cash costs before deducting by-products:		
Tolling charges - copper - Los Pelambres (Note 5) ($m)	**147.5**	162.1
Tolling charges - copper - Centinela (Note 5) ($m)	**104.6**	82.4
Tolling charges - copper – total ($m)	**252.1**	244.5
Copper production volumes (tonnes)	**769,970**	725,300
Tolling charges ($/tonne)	**327.4**	337.0
Tolling charges ($/lb)	**0.17**	0.17
Cash costs excluding tolling charges and by-product revenue ($/lb)	**1.48**	1.55
Tolling charges ($/b)	**0.17**	0.17
Cash costs before deducting by-products (S/lb)	**1.65**	1.72

d) Cash costs (continued)

	At 31.12.2019	At 31.12.2018
Reconciliation of cash costs (net of by-products):		
Gold revenue - Los Pelambres (Note 4) ($m)	**75.2**	78.6
Gold revenue - Centinela (Note 4) ($m)	**332.5**	169.4
Molybdenum revenue - Los Pelambres (Note 4) ($m)	**248.9**	340.2
Molybdenum revenue - Centinela (Note 4) ($m)	**5.7**	7.8
Silver revenue - Los Pelambres (Note 4) ($m)	**30.7**	34.4
Silver revenue - Centinela (Note 4) ($m)	**27.6**	14.7
Total by-product revenue ($m)	**720.6**	645.1
Copper production volumes (tonnes)	**769,970**	725,300
By-product revenue ($/tonne)	**935.9**	889.0
By-product revenue ($/lb)	**0.43**	0.43
Cash costs before deducting by-products (S/lb)	**1.65**	1.72
By-product revenue ($/lb)	**(0.43)**	(0.43)
Cash costs (net of by-products) ($/lb)	**1.22**	1.29

The totals in the tables above may include some small apparent differences as the specific individual figures have not been rounded.

e) Attributable cash, cash equivalents & liquid investments, borrowings and net debt

Attributable cash, cash equivalents & liquid investments, borrowings and net debt reflects the proportion of those balances which are attributable to the equity holders of the Company, after deducting the proportion attributable to the non-controlling interests in the Group's subsidiaries.

This is considered to be a useful and relevant measure as the majority of the Group's cash tends to be held at the corporate level and therefore 100% attributable to the equity holders of the Company, whereas the majority of the Group's borrowings tend to be at the level of the individual operations, and hence only a proportion is attributable to the equity holders of the Company.

		December 2019			December 2018	
	Total amount $m	Attributable share	**Attributable amount $m**	Total amount $m	Attributable share	Attributable amount $m
Cash, cash equivalents and liquid investments:						
Los Pelambres	**405.5**	60%	**243.3**	459.9	60%	275.9
Centinela	**491.6**	70%	**344.1**	179.7	70%	125.8
Antucoya	**113.4**	70%	**79.4**	148.3	70%	103.8
Corporate	**1,177.2**	100%	**1,177.2**	1,060.2	100%	1,060.2
Railway and other transport services	**5.7**	100%	**5.7**	49.5	100%	49.5
Total	**2,193.4**		**1,849.7**	1,897.6		1,615.2
Borrowings:						
Los Pelambres (Note 17)	**(584.4)**	60%	**(350.6)**	(214.1)	60%	(128.5)
Centinela (Note 17)	**(785.7)**	70%	**(550.0)**	(852.2)	70%	(596.5)
Antucoya (Note 17)	**(820.0)**	70%	**(574.0)**	(827.8)	70%	(579.5)
Corporate (Note 17)	**(521.1)**	100%	**(521.1)**	(525.2)	100%	(525.2)
Railway and other transport services (Note 17)	**(45.6)**	100%	**(45.6)**	(74.6)	100%	(74.6)
Total (Note 17)	**(2,756.8)**		**(2,041.3)**	(2,493.9)		(1,904.3)
Net debt	**(563.4)**		**(191.6)**	**(596.3)**		**(289.0)**

30. Production and Sales Statistics (not subject to audit or review)

a) **Production and sales volumes for copper, gold and molybdenum**

	Production		Sales	
	Year ended 31.12.2019	Year ended 31.12.2018	**Year ended 31.12.2019**	Year ended 31.12.2018
Copper	**000 tonnes**	000 tonnes	**000 tonnes**	000 tonnes
Los Pelambres	**363.4**	357.8	**356.1**	358.9
Centinela	**276.6**	248.0	**287.8**	240.9
Antucoya	**71.9**	72.2	**71.6**	71.3
Zaldívar	**58.1**	47.3	**56.7**	46.5
Group total	**770.0**	725.3	**772.2**	717.6
Gold	**000 ounces**	000 ounces	**000 ounces**	000 ounces
Los Pelambres	**59.7**	63.2	**52.6**	62.6
Centinela	**222.6**	146.9	**236.2**	135.5
Group total	**282.3**	210.1	**288.8**	198.1
Molybdenum	**000 tonnes**	000 tonnes	**000 tonnes**	000 tonnes
Los Pelambres	**11.2**	13.3	**11.8**	13.6
Centinela	**0.4**	0.3	**0.3**	0.4
Group total	**11.6**	13.6	**12.1**	14.0
Silver	**000 ounces**	000 ounces	**000 ounces**	000 ounces
Los Pelambres	**2,141.70**	2,313.10	**1,889.1**	2,265.4
Centinela	**1,677.0**	1,071.20	**1,729.2**	1,002.1
Group total	**3,818.7**	3,384.3	**3,618.3**	3,267.5

b) Cash costs per pound of copper produced and realised prices per pound of copper and molybdenum sold

	Cash costs		Realised prices	
	Year ended 31.12.2019	Year ended 31.12.2018	**Year ended 31.12.2019**	Year ended 31.12.2018
	$/lb	$/lb	**$/lb**	$/lb
Copper				
Los Pelambres	**0.91**	0.91	**2.75**	2.78
Centinela	**1.26**	1.51	**2.75**	2.82
Antucoya	**2.17**	1.99	**2.74**	2.91
Zaldivar (attributable basis – 50%)	**1.75**	1.94	**-**	-
Group weighted average (net of by-products)	**1.22**	1.29	**2.75**	2.81
Group weighted average (before deducting by-products)	**1.65**	1.72		
Group weighted average (before deducting by-products and excluding tolling charges from concentrate)	**1.48**	1.55		
Cash costs at Los Pelambres comprise:				
On-site and shipping costs	**1.17**	1.27		
Tolling charges for concentrates	**0.23**	0.25		
Cash costs before deducting by-product credits	**1.40**	1.52		
By-product credits (principally molybdenum)	**(0.49)**	(0.61)		
Cash costs (net of by-product credits)	**0.91**	0.91		
Cash costs at Centinela comprise:				
On-site and shipping costs	**1.66**	1.73		
Tolling charges for concentrates	**0.17**	0.16		
Cash costs before deducting by-product credits	**1.83**	1.89		
By-product credits (principally gold)	**(0.58)**	(0.38)		
Cash costs (net of by-product credits)	**1.26**	1.51		
LME average copper price			**2.72**	2.96
Gold			$/oz	$/oz
Los Pelambres			**1,434**	1,260
Centinela			**1,412**	1,255
Group weighted average			**1,416**	1,256
Market average price			**1,394**	1,270
Molybdenum			$/lb	$/lb
Los Pelambres			**10.8**	12.5
Centinela			**11.1**	10.6
Group weighted average			**10.8**	12.4
Market average price			**11.4**	11.9
Silver			$/oz	$/oz
Los Pelambres			**16.5**	15.4
Centinela			**16.4**	15.1
Group weighted average			**16.4**	15.3
Market average price			**16.2**	15.7

Notes to the production and sales statistics

(i) For the Group's subsidiaries the production and sales figures reflect the total amounts produced and sold by the mine, not the Group's share of each mine. The Group owns 60% of Los Pelambres, 70% of Centinela and 70% of Antucoya. For the Zaldívar joint venture the production and sales figures reflect the Group's proportional 50% share.

(ii) Los Pelambres produces copper and molybdenum concentrates, Centinela produces copper concentrate and copper cathodes and Antucoya and Zaldívar produce copper cathodes. The figures for Los Pelambres and Centinela are expressed in terms of payable metal contained in concentrate and in cathodes. Los Pelambres and Centinela are also credited for the gold and silver contained in the copper concentrate sold. Antucoya and Zaldívar produce cathodes with no by-products.

(iii) Cash costs are a measure of the cost of operational production expressed in terms of cents per pound of payable copper produced. Cash costs are stated net of by-product credits and include tolling charges for concentrates at Los Pelambres and Centinela. Cash costs exclude depreciation, financial income and expenses, hedging gains and losses, exchange gains and losses and corporate tax for all four operations.

(iv) Realised copper prices are determined by comparing revenue from copper sales (grossing up for tolling charges for concentrates) with sales volumes for each mine in the period. Realised molybdenum and gold prices are calculated on a similar basis. Realised prices reflect gains and losses on commodity derivatives, which are included within revenue.

(v) The totals in the tables above may include some small apparent differences as the specific individual figures have not been rounded.

(vi) The production information and the cash cost information is derived from the Group's production report for the fourth quarter of 2019, published on 22 January 2020.