



Nexa Reports Fourth Quarter and Full Year 2019 Results and Announces Cash Dividends of US\$50 Million

Luxembourg, February 13, 2020 – Nexa Resources S.A. (“Nexa Resources”, “Nexa”, or “Company”) announces today its results for the three and twelve months ended December 31, 2019. This Earnings Release should be read in conjunction with the audited consolidated financial statements of Nexa and the notes thereto for the financial year ended December 31, 2019 (the “2019 Consolidated Financial Statements”). This document contains forward-looking statements.

4Q19 Highlights | Operational and Financial

- Consolidated net revenue reached US\$586 million in the fourth quarter compared with US\$583 million a year ago driven by lower LME prices, which were partially offset by higher metal sales volume.
- Zinc production of 83kt in 4Q19 was mainly affected by the temporary reduction in Vazante processing capacity for 30 days for the repair of the trunnion used in the concentration plant and lower production in Cerro Lindo.
- In 4Q19, metal sales increased by 2% to 162kt compared to 4Q18, positively affected by the improvement of smelter recovery rates.
- Adjusted EBITDA excluding non-recurring expenses was US\$90 million in 4Q19 compared with US\$131 million in 4Q18, which included a tax credit of US\$34 million recognized in the quarter.
- Mining cash cost¹ in 4Q19 was US\$0.41/lb compared with US\$0.31/lb in 4Q18 due to higher TCs and an increase in operational costs. Compared to 3Q19, mining cash cost decreased by 1% positively affected by higher by-products credits.
- In 4Q19, smelting cash cost¹ was US\$0.89/lb, down 19% and 10% compared to 4Q18 and 3Q19, respectively, due to lower concentrate costs.
- In October 2019, Nexa concluded its acquisition of Karmin Exploration Inc. for US\$71 million to consolidate its ownership interest in the Aripuanã project to 100%.

2019 Highlights | Operational and Financial

- In 2019, net revenue totaled US\$2,332 million, down 6% from 2018 (US\$2,491 million). Higher metal sales volumes were offset by lower LME prices.
- Zinc production in 2019 was 361kt, down 3% from 2018 due to lower zinc average grades and the decrease in ore processed volumes in our Peruvian mines.
- In 2019, mining cash cost¹ was US\$0.43/lb compared with US\$0.28/lb a year ago. Smelting cash cost¹ decreased to US\$1.01/lb compared to US\$1.23/lb in 2018.
- Adjusted EBITDA excluding non-recurring expenses was US\$402 million in 2019 compared with US\$605 million in 2018 (including the US\$34 million positive effect of tax credit recognition) primarily driven by lower prices and an increase in operating costs.
- Net debt to adjusted EBITDA for the last twelve months excluding non-recurring expenses stood at 1.96x.
- Liquidity remains strong. Total cash amounted to US\$757 million at December 31, 2019 and our current available liquidity is US\$1,057 million.
- Nexa recognized a non-cash US\$142 million impairment loss related to the Cerro Pasco cash-generating unit in 3Q19.
- Net loss totaled US\$159 million, US\$1.11 per share, in 2019.

¹ Our cash cost net of by-products credits is measured with respect to zinc sold.

Corporate Highlights

- Nexa declared and paid in March 2019 a cash dividend to shareholders of approximately US\$70 million related to the fiscal year 2018.
- The share buyback program, announced in September 2018, was concluded in November 2019. Nexa repurchased 881,902 common shares at an average price of US\$10.7/share, totaling a cash expenditure of US\$9 million in the period.
- We continue to strengthen our governance and two new directors were elected in June, 2019. In addition, the sustainability committee of Nexa's board of directors (the "Board") was created to assist and advise Nexa's Board in supporting safe and sustainable business practices in the conduct of the Company's activities.
- On February 13, 2020, Nexa's the Board approved, subject to ratification by the Company's shareholders at the upcoming annual shareholders' meeting in accordance with Luxembourg laws, a cash dividend distribution to Nexa's shareholders of record on March 16, 2020 of US\$0.38 per common share or approximately US\$50 million to be paid on March 30, 2020.

Operational efficiency initiatives program | Nexa Way

- In mid-2019, Nexa initiated a program to enhance its operational performance. The program comprises a revision of certain of our internal procedures in order to capture opportunities and structurally improve our business model, and changes in our organizational culture.
- During 2H19, we implemented initiatives that we expect to generate at least US\$120 million in annualized EBITDA improvements throughout 2020 and 2021 at a non-recurring cost of approximately US\$41 million, which is included in our 2H19 general and administrative expenses.
- The program continues until the end of September 2020 and potential new initiatives are under analysis. We estimate that their implementation should generate additional gains, with some non-recurring additional costs, as well.

Projects

Vazante

- The dry-stacking tailings project was completed and started operation in 2Q19. As a result, over 80% of our total tailings are no longer disposed in wet tailings dams.
- The Vazante mine-deepening brownfield project advanced according to the project plan and US\$28 million was invested in 2019.

Aripuanã

- Construction works continue to advance and 28% of physical progress was achieved by the end of 4Q19. This is behind our original schedule due to external factors including weather conditions, upgrade of the public bridge and a delay in our detailed engineering studies.
- We are working on a new rebaseline schedule and we expect a final report during 2Q20. We are also revising our original ramp up of 12 months and we expect to accelerate this period compared to the initial estimates.
- Over 1,400 people actively working at the site.

Cajamarquilla

- In December 2019, Nexa announced the temporarily suspension of the Jarosite conversion process in Cajamarquilla. Smelter recovery rate, however, improved by 35bps to 94.1% under the current process and production was 340kt, 3% higher than 2018.

Guidance

- Mining production guidance for 2019 was achieved. We produced 361kt of zinc in concentrate, 38kt of copper in concentrate and 51kt of lead in concentrate in the year.
- Metal sales volume of 621kt increased by 1% in 2019 versus 2018, reaching the midpoint of the guidance range.
- In 2019, CAPEX amounted to US\$410 million compared with US\$420 million guidance. We also continued to invest in our future with an additional US\$113 million of exploration and development investments in our greenfield and brownfield projects.
- Nexa continued to achieve exploration success and approximately 221,000 meters of mineral exploration drilling were executed in 2019. The results of the ongoing campaigns are aligned with our strategy to replace and increase mineral reserves and resources. Refer to our “Investments | Mineral exploration and project development” section for further information.
- On January 15, 2020 Nexa published its three-year period 2020-2022 operational guidance. The Company also provided cash cost, capital expenditures and other operating expenses guidance for 2020. Refer to our “Nexa | Guidance 2020-2022” section for further details.

CEO Message – Tito Martins

“We have been attentive to the changes in the global scenario and we understand the need to adapt to this challenging new world. Based on that, we initiated in 2019 the Nexa Way Program, not only to improve the efficiency of our operations and maximize our returns, but also to transform our culture. We believe the operational and culture changes enabled by Nexa will allow us to continue building the mining of the future.

With a unique portfolio of assets in Latin America, the largest zinc underground mine (Cerro Lindo) and also the largest smelter in the Americas (Cajamarquilla), Nexa is strategically well-positioned to capture the best opportunities in the region.

Nexa is the fourth largest zinc producer in the world² and we are building a world-class underground mine at Mato Grosso, Brazil, the Aripuanã project. Nexa continues to be optimistic about the long-term prospects and market fundamentals of zinc and copper and its strategy remains unchanged. We are confident that we will be able to create value for all our stakeholders by maximizing the returns of our operations and by delivering on growth with capital discipline.”

² Source: Wood Mackenzie.

Selected indicators

US\$ million (except indicated otherwise)	4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
Treated ore (kt)	3,147.1	3,305.3	3,435.1	(8.4%)	13,001.5	13,051.4	(0.4%)
Mining Production contained in concentrate							
Zinc (kt)	82.9	97.1	103.2	(19.7%)	361.0	372.8	(3.2%)
Copper (kt)	10.2	10.5	9.2	10.6%	38.2	39.0	(2.2%)
Lead (kt)	12.3	13.7	14.7	(16.2%)	51.3	52.3	(1.8%)
Metal sales (kt) ⁽¹⁾	161.5	158.3	158.3	2.0%	621.2	616.9	0.7%
Consolidated net revenue	585.8	563.4	583.4	0.4%	2,332.3	2,491.2	(6.4%)
Mining	13.0	33.1	88.4	(85.3%)	172.6	430.4	(59.9%)
Smelting	56.3	24.6	41.2	36.6%	180.0	174.8	3.0%
Eliminations & Adjustments	(4.4)	0.1	1.2	-	(3.6)	(0.3)	-
Adjusted EBITDA ⁽²⁾⁽³⁾	64.9	57.8	130.8	(50.4%)	349.0	604.8	(42.3%)
<i>Adj margin EBITDA (%)</i>	<i>11.1%</i>	<i>10.3%</i>	<i>22.4%</i>	<i>(11.3p.p.)</i>	<i>15.0%</i>	<i>24.3%</i>	<i>(9.3p.p.)</i>
Sustaining	52.0	29.2	46.4	-	137.7	90.2	-
Expansion ⁽⁴⁾	66.6	57.8	42.2	-	188.4	90.5	-
HSE	15.1	12.9	34.3	-	57.3	89.1	-
Other	12.9	4.0	14.1	-	26.8	29.8	-
Capital Expenditures	146.7	104.0	137.0	-	410.3	299.7	-
Liquidity and Indebtedness							
Total cash ⁽⁵⁾	757.0	857.2	1,125.0	-	757.0	1,125.0	-
Net debt	787.8	592.0	302.7	-	787.8	302.7	-
Net debt / Adj EBITDA ⁽⁶⁾ (x)	2.3	1.4	0.5	-	2.3	0.5	-

(1) Consolidated sales of metallic zinc and zinc oxide (in kt of product volume). Kt refers to one thousand metric tons.

(2) Includes US\$25 million in respect of 4Q19 and US\$41 million in respect of 2019 in non-recurring expenses associated with the Nexa Way. 2019 was also influenced by a temporary increase of US\$12 million related to certain non-cash provisions with respect to labor claims and an inventory write-off in 2Q19. Adjusted EBITDA excluding such expenses totaled US\$90 million in 4Q19 and US\$402 million in 2019, respectively.

(3) Refer to "Use of Non-IFRS Financial Measures" for further information. For details on segment definition and accounting policy please refer to explanatory note 1 – "Information by business segment and geographic area" in the 2019 Consolidated Financial Statements.

(4) Includes Aripuanã project investment.

(5) Cash, cash equivalents and financial investments.

(6) Net debt to Adjusted EBITDA excluding non-recurring expenses was 1.96x at December 31, 2019.

Nexa| Guidance and 2019 Results

Despite slower global economic growth and uncertainties regarding commodity prices in the short term, we remain positive about the long-term scenario and market fundamentals for both zinc and copper.

Nexa Resources should continue to enjoy regional competitive advantages, as a significant part of our revenue originates from Latin America. At the same time, we will continue focusing our efforts on our long-term growth strategy, evaluating external growth opportunities in addition to our existing project pipeline. We have been preparing our balance sheet since our IPO in 2017 to support our short and medium-term investment plans.

In 2019, we invested US\$12 million to advance our project pipeline. Specifically, we completed the pre-feasibility study ("PFS") for our Magistral copper project located in Peru and progressed the project to FEL3 (feasibility). Due to changes in our engineering studies an updated technical report will be re-evaluated after the conclusion of FEL3. We concluded a preliminary economic assessment ("PEA") for our Hilarión zinc project located in Peru and the PEA technical report is expected to be published in 1Q20. Our Shalipayco and Pukaqaqa projects continue at the PFS stage and we are still awaiting approval of the social license and the results of metallurgical tests, respectively, to advance to the next engineering study phase.

We remain committed to building a differentiated, sustainable, cost-efficient, and integrated business model, generating value to all our stakeholders.

Sales and production

Metal contained (in concentrate)		2019 guidance			2019
Production					
Zinc	kt	360	-	380	361
Copper	kt	35	-	38	38
Lead	kt	50	-	55	51
Silver	koz	8,400	-	9,000	8,901
Gold	koz	22	-	24	25
Smelting Sales		610	-	630	621
Zinc Metal	kt	573	-	591	585
Zinc Oxide	kt	37	-	39	37

- Production by metal in 2019 was within the annual guidance range for all metals.
- We also met our smelting sales guidance for 2019. Metallic zinc sales including zinc oxide reached 621kt in 2019, 1% higher than 2018 sales of 617kt, mainly driven by higher sales volume at our Cajamarquilla and Juiz de Fora smelters which increased 2.4% and 9.4%, respectively.

Investments

Capital expenditures ("CAPEX")

In 2019, CAPEX amounted to US\$410 million compared with guidance of US\$420 million. Non-expansion investments, which include sustaining and health, safety and environmental ("HSE") expenditures, among others, were US\$222 million. Expansion expenditures totaled US\$188 million, including the US\$124 million investment in the Aripuanã project.

In addition to CAPEX, our total investments for the year included Karmin's acquisition of US\$71 million (including transaction costs), for total investments of US\$481 million. Karmin was the owner of 30% of the Aripuanã project.

Investment (US\$ million)	2019 guidance	2019
CAPEX per segment		
Mining	177	181
Smelter	94	86
Aripuanã	140	124
Other	9	20
Total Capex	420	410
Karmin acquisition	71	71
TOTAL Investments	490	481

Mineral exploration and project development

In 2019, mineral exploration expenses were US\$74 million, including brownfield (US\$23 million) and greenfield (US\$35 million) projects.

Project development expenses were US\$39 million, including approximately US\$12 million directed towards greenfield projects in FEL1 and FEL2 stages and US\$6 million to brownfield projects in the same stages.

(US\$mm)	2019 guidance	2019
Mineral exploration	75	74
Project development	35	39
Total	110	113

Exploration and project development expenses consider several stages of development, from mineral potential definition, R&D, and subsequent PEA and PFS studies (FEL1 and FEL2).

Please note that all our estimates (guidance) for production, sales, capex and expenditures relating to mineral exploration and project development are based on several assumptions that management believes to be reasonable and representative of the Company's expectations as of the publication of this report. Our independent registered public accounting firm (PricewaterhouseCoopers) has not audited, compiled, performed any procedures on, or reviewed these estimates and, therefore does not express an opinion or any other form of assurance with respect to these estimates. Accordingly, you should not place undue reliance on these estimates, which may differ materially from our final results. Please refer to the Cautionary Statement on Forward-Looking Statements at the end of this earnings release.

Nexa | Guidance 2020-2022

Mining segment

At the midpoint of the guidance range, zinc equivalent metal production is estimated to increase 6.4% on average (2020-2022), mostly driven by the commissioning of Aripuanã in 2021.

For the forecasted period, zinc head grade is expected to be in the range of 2.98% and 3.01%, copper head grade is expected to be in the range of 0.34% and 0.38%, and lead head grade is expected to be in the range of 0.52% and 0.63%.

Main products

Metal Contained (in concentrate)		2019	2020e		2021e		2022e	
Zinc Equivalent⁽¹⁾	kt	564	539	- 595	553	- 634	600	- 694
Zinc	kt	361	338	- 375	348	- 395	371	- 422
Cerro Lindo		126	100	- 110	100	- 110	92	- 100
El Porvenir		55	53	- 60	53	- 60	53	- 60
Atacocha		17	20	- 25	20	- 25	23	- 26
Vazante		139	140	- 150	140	- 150	140	- 150
Morro Agudo		24	25	- 30	15	- 20	15	- 20
Aripuanã		-	under construction		20	- 30	48	- 66
Copper	kt	38	40	- 46	36	- 42	40	- 47
Cerro Lindo		38	40	- 45	35	- 40	35	- 40
El Porvenir		0.5	0.5	- 0.6	0.4	- 0.5	0.4	- 0.5
Aripuanã		-	under construction		1.0	- 2.0	5.0	- 7.0
Lead	kt	51	50	- 55	61	- 71	67	- 84
Cerro Lindo		12	10	- 12	11	- 12	9	- 10
El Porvenir		17	19	- 20	20	- 23	20	- 25
Atacocha		16	15	- 16	18	- 20	17	- 20
Vazante		1.0	1.0	- 1.5	1.1	- 1.2	0.9	- 1.2
Morro Agudo		4.7	5.0	- 5.5	4.5	- 5.1	5.0	- 6.0
Aripuanã		-	under construction		6.0	- 10	15	- 22
Silver⁽²⁾	koz	8,901	8,825	- 9,230	9,750	- 10,770	10,460	- 11,615
Cerro Lindo		3,250	3,440	- 3,500	3,095	- 3,335	3,035	- 3,270
El Porvenir		3,413	3,280	- 3,495	3,805	- 3,975	3,805	- 3,975
Atacocha		1,882	1,760	- 1,840	1,940	- 2,140	1,940	- 2,140
Vazante		333	345	- 395	340	- 380	340	- 380
Aripuanã		-	under construction		570	- 940	1,340	- 1,850

⁽¹⁾ Consolidated mining production in kt of zinc equivalent is calculated by converting copper, lead, silver and gold contents to a zinc equivalent grade, assuming 2019 LME average benchmark prices: Zn: US\$1.16/lb; Cu: US\$2.72/lb; Pb: US\$0.91/lb; Ag: US\$16.2/oz; Au: US\$1,393/oz.

⁽²⁾ Includes Morro Agudo production in 2019.

Smelting segment

Metal sales volume at the midpoint of the guidance range in 2020 is estimated to increase 4kt compared to 2019. For 2021, metal sales volume is estimated to increase 5kt over 2020, and a further 10kt in 2022 over 2021. This estimated increase in performance is explained by regular production across our smelters with productivity gains driven by the increase in silicate mix feed to the Três Marias smelter, improvement in secondary mix feed to the Juiz de Fora smelter and continuous improvement in Cajamarquilla operation.

Smelting sales		2019	2020e		2021e		2022e	
Metal	kt	621	615	- 635	620	- 640	630	- 650
Zinc metal		585	578	- 596	583	- 601	593	- 611
Zinc oxide		37	37	- 39	37	- 39	37	- 39

2020 cash cost guidance

Cash costs for 2020 are based on several assumptions, including but not limited to:

- Production volumes;
- Commodity prices (Zn: US\$1.09/lb, Cu: US\$2.68/lb, Pb: US\$0.88/lb, Ag: US\$16.8/oz, Au: US\$1,470/oz);
- Foreign exchange rates (BRL/USD: 3.95 and Soles/USD: 3.35); and
- Treatment charge of US\$275/t concentrate.

2020 cash cost guidance	(US\$/lb)
Mining cash cost ⁽¹⁾	0.52
Cerro Lindo	0.16
El Porvenir	0.70
Atacocha	0.63
Vazante	0.61
Morro Agudo	1.05
Smelting cash cost ⁽²⁾	0.90
Cajamarquilla	0.91
Três Marias	0.82
Juiz de Fora	1.06

⁽¹⁾C1 weighted mining cash cost net of by-products credits is measured with respect to zinc sold per mine.

⁽²⁾C1 weighted smelting cash cost net of by-products credits is measured with respect to zinc sold per smelter.

2020 CAPEX guidance

For 2020, CAPEX guidance is US\$410 million, and it includes the estimated US\$220 million investment in the Aripuanã project.

CAPEX (US\$ million)	2020e
Expansion projects	247
Aripuanã	220
Others ⁽¹⁾	27
Non-expansion	163
Sustaining	102
HSE ⁽²⁾	43
Others ⁽³⁾	18
TOTAL	410

⁽¹⁾ Including US\$16 million related to Vazante mine deepening brownfield project.

⁽²⁾ Investments in tailings dams are included in HSE expenses.

⁽³⁾ Modernization, IT and others.

2020 other operating expenses

Other operating expenses (US\$ million)	2020
Mineral exploration	57
Project development	22
Sub-Total	79
Other	15
Technology	7.5
Communities	7.7
TOTAL	94

Note: Exploration and project development expenses consider several stages of development, from mineral potential definition, R&D, and subsequent scoping and pre-feasibility studies (FEL1 and FEL2).

In mineral exploration, we continue our efforts to replace and increase mineral reserves and resources. Our exploration expense guidance of US\$57 million relates mainly to greenfield projects (US\$30 million). Project development expense guidance of US\$22 million includes projects in FEL1 & FEL2 stages.

We are also committed to the social and economic development of the local communities in the countries where we operate and we propose to directly invest an estimate of US\$7.7 million in our current operations. We estimate to invest an additional US\$7.5 million in technology to make our business safer and improve our efficiency.

Aripuanã project

On October 30, 2019, Nexa announced the closing of the 30% minority stake acquisition in the Aripuanã project. Nexa and its affiliates have 100% ownership of a high-quality asset with potential mine life extension and synergies with our operations in Brazil. (For additional information on the transaction, please refer to the filed press releases on Aripuanã dated August 26, October 24 and 30, 2019 on our IR website).

In 2019, we invested US\$124 million to develop Aripuanã, not including the purchase price for Karmin, which represents 32% of the US\$392 million in total estimated capital expenditures for the project. We estimate CAPEX of US\$220 million in 2020, with residual investments to be made during 2021, when construction is expected to be completed.

4Q19 project update

As of the end of 4Q19, approximately 76% of the total project CAPEX was already committed. Physical progress continued to advance (28% completion). This is behind our original schedule due to certain issues experienced during the earthworks activities, weather conditions that affected site logistics, the upgrade of the public bridge that provides access to our facilities and a delay in our detailed engineering studies.

We have been redesigning the project plan and we are currently working on a new rebaseline schedule. We are also revising our original ramp up of 12 months and we expect to accelerate this period compared to the initial estimates. We do not expect 3-year production guidance to be affected. A final report is expected during 2Q20.

Activities highlights in 4Q19 included lean concrete execution in the grinding area and the pipe rack foundations construction and there were over 1,400 people working in the main construction areas.

We also advanced in the construction of temporary buildings and laydown areas and in earthworks for the mine's waste stockpile, reaching approximately 45% of completion (drainage and waterproofing). Earthworks also continued to progress mainly related to roads providing access to the site, water dam, beneficiation plant and the waste ore stockpile.

During the quarter, the mills (SAG, balls) and vibrating screens first components were received at the temporary buildings and laydown areas. In addition, the archeology activities of the 69 kV transmission line towers foundation were concluded and we signed an energy agreement with Energisa Company.

With respect to procurement, several critical contracts were signed in the year (related to mills, floatation column, EPCM, equipment supply, and infrastructure) and we estimate to complete 94% of our procurement plan by the first quarter of 2020.

By year end 2019, approximately 27.5kt of treated ore was already stockpiled, in advance of the project commissioning planned for 2021. This was possible given the conclusion of both the Arex and Link mine ramp tunnels (in 2Q19 and 3Q19, respectively) and our continued progress in mine development reaching 1,497 meters by December versus 873 meters in October 2019.

Nexa's qualification program for future mine and operation plant professionals had 1,481 candidates enrolled in 2019, of which approximately 500 received professional qualifications on maintenance and automation and geology and surveying. Of the total number of participants, 52% were women.



Consolidated performance

Net revenue

US\$ million	4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
Revenue - Mining	233.6	248.2	285.5	(18.2%)	1,000.2	1,163.7	(14.1%)
Revenue - Smelting	459.8	442.2	470.0	(2.2%)	1,865.7	2,030.6	(8.1%)
Intersegment results	(111.4)	(124.5)	(171.7)	(35.1%)	(535.8)	(704.0)	(23.9%)
Adjustments	3.8	(2.5)	(0.5)	-	2.2	0.9	-
Net Revenue	585.8	563.4	583.4	0.4%	2,332.3	2,491.2	(6.4%)

In 4Q19, gross revenue was US\$639 million, 6% lower year-over-year, mainly driven by lower metal LME average prices. The LME average prices for zinc and copper were down by 9.2% and 4.7%, respectively, compared to 4Q18.

When compared to 3Q19, LME average zinc, copper and lead prices increased by 1.7%, 1.4% and 0.9%, respectively.

Net revenue of US\$586 million, however, was 0.4% higher compared to 4Q18. This modest increase was explained by a decrease in taxes on sales due to higher exports volume from our smelter in Peru.

In 2019, net revenue of US\$2,332 million was 6.4% lower than 2018, also primarily driven by lower LME metal prices. LME average zinc, copper and lead prices decreased by 13%, 8% and 11%, respectively, in 2019 compared to 2018.

Cost of sales

US\$ million	4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
Cost of sales - Mining	(196.0)	(220.4)	(179.3)	9.3%	(802.0)	(707.8)	13.3%
Cost of sales - Smelting	(386.5)	(414.7)	(436.2)	(11.4%)	(1,655.1)	(1,878.8)	(11.9%)
Intersegment results	111.4	124.5	171.7	(35.1%)	535.8	704.0	(23.9%)
Adjustments	(4.0)	7.2	2.2	-	(23.4)	(6.5)	-
Cost of sales	(475.2)	(503.5)	(441.6)	7.6%	(1,944.7)	(1,888.9)	3.0%

In 4Q19, cost of sales amounted to US\$475 million, 7.6% higher year-over-year. The cost decrease in our smelting segment, primarily driven by lower raw material prices and better recovery rates, was offset by higher unit costs in our mining segment due to an increase in operating costs (maintenance and third-party services).

Compared to 3Q19, cost of sales decreased by 5.6% primarily explained by the decrease in smelting unit costs. Mining costs remained relatively stable quarter-over-quarter.

In 2019, cost of sales were 3.0% higher compared to 2018, mainly driven by the above-mentioned reasons.

SG&A

Selling, general and administrative ("SG&A") expenses amounted to US\$76 million in 4Q19, including a non-recurring expense of US\$25 million related to operational efficiency initiatives (see comments below regarding the efficiency program), which have positively impacted our operations since 3Q19 but are still not fully captured in our financial results. In 4Q18, SG&A expenses were US\$36 million.

In 2019, SG&A expenses were US\$217 million, including US\$41 million related to operational efficiency initiatives, compared with US\$160 million in 2018.

Efficiency program – Nexa Way

As disclosed in 3Q19, Nexa initiated a program to enhance its operational performance with the support of external consulting firms. The initiatives have included a review and revision of internal processes to structurally improve our business model in the long run. The payment to such consultants is based on a success fee at the time these initiatives are implemented and totaled US \$41 million in 2H19. The program is estimated to end in September 2020 and we expect to incur additional costs relating to these initiatives in 2020.

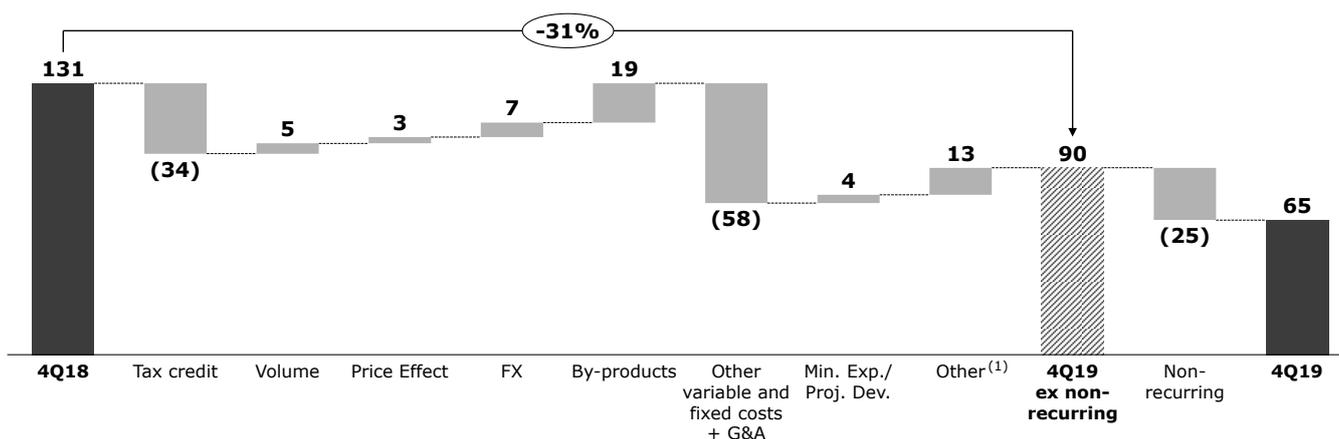
By the end of 2019, we have implemented initiatives that we estimate will generate approximately US\$120 million in annualized EBITDA improvements by 2021. These initiatives are primarily related to our operations, such as increased recovery rates, reduction in energy costs, reduction in operational dilution in our mines, increased reprocessing of tailings, debottlenecking capacity at our smelters, increased roaster performance, among others. The program also encompasses changes in our organizational culture including to increase communication between operating teams and to improve the decision-making process, among others. We are preparing transformation leaders and executors to help us disseminate our new culture.

Adjusted EBITDA

In 4Q19, Adjusted EBITDA was US\$65 million compared with US\$131 million in the same period a year ago, which included a positive effect of US\$34 million related to tax credits recorded in Brazil (PIS/COFINS) in the period. Adjusted EBITDA in 4Q19 was negatively affected by the temporary increase in G&A expenses of US\$25 million, as previously highlighted.

Excluding these temporary effects from the analysis in both periods, Adjusted EBITDA in 4Q19 was US\$90 million, down 7% compared to US\$97 million in 4Q18. The main factors that contributed to this result were (i) the negative variation of US\$58 million in operating costs and expenses; partially offset by (ii) the increase in by-products revenue. The U.S. dollar appreciation against Brazilian real had a positive impact of US\$7 million.

US\$ million



(1) Includes: Hedge, Other income and expenses, and IFRS 16.

Adjusted EBITDA in 2019 amounted to US\$349 million versus US\$605 million in 2018. Excluding the non-recurring effects from the analysis in both periods, Adjusted EBITDA was US\$402 million, down 30% from 2018 (US\$571 million). The year-over-year decrease was mainly explained by (i) lower LME prices; and (ii) higher operating costs; partially offset by (iii) the U.S dollar appreciation against Brazilian real; and (iv) the increase in by-products credits.

US\$ million	4Q19	3Q19	4Q18	2019	2018
Adjusted EBITDA	89.9	74.2	96.8	402.0	570.8
Gain (loss) on sales of investments					(0.3)
Impairment (reversal)		142.1	3.4	142.1	3.4
Non recurring items	25.0	16.3	(34.0)	53.0	(34.0)
EBITDA	64.9	(84.3)	127.4	206.9	601.7
Deprec., amort. and depletion	(70.0)	(93.5)	(62.0)	(317.9)	(267.2)
Net financial results	(6.5)	(57.1)	23.1	(104.9)	(202.7)
Taxes on income	8.8	63.7	(31.8)	56.9	(40.9)
Net Income (loss)	(2.7)	(171.3)	56.6	(159.0)	91.0

Net financial result

The net financial result in 4Q19 was a loss of US\$6.5 million compared to a loss of US\$57 million in 3Q19. This improvement was mainly driven by a net gain in foreign exchange variation of US\$14 million versus a US\$33 million loss in 3Q19. This variation is basically explained by the 3% appreciation in 4Q19 of the Brazilian real³ versus a 9% depreciation against the U.S. dollar in the previous quarter.

Excluding the effect of the foreign exchange variation, the net financial result in 4Q19 was lower with a loss of US\$21 million compared to a loss of US\$24 million in the previous quarter.

US\$ thousand	4Q19	3Q19	4Q18
Financial income	13,235	6,600	40,986
Financial expenses	(34,038)	(30,806)	(30,812)
Foreign Exchange Variation (FX)	14,294	(32,911)	12,892
Net financial result	(6,509)	(57,117)	23,066
Net financial result excluding FX	(20,803)	(24,206)	11,236

Net income (loss)

Nexa recorded a net loss of US\$3 million in 4Q19 compared with net income of US\$57 million in 4Q18, which was positively affected by tax credits recognition. Net loss attributable to Nexa's shareholders was US\$2.8 million in 4Q19 resulting in net loss per share ("EPS") of US\$0.02.

In 2019, Nexa recorded a net loss of US\$159 million compared with net income of US\$91 million in 2018. The decrease was primarily driven by the US\$142 million non-cash impairment loss recognition in 3Q19 related to Cerro Pasco.

³ On December 31, 2019 the Brazilian real / U.S. dollar exchange rate was R\$4.03/US\$1.00 against R\$4.16/US\$1.00 on September 30, 2019.

Business Performance

Mining segment⁴

Mining production

Consolidated		4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
Treated Ore	kt	3,147	3,305	3,435	(8.4%)	13,002	13,051	(0.4%)
Grade								
Zinc	%	2.98	3.34	3.39	(41 bps)	3.16	3.27	(10 bps)
Copper	%	0.40	0.39	0.35	6 bps	0.37	0.38	(1 bps)
Lead	%	0.50	0.55	0.56	(6 bps)	0.52	0.53	(0 bps)
Silver	oz/t	0.94	0.99	0.93	0.6%	0.94	0.91	2.7%
Gold	oz/t	0.005	0.005	0.005	(0.1%)	0.005	0.007	(32.9%)
in Content								
Zn	kt	82.9	97.1	103.2	(19.7%)	361.0	372.8	(3.2%)
Cu	kt	10.2	10.5	9.2	10.6%	38.2	39.0	(2.2%)
Pb	kt	12.3	13.7	14.7	(16.2%)	51.3	52.3	(1.8%)
Ag	koz	2,197	2,394	2,162	1.6%	8,901	7,986	11.5%
Au	koz	7.0	6.0	7.6	(7.5%)	25.0	29.2	(14.6%)

In 4Q19, treated ore volume was 3,147kt, down 8.4% from the same quarter a year ago, primarily driven by Vazante (-28%) due to the temporary reduction in processing capacity resulting from the repair of the trunnion used in the concentration plant and Cerro Lindo (-8%).

Zinc equivalent⁵ production totaled 134.8kt, down 13% compared to 4Q18 (154.8kt) due to the decrease in treated ore volume and lower zinc and lead grades. The average zinc and lead head grades decreased by 41bps and 6bps to 2.98% and 0.50%, respectively, while copper increased by 6bps to 0.40%.

Zinc production of 83kt in the quarter was 20% lower than 4Q18, primarily explained by a 26% (or 10kt) production decrease in Cerro Lindo and 15% (or 5kt) in Vazante. Lead production followed the same trend and decreased by 16% to 12kt. Copper production, however, increased by 11% to 10kt driven by Cerro Lindo.

In 2019, treated ore volume decreased 0.4% year-over-year to 13,002kt. Average zinc grade was 3.16% compared with 3.27% in 2018. As a consequence, zinc production totaled 361kt, 3% lower than in 2018 (373kt). Copper and lead production followed the same trend and decreased by 2.2% and 1.8% to 38kt and 51kt, respectively. Zinc equivalent 2019 production decreased by 1.9% year-over-year to 564kt.

Cerro Lindo

In 4Q19, treated ore volume of 1,695kt was down 7.6% year-over-year driven by a temporary limited availability of third-party trucks, which affected our mineral transportation to the crushers in the quarter. Zinc production was 29kt, down 26% from 4Q18, driven by the reduction in treated ore volume and a 44bps decrease in zinc head grade to 1.91%.

⁴ Segment consolidation available in the appendix.

⁵ For zinc equivalent calculation, please see appendix ("Mining Information – Consolidated").

Lead production followed the same trend and decreased 23% year-over-year to 3.2kt. Lead average grade was 0.26%, down 4bps compared to 4Q18 (0.30%).

Copper production, however, increased by 11% to 10kt when compared to 4Q18 as we accessed higher average copper grades areas in the quarter. Higher copper recovery at the plant also contributed to this performance.

In 2019, zinc production was 126kt, down 3.1% compared to last year, as a result of the reduction of treated ore volume (down 2% to 6,800kt) and lower zinc head grade (2.05% versus 2.07% in 2018).

El Porvenir

Zinc production of 13kt was down 16% in 4Q19 versus the same quarter of last year driven by the 7% decrease in treated ore volume. This decrease was explained by a delay in the ramp up performance of the new mining outsourced services and slope instability at the main ore passes, which reduced the operational performance of the mine in December. Extraction rate at the mid and upper levels remains with no constraints and we estimate operations will be normalized in 1Q20. In addition, zinc head grade in 4Q19 decreased 28bps year-over-year to 2.82%.

Lead production followed the same trend and decreased by 7% to 3.8kt in 4Q19.

Silver content, however, increased 19% to 777koz compared to 4Q18, due to an improvement in the metallurgical recovery (from 60% to 77%). Gold content followed the same trend and increased 57%, achieving a record-high quarter production of 4kt.

In 2019, zinc production totaled 55kt, a decrease of 5% versus the same period of last year, explained by the 1.4% decrease in treated ore volume and lower average zinc head grade (down 11bps to 2.92%).

Atacocha

In 4Q19, treated ore volume of 394kt was down 1.3% year-over-year. As a result, zinc production of 4.2kt was slightly lower compared to 4Q18. Zinc head grade year-over-year remained relatively stable at 1.40%.

Lead production decreased by 5% to 3.9kt, driven by lower lead average grade (down 2bps to 1.20%) and lower average recovery rate (down from 84.3% to 82.7% year-over-year) as we accessed more ore from Atacocha open pit versus our underground mine.

In 2019, zinc production of 17kt was down 0.7kt compared to last year mainly driven by the 3% decrease in treated ore volume due to planned and unplanned maintenance shutdowns during the year.

Vazante

Zinc production of 30kt in 4Q19 decreased by 15% compared to 4Q18 driven by lower treated ore volume (-28%), adversely impacted by the temporary reduction in processing capacity for 30-days to repair the trunnion used in the concentration plant; which was partially offset by higher zinc average grade (up 147bps to 12.7%) as a result of full performance of the ore sorter pilot plant and high grade areas prioritization.

In 2019, zinc production totaled 139kt, down 1.3% from 2018. The 2.4% increase in treated ore volume partially offset the lower zinc average grade (from 12.1% to 11.4%).

Morro Agudo

Treated ore volume was 287kt, a slightly decrease of 0.7% year-over-year, which along with the decline in zinc average grade (56bps to 2.65%) resulted in a decrease of 24% (or 2.2kt) in zinc production, totaling 6.5kt in 4Q19. Compared to 3Q19, zinc production increased 16% due to higher zinc average grade (up 43bps).

In 2019, treated ore volume was 1,168kt, up 10% from last year, while zinc average grade declined 37bps to 2.33%. As a result, zinc production totaled 24kt, 8% (or 2.1kt) lower than in 2018.

Financial performance

US\$ million	4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
Net revenue	233.6	248.2	285.5	(18.2%)	1,000.2	1,163.7	(14.1%)
COGS	(196.0)	(220.4)	(179.3)	9.3%	(802.0)	(707.8)	13.3%
Gross profit	37.6	27.9	106.2	(64.6%)	198.2	456.0	(56.5%)
Adjusted EBITDA	13.0	33.1	88.4	(85.3%)	172.6	430.4	(59.9%)
<i>Adjusted EBITDA Mrg</i>	<i>5.6%</i>	<i>13.3%</i>	<i>31.0%</i>	<i>(25.4pp)</i>	<i>17.3%</i>	<i>37.0%</i>	<i>(19.7pp)</i>

Note: Financial performance pre intersegment eliminations.

Net revenue for the mining segment totaled US\$234 million in 4Q19, down 18% versus 4Q18. This performance was driven by the decrease in production, lower zinc and copper prices (down 9% and 5%, respectively), and higher benchmark TCs.

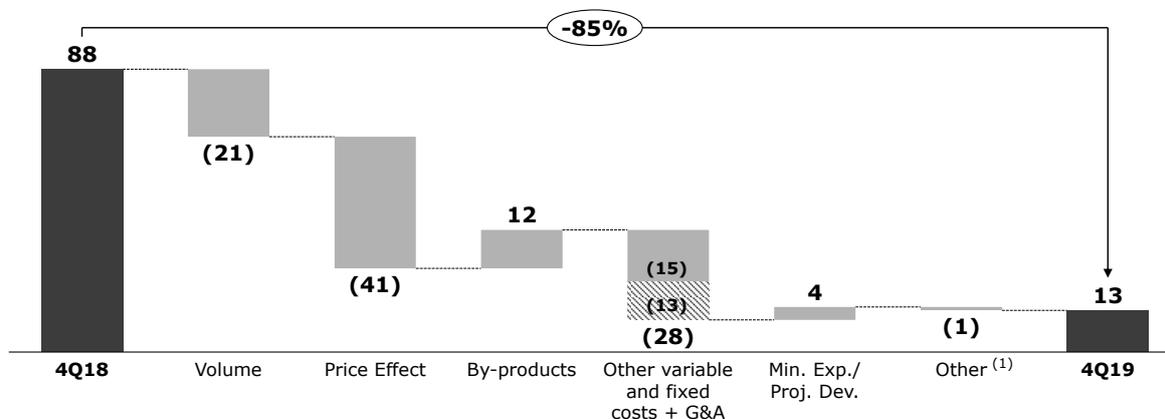
In 2019, net revenue amounted to US\$1.0 billion, a decrease of 14% compared to US\$1.2 billion in 2018, mainly affected by lower LME metal prices and higher TCs.

Cost of sales increased by 9% in 4Q19 compared to 4Q18, to US\$196 million. This increase was primarily explained by higher operating costs related to maintenance and personnel costs, in addition to higher energy costs. Operating costs were also negatively affected by the 30-day reduction in the processing capacity at Vazante, which resumed operations at the end of November.

Cost of sales in 2019 were US\$802 million, up 13% compared to 2018 mainly driven by personnel, maintenance and third-party services.

Adjusted EBITDA for the mining segment in 4Q19 was US\$13 million compared with US\$88 million a year ago primarily due to (i) a negative variation of US\$41 million related to higher TCs (US\$22 million), lower LME zinc prices and lower market prices in respect of quotation period adjustments (US\$19 million); (ii) lower volumes with a negative impact of US\$21 million; and (iii) higher operating costs and SG&A expenses due to the increased allocation of corporate expenses to the mining segment, including the temporary increase of US\$13 million in G&A expenses related to operational efficiency initiatives. These negative effects were partially offset by higher by-product credits in Peru and a decrease in mineral exploration and project development expenses.

US\$ million



(1) Hedge, Other income and expenses, IFRS 16 and FX.

In 2019, adjusted EBITDA for mining totaled US\$173 million, down 60% year-over-year. The decrease was primarily driven by (i) market related factors, such as lower LME prices and higher treatment charges with a negative variation impact of US\$126 million and US\$65 million, respectively; (ii) higher

operating costs of US\$80 million related to development expenses, energy, maintenance and third-party services; and (iii) higher G&A expenses due to the increased allocation of corporate expenses to the mining segment, including US\$23 million related to operational efficiency initiatives.

Cash cost^{6,7}

Consolidated cash cost		4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
Cash cost net of by-products	US\$/t	914	924	694	31.8%	943	625	50.9%
AISC net of by-products	US\$/t	2,003	1,516	1,417	41.4%	1,679	1,096	53.2%
Cash cost net of by-products	US\$/lb	0.41	0.42	0.31	31.8%	0.43	0.28	50.9%
AISC net of by-products	US\$/lb	0.91	0.69	0.64	41.4%	0.76	0.50	53.2%

Cash cost in 4Q19 increased by 32% to US\$0.41/lb compared to US\$0.31/lb in 4Q18. This increase was driven by (i) a decrease in zinc volume with a negative effect of US\$0.11/lb; (ii) higher treatment charges with a negative impact of US\$0.10/lb; and (iii) higher operating costs of US\$0.10/lb. These factors were partially offset by higher by-product credits with a positive effect of US\$0.21/lb, primarily driven by by-product from the Peruvian mines.

Compared to 3Q19, cash cost decreased by 1%. Higher by-products credits were partially offset by the decrease in zinc volumes.

AISC also increased in 4Q19 to US\$0.91/lb, up 41% compared to 4Q18, impacted by higher cash cost and corporate G&A (driven by the already mentioned re-allocation between segments and the temporary expenses related to operational efficiency initiatives) and higher non-expansion CAPEX.

In 2019, cash cost was US\$0.43/lb, up 51% compared to US\$0.28/lb due to higher treatment charges and the increase in operating costs noted above. AISC in 2019 was also 53% higher than in 2018 due to higher cash cost and higher corporate G&A and CAPEX.

For a reconciliation of cash cost and AISC net of by-products, please refer to the appendix section "All-in Sustaining Cost – Mining".

⁶ Our cash cost and AISC net of by-products credits are measured with respect to zinc sold.

⁷ AISC does not include Aripuanã CAPEX.

Smelting segment

Sales volume

Consolidated		4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
Production								
Zinc metal	kt	151.4	146.2	147.1	2.9%	586.0	578.1	1.4%
<i>Global recovery</i>	%	94.3	94.3	93.6	68bps	94.1	93.7	40bps
Zinc oxide	kt	9.5	9.9	9.8	(3.9%)	38.1	38.6	(1.3%)
Total production	kt	160.9	156.0	156.9	2.5%	624.0	616.7	1.2%
Sales								
Zinc metal	kt	152.6	148.6	148.5	2.7%	584.5	578.7	1.0%
Zinc oxide	kt	9.0	9.6	9.8	(8.6%)	36.7	38.2	(3.8%)
Total sales	kt	161.5	158.3	158.3	2.0%	621.2	616.9	0.7%

In 4Q19, production was 161kt, up 2.5% from the same quarter a year ago driven by higher production volume in Três Marias (+6%) and Juiz de Fora (+7%). Total sales were 162kt, up 2% compared to 4Q18.

In 2019, production was 624kt, up 1.2% from 2018. Sales amounted to 621kt in 2019, 0.7% higher compared to 2018, within the guidance range. Sales volume of zinc metal of 585kt increased 5.8kt versus 2018 driven by higher sales from Cajamarquilla (+2.4%) and Juiz de Fora (+9.4%) smelters.

Peru

The Cajamarquilla smelter sold 88kt in 4Q19, similar to 4Q18. Production was 86kt, also stable compared to 4Q18.

The Company has temporarily suspended the Jarosite conversion project that was in process. Production volume in 2019 was 340kt, up 3% from 2018, positively affected by the improvement of Cajamarquilla smelter recovery (up 35bps to 94.1%) under the currently continuing Goethite process.

In 2019, metal sales reached 341kt, 2% higher than 2018, due to higher export sales volume primarily to Asia.

Brazil

In 4Q19, total metallic zinc production amounted to 65kt, 7% higher than in 4Q18. Total metal sales volume was 65kt, up 6% from 4Q18.

Três Marias metallic zinc production of 43kt increased 8% in 4Q19 versus the same quarter a year ago mainly due to the improvement of the smelter recovery rate (from 93.2% to 95.4%), which in 4Q18 had been negatively affected by short-term measures to adjust the filtration system in the silicate circuit. Sales volume of metallic zinc were 43kt, 5% higher than 4Q18 (41kt) driven by higher export sales.

In 4Q19, Juiz de Fora production was 22kt, up 7% compared to the same quarter of last year, driven by better performance of the roaster. Metallic zinc sales totaled 22kt, an increase of 9% versus 4Q18.

Financial Performance

US\$ million	4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
Net revenue	459.8	442.2	470.0	(2.2%)	1,865.7	2,030.6	(8.1%)
COGS	(386.5)	(414.7)	(436.2)	(11.4%)	(1,655.1)	(1,878.8)	(11.9%)
Gross profit	73.2	27.4	33.8	116.5%	210.7	151.9	38.7%
Adjusted EBITDA	56.3	24.6	41.2	36.6%	180.0	174.8	3.0%
<i>Adjusted EBITDA Mrg</i>	12.3%	5.6%	8.8%	3.5pp	9.6%	8.6%	1.0pp

Note: Financial performance pre intersegment eliminations.

Net revenue was US\$460 million in 4Q19, 2% lower compared to US\$470 million in 4Q18, mainly due to the decrease in zinc metal prices partially offset by the year-over-year 2% increase in sales volume.

In 2019, net revenue totaled US\$1.9 billion, down 8% from US\$2.0 billion in 2018, due to the lower zinc LME price, partially offset by slightly positive sales volume growth in the period.

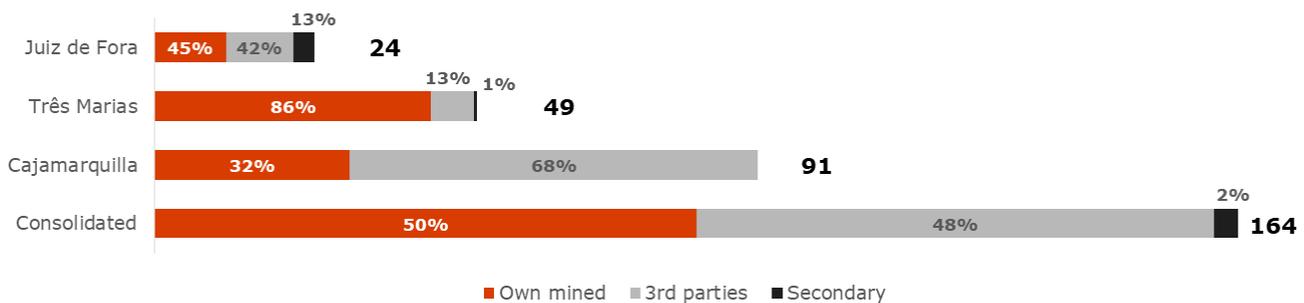
Cost of sales decreased by 11% in 4Q19, totaling US\$387 million compared to US\$436 million in 4Q18 mainly driven by (i) lower concentrate purchase prices; (ii) higher TCs paid to our smelters; and (iii) better recovery rates in Três Marias smelter; which were partially offset by (iv) higher energy and personnel costs.

Cost of sales in 2019 totaled US\$1,655 million, down 12% compared to US\$1,879 million in 2018, driven by (i) the decrease in LME zinc prices lowering concentrate purchase prices; (ii) higher TCs paid to our smelters; and (iii) the 8% depreciation of the Brazilian currency which lowered costs in our Brazilian smelters; offsetting higher energy and personnel costs.

Zinc concentrate | treatment charge

The smelters use zinc concentrate as feedstock, which is supplied from our mines and from third-party suppliers. In 4Q19, Nexa acquired 50% of zinc concentrate from third parties, above the historical average of 45%, due to lower production in our own mines in the quarter including in Vazante due to the temporary reduction in production.

Sources of Zinc Concentrate to Nexa Smelters (kt) – 4Q19



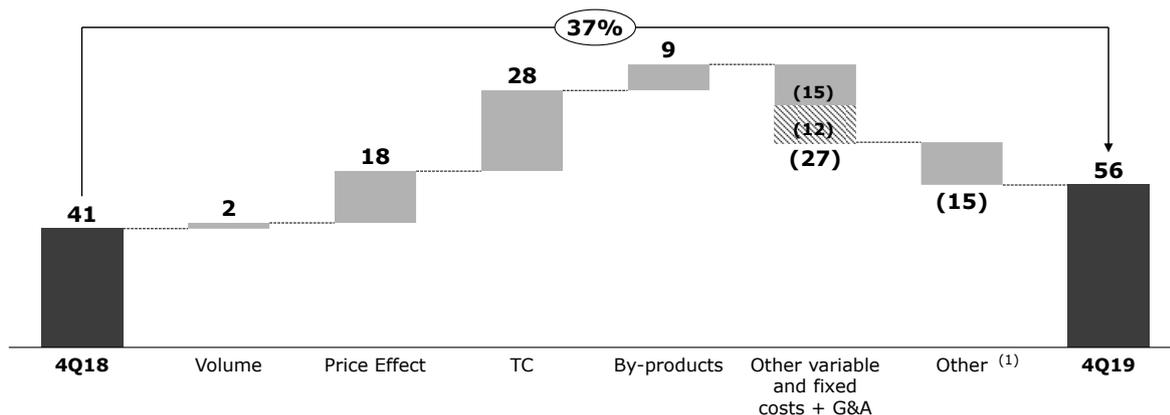
We apply a benchmark TC for our integrated mining and smelter operations. For our purchases of zinc concentrate from third-party suppliers, the treatment charge is based on the benchmark TC, spot treatment charges or treatment charges negotiated annually. The 2019 benchmark TC was US\$245/t concentrate, up 67% from 2018.

In order to reduce volatility, for the majority of our third-party contracts, which are renewed through different periods during the year, we consider the 3-years average benchmark TC. The reference (average benchmark TC of 2019, 2018 and 2017) for 2019 stood at US\$188/t concentrate, up 6.4% from the previous reference (average benchmark TC of 2018, 2017 and 2016).

At the end of 4Q19, spot treatment charge in China was US\$305/t concentrate, up from US\$290/t at the end of 3Q19 and US\$187/t at the end of 4Q18, as reported by Wood Mackenzie. The 2020 benchmark TC is still to be confirmed but current spot TCs indicate it should be higher than the 2019 level.

Adjusted EBITDA for the smelting segment totaled US\$56 million in 4Q19, up 37% from the same quarter of the previous year. This increase was mainly explained by (i) the positive variation of US\$28 million due to higher TCs; and (ii) the positive net price effect of US\$18 million related to changes in market prices in respect of quotation period adjustments, which offset lower LME zinc prices. These factors were partially offset by higher G&A expenses, including the temporary increase of US\$12 million related to initiatives to achieve operational efficiency gains.

US\$ million



(1) Hedge, Other income and expenses, IFRS 16 and FX.

For 2019, smelting adjusted EBITDA totaled US\$180 million, up 3% against 2018, primarily explained by higher TCs (US\$54 million) and by-products contribution (US\$30 million), which offset lower LME prices (US\$23 million) and higher expenses (US\$29 million), including the temporary increase of US\$18 million related to initiatives to achieve operational efficiency gains.

Cash cost⁸

Consolidated cash cost		4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
Cash cost net of by-products	US\$/t	1,962	2,191	2,420	(18.9%)	2,235	2,714	(17.6%)
AISC net of by-products	US\$/t	2,301	2,400	2,726	(15.6%)	2,452	2,948	(16.8%)
Cash cost net of by-products	US\$/lb	0.89	0.99	1.10	(18.9%)	1.01	1.23	(17.6%)
AISC net of by-products	US\$/lb	1.04	1.09	1.24	(15.6%)	1.11	1.34	(16.8%)

Cash cost decreased by 19% to US\$0.89/lb in 4Q19 from US\$1.10/lb (or US\$2,420/t) in 4Q18. Market-related factors, such as lower LME prices and higher TCs had a positive impact in our costs of US\$0.12/lb and US\$0.08/lb, respectively. Higher by-products credits in Peru, related to an increase in sulfuric acid and silver prices, also positively affected our cash cost by US\$0.02/lb. These gains were slightly offset by a modest increase in operating costs of US\$0.02/lb. Compared to 3Q19, cash cost decreased by 10%, positively affected by lower LME prices.

AISC also decreased in 4Q19 to US\$1.04/lb, impacted by the aforementioned reasons in addition to lower non-expansion capex and lower corporate G&A allocation between segments offsetting the temporary increase in corporate G&A allocated to the smelting segment for the operational efficiency program of US\$12 million in 4Q19 and US\$18 million for 2019.

In 2019, cash cost decreased by 18% to US\$1.01/lb (or US\$2,235/t) also driven by lower LME prices, higher treatment charges and by-product credits; which were partially offset by increased operating costs.

AISC of US\$1.11/lb in the year decreased 17% driven by the same reasons noted above.

For a reconciliation of cash cost and AISC, please refer to the appendix section “All-in Sustaining Cost – Smelting”.

⁸ Our cash cost and AISC net of by-products credits are measured with respect to zinc sold.

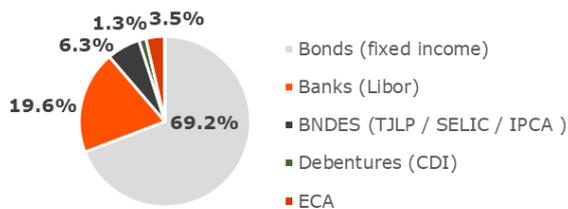
Liquidity and Indebtedness

On December 31, 2019, Nexa’s consolidated gross debt amounted to US\$1,509 million, 6% higher compared to the balance at September 30, 2019, due to the 5-year export credit note agreement contracted in October.

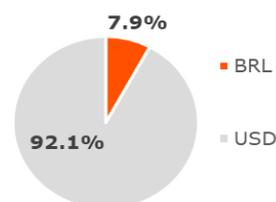
At the end of the period, 92.1% (or US\$1,389 million) of the gross debt was denominated in U.S. dollars and 7.9% (or US\$119 million) in Brazilian reais.

The following charts show Nexa’s gross debt by category and currency.

Gross debt by category



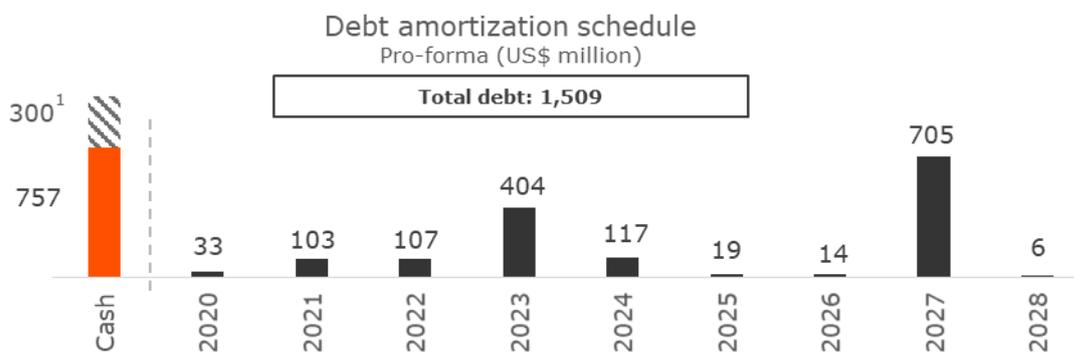
Gross debt by currency



Cash and cash equivalents and financial investments (“total cash”) amounted to US\$757 million at December 31, 2019, 12% lower compared to September 30, 2019 mainly due to continued investment over the past quarter in excess of operating cash flow and the cash payment of the US\$71 million purchase price for the Aripuanã minority interest.

As a consequence, Nexa’s net debt⁹ increased to US\$788 million compared with US\$592 million at the end of 3Q19.

Liquidity, however, remained strong. Including the new revolving credit facility of US\$300 million which remains undrawn, our current available liquidity increased to US\$1,057 million.



(1) Revolving Credit Facility

Only 2.2% (US\$33 million) of the total debt matures in 2020 and 40.7% (US\$614 million) matures between 2021 and 2023, while 47.2% of total debt matures after 2026. Total cash is sufficient to cover the payment of all obligations maturing over the next 5 years.

As of December 31, 2019, the average maturity of the total debt was 5.2 years at an average interest rate of 4.6% per year.

Financial leverage, measured by the ratio of net debt to Adjusted EBITDA of the last twelve months, was 2.2x at December 31, 2019, compared to a ratio of 1.43x at September 30, 2019, explained by

⁹ Gross debt (US\$1,509 million) minus cash and cash equivalents (US\$699 million), minus financial investments (US\$59 million), plus derivatives (US\$2 million) and plus Lease liabilities – IFRS-16 (US\$34 million).

the lower Adjusted EBITDA and the increase in net debt. Leverage, excluding the non-recurring items which affected Adjusted EBITDA, stood at 1.96x.

US\$ million	Sep 30, 2019	Dec 31, 2019
Net debt ¹⁰	592.0	783.6
LTM Adj. EBITDA ⁽ⁱ⁾	414.9	349.0
Net debt / Adj. EBITDA ⁽ⁱ⁾	1.43x	2.26x

(i) Net debt to Adjusted EBITDA of the last twelve months, excluding the non-recurring expenses, was 1.96x at December 31, 2019.

Cash Flows

US\$ million	4Q19	2019
Net cash flows provided by (used in):		
Operating activities	22.6	122.8
Investing activities	(112.5)	(335.4)
Financing activities	7.2	(119.3)
Increase (decrease) in cash and cash eq.	(88.1)	(334.3)
Cash and cash eq. at the beginning of the period	786.7	1,032.9
Cash and cash eq. at the end of the period ^(a)	698.6	698.6

(a) Does not include financial investments totaling US\$58 million at December 31, 2019.

In 4Q19, the net cash provided by operating activities was positive US\$23 million. Working capital changes had a positive impact of US\$15 million primarily due to the increase in average supplier payment terms. Interest expense paid amounted to US\$25 million in the quarter.

We used US\$113 million of net cash flows in investing activities in 4Q19. We invested US\$133 million in CAPEX (of which approximately US\$80 million was expansion CAPEX). Our financial investments below 90 days decreased, although not cash generating, it positively affected our consolidated free cash flow in the quarter.

Cash flow from financing activities in the quarter was positive at U\$7 million, mainly explained by the 5-year export credit note agreement of US\$90 million contracted in October; which was partially offset by US\$71 million related to the cash purchase of the minority interest in the Aripuanã project.

As a result, we had a cash decrease of U\$88 million to US\$699 million in 4Q19.

In 2019, the net cash provided by operating activities was positive US\$123 million. As expected, we had a net decrease in cash of US\$334 million compared to our cash balance at December 31, 2018 primarily explained by (i) our commitment to our strategy growth with investments of US\$397 million, including in respect of the Aripuanã project (US\$124 million); (ii) dividend payments in 1Q19 (US\$70 million related to 2018 fiscal year); and (iii) the acquisition of the Aripuanã minority interest (US\$71 million).

¹⁰ Gross debt (US\$1,509 million) minus cash and cash equivalents (US\$699 million), minus financial investments (US\$59 million), plus derivatives (US\$2 million) and plus Lease liabilities – IFRS-16 (US\$34 million).

Investments

CAPEX

Nexa made investments of US\$147 million in 4Q19. Of this amount, 45% was allocated to expansion projects driven by Aripuanã's project development (US\$46 million) and Vazante's mine deepening (US\$6 million).

Non-expansion projects accounted for 55% of the total CAPEX in 4Q19. The main investments were related to HSE.

In 2019, CAPEX amounted to US\$410 million. Of this amount, 30% was related to the Aripuanã project (US\$124 million) and 7% to the Vazante mine deepening (US\$28 million) project.

Capex per category (US\$mm)	4Q19	2019
Expansion/greenfield	67	188
Modernization	8	18
Sustaining	52	138
HSE/Tailing dams	15	57
IT/Others	6	8
Total	147	410

Mineral exploration and project development¹¹

(US\$mm)	4Q19	2019
Mineral exploration	19	74
Project development	13	39
Total	33	113

As part of our strategy, we continue our efforts to replace and increase mineral reserves and resources. As a result, we continued to advance in our exploration activities, primarily focusing on identifying new ore bodies and upgrading resources classification through infill drilling campaigns.

Project development investment amounted to US\$13 million in 4Q19, including approximately US\$2 million directed towards greenfield projects in FEL1 and FEL2 stages and US\$2 million to brownfield projects in the same stages. In 2019, project development investment was US\$39 million.

In 4Q19, mineral exploration expenses were US\$19 million, mainly related to greenfield (48% of total) and brownfield (31% of total) exploration. In 2019, mineral exploration investments amounted to US\$74 million, reaching the guidance of US\$75 million for the year.

In 2019, 220,723 meters of mineral exploration drilling were executed, and we expect to drill over 112,000 meters in 2020.

4Q19 and 2019 Mineral Exploration Highlights

Cerro Lindo

By year-end 2019 we issued a new Cerro Lindo technical report with updated mineral resources and reserves estimates based on an improved geological model capturing the mineralization complexity of Cerro Lindo. Proven and probable mineral reserves estimate amounted to 50 million tonnes compared with 49 million tonnes in our 2018 year-end mineral reserves. Measured and indicated resources increased to 5.4 million tonnes (from 3.75 million tonnes at December 31, 2018). This mineral

¹¹ Exploration and project development expenses consider several stages of development, from mineral potential definition, R&D, and subsequent scoping and pre-feasibility studies (FEL1 and FEL2).

inventory supports an 8-year mine life, utilizing the existing mining capacity and infrastructure, providing a life-of-mine extension of 2 years to this mine, confirming Nexa exploration capability of replenishing and growing mineral resources and reserves.

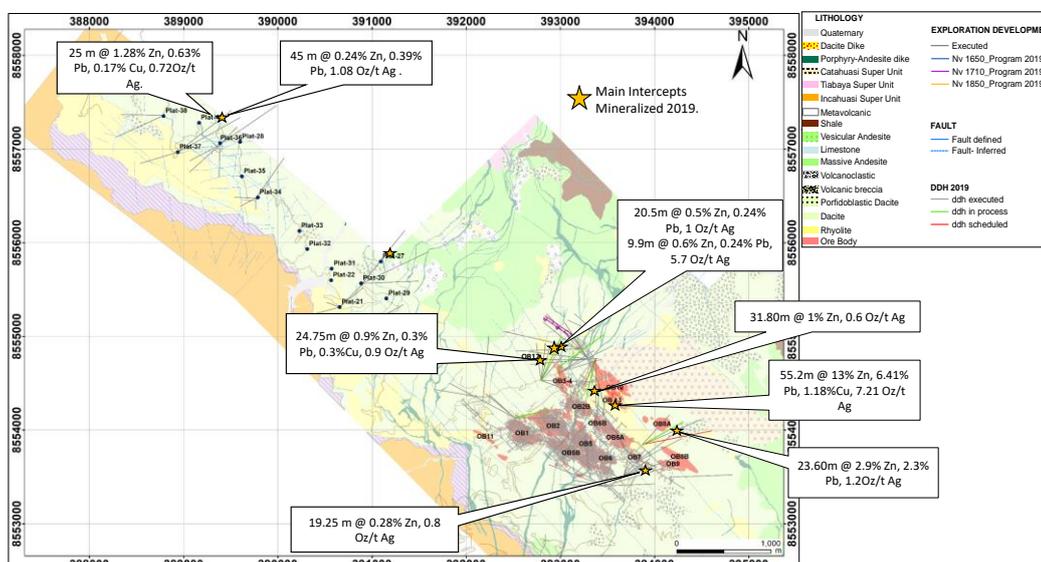
The exploration program in Cerro Lindo in 4Q19 focused on the extensions of known ore bodies and exploratory drilling to find new mineralized zones, primarily to the north and southeast of Cerro Lindo. A total of 15,612 meters of infill drilling and 13,849 meters of mineral exploration drilling were executed, aggregating 59,080 and 48,449 meters, respectively, in 2019.

In 4Q19, brownfield drilling was focused at the satellite Orcocobre mineralized zone, confirming the north extension of orebody 3-4 with relevant drill intersections to be followed up during 2020. Northern continuity of orebody 13 and southeast extension of orebody 8A was confirmed opening a new mineralized trend along the eastern side of the mine to be followed up and report resource of orebody 13 in 2020. In the western side a new intersection in upper level of orebody 5 is indicating an open extension to southeast of this orebody to be followed up during 2020. A new intersection in orebody 6 in its southeast extension was also obtained confirming a potential to extend this orebody towards southeast.

All these exploration results obtained in 4Q19 were not incorporated in the technical report issued at year-end and have potential to aggregate additional mineral resources and reserves in the next update in 2020 to be published in the beginning of 2021. The table and map below list and locate the intersections in Cerro Lindo Mine.

CERRO LINDO 4Q19 - MAIN INTERSECTIONS									
Hole_id	Ore body	From	To	Length	Zn%	Pb%	Cu%	Ag g/t	ZnEq % ⁽¹⁾
PECLD03905	OB6	147.70	166.20	18.50	3.77	0.34	0.93	21.46	6.60
PECLD04431	3_4	208.25	228.75	20.50	0.45	0.24	0.09	3.70	0.88
PECLD04431	3_4	306.60	316.50	9.90	0.56	0.24	0.04	176.46	3.72
PECLD04241	OB5D	574.40	590.90	16.50	2.40	0.44	0.05	16.48	3.07
PECLD04242	OB12	505.10	529.85	24.75	0.92	0.32	0.33	30.48	2.43
PECLD04485	8A	304.10	327.70	23.60	2.95	2.31	0.11	36.33	5.29
PECLD04594	13	448.20	480.00	31.80	1.09	0.18	0.33	20.59	2.35
PECLD04602	OB13	136.60	191.80	55.20	13.00	6.41	1.18	224.26	23.65

⁽¹⁾ ZnEq was calculated using the following price assumptions: Zn=US\$2,899/t, Pb=US\$2,304/t, Cu=\$7,362/t, Ag=U\$19.31/oz; and the following metallurgical recovery assumptions: Zn=91%, Pb=73%, Cu=87%, Ag=70%. True widths of the mineralized intervals are unknown at this time.



Cerro Lindo 4Q19 main drill intersections

El Porvenir

The exploration works in El Porvenir focused on extending the existing mineralized bodies along strike and at depth and exploratory drilling on Sara mineralized zone focused on delineating a bulk mineralization close to surface and to the existing processing plant. In 4Q19, 2,923 meters of infill drilling and 11,527 meters of mineral exploration drilling were executed, totaling 38,737 and 47,775 meters, respectively, in 2019.

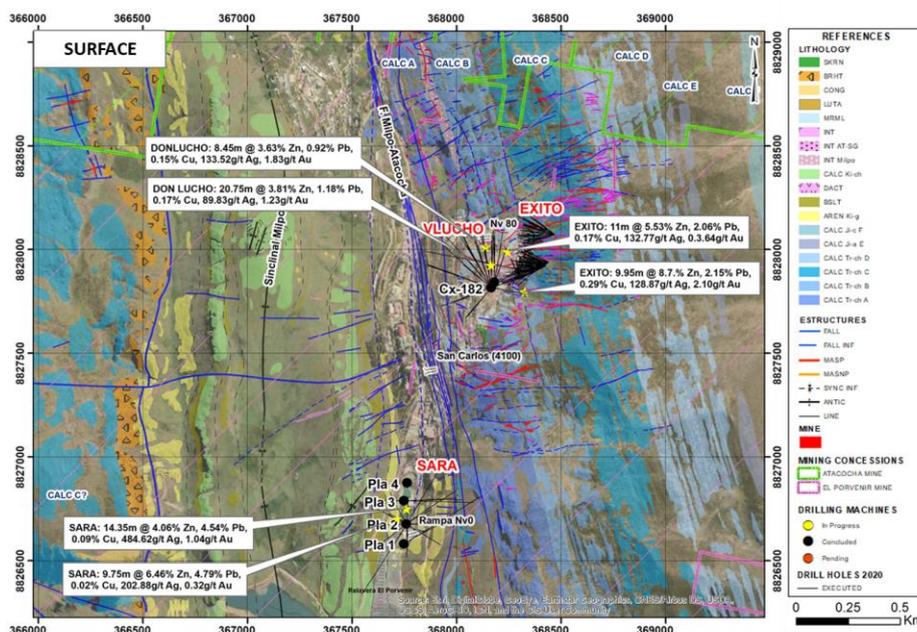
In 4Q19, the exploration activities continued to target satellite expansions in the Sara, Don Lucho and Exito areas, including Atacocha-Porvenir (Porvenir zone), and confirmed zinc, silver, lead, copper and gold mineralization along strike and open for expansion. Sara mineralized zone was delineated along 2019 defining a strike length of 600 meters with lead, zinc, silver and gold mineralization hosted in sandstones, composed of stacked mineralized bodies with thickness ranging from 3 up to 15 meters with excellent silver grades and remains open in all directions. Mining and metallurgy test work will be completed in 2020 on this zone which has the potential to add significant mineral resources to El Porvenir Mine.

In Don Lucho and Exito wide polymetallic intersections were obtained with relevant gold grades that open up potential for a mineral resources increases during 2020.

Over the following three months, we plan to continue the delineation of mineralized bodies and exploratory drilling to extend the mineralized zones along strike and at depth. The table and map below list and locate the main intersections obtained in 4Q19.

EL PORVENIR 4Q19 - MAIN INTERSECTIONS										
Hole_Id	Ore body	From	To	Length	Zn %	Pb%	Cu %	Ag g/t	Au g/t	ZnEq % ⁽¹⁾
PEEPD01549	SARA	244.3	258.7	14.35	4.06	4.54	0.09	484.6	1.04	15.68
PEEPD01566	SARA	274.4	284.2	9.75	6.46	4.79	0.02	202.9	0.32	13.28
PEEPD01466	DONLUCHO	242	250.5	8.45	3.63	0.92	0.15	133.5	1.83	8.00
PEEPD01547	DONLUCHO	181.6	202.3	20.75	3.81	1.18	0.17	89.83	1.23	7.18
PEEPD01620	EXITO	50.55	60.5	9.95	8.7	2.15	0.29	128.9	2.1	14.17
PEEPD01622	EXITO	261	272	11	5.53	2.06	0.17	132.8	3.64	12.30

⁽¹⁾ZnEq was calculated using the following price assumptions: Zn=US\$2,899/t, Pb=US\$2,304/t, Cu=\$7,362/t, Au=US\$1,362/oz, Ag=U\$19.31/oz; and the following metallurgical recovery assumptions: Zn=91%, Pb=73%, Cu=87%, Au=51%, Ag=70%. True widths of the mineralized intervals are unknown at this time.



El Porvenir 4Q19 main drill intersections

Atacocha

The exploration objectives in Atacocha were drilling for lateral and depth extension of the known mineralized bodies and two deep scout drill holes crossing the entire sedimentary package between Atacocha Mine up to the intrusive bodies in El Porvenir and another one (still ongoing) crossing Santa Barbara intrusive to explore for mineralized skarns on the eastern rim of it and possible porphyry mineralization within the intrusive (Cu, Au and Mo). In 4Q19, the infill program between levels 3,300 and 3,420 continued targeting V27, Ingrid, Anita/OB18 and San Gerardo.

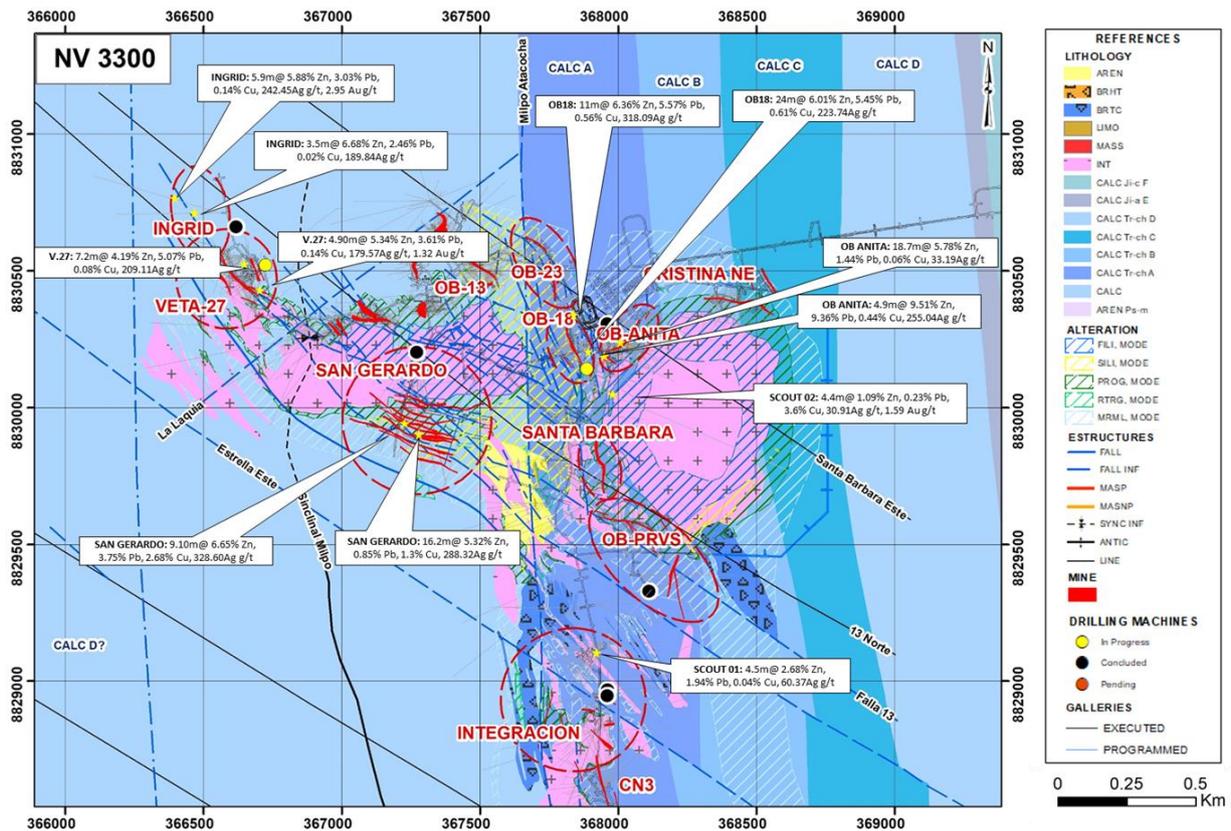
5,136 meters of infill drilling and 8,078 meters of mineral exploration drilling were executed during the quarter, totaling 39,411 and 40,262 meters, respectively, in 2019.

The main results of this program along 4Q19 were obtained in Anita/OB18 in the north portion of the mine between the San Gerardo and Santa Barbara intrusive bodies with several wide and high-grade polymetallic intersections. In the western portion of the mine drilling on V27 and Ingrid mineralized bodies also obtained high-grade polymetallic intersections and in San Gerardo area at depth wide and high-grade intersections were obtained extending mineralization at depth towards the 3300m level. The two scout drill holes also encountered mineralized intersections with a high-grade copper intersect within the Santa Barbara intrusive that will be followed up in the future.

Over the following months, we plan to continue our expansion drilling to southeast V27 and south of San Gerardo underground and testing both ore bodies on the Level 3600 meters.

ATACOCHA 4Q19 - MAIN INTERSECTIONS										
Hole_Id	Ore body	From	To	Length	Zn %	Pb%	Cu %	Ag g/t	Au g/t	ZnEq % ⁽¹⁾
PEATD01068	OB 18	56.00	80.00	24.00	6.01	5.45	0.61	223.74	0.05	15.63
PEATD01102	OB 18	93.60	104.60	11.00	6.36	5.57	0.56	318.09	0.14	18.19
PEATD01117	OB ANITA	98.20	116.90	18.70	5.78	1.44	0.06	33.19	0.03	7.76
PEATD01269	OB ANITA	68.00	72.90	4.90	9.51	9.36	0.44	255.04	0.07	23.14
PEATD01212	SCOUT-01	648.00	652.50	4.50	2.68	1.94	0.04	60.37	0.18	5.82
PEATD01296	SCOUT-02	166.90	171.30	4.40	1.09	0.23	3.60	30.91	1.59	4.22
PEATD01086	SG	310.00	326.20	16.20	5.32	0.85	1.30	288.32	0.21	12.68
PEATD01126	SG	293.00	302.10	9.10	6.65	3.75	2.68	328.60	0.42	17.84
PEATD01286	Veta 27	133.80	138.70	4.90	5.34	3.61	0.14	179.57	1.32	13.61
PEATD01033	Veta 27	59.80	67.00	7.20	4.19	5.07	0.08	209.11	0.46	13.48
PEATD01114	Veta INGRID	38.85	42.35	3.50	6.68	2.46	0.02	189.84	0.40	13.25
PEATD01158	Veta INGRID	283.40	289.30	5.90	5.88	3.03	0.14	242.45	2.95	16.61

⁽¹⁾Zn_Eq was calculated using the following price assumptions: Zn=US\$2,899/t, Pb=US\$2,304/t, Cu=\$7,362/t, Au=US\$1,362/oz, Ag=U\$19.31/oz; and the following metallurgical recovery assumptions: Zn=78%, Pb=84%, Cu=6%, Au=51%, Ag=78%. True widths of the mineralized intervals are unknown at this time.



Atacocha 4Q19 main intersections

Vazante

The brownfield exploration in Vazante is targeting the expansion of existing mineralized zones and exploration of new areas to define new mineralized zones near the mine. In 4Q19, 15,300 meters of infill drilling and 1,210 meters of mineral exploration drilling were executed, totaling 80,930 and 19,940 meters, respectively, in 2019.

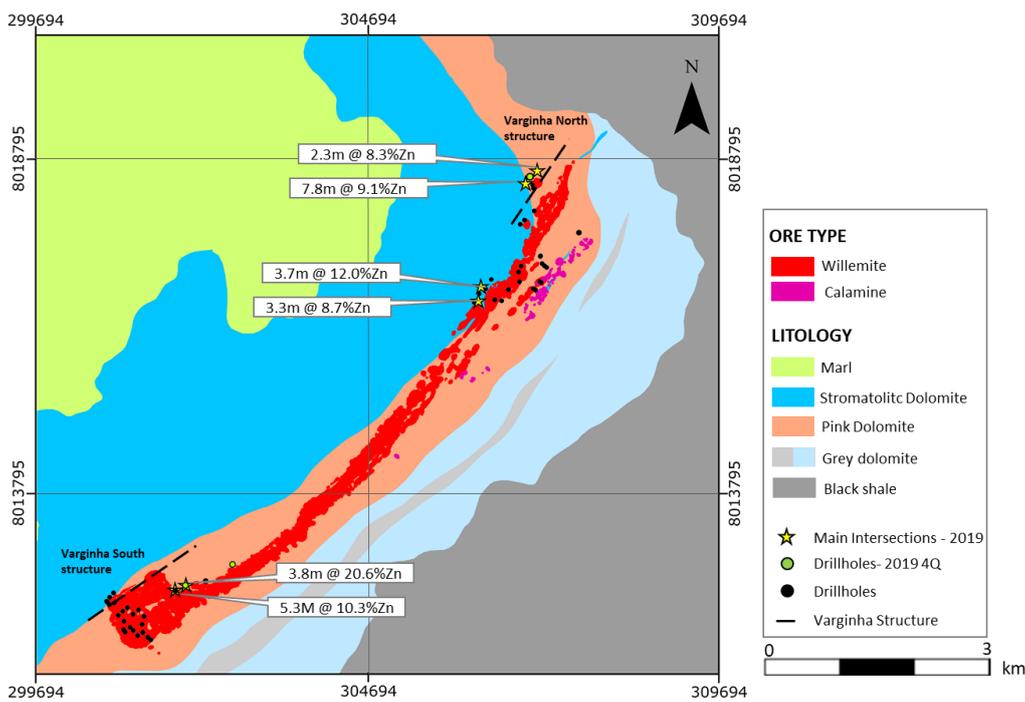
In 4Q19, we continued our underground exploration drilling campaign in the southern portion of the Vazante mine, aiming to extend the existing orebodies. A series of high-grade intersections were obtained in the south portion of the mine extending the mineralized bodies in this area. In the north portion of the mine, known as Extremo Norte, several new intersections were obtained extending the mineralized bodies to the south and a new and parallel mineralized zone was discovered and named Varginha Norte with the best intersect reaching 7.8m @ 9.1% zinc. This new mineralized zone correlates to the Varginha South intersected in the south portion of the mine and it opens a potential to extend this mineralization to 9-10 km strike length assuming it as a continuous and parallel structure to the Vazante mine.

A large geophysics campaign was performed in areas with potential for new orebodies. Nexa's exploration program is enhancing its comprehension of the Vazante mineral trend, enabling the identification of potential mineralized structures that could be integrated into the current operation.

Over the following three months, we intend to start a growth drilling campaign at Extremo Norte region, continue drill-testing the deepening of the southern portion of the Extremo Norte and continue our exploration drilling campaign with scout drilling, in two different potential mineralized trends, located within a maximum distance of 20 km from the mine.

VAZANTE 4Q19 - MAIN INTERSECTIONS							
HoleID	Orebody	From	To	Length	Zn%	Pb%	ZnEq % ⁽¹⁾
MVZMV326P9370D01	Underground - Lumiadeira	43.70	48.00	4.40	13.60	0.30	13.66
	Underground - Lumiadeira	115.70	121.00	5.30	10.30	0.70	10.44
	Underground - Lumiadeira	132.40	133.50	1.10	8.00	0.30	8.06
MVZMV326P9420D01	Underground - Lumiadeira	51.00	54.00	3.00	8.10	0.30	8.16
	Underground - Lumiadeira	216.00	219.80	2.70	9.20	0.30	9.26
MVZMV326P9420D02	Underground - Lumiadeira	35.20	38.90	3.80	20.60	0.20	20.64
BRBVZEND000026	EN-LINK	460.30	463.70	3.30	8.70	0.40	8.78
BRBVZEND000028	EN-LINK	494.00	496.40	2.40	5.30	0.40	5.38
	EN-LINK	520.00	525.20	2.70	13.30	0.20	13.34
BRBVZEND000033	EN-LINK	537.80	541.50	3.70	12.00	0.30	12.06
BRBVZEND000034	EN-LINK	549.30	550.60	1.30	9.30	0.40	9.38
BRBVZEND000025	EN-VARGINHA	227.40	235.30	7.80	9.10	0.30	9.16
BRBVZEND000035	EN-VARGINHA	198.70	200.70	1.30	10.10	0.40	10.18
BRBVZEND000036	EN-VARGINHA	321.30	323.50	2.30	8.30	0.30	8.36

⁽¹⁾ ZnEq was calculated using the following price assumptions: Zn=US\$2,899/t, Pb=US\$2,304/t, Ag=U\$19.31/oz; and the following metallurgical recovery assumptions: Zn=86%, Pb=22%, Ag=42%. True widths of the mineralized intervals are unknown at this time.



Vazante 4Q19 main intersections

Morro Agudo

The exploration program at the Morro Agudo complex was entirely focused on the Bonsucesso mineralized body, with extensive diamond drilling on the new parallel mineralized body discovered in the north portion of this deposit. This exploration drilling is extending this new mineralized body to the south with the potential to increase inferred resources. In addition to the exploration drilling, an infill program in the northern portion of Bonsucesso was also developed to target conversion of inferred resources to indicated. Geotechnical drilling was executed to consider and define the best future ramp locations and the ground conditions for future development.

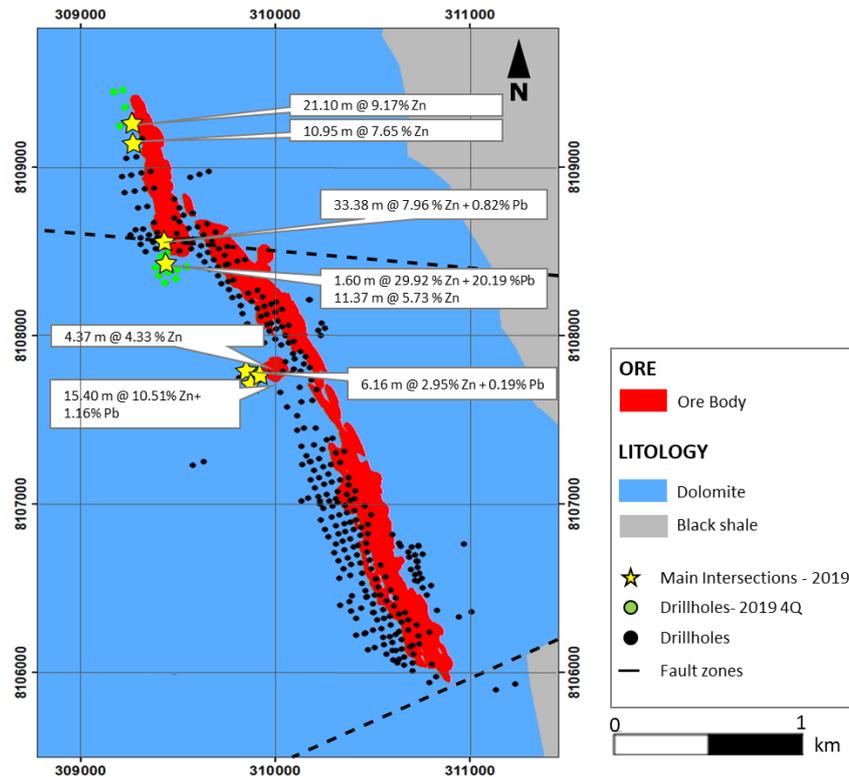
In 4Q19, 2,943 meters of infill drilling on Bonsucesso, and 1,954 meters of mineral exploration drilling were executed, totaling 35,497 and 13,541 meters, respectively, in 2019.

Exploration drilling, targeting the northward extension of Bonsucesso, confirmed zinc and lead mineralization along strike and kept the mineralized body open towards north for expansion. High grade and thick intercepts reveal continuity of the structure with 8.71% zinc over 12.97 meters, including 29.91% zinc and 20.19% lead over 1.60 meters, 8.72% zinc over 3.40 meters, and 8.83% zinc over 3.62 meters. The main intersections obtained in 4Q19 are listed and located in the table and map below.

Over the following months, we intend to continue our exploration drilling in the Bonsucesso parallel western structure and in its northern extension.

MORRO AGUDO 4Q19 - MAIN INTERSECTIONS							
Hole	Orebody	From	To	Length	Zn %	Pb %	ZnEq % ⁽¹⁾
BRMAMBSCD000082	BSC	213.40	246.78	33.38	7.67	0.82	8.22
	BSC	276.03	285.76	9.73	5.08	0.72	5.57
BRMAMBSCD000084	BSC	274.56	291.64	17.08	3.67	0.09	3.73
BRMAMBSCD000098	BSC	295.23	300.17	4.94	8.96	1.50	9.97
BRMAMBSCD000105	BSC	246.93	258.90	11.97	5.81	0.45	6.11
BRMAMBSCD000113	BSC	115.00	119.80	4.80	7.26	1.40	8.21
BRMAMBSCD000114	BSC	231.32	242.68	11.36	5.18	1.61	6.27
BRMAMBSCD000118	BSC	164.85	168.20	3.35	5.48	0.34	5.71
	BSC	252.12	256.44	4.32	3.10	0.40	3.37
BRMAMBSCD000120	BSC	328.30	346.85	18.55	8.08	0.07	8.13
BRMAMBSCD000122	BSC	288.57	295.12	6.55	3.26	0.74	3.76
BRMAMBSCD000128	BSC	250.76	256.92	6.16	4.18	0.51	4.52
	BSC	276.87	282.57	5.70	4.85	0.24	5.01
BRMAMBSCD000129	BSC	302.26	307.22	4.96	3.64	0.64	4.07
BRMAMBSCD000131	BSC	383.22	385.70	2.48	3.60	0.43	3.89
	BSC	398.17	403.82	5.65	8.80	2.33	10.37
	BSC	406.83	409.24	2.41	11.36	1.66	12.48
BRMAMBSCD000134	BSC	352.82	356.35	3.53	4.61	0.10	4.68
BRMAMBSCD000144	BSC	361.90	377.30	15.40	10.51	1.16	11.29
BRMAMBSCD000145	BSC	218.80	228.40	9.60	13.05	0.65	13.49
BRMAMBSCD000147	BSC	168.60	177.64	9.04	7.59	1.12	8.35
	BSC	186.62	192.63	6.01	16.51	3.17	18.65
	BSC	198.40	209.35	10.95	7.65	0.32	7.87
	BSC	221.58	225.69	4.11	2.99	0.11	3.06
BRMAMBSCD000148	BSC	160.70	181.80	21.10	9.17	0.68	9.63
BRMAMBSCD000149	BSC	399.99	406.15	6.16	2.95	0.19	3.08
BRMAMBSCD000153	BSC	216.22	222.50	6.28	3.03	0.20	3.17

⁽¹⁾ ZnEq was calculated using the following price assumptions: Zn=US\$2,926/t, Pb=US\$2,299/t; and the following metallurgical recovery assumptions: Zn=93%, Pb=80%. True widths of the mineralized intervals are unknown at this time.



Bonsucesso 4Q19 main intersections

Hilarión

The exploration program in Hilarión is targeting an increase in inferred resources in the north and south extensions of the deposit. In 4Q19, 2,754 meters of diamond drilling were completed, totaling 9,071 meters in 2019. High grade and thick intercepts reveal continuity of the mineralized zones of the deposit to the north and south and demonstrated the potential for resource increase.

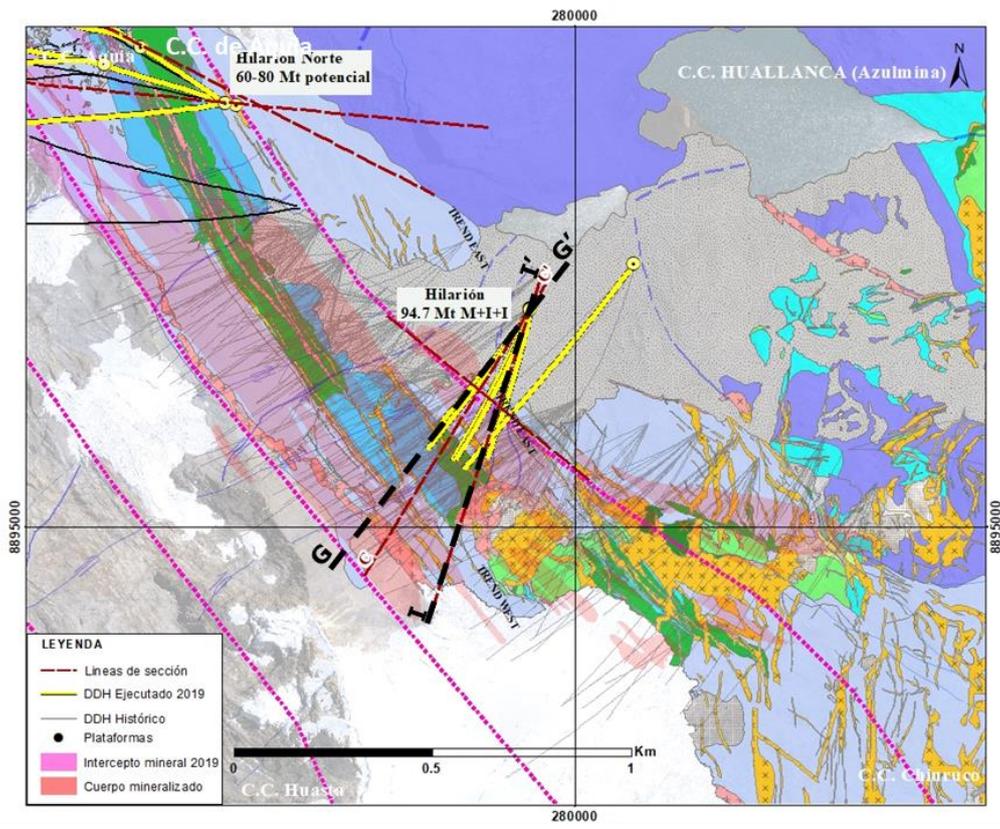
In the north extension of the deposit the Devico directional drilling along 2018 and 2019 and regular diamond drilling during the 4Q19 defined a potential ranging from 30 to 120 Mt with zinc equivalent grades of 3-8%. A first drill hole was located (still ongoing) in the Mia-Eureka trend further north on the Hilarión eastern trend to target the continuity of the deposit for an additional 1.5 to 2.0 km to northwest.

On the south extension of the deposit, in 4Q19, we continued our exploration drilling campaign on Mineralized Body 33 aiming to increase resources. A total of four drill holes were executed in this area resulting in several positive intersects including 41.50 meters at 9.57% zinc. The construction of the new structural and geological model of the deposit is under development and will allow a better understanding of the mineralization for the subsequent estimation of mineral resources. This model will also take into account all the metals involved and the deposit will be modeled as a polymetallic one as opposed to the present model that is based dominantly on zinc.

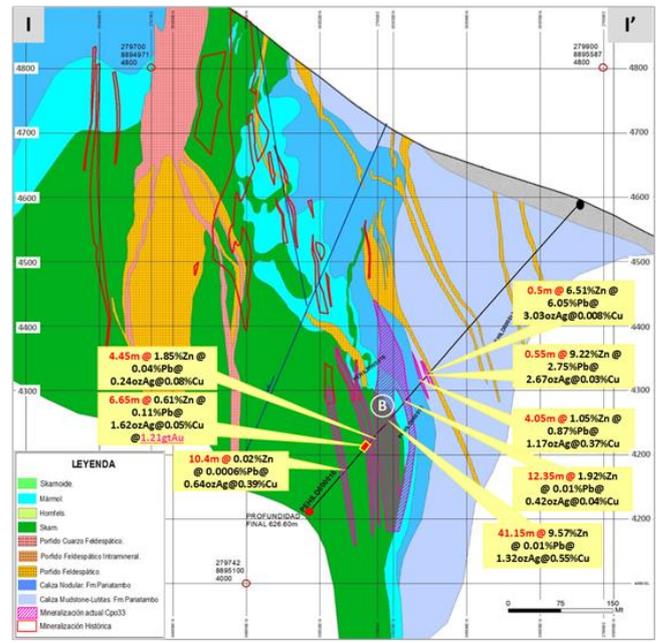
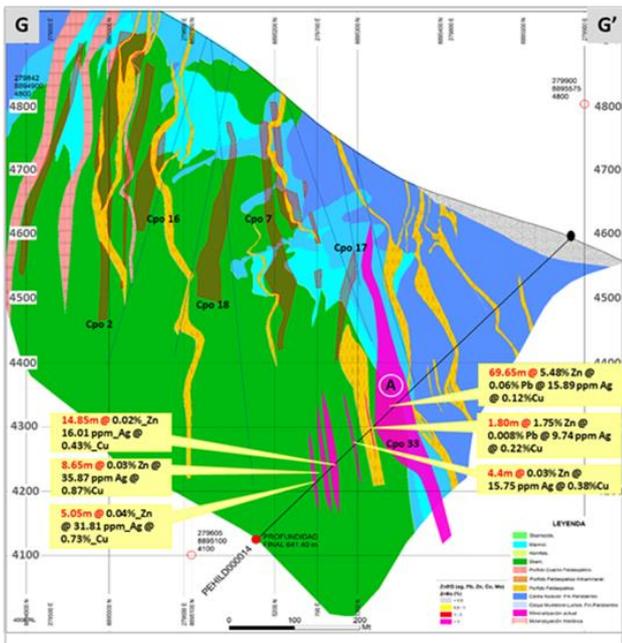
Hilarión is one of the largest known zinc deposits in South America, with its mineralization still open laterally and at depth. Nexa is dedicated to continue the mineral exploration and engineering studies relating to Hilarión. In 1Q20, we will issue a Technical Report with PEA level where the first economic figures and layout of the project will be stated. The table below and the map list and locate the main intersections obtained in 4Q19.

HILARION 4Q19 - MAIN INTERSECTIONS										
Drill Hole	From	To	Length	Au (g/t)	Ag (g/t)	Cu (%)	Mo (ppm)	Pb (%)	Zn (%)	Zn Eq (%) ⁽¹⁾
PEHILD000012	345.30	354.25	8.95	0.05	31.29	0.03	36.64	0.66	2.46	3.60
	410.20	425.70	15.50	0.02	23.74	0.12	51.29	0.02	4.37	5.10
PEHILD000014	328.90	398.55	69.65	0.01	15.89	0.12	30.82	0.06	5.48	6.11
	328.90	337.70	8.80	0.01	35.14	0.05	31.98	0.13	4.04	4.81
	342.15	373.95	31.80	0.01	16.74	0.08	41.15	0.08	5.54	6.10
PEHILD000015	377.50	398.55	21.05	0.02	11.70	0.25	15.13	0.01	8.00	8.87
	362.25	370.05	7.80	0.01	26.19	0.06	14.51	0.03	5.81	6.39
	375.55	381.45	5.90	0.01	2.92	0.02	12.97	0.00	3.22	3.33
PEHILD000016	427.50	447.95	20.45	3.98	6.63	0.11	6.11	0.01	0.01	5.29
	357.25	361.30	4.05	0.01	36.59	0.38	30.04	0.87	1.06	3.34
	389.50	401.85	12.35	0.01	13.08	0.04	46.70	0.02	1.92	2.27
PEHILD000017	422.95	464.10	41.15	0.03	41.15	0.56	46.26	0.02	9.57	11.74
	672.90	677.90	5.00	1.22	11.81	0.13	0.99	0.01	3.59	5.61
PEHILD000017	672.90	685.35	12.45	0.50	11.63	0.21	1.13	0.00	1.76	3.10

⁽¹⁾ ZnEq was calculated using the following price assumptions: Zn=US\$2,957/t, Pb=US\$2,303/t, Cu=\$7,523/t, Mo=US\$20,988/t, Au=US\$1,268/oz, Ag=US\$19.61/oz; and the following metallurgical recovery assumptions: Zn=90%, Pb=95%, Cu=95%, Mo=65%, Au=80%, Ag=60%. True widths of the mineralized intervals are unknown at this time.



Hilarion project – 4Q19 main intersections



Hilarión project – 4Q19 main intersections

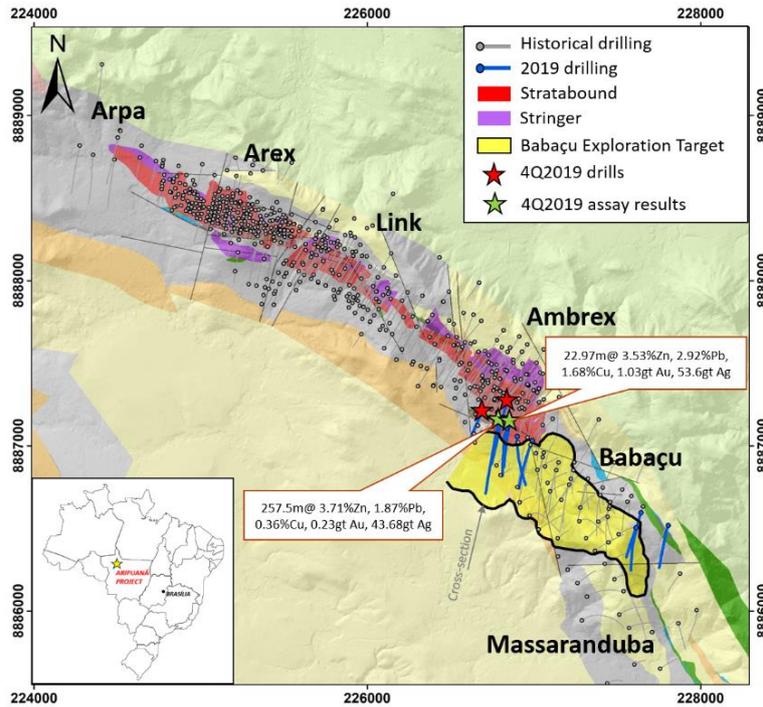
Aripuanã

Brownfield drilling at the Aripuanã project focused on mineral resource expansion at the Babaçu and Massaranduba targets (adjacent/satellite mineralized bodies that can be integrated in the future in the processing plant under construction at present). In 4Q19, 1,411 meters of diamond drilling were executed, totaling 10,998 meters in 2019.

At Babaçu two drill rigs were active during 4Q19 and are currently operating to explore the extensions of the mineralized zone identified in late 2018. Key intercepts from holes drilled in 3Q19 and assayed in 4Q19 include 3.71% zinc, 43.68 g/t silver, 1.87% lead, 0.36% copper and 0.23 g/t gold over 257.5 meters and 3.53% zinc, 53.6 g/t silver, 2.92% lead, 1.68% copper and 1.03 g/t gold over 22.97 meters. These intersects and the ongoing drilling are expected to increase the resources of Aripuanã deposit and extend the current 13 years of mine life of the mine presently under construction.

Over the following three months, we plan to continue to focus our exploration drilling campaign in Babaçu.

Along with the Aripuanã project construction, Nexa exploration team will continue to develop exploration drilling in the area to increase resources and reserves aiming to maintain our track record of replenishing and growing reserves of all our operating units. Considering the deposit model and genesis (VMS like Cerro Lindo), with mineralized intersects in a 22 km long trend there is support for the existence of other potential mineralized bodies that could build a large mineral trend. The table and map below list and locate the main intersections obtained during the 4Q19.



Location map of the Aripuanã Deposit, Babaçu Exploration Target and other exploration targets, historical drill holes, Babaçu 2019 drill holes, 4Q2019 drill locations and 4Q2019 assay results locations.

Babaçu 4Q2019 Drilling Locations

Hole	Easting (m)	Northing (m)	RL (m)	Depth (m)	Azimuth	Dip
BRAPD000059	226,695	8,887,208	177	990	200	-73
BRAPD000071	226,848	8,887,285	181	883	200	-68

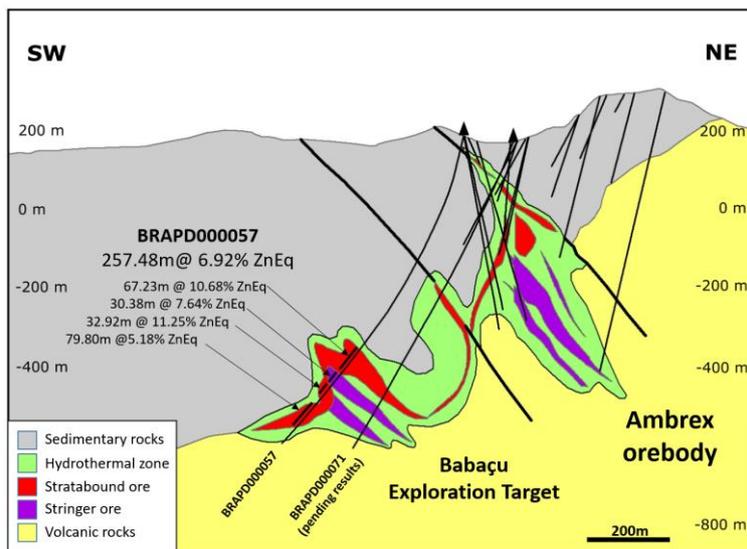
Coordinates in UTM SAD69 - zone 21S

Highlights of 4Q2019 Assay Results

Drill Hole	From (m)	To (m)	Interval (m)	Zn (%)	Pb (%)	Cu (%)	Au (g/t)	Ag (g/t)	Zn Eq ⁽¹⁾ (%)
BRAPD000057	607	864	257.5	3.71	1.87	0.36	0.23	43.68	6.92
Including	607	674	67.2	6.02	3.61	0.29	0.24	57.93	10.68
Including	684	715	30.4	1.38	0.94	1.73	0.84	60.49	7.64
Including	718	751	32.9	7.33	3.15	0.21	0.17	49.85	11.25
Including	784	864	79.8	3.12	1.20	0.11	0.12	43.35	5.18
BRAPD000057	883	887	4.4	2.76	0.35	0.58	0.03	13.33	4.43
BRAPD000057	893	896	2.9	3.24	0.40	0.47	0.03	12.80	4.73
BRAPD000057	899	905	5.7	0.08	0.01	1.80	0.25	33.88	4.52
BRAPD000060	51.5	56.15	4.65	5.43	2.50	0.03	0.08	59.28	8.56
BRAPD000060	365.53	376.25	10.72	6.51	4.12	0.05	0.11	164.80	12.86
BRAPD000060	378.06	381.97	3.91	1.75	2.82	0.01	0.08	107.64	5.95
BRAPD000060	396	401.83	5.83	4.21	1.86	0.06	0.05	72.29	7.11
BRAPD000060	623.85	634	10.15	3.62	0.55	0.00	0.09	19.16	4.51
BRAPD000060	638.68	661.65	22.97	3.53	2.93	1.69	1.03	53.61	11.34

⁽¹⁾ ZnEq was calculated using the following price assumptions: Zn=US\$2,521/t (US\$1.14/lb), Pb=\$2,003.88/t (US\$0.91/lb), Cu=\$6,402.1/t (US\$2.9/lb), Au=US\$1,298.49/oz, Ag=U\$16.79/oz; and the following metallurgical recovery assumptions: Zn=89%, Pb=85%, Cu=68%, Au=70%, Ag=75%

Only intervals with assays >2.5% Zn_Eq are reported. True widths of the mineralized intervals are unknown at this time. Assay results pending for holes BRAPD000059, 071.



Babaçu vertical cross section with assay results from hole BRAPD000057

Other projects under execution

Brownfield Projects		Description	Advances (as of 4Q19)	
BROWNFIELD	Vazante	Mine deepening (estimated completion 2022) Life of mine: 12 years	<ul style="list-style-type: none"> ➤ 85% physical progress ➤ EB-140 pumping station phase 1 was completed, with 8 pumps concluded 	
	Cerro Pasco Complex (El Porvenir and Atacocha operational integration process)	El Porvenir tailings dam elevation	To provide sustainability of operations at Atacocha and El Porvenir mines	<ul style="list-style-type: none"> ➤ Level 4060 operational since 3Q19 and is estimated to support our operations until 2022 ➤ Level 4064: construction phase in progress and this elevation could support 2 additional years (until 2024)
		Atacocha dam elevation	To provide sustainability of operations at Atacocha and El Porvenir mines	<ul style="list-style-type: none"> ➤ Level 4128: Execution phase expected to be approved during 1Q20. Elevation 4128 could support our operations for up to 5 years (2025) ➤ Level 4155: FEL 2 phase expected to be approved during 1Q20
		Waste disposal (estimated completion 1Q21)	New waste disposal to allow the continuity of the San Gerardo's open pit mine in Atacocha	<ul style="list-style-type: none"> ➤ Civil works and assembly companies were contracted ➤ Construction in progress
	Cerro Lindo	Replacement of seawater pipeline (completed 3Q19)	A new fresh water pipeline from the desalination plant on the coast to the mine site	<ul style="list-style-type: none"> ➤ Commissioning through 1Q2020
		New tailings filter (estimated completion 1H20)	Construction of a new tailings filter to support Cerro Lindo's production level and mine plan	<ul style="list-style-type: none"> ➤ Civil work in progress ➤ Completion expected for 1H2020
	Três Marias	Murici tailings (initiate last phase in 2020)	Construction of a new tailings disposal divided into four phases: Central Module, East Module, West I Module and West II Module	<ul style="list-style-type: none"> ➤ Waiting for West I raising construction permit to initiate the last phase in 2020
	Cajamarquilla	Conversion to Jarosite process	Intended to convert the smelter process from Goethite to the Jarosite process	<ul style="list-style-type: none"> ➤ Project was temporarily suspended in Dec/19
	Morro Agudo	Bonsucesso project (construction timeline dependent on license approval and FEL3 completion)	Part of the Morro Agudo complex (Ambrosia Trend) will extend the life of mine of the Morro Agudo complex. The run-of-mine of Bonsucesso will feed the existing processing plant	<ul style="list-style-type: none"> ➤ FEL3 in progress

Projects pipeline

In addition to Aripuanã, Nexa has potential growth projects in its pipeline in different stages of maturity, summarized below. In 2019, Nexa completed the PFS for Magistral and progressed this project to the feasibility study (FEL3) stage which will continue throughout 2020. The pre-feasibility study at our Shalipayco project and Pukaqaqa projects in Peru ongoing in 2019 will continue throughout 2020. We also completed a PEA for our Hilarión project which will be released in 1Q20 and we will continue drilling here in 2020 with the target of growing resources.

	Projects	Description	Comments
GREENFIELDS UNDER ANALYSIS	Shalipayco (75% Nexa Peru*; 25% Pan American Silver Peru)	<ul style="list-style-type: none"> ➤ Potential underground polymetallic project containing zinc, lead and silver deposits ➤ Located in the Central Andes of Peru ➤ Consists of mining concessions with evidence of MVT mineralization (a deposit type similar to Morro Agudo) 	<ul style="list-style-type: none"> ➤ In PFS stage ➤ Negotiations with communities for social license still ongoing ➤ Hydrogeological studies and other studies on site are expected to begin after social license approval
	Magistral (100% Nexa Peru*)	<ul style="list-style-type: none"> ➤ Potential open pit copper mine project ➤ Located in the Ancash department, in Peru 	<ul style="list-style-type: none"> ➤ Feasibility study (FEL3) in progress
	Pukaqaqa (100% Nexa Peru*)	<ul style="list-style-type: none"> ➤ Potential open pit copper project (with gold credits) located in Peru ➤ Indications of an undiscovered porphyry copper system below the currently explored mineralization, which will be explored in the following phases 	<ul style="list-style-type: none"> ➤ In PFS stage ➤ New metallurgical test is in progress and it is expected to be concluded by 2Q20
	Florida Canyon (61% Nexa Peru*; 39% Solitario Zinc)	<ul style="list-style-type: none"> ➤ Potential underground project containing high grade zinc and lead sulfide ➤ Advanced mineral exploration project comprised of 16 contiguous mining concessions, covering approximately 12,600 hectares, located in Peru 	<ul style="list-style-type: none"> ➤ In exploration stage ➤ 2019 drilling program concluded as expected
	Hilarión (100% Nexa Peru*)	<ul style="list-style-type: none"> ➤ Exploration project located south of the Antamina mine in Ancash, Peru ➤ Skarn mineral deposit made of vertical tabular ore bodies containing sulfide zinc, lead, silver and copper deposits ➤ Potential underground mine that could either use its own processing plant or one of the several existing plants in the area 	<ul style="list-style-type: none"> ➤ In exploration stage ➤ PEA expected to be released during 1Q20
	Caçapava do Sul (56% Nexa Brazil; 44% IAMGOLD)	<ul style="list-style-type: none"> ➤ A polymetallic project with potential for open pit and underground mines, located in Brazil 	<ul style="list-style-type: none"> ➤ On hold

*Nexa Resources owns 80.16% interest in Nexa Peru.

Dividends and outstanding share data

Dividends

On February 13, 2019, Nexa's the Board of Directors approved, subject to ratification by the Company's shareholders at the upcoming annual shareholders' meeting in accordance to Luxembourg laws, a cash dividend of US\$0.377533 per common share, or approximately US\$50 million, considering 132,438,611 shares outstanding as of December 31, 2019, to shareholders of the Company of record at the close of business on March 16, 2020. The cash dividend is expected to be paid on March 30, 2020.

Market Scenario

4Q19 and 2019

LME Prices	4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
US\$/t							
Zinc	2,388	2,348	2,631	(9.2%)	2,546	2,922	(12.9%)
Copper	5,881	5,802	6,172	(4.7%)	6,000	6,523	(8.0%)
Lead	2,045	2,028	1,964	4.1%	2,000	2,242	(10.8%)

Source: Bloomberg

Zinc

In 4Q19, the LME zinc price averaged US\$2,388/t (or US\$1.08/lb), down 9.2% from 4Q18 and up 1.7% from 3Q19. Zinc prices continued to be affected by market expectations and uncertainties related to global economy growth and the U.S. and China trade war, despite the positive fundamentals in supply and inventories.

Refined zinc stocks maintained their downward trend with exchange stocks ending December with stocks available for consumption of only a couple of days.

In China, import spot TCs were up and, as a result, imported concentrate for Chinese smelters were more attractive than domestic concentrate. In addition, seasonal production suspension maintained domestic TCs under pressure.

According to Wood Mackenzie's, global zinc consumption in 2019 is estimated at 14Mt, 1.1% lower than in 2018.

Copper

Similar to zinc, the average copper LME price in 4Q19 was US\$5,881/t (US\$ 2.67/lb), down 4.7% from 4Q18. Compared to 3Q19, prices went up 1.4% due to (i) improved sentiment regarding the trade war; (ii) disruptions on the supply side, mostly from Chile; and (iii) China's commitment to easing policies aimed at stimulating the economy. The positive environment for copper was observed on the LME, where the speculative positioning turned bullish in December for the first time since March 2019.

Margins of copper smelters continued to be pressured in 4Q19, as TCs continued at low levels and sulfuric acid price and premiums were weak, according to CRU. This situation, which has already led some smelters to close, may prompt new production cuts. In November, during CESCO Asia in

Shanghai, some market participants set TCs benchmark for 2020 at a level of \$62/t, which represents a 23% decrease compared to 2019 and the fifth straight year of falling TCs.

Lead

The LME average lead price in 4Q19 was US\$2,045/t (US\$0.93/lb), 4.1% and 0.9% higher compared to the average price in 4Q18 and in 3Q19, respectively.

Global refined lead consumption remained resilient, showing a modest decrease of 0.4% year-over-year (according to Wood Mackenzie), despite the weakness in the automotive sector.

Foreign Exchange

	4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
BRL/USD (Average)	4.116	3.965	3.808	8.1%	3.946	3.656	7.9%
BRL/USD (End of period)	4.031	4.164	3.875	4.0%	4.031	3.875	4.0%
PEN/USD (Average)	3.362	3.341	3.357	0.1%	3.337	3.287	1.5%
PEN/USD (End of period)	3.312	3.388	3.376	(1.9%)	3.312	3.376	(1.9%)

In 4Q19, the U.S. dollar continued strengthening against the majority of global currencies.

The average exchange rate for the Brazilian real was 4.116/US\$ versus 3.965/US\$ in 3Q19.

The average exchange rate for Peruvian soles in 4Q19 was 3.362/US\$, up 0.1% year over year and 0.6% from 3Q19.

Market | 2020 Outlook

Despite market fundamentals, we expect the zinc price behavior in 2020 to continue to be driven mainly by trade negotiations between China and the U.S., despite the Phase 1 Agreement and, more recently, by uncertainties related to the impacts of the coronavirus on the Chinese economy and demand and concomitant effects on the rest of the world. On the positive side, a pick-up in the construction sector, connected with steel and cement production in China, may push demand for zinc.

On the supply side, the market estimates a surplus of concentrate during the year, assuming the ramp-up of mines in countries other than China, supporting higher TCs and boosting smelters profitability.

Looking to the mid-to-long term, there are some uncertainties over the zinc greenfield project pipeline. Most of the expected production is coming from projects in higher risk mining jurisdictions. In this context, market fundamentals may last longer than expected.

In relation to copper, prices should continue to be impacted by U.S. and China negotiations. A reduction in tariffs on both sides could support the global economy, which, in turn, would improve copper demand. The Chinese government economic stimulus, in place as of 2H19, may boost the infrastructure sector, a key copper consumer. On the supply side, concentrate production may start to increase, following the ramp-up of some mines, which could support an increase in TCs. Also, the low TC benchmark agreed for 2020 could drive consolidation of the Chinese smelting industry as older and less efficient smelters are expected to be replaced by new capacity.

Risks and uncertainties

Risk management is considered one of the key points in our business strategy and contributes to value creation and increasing the level of confidence in the Company by its main stakeholders, including shareholders, employees, customers, suppliers and the local communities.

As a result, we have adopted an Enterprise Risk Management (ERM) Policy, that describes Nexa's Risk Management Model, and its activities are an integral part of the processes in our operational units, corporate departments and projects, and provides support for decision-making by our Executive Officers and Board of Directors.

The risk assessment cycle is performed annually focusing on our strategy, operational aspects and key projects. We seek to identify material risks, which are then assessed with consideration of the potential health, safety, environmental, social, reputational, legal and financial impacts. By embedding risk management into our work processes and critical business systems, we work to ensure we make decisions based on relevant inputs and valid data. The material risks identified during the risk management process are monitored and reported to the Executive Team, Audit Committee and Board of Directors.

Our operations are exposed to a number of inherent risks and uncertainties, and our results may be influenced by the following factors, including, among others:

- the cyclical and volatile prices of commodities;
- the changes in the expected level of supply and demand for commodities;
- the risks and uncertainties relating to economic and political conditions in the countries in which we operate;
- changes in global market conditions;
- operational risks, such as operator errors, mechanical failures and other accidents;
- the availability of materials, supplies, insurance coverage, equipment, required permits or approvals and financing;
- the implementation of our growth strategy and risks associated with related capital expenditures;
- failure to obtain financial assurance to meet closure and remediation obligations;
- the possible material differences between our estimates of mineral reserves and the mineral quantities we actually recover;
- the possibility that our concessions may be terminated or not renewed by governmental authorities in the countries in which we operate;
- failure of tailings dams;
- natural disasters, such as floods, mudslides and earthquakes;
- the future impact of competition and changes in domestic and international governmental and regulatory policies that apply to our operations;
- currency exchange rate and interest rate fluctuations;
- relations and agreements with local communities related to our plants and projects.

For a broader discussion of risks please refer to our annual report on form 20-F filed with the SEC (www.sec.gov), on SEDAR (www.sedar.com) and available on the Company's website (www.nexaresources.com).

Use of Non-IFRS Financial Measures

Nexa's management uses non-IFRS measures such as Adjusted EBITDA, cash cost net of by-products, all-in sustaining cost net of by-products, among other measures, for internal planning and performance measurement purposes. We believe these measures provide useful information about the financial performance of our operations that facilitates period-to-period comparisons on a consistent basis. Management uses Adjusted EBITDA internally to evaluate our underlying operating performance for the reporting periods presented and to assist with the planning and forecasting of future operating results. Management believes that Adjusted EBITDA is a useful measure of our performance because it reflects our cash generation potential from our operational activities excluding exceptional items of the period. These measures should not be considered in isolation or as a substitute for profit (loss) or operating profit, as indicators of operating performance, or as alternatives to cash flow as measures of liquidity. Additionally, our calculation of Adjusted EBITDA may be different from the calculation used by other companies, including our competitors in the mining industry, so our measures may not be comparable to those of other companies.

Segment performance is measured based on Adjusted EBITDA, since financial results, comprising financial income and expenses and foreign exchange, and income taxes are managed at the corporate level and are not allocated to operating

segments. Adjusted EBITDA is defined as net income (loss) for the period, adjusted by (i) share in the results of associates, (ii) depreciation and amortization, (iii) net financial results, (iv) income tax, (v) gain (loss) on sale of investments, and (vi) impairment and impairment reversals. In addition, management may adjust the effect of certain types of transactions that in management's judgment are not indicative of the Company's normal operating activities or do not necessarily occur on a regular basis.

We also present herein our net debt, which we define as (i) loans and financing (the most comparable IFRS measure), less (ii) cash and cash equivalents, less (iii) financial investments, plus or less (iv) the fair value of derivative financial instruments. Our management believes that net debt is an important figure because it indicates our ability to repay outstanding debts that become due simultaneously using available cash and highly liquid assets.

All forward-looking non-IFRS financial measures in this release, including cash cost guidance, are provided only on a non-IFRS basis. This is due to the inherent difficulty of forecasting the timing or amount of items that would be included in the most directly comparable forward-looking IFRS financial measures. As a result, reconciliation of the forward-looking non-IFRS financial measures to IFRS financial measures is not available without unreasonable effort and the Company is unable to assess the probable significance of the unavailable information.

See "Cautionary Statement on Forward-Looking Statements" below.

Technical information

Jose Antonio Lopes, MausIMM CP (Geo): 224829, a mineral resources manager, a qualified person for purposes of National Instrument 43-101 and a Nexa employee, has approved the scientific and technical information contained in this Earnings Release. Please note that the mineral reserves included in this Earnings Release were estimated in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") 2014 Definition Standards For Mineral Resources and Mineral Reserves, whose definitions are incorporated by reference in National Instrument 43-101. Our estimates of mineral reserves may be materially different from mineral quantities we actually recover, and market price fluctuations and changes in operating capital costs may render certain mineral reserves uneconomical to mine.

CAUTIONARY STATEMENT ON FORWARD-LOOKING STATEMENTS

This Earnings Release contains certain forward-looking information and forward-looking statements as defined in applicable securities laws (collectively referred to in this Earnings Release as "forward-looking statements"). All statements other than statements of historical fact are forward-looking statements. The words "believe," "will," "may," "may have," "would," "estimate," "continues," "anticipates," "intends," "plans," "expects," "budget," "scheduled," "forecasts" and similar words are intended to identify estimates and forward looking statements. Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of NEXA to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These forward-looking statements include estimates, forecasts, and statements as to management's expectations with respect to the business and operations of the Company and mining production our growth strategy, the impact of applicable laws and regulations, future zinc and other metal prices, smelting sales, capex, expenses related to exploration and project development, estimation of mineral reserves and resources, mine life and our financial liquidity.

Forward-looking statements are necessarily based upon a number of factors and assumptions that, while considered reasonable by management, are inherently subject to significant business, economic and competitive uncertainties and contingencies. Statements concerning future production costs or volumes are based on numerous assumptions of management regarding operating matters and on assumptions that demand for products develops as anticipated, that customers and other counterparties perform their contractual obligations, that operating and capital plans will not be disrupted by issues such as mechanical failure, unavailability of parts and supplies, labor disturbances, interruption in transportation or utilities, adverse weather conditions, and that there are no material unanticipated variations in the cost of energy or supplies, among other assumptions.

We assume no obligation to update forward-looking statements except as required under securities laws. Further information concerning risks and uncertainties associated with these forward-looking statements and our business can be found in our public disclosures filed under our profile on SEDAR (www.sedar.com) and on EDGAR (www.sec.gov).

UPCOMING EVENT

Earnings Conference Call

Date: Friday, February 14, 2020 – 10:00am (EST)

Dial In

USA: +1-866-769-5210

Canada: +1-866-450-4696

Brazil: 0800-8910015

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Live audio webcast with slide presentation

<https://ir.nexaresources.com>

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Income Statement

US\$ million	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
Net revenue	676.2	636.5	595.1	583.4	569.8	613.3	563.4	585.8
Cost of sales	(485.0)	(474.3)	(488.1)	(441.6)	(487.3)	(478.7)	(503.5)	(475.2)
SG&A	(43.3)	(43.8)	(36.6)	(35.8)	(41.1)	(42.1)	(57.2)	(76.2)
Mineral exploration and project development	(19.3)	(27.5)	(33.1)	(46.3)	(20.3)	(28.1)	(32.0)	(32.6)
Impairment loss	-	-	-	(3.3)	-	-	(142.1)	-
Other operating results	(7.1)	3.5	16.0	9.1	5.6	(19.3)	(6.5)	(6.9)
Net financial result	(29.0)	(152.4)	(44.3)	23.1	(25.9)	(15.3)	(57.1)	(6.5)
Financial income	8.8	10.6	7.2	41.0	5.4	9.8	6.6	15.9
Financial expenses	(29.9)	(31.6)	(29.4)	(30.8)	(28.9)	(33.2)	(30.8)	(36.7)
Foreign exchange gains (loss), net	(7.9)	(131.4)	(22.1)	12.9	(2.3)	8.1	(32.9)	14.3
Depreciation, amortization and depletion	70.0	68.6	66.6	62.0	73.8	73.3	93.5	70.0
Adjusted EBITDA	191.2	162.9	119.8	130.8	107.9	118.5	57.8	64.9
Adj. EBITDA margin	28.3%	25.6%	20.1%	22.4%	18.9%	19.3%	10.3%	11.1%
Net income (loss)	62.8	(35.3)	6.9	56.6	(8.3)	23.3	(171.3)	(2.7)
Attributable to Nexa's shareholders	55.1	(40.5)	7.4	52.9	(14.0)	20.4	(150.2)	(2.8)
Attributable to non-controlling interests	7.6	5.1	(0.4)	3.8	5.7	2.9	(21.0)	0.0
Weighted average number of outstanding shares - in thousand	133,320	133,320	133,320	133,293	133,293	132,628	132,439	132,439
Basic and diluted earnings (loss) per share - (in US\$)	0.41	(0.30)	0.06	0.40	(0.11)	0.15	(1.13)	(0.02)

⁽¹⁾Shares in treasury are not included in this amount.

Balance Sheet – Assets

Nexa - US\$ thousand	Dec 31, 2019	Dec 31, 2018
Current assets		
Cash and cash equivalents	698,618	1,032,938
Financial investments	58,423	91,878
Derivative financial instruments	4,835	7,385
Trade accounts receivable	177,231	173,204
Inventory	295,258	269,705
Other assets	140,984	122,857
	1,375,349	1,697,967
Non-current assets		
Financial investments	352	355
Derivative financial instruments	14,689	3,820
Deferred income taxes	262,941	201,154
Related parties	744	740
Other assets	144,727	120,458
Property, plant and equipment	2,122,690	1,968,451
Intangible assets	1,538,526	1,742,461
Right-of-use assets	29,547	-
	4,114,216	4,037,439
Total assets	5,489,565	5,735,406

Balance Sheet – Liabilities

Nexa - US\$ thousand	Dec 31, 2019	Dec 31, 2018
Current liabilities		
Loans and financing	33,149	32,513
Lease liabilities	16,474	-
Derivative financial instruments	8,276	8,662
Trade payables	414,080	387,225
Confirming payable	82,770	70,411
Dividends payable	6,662	663
Environmental obligations	19,001	20,357
Contractual liabilities	26,351	31,992
Related parties	-	63
Other liabilities	92,227	99,964
	698,990	651,850
Non-current liabilities		
Loans and financing	1,475,408	1,392,354
Lease liabilities	17,910	-
Derivative financial instruments	13,542	5,560
Asset retirement and environmental obligations	274,826	249,925
Provisions	26,071	30,641
Deferred taxes	273,278	298,598
Contractual liabilities	154,171	167,645
Related parties	834	1,517
Other liabilities	34,474	35,515
	2,270,514	2,181,755
Total liabilities	34,474	2,833,605
Shareholders' equity		
Total equity attributable to Nexa's shareholders	2,147,452	2,476,593
Non-controlling interests	372,609	425,208
Total liabilities and shareholders' equity	5,489,565	5,735,406

Cash Flows

Nexa - US\$ thousand	4Q19	2019
Cash flow from operating activities		
Income (loss) before income tax	(11,567)	(215,880)
Impairment loss	-	142,133
Depreciation and amortization	69,970	317,892
Interest and foreign exchange loss	(5,607)	71,640
Loss (gain) on sale of property, plant and equipment and intangible assets	(249)	(857)
Changes in provisions	(7,523)	3,854
Changes in operating assets and liabilities	14,637	(71,634)
Interest paid	(24,775)	(71,804)
Income taxes paid	(12,271)	(52,521)
Net cash provided by (used in) operating activities	22,615	122,823
Cash flow from investing activities		
Acquisitions of property, plant and equipment	(132,714)	(396,672)
Net (purchases) sales of financial investments	18,735	54,710
Proceeds from the sale of property, plant and equipment	1,435	6,570
Net cash provided by (used in) investing activities	(112,544)	(335,392)
Cash flow from financing activities		
New loans and financing	92,605	105,974
Payments of loans and financing	(4,418)	(19,437)
Payments of lease liabilities	(1,431)	(13,280)
Dividends paid	(8,513)	(113,389)
Reimbursement of share premium	-	-
Repurchase of the Company's own shares	-	(8,103)
Acquisition of non-controlling interest	(71,054)	(71,054)
Net cash provided by (used in) financing activities	7,189	(119,289)
Foreign exchange rates effect on cash and cash equivalents	(5,372)	(2,462)
Increase (decrease) in cash and cash equivalents	(88,112)	(334,320)
Cash and cash equivalents at the beginning of the period	786,730	1,032,938
Cash and cash equivalents at the end of the period	698,618	698,618

Capex

US\$ million	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18	1Q18	2019	2018
Mining	58.7	36.4	48.1	37.9	76.8	39.6	35.2	20.0	181.1	171.7
Cerro Lindo	14.6	12.2	14.0	9.7	19.4	4.5	1.6	0.5	50.5	26.0
El Porvenir	12.8	2.4	9.1	8.6	11.6	5.8	3.6	4.7	32.9	25.6
Atacocha	6.0	1.9	1.4	2.5	5.2	2.8	6.8	2.1	11.8	16.9
Vazante	18.3	15.3	20.6	15.7	34.7	22.7	21.2	11.2	70.0	89.9
Morro Agudo	6.9	4.5	3.1	1.5	6.0	3.8	1.9	1.6	15.9	13.3
Smelting	34.3	20.7	20.9	9.8	40.6	23.3	19.1	10.1	85.6	93.0
CJM	16.7	8.7	11.6	3.0	20.2	9.0	2.3	2.2	40.0	33.7
Três Marias	10.6	7.2	5.3	3.8	11.3	8.9	12.8	5.7	26.9	38.7
Juiz de Fora	7.0	4.8	4.0	2.9	9.1	5.4	4.0	2.1	18.7	20.6
Other	53.7	46.9	25.6	17.3	19.7	8.2	4.1	2.9	143.5	34.9
Total	146.7	104.0	94.6	65.0	137.0	71.1	58.5	33.0	410.3	299.6
Expansion	66.6	57.8	40.1	24.0	42.2	19.4	19.2	9.6	188.4	90.5
Non-Expansion	80.1	46.2	54.6	41.0	94.8	51.7	39.3	23.3	221.9	209.1

US\$ million	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18	1Q18	2019	2018
Modernization	7.7	3.9	4.0	2.9	9.6	3.7	0.7	1.0	18.4	15.0
Sustaining	52.0	29.2	34.0	22.4	46.4	19.6	14.9	9.4	137.7	90.2
HSE	15.1	12.9	14.5	14.7	34.3	23.0	20.5	11.2	57.3	89.1
Other	5.3	0.1	2.1	1.0	4.5	5.4	3.1	1.7	8.5	14.8
Non-Expansion	80.1	46.2	54.6	41.0	94.8	51.7	39.3	23.3	221.9	209.1

Segments Information

US\$ million	4Q19	3Q19	4Q18	4Q19 vs. 4Q18	2019	2018	2019 vs. 2018
Revenue - Mining	233.6	248.2	285.5	(18.2%)	1,000.2	1,163.7	(14.1%)
Revenue - Smelting	459.8	442.2	470.0	(2.2%)	1,865.7	2,030.6	(8.1%)
Intersegment results	(111.4)	(124.5)	(171.7)	(35.1%)	(535.8)	(704.0)	(23.9%)
Adjustments	3.8	(2.5)	(0.5)	-	2.2	0.9	-
Net Revenue	585.8	563.4	583.4	0.4%	2,332.3	2,491.2	(6.4%)
Cost of sales – Mining ⁽¹⁾	(196.0)	(220.4)	(179.3)	9.3%	(802.0)	(707.8)	13.3%
Cost of sales – Smelting ⁽¹⁾	(386.5)	(414.7)	(436.2)	(11.4%)	(1,655.1)	(1,878.8)	(11.9%)
Intersegment results	111.4	124.5	171.7	(35.1%)	535.8	704.0	(23.9%)
Adjustments ⁽¹⁾	(4.0)	7.2	2.2	-	(23.4)	(6.5)	262.7%
Cost of sales	(475.2)	(503.5)	(441.6)	7.6%	(1,944.7)	(1,888.9)	3.0%
Gross Profit - Mining	37.6	27.9	106.2	(64.6%)	198.2	456.0	(56.5%)
Gross Profit - Smelting	73.2	27.4	33.8	116.5%	210.7	151.9	38.7%
Adjustments	(0.2)	4.7	1.7	-	(21.2)	(5.5)	283.9%
Gross Profit	110.6	60.0	141.8	(22.0%)	387.6	602.3	(35.6%)
Adjusted EBITDA - Mining	13.0	33.1	88.4	(85.3%)	172.6	430.4	(59.9%)
Adjusted EBITDA - Smelting	56.3	24.6	41.2	36.6%	180.0	174.8	3.0%
Adjustments	(4.4)	0.1	1.2	-	(3.6)	(0.3)	-
Adjusted EBITDA	64.9	57.8	130.8	(50.4%)	349.0	604.7	(42.3%)

Note: the metal concentrate produced in our mines is sold to third parties and to our own smelters, which consume the majority of our zinc mining production. As a result, the revenues of our mining segment include sales to the smelting segment, and the costs of our smelting segment include purchases from the mining segment. We calculate internal transfer prices from our mines to the smelters on an arm's length basis to evaluate the performance of our mining and smelting segments individually. These revenues and costs are eliminated in our consolidated financial statements.

(1) The Company changed the presentation of certain items included in the reconciliation of cash cost per segment to segment Cost of sales. Workers compensation and amortization of intangible assets acquired in business combinations are being presented as part of segment Cost of sales, while it has been excluded from segment Cost of sales in prior years. Comparative periods have been restated to give effect to such reclassifications.

Mining information | Consolidated

Consolidated

Consolidated		1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
Treated Ore	kt	3,148.8	3,146.6	3,320.9	3,435.1	3,321.4	3,227.8	3,305.3	3,147.1
Grade									
Zinc	%	3.19	3.35	3.13	3.39	3.10	3.23	3.34	2.98
Copper	%	0.42	0.36	0.38	0.35	0.35	0.33	0.39	0.40
Lead	%	0.50	0.53	0.52	0.56	0.49	0.54	0.55	0.50
Silver	oz/t	0.88	0.89	0.95	0.93	0.87	0.95	0.99	0.94
Gold	oz/t	0.005	0.013	0.006	0.005	0.005	0.004	0.005	0.005
in Content									
Zn	kt	87.2	92.3	90.2	103.2	89.7	91.4	97.1	82.9
Cu	kt	10.7	9.0	10.2	9.2	9.0	8.4	10.5	10.2
Pb	kt	12.3	12.7	12.7	14.7	12.3	13.1	13.7	12.3
Ag	koz	1,890.0	1,856.6	2,077.9	2,162.0	2,084.2	2,226.3	2,393.9	2,196.6
Au	koz	7.4	7.1	7.1	7.6	6.5	5.5	6.0	7.0
Zn Eq production ⁽¹⁾	kt	138.1	139.6	142.4	154.8	137.8	139.3	152.4	134.8
Cash Cost Net of By-products ⁽²⁾	US\$/t	488.4	552.7	759.8	693.7	881.0	1,055.2	923.9	914.1
Cash Cost Net of By-products ⁽²⁾	US\$/lb	0.22	0.25	0.34	0.31	0.40	0.48	0.42	0.41

(1) Consolidated mining production in kt of zinc equivalent calculated by converting copper, lead, silver and gold contents to a zinc equivalent grade at 2019 average benchmark prices. The prices used for this conversion are: Zinc: US\$2,546/t (US\$1.16/lb); Copper: US\$6,000/t (US\$2.72/lb); Lead: US\$2,000/t (US\$0.91/lb); Silver: US\$16.2/oz; Gold: US\$1,393/oz.

Note: Until 3Q19 the reference price used for conversion was 2018 average benchmark prices. All numbers were updated to reflect the 2019 average benchmark price.

(2) Our cash cost net of by-products credits is measured with respect to zinc sold.

Mining information | by Asset

Cerro Lindo, Peru

		1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
Treated Ore	kt	1,712.5	1,635.4	1,732.6	1,834.2	1,767.3	1,659.9	1,678.1	1,694.5
Grade									
Zinc	%	1.79	2.21	1.93	2.35	2.00	2.04	2.27	1.91
Copper	%	0.69	0.62	0.67	0.58	0.60	0.58	0.71	0.68
Lead	%	0.21	0.25	0.25	0.30	0.22	0.25	0.26	0.26
Silver	oz/t	0.63	0.62	0.78	0.72	0.62	0.69	0.72	0.75
Gold	oz/t	0.001	0.002	0.003	0.002	0.001	0.001	0.002	0.003
in Content									
Zn	kt	27.8	33.2	29.9	39.5	31.6	30.9	34.6	29.2
Cu	kt	10.5	8.8	10.1	9.0	8.9	8.3	10.4	10.0
Pb	kt	2.7	3.0	3.0	4.1	2.8	3.0	3.3	3.2
Ag	koz	769.8	700.1	933.9	939.8	742.2	776.8	839.6	891.9
Au	koz	0.9	0.7	1.2	1.3	0.9	1.1	1.2	1.3
Zn Eq production ⁽¹⁾	kt	59.9	61.0	62.6	70.7	60.0	58.3	67.8	61.7
Cash Cost Net of By-products ⁽²⁾	US\$/t	(501.5)	(142.0)	118.9	243.2	336.1	779.1	221.1	96.6
Cash Cost Net of By-products ⁽²⁾	US\$/lb	(0.23)	(0.06)	0.05	0.11	0.15	0.35	0.10	0.04

El Porvenir, Peru

		1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
Treated Ore	kt	535.2	539.0	533.9	541.8	530.3	539.8	547.9	502.8
Grade									
Zinc	%	3.20	2.94	2.89	3.11	2.96	3.01	2.90	2.82
Copper	%	0.16	0.16	0.13	0.15	0.14	0.14	0.14	0.18
Lead	%	0.96	1.00	0.98	0.97	1.00	1.03	1.06	0.95
Silver	oz/t	1.82	1.91	1.93	2.01	2.05	2.04	2.21	2.00
Gold	oz/t	0.015	0.062	0.016	0.015	0.016	0.016	0.019	0.011
in Content									
Zn	kt	15.4	14.0	13.6	14.9	13.9	14.3	13.9	12.5
Cu	kt	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Pb	kt	4.1	4.4	4.1	4.1	4.2	4.4	4.6	3.8
Ag	koz	614.3	648.4	617.6	653.5	846.7	849.4	939.8	776.7
Au	koz	2.4	2.5	2.3	2.4	2.6	2.2	2.6	3.8
Zn Eq production ⁽¹⁾	kt	24.3	23.3	22.2	23.9	24.3	24.6	25.2	22.8
Cash Cost Net of By-products ⁽²⁾	US\$/t	1,267.9	904.5	1,368.6	1,214.9	1,099.7	1,447.6	1,359.9	1,614.2
Cash Cost Net of By-products ⁽²⁾	US\$/lb	0.58	0.41	0.62	0.55	0.50	0.66	0.62	0.73

Atacocha, Peru

		1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
Treated Ore	kt	367.8	383.8	400.6	399.3	357.1	363.4	390.7	394.2
Grade									
Zinc	%	1.42	1.42	1.49	1.40	1.30	1.55	1.48	1.40
Copper	%	0.10	0.10	0.10	0.10	0.09	0.09	0.08	0.07
Lead	%	1.28	1.11	1.11	1.22	1.21	1.43	1.36	1.20
Silver	oz/t	1.49	1.40	1.36	1.42	1.32	1.65	1.57	1.54
Gold	oz/t	0.017	0.016	0.013	0.014	0.015	0.011	0.011	0.011
in Content									
Zn	kt	4.1	4.3	4.6	4.3	3.6	4.4	4.5	4.2
Cu	kt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
Pb	kt	4.1	3.6	3.8	4.1	3.7	4.4	4.5	3.9
Ag	koz	424.8	406.3	407.8	439.9	383.1	495.4	503.6	500.0
Au	koz	4.1	3.9	3.6	3.8	3.0	2.2	2.3	1.8
Zn Eq production ⁽¹⁾	kt	12.2	11.9	12.3	12.5	10.6	12.3	12.4	11.5
Cash Cost Net of By-products ⁽²⁾	US\$/t	285.9	1,411.2	940.1	1,837.7	1,717.2	(25.6)	3,000.3	(518.3)
Cash Cost Net of By-products ⁽²⁾	US\$/lb	0.13	0.64	0.43	0.83	0.78	(0.01)	1.36	(0.24)

Vazante, Brazil

		1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
Treated Ore	kt	313.4	327.0	363.2	370.8	372.2	369.7	396.5	268.7
Grade									
Zinc	%	13.62	12.73	11.24	11.22	10.98	11.27	11.20	12.69
Lead	%	0.30	0.38	0.33	0.33	0.31	0.35	0.40	0.13
Silver	oz/t	0.54	0.70	0.63	0.58	0.58	0.62	0.64	0.26
in Content									
Zn	kt	35.5	35.0	34.6	35.8	34.7	35.6	38.4	30.3
Pb	kt	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.1
Ag	koz	74.9	92.0	105.3	108.0	101.1	104.7	110.9	16.4
Zn Eq production ⁽¹⁾	kt	36.1	35.8	35.5	36.7	35.6	36.5	39.4	30.5
Cash Cost Net of By-products ⁽²⁾	US\$/t	827.4	817.9	867.3	826.3	1,090.2	1,161.0	1,044.3	1,286.6
Cash Cost Net of By-products ⁽²⁾	US\$/lb	0.38	0.37	0.39	0.37	0.49	0.53	0.47	0.58

Morro Agudo, Brazil

		1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
Treated Ore	kt	220.0	261.4	290.6	288.9	294.6	294.9	292.1	286.8
Grade									
Zinc	%	2.18	2.40	2.84	3.22	2.16	2.29	2.22	2.65
Lead	%	0.63	0.62	0.71	0.86	0.58	0.48	0.43	0.58
in Content									
Zn	kt	4.4	5.8	7.5	8.7	6.0	6.2	5.6	6.5
Pb	kt	1.2	1.4	1.5	2.1	1.3	1.1	1.0	1.4
Ag	koz	6.3	9.8	13.2	20.8	11.0	-	-	11.6
Zn Eq production ⁽¹⁾	kt	5.5	7.4	9.9	11.0	7.3	7.6	7.6	8.2
Cash Cost Net of By-products ⁽²⁾	US\$/t	2,154.5	1,543.4	1,134.9	1,039.4	1,552.8	1,998.0	2,101.3	2,610.5
Cash Cost Net of By-products ⁽²⁾	US\$/lb	0.98	0.70	0.51	0.47	0.70	0.91	0.95	1.18

Smelting | Consolidated and Sales by Asset

		1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
Metallic zinc sales	kt	137.3	143.1	149.7	148.5	136.5	146.8	148.6	152.6
Zinc oxide sales	kt	9.1	9.0	10.2	9.8	8.9	9.2	9.6	9.0
Total sales volume	kt	146.4	152.1	160.0	158.3	145.5	156.0	158.3	161.5
Metallic zinc sales									
Cajamarquilla	kt	79.0	81.9	84.3	87.5	79.8	84.2	89.0	87.6
Três Marias	kt	40.1	42.0	44.5	40.8	37.8	41.3	35.7	42.9
Juíz de Fora	kt	18.2	19.2	21.0	20.2	18.8	21.2	23.9	22.1
Zinc oxide sales									
Três Marias	kt	9.1	9.0	10.2	9.8	8.9	9.2	9.6	9.0
Global recovery									
Cajamarquilla	%	95.0	93.7	93.3	93.3	94.4	94.0	94.4	93.8
Três Marias	%	94.2	93.4	94.0	93.2	92.9	94.1	94.8	95.4
Juíz de Fora	%	92.4	91.3	94.9	95.3	92.2	94.2	93.4	93.5
Cash cost									
Cajamarquilla	US\$/t	3,087.0	2,948.4	2,480.1	2,427.1	2,405.3	2,347.0	2,247.9	1,900.2
Três Marias	US\$/t	3,294.0	2,830.3	2,438.7	2,616.8	2,625.3	2,216.8	1,994.5	1,963.0
Juíz de Fora	US\$/t	3,212.3	2,642.8	2,367.7	2,418.7	2,703.2	2,332.8	2,336.8	2,204.5
Cajamarquilla	US\$/lb	1.40	1.34	1.12	1.10	1.09	1.06	1.02	.86
Três Marias	US\$/lb	1.49	1.28	1.11	1.19	1.19	1.01	.90	.89
Juíz de Fora	US\$/lb	1.46	1.20	1.07	1.10	1.23	1.06	1.06	1.00

All-in Sustaining Cost – Mining ⁽²⁾

4Q19

US\$ million (excepted indicated otherwise)		Vazante	Morro Agudo	Cerro Lindo	El Porvenir	Atacocha	Consolidation of Operations	Corporate & Others	Mining
	Sales Volume (Contained Metal) - Zn Tonnes	30,350	6,534	27,171	12,786	4,296	81,136	0	81,136
(+)	COGS	22.8	18.4	89.2	38.2	33.7	202.3	(6.3)	196.0
(+)	On-site G&A	2.0	2.2	0.0	0.0	0.0	4.1		4.1
(-)	By-products revenue	(0.9)	(4.1)	(76.2)	(19.4)	(25.3)	(125.9)	3.6	(122.2)
(+)	Treatment Charges	21.7	3.2	13.8	8.1	2.9	49.7		49.7
(+)	Selling Expenses	0.2	0.8	0.7	0.2	0.1	1.9		1.9
(-)	Depreciation, amortisation and depletion	(5.5)	(2.6)	(23.2)	(8.6)	(5.7)	(45.7)	(0.3)	(46.0)
(-)	Royalties	(0.4)	(0.3)	0.0	0.0	0.0	(0.7)		(0.7)
(-)	Workers participation & Bonus	(0.4)	(0.2)	(2.4)	0.2	(0.0)	(2.9)		(2.9)
(+)	Others	(0.6)	(0.2)	0.7	2.0	(7.8)	(5.8)		(5.8)
(=)	Cash Cost (Sold)	39.0	17.1	2.6	20.6	(2.2)	77.1	(3.0)	74.2
	Cash Cost (Sold) (per t)	1,286.6	2,610.5	96.6	1,614.2	(518.3)	950.7	0.0	914.1
(+)	Sustaining Capital Expenditure	12.6	5.5	14.6	12.8	6.0	51.6	1.6	53.2
(=)	Sustaining Cash Cost (Sold)	51.6	22.6	17.3	33.5	3.8	128.8	(1.4)	127.4
	Sustaining Cash Cost (Sold) (per ton)	1,700.7	3,459.0	635.2	2,619.1	886.9	1,587.1	0.0	1,570.4
(+)	Workers participation & Bonus	0.4	0.2	2.4	(0.2)	0.0	2.9		2.9
(+)	Royalties	0.4	0.3	0.0	0.4	0.3	1.5		1.5
(+)	Corporate G&A						0.0	30.7	30.7
(=)	AISC (Sold)						0.0		162.5
(=)	AISC (Sold)								2,003.3
(=)	AISC (Sold) in US\$/lb								0.91

4Q18

US\$ million (excepted indicated otherwise)		Vazante	Morro Agudo	Cerro Lindo	El Porvenir	Atacocha	Consolidation of Operations	Corporate & Others	Mining
	Sales Volume (Contained Metal) - Zn Tonnes	35,777	8,653	41,261	15,845	4,068	105,603	0	105,603
(+)	COGS	20.1	12.5	86.3	42.5	20.3	181.7	(2.4)	179.3
(+)	On-site G&A	1.5	1.7	0.0	0.0	0.1	3.3	0.0	3.3
(-)	By-products revenue	(1.8)	(5.6)	(69.2)	(18.1)	(9.6)	(104.3)	0.5	(103.8)
(+)	Treatment Charges	14.9	3.0	15.0	6.5	1.6	41.0	0.0	41.0
(+)	Selling Expenses	0.0	0.3	0.3	0.5	0.2	1.2	0.0	1.2
(-)	Depreciation, amortisation and depletion	(4.4)	(2.4)	(18.5)	(8.4)	(5.3)	(39.1)	(0.1)	(39.2)
(-)	Royalties	(0.4)	(0.3)	0.0	0.0	0.0	(0.8)	0.0	(0.8)
(-)	Workers participation & Bonus	(0.3)	(0.2)	(1.9)	(0.5)	0.0	(2.9)	0.0	(2.9)
(+)	Others	0.0	0.0	(2.0)	(3.3)	0.3	(5.0)	0.0	(5.0)
(=)	Cash Cost (Sold)	29.6	9.0	10.0	19.3	7.5	75.3	(2.1)	73.3
	Cash Cost (Sold) (per ton)	826.3	1,039.4	243.2	1,214.9	1,837.7	713.2	0.0	693.7
(+)	Sustaining Capital Expenditure	20.0	5.9	19.4	11.6	5.2	62.1	0.4	62.5
(=)	Sustaining Cash Cost (Sold)	49.6	14.9	29.4	30.8	12.7	137.4	(1.7)	135.7
	Sustaining Cash Cost (Sold) (per ton)	1,385.6	1,723.3	712.3	1,944.0	3,124.2	1,301.0	0.0	1,285.3
(+)	Workers participation & Bonus	0.3	0.2	1.9	0.5	(0.0)	2.9	0.0	2.9
(+)	Royalties	0.4	0.3	0.0	0.4	0.2	1.4	0.0	1.4
(+)	Corporate G&A							9.6	9.6
(=)	AISC (Sold)								149.7
(=)	AISC (Sold)								1,417.1
(=)	AISC (Sold) in US\$/lb								0.64

FY2019

	US\$ million (excepted indicated otherwise)	Vazante	Morro Agudo	Cerro Lindo	El Porvenir	Atacocha	Consolidation of Operations	Corporate & Others	Mining
	Sales Volume (Contained Metal) - Zn Tonnes	139,041	24,354	125,153	54,725	16,360	359,633	0	359,633
(+)	COGS	90.9	62.6	369.3	171.6	112.3	806.7	(4.8)	802.0
(+)	On-site G&A	8.6	7.3	0.0	0.0	0.0	15.9	0.0	15.9
(-)	By-products revenue	(6.4)	(19.2)	(270.5)	(84.6)	(70.8)	(451.5)	(0.3)	(451.7)
(+)	Treatment Charges	93.7	12.9	60.5	31.7	9.4	208.2	0.0	208.2
(+)	Selling Expenses	0.3	1.7	3.0	0.7	0.5	6.1	0.0	6.1
(-)	Depreciation, amortisation and depletion	(22.6)	(11.7)	(107.7)	(43.9)	(30.4)	(216.4)	(1.4)	(217.9)
(-)	Royalties	(1.7)	(1.5)	0.0	0.0	0.0	(3.2)	0.0	(3.2)
(-)	Workers participation & Bonus	(1.8)	(0.9)	(8.5)	(1.9)	(0.5)	(13.6)	0.0	(13.6)
(+)	Others	(2.6)	(0.7)	(1.5)	1.5	(3.2)	(6.5)	0.0	(6.5)
(=)	Cash Cost (Sold)	158.3	50.6	44.6	75.1	17.2	345.8	(6.5)	339.3
	Cash Cost (Sold) (per t)	1,138.5	2,076.7	356.0	1,372.9	1,052.0	961.5	0.0	943.5
(+)	Sustaining Capital Expenditure	42.7	12.8	50.5	32.9	11.8	150.8	3.7	154.5
(=)	Sustaining Cash Cost (Sold)	201.0	63.4	95.1	108.1	29.0	496.5	(2.8)	493.8
	Sustaining Cash Cost (Sold) (per ton)	1,445.7	2,604.1	759.5	1,975.0	1,770.3	1,380.7	0.0	1,373.0
(+)	Workers participation & Bonus	1.8	0.9	8.5	1.9	0.5	13.6	0.0	13.6
(+)	Royalties	1.7	1.5	0.0	1.7	1.0	5.9	0.0	5.9
(+)	Corporate G&A							90.5	90.5
(=)	AISC (Sold)								603.8
(=)	AISC (Sold)								1,678.8
(=)	AISC (Sold) in US\$/lb								0.76

FY2018

	US\$ million (excepted indicated otherwise)	Vazante	Morro Agudo	Cerro Lindo	El Porvenir	Atacocha	Consolidation of Operations	Corporate & Others	Mining
	Sales Volume (Contained Metal) - Zn Tonnes	140,776	26,408	129,656	59,510	17,066	373,416	0	373,416
(+)	COGS	77.3	45.1	336.9	158.8	92.9	711.1	(3.4)	707.8
(+)	On-site G&A	5.9	5.7	0.0	0.0	0.4	12.0	0.0	12.0
(-)	By-products revenue	(7.4)	(17.7)	(290.0)	(73.3)	(57.2)	(445.7)	0.7	(444.9)
(+)	Treatment Charges	62.1	9.9	47.0	25.4	7.2	151.6	0.0	151.6
(+)	Selling Expenses	0.0	0.9	0.8	0.9	0.3	3.0	0.0	3.0
(-)	Depreciation, amortisation and depletion	(17.6)	(5.6)	(87.5)	(36.5)	(24.3)	(171.5)	(0.9)	(172.4)
(-)	Royalties	(1.7)	(1.5)	0.0	0.0	0.0	(3.2)	0.0	(3.2)
(-)	Workers participation & Bonus	(1.2)	(0.7)	(8.4)	(4.0)	(0.4)	(14.7)	0.0	(14.7)
(+)	Others	0.0	0.0	(5.4)	(0.3)	0.0	(5.7)	0.0	(5.7)
(=)	Cash Cost (Sold)	117.5	36.0	(6.5)	71.0	19.0	237.0	(3.5)	233.5
	Cash Cost (Sold) (per ton)	834.5	1,363.8	(50.4)	1,192.9	1,115.5	634.7	0.0	625.3
(+)	Sustaining Capital Expenditure	42.4	12.3	25.3	25.6	16.9	122.4	1.3	123.7
(=)	Sustaining Cash Cost (Sold)	159.8	48.3	18.7	96.6	35.9	359.4	(2.2)	357.2
	Sustaining Cash Cost (Sold) (per ton)	1,135.5	1,829.5	144.3	1,623.2	2,105.5	962.5	0.0	956.7
(+)	Workers participation & Bonus	1.2	0.7	8.4	4.0	0.4	14.7	(0.1)	14.5
(+)	Royalties	1.7	1.5	0.0	1.9	0.9	6.0	0.0	6.1
(+)	Corporate G&A							31.4	31.4
(=)	AISC (Sold)								409.3
(=)	AISC (Sold)								1,096.0
(=)	AISC (Sold) in US\$/lb								0.50

All-in Sustaining Cost – Smelting ⁽²⁾

4Q19

	US\$ million (excepted indicated otherwise)	Três Marias	Juiz de Fora	Cajamarquilla	Consolidation of Operations	Corporate	Smelting
	Sales Volume (Zinc content in Products)						
	Tonnes	49,886	21,882	87,529	159,296	0	159,296
(+)	COGS	109.0	57.8	219.7	386.5	0.0	386.5
(-)	Cost of services rendered(1)	(2.3)	(1.3)	(10.4)	(14.0)	0.0	(14.0)
(+)	On-site G&A	1.2	1.3	4.0	6.5	0.0	6.5
(-)	Depreciation, amortisation and depletion	(4.6)	(3.7)	(15.3)	(23.6)	0.0	(23.6)
(-)	By-products revenue	(3.1)	(4.5)	(29.8)	(37.3)	0.0	(37.3)
(-)	Workers participation & Bonus	(0.3)	(0.3)	(1.9)	(2.6)	0.0	(2.6)
(+)	Others	(1.9)	(1.1)	0.0	(3.0)	0.0	(3.0)
(=)	Cash Cost (Sold)	97.9	48.2	166.3	312.5	0.0	312.5
	Cash Cost (Sold) (per ton)	1,963.0	2,204.5	1,900.2	1,961.7		1,961.8
(+)	Sustaining Capital Expenditure	10.6	7.0	7.2	24.8	2.3	27.1
(=)	Sustaining Cash Cost (Sold)	108.5	55.3	173.6	337.3	2.3	339.6
	Sustaining Cash Cost (Sold) (per ton)	2,174.7	2,526.6	1,982.9	2,117.6	0.0	2,132.0
(+)	Workers participation & Bonus	0.3	0.3	1.9	2.6	0.0	2.6
(+)	Corporate G&A					24.4	24.4
(=)	AISC (Sold)						366.6
(=)	AISC (Sold) (per ton)						2,301.3
(=)	AISC (Sold) in US\$/lb						1.04

4Q18

US\$ million (excepted indicated otherwise)		Três Marias	Juiz de Fora	Cajamarquilla	Consolidation of Operations	Corporate	Smelting
	Sales Volume (Zinc content in Products)						
	Tonnes	48,485	20,067	87,376	155,928	0	155,928
(+)	COGS	136.1	57.8	252.6	446.4	(10.2)	436.2
(-)	Cost of freight	(2.9)	(1.0)	(8.1)	(12.0)	0.0	(12.0)
(+)	On-site G&A	1.2	0.8	3.3	5.4	0.4	5.8
(-)	Depreciation, amortisation and depletion	(3.6)	(3.4)	(15.7)	(22.8)	(0.3)	(23.1)
(-)	By-products revenue	(3.6)	(5.3)	(19.7)	(28.6)	0.0	(28.6)
(-)	Workers participation & Bonus	(0.3)	(0.3)	(0.4)	(1.0)	0.0	(1.0)
(+)	Others	0.0	0.0	0.0	0.0	0.0	0.0
(=)	Cash Cost (Sold)	126.9	48.5	212.1	387.5	(10.1)	377.4
	Cash Cost (Sold) (per t)	2,616.8	2,418.7	2,427.1	2,485.0		2,420.4
(+)	Sustaining Capital Expenditure	11.3	9.1	11.1	31.5	0.9	32.3
(=)	Sustaining Cash Cost (Sold)	138.2	57.6	223.2	418.9	(9.2)	409.7
	Sustaining Cash Cost (Sold) (per t)	2,849.5	2,871.8	2,554.0	2,686.8	0.0	2,627.7
(+)	Workers participation & Bonus	0.3	0.3	0.4	1.0	0.1	1.0
(+)	Corporate G&A					14.3	14.3
(=)	AISC (Sold)						425.0
(=)	AISC (Sold) (per t)						2,725.9
(=)	AISC (Sold) in US\$/lb						1.24

FY2019

	US\$ million (excepted indicated otherwise)	Três Marias	Juiz de Fora	Cajamarquilla	Consolidation of Operations	Corporate	Smelting
	Sales Volume (Zinc content in Products) Tonnes	186,482	85,411	340,293	612,185	0	612,185
(+)	COGS	456.5	242.3	956.3	1,655.1	0.0	1,655.1
(-)	Cost of services rendered(1)	(11.0)	(4.0)	(40.4)	(55.4)	0.0	(55.4)
(+)	On-site G&A	5.3	5.0	16.0	26.3	0.2	26.5
(-)	Depreciation, amortisation and depletion	(19.1)	(15.1)	(63.8)	(98.0)	0.0	(98.0)
(-)	By-products revenue	(12.6)	(19.1)	(108.9)	(140.6)	0.0	(140.6)
(-)	Workers participation & Bonus	(1.7)	(1.2)	(3.8)	(6.6)	(0.0)	(6.6)
(+)	Others	(8.0)	(4.5)	0.0	(12.5)	0.0	(12.5)
(=)	Cash Cost (Sold)	409.4	203.5	755.4	1,368.3	0.2	1,368.5
	Cash Cost (Sold) (per ton)	2,195.6	2,382.1	2,219.9	2,235.1		2,235.4
(+)	Sustaining Capital Expenditure	26.9	18.7	18.2	63.8	3.8	67.6
(=)	Sustaining Cash Cost (Sold)	436.3	222.1	773.6	1,432.1	4.0	1,436.1
	Sustaining Cash Cost (Sold) (per ton)	2,339.8	2,600.9	2,273.4	2,339.3	0.0	2,345.9
(+)	Workers participation & Bonus	1.7	1.2	3.8	6.6	0.0	6.6
(+)	Corporate G&A					58.5	58.5
(=)	AISC (Sold)					0.0	1,501.2
(=)	AISC (Sold) (per ton)						2,452.2
(=)	AISC (Sold) in US\$/lb						1.11

FY2018

US\$ million (excepted indicated otherwise)		Três Marias	Juiz de Fora	Cajamarquilla	Consolidation of Operations	Corporate	Smelting
	Sales Volume (Zinc content in Products) Tonnes	197,372	78,106	332,036	607,514	0	607,514
(+)	COGS	587.7	240.6	1,067.3	1,895.6	(16.9)	1,878.8
(-)	Cost of freight	(11.5)	(3.5)	(35.9)	(50.8)	0.0	(50.8)
(+)	On-site G&A	4.3	6.6	15.4	26.3	2.2	28.4
(-)	Depreciation, amortisation and depletion	(15.6)	(13.1)	(64.8)	(93.6)	(1.2)	(94.8)
(-)	By-products revenue	(14.4)	(23.0)	(75.6)	(113.1)	3.8	(109.3)
(-)	Workers participation & Bonus	(0.9)	(1.0)	(1.5)	(3.4)	(0.0)	(3.4)
(+)	Others	0.0	0.0	0.0	0.0	0.0	0.0
(=)	Cash Cost (Sold)	549.6	206.5	905.0	1,661.0	(12.1)	1,648.9
	Cash Cost (Sold) (per t)	2,784.6	2,643.4	2,725.5	2,734.1		2,714.2
(+)	Sustaining Capital Expenditure	38.7	20.6	19.3	78.6	6.8	85.5
(=)	Sustaining Cash Cost (Sold)	588.3	227.1	924.3	1,739.7	(5.3)	1,734.4
	Sustaining Cash Cost (Sold) (per t)	2,980.7	2,907.5	2,783.6	2,863.6	0.0	2,854.8
(+)	Workers participation & Bonus	0.9	1.0	1.5	3.4	0.2	3.6
(+)	Corporate G&A					52.8	52.8
(=)	AISC (Sold)					0.0	1,790.7
(=)	AISC (Sold) (per t)						2,947.6
(=)	AISC (Sold) in US\$/lb						1.34