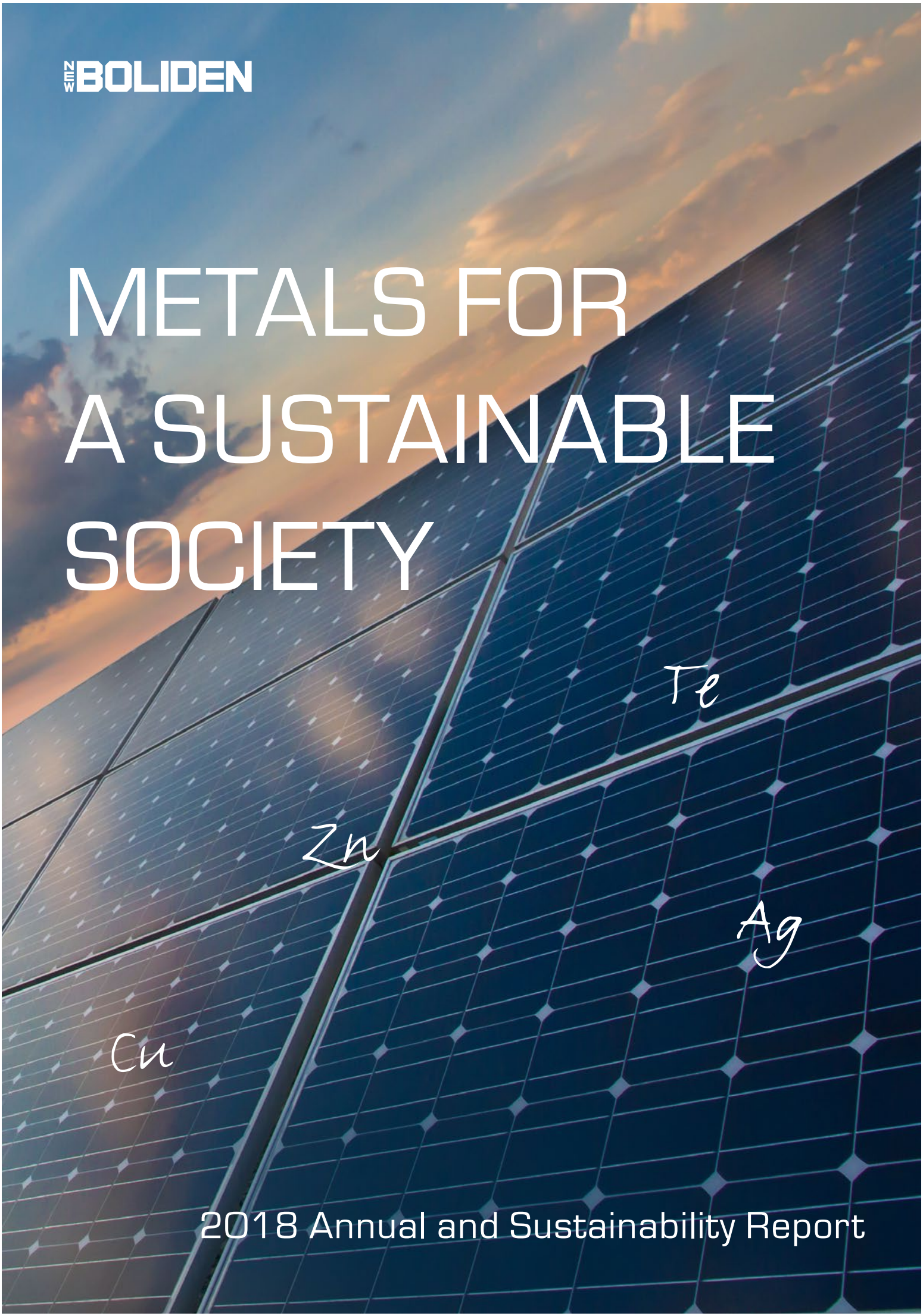

BOLIDEN
METALS FOR A SUSTAINABLE SOCIETY
Te
Zn
Ag
Cu
2018 Annual and Sustainability Report

# The year in brief

## Contents



## Boliden – metals for a sustainable society

Boliden produces metals that make modern society work. The operations are characterised by care for people, the environment, and society. Boliden enjoys a leading position in both sustainable mining and metal production and metals recycling. The combination of in-depth experience and the development of best available technology ensures that our mines and smelters are well-positioned to take on the global competition.

# The year in brief

| Key data | 2018 | 2017 |
|---|---|---|
| Revenues, SEK m | 52,454 | 49,531 |
| Operating profit, ex. revaluation of process inventory, SEK m | 9,074 | 8,913 |
| Operating profit, SEK m | 9,004 | 9,015 |
| Earnings per share, SEK | 26.32 | 25.06 |
| Free cash flow, SEK m | 5,692 | 7,309 |
| Investments, SEK m | 6,140 | 5,588 |
| Return on capital employed, % | 20 | 21 |
| Return on equity, % | 19 | 22 |
| Net debt/equity ratio, % | 5 | 11 |
| Dividend per share[1], SEK | 8.75 | 8.25 |
| Redemption per share[1], SEK | 4.25 | 5.75 |
| Accidents (LTI frequency) | 5.1 | 6.3 |
| Metals to water, tonnes (Me-eq) | 8 | 9 |
| Metals to air, tonnes (Me-eq) | 92 | 109 |
| Carbon dioxide intensity, tonnes/tonne | 0.64 | 0.69 |
| Number of serious environmental incidents | 0 | 1 |

[1] The figures for 2018 comprise proposed dividend and share redemption amounts, respectively.

- The operating profit, excluding revaluation of process inventory, increased to SEK 9,074 m (8,913) due to higher volumes and metal prices
- Free cash flow totalled SEK 5,692 m (7,309). The year on year decrease was primarily due to increased investments.
- Large-scale projects during the year included the new sulphuric acid plant at Harjavalta and the new crusher station at Aitik.
- An ordinary dividend of SEK 2,256 m (SEK 8.25/share) was paid in 2018, together with an extra dividend of SEK 1,573 m (SEK 5.75/share) through an automatic redemption procedure.
- On 1 June, Mikael Staffas took over as the new President & CEO.

**About Boliden's Annual and Sustainability Report**
The Annual and Sustainability Report describes Boliden's financial performance and sustainability work. The Directors' Report comprises pages 10–13, 24–53 and 56–69. Boliden's Sustainability Report, which is required under the provisions of chapt. 6, section 11 of the Swedish Annual Accounts Act, is presented on pages 10–13, 34–47 and 56–57.

Truck fleet at Boliden Kevitsa. The combination of the mine's expansion and an increased percentage of in-house transportation necessitated the expansion of the truck fleet.

# A strong year for Boliden

High levels of production stability, investments in growth, and improved operational safety are just some of the high points for 2018. The importance of metals in addressing climate change has also become increasingly obvious.

**A world of metals**

Metals have played a key part in societal development for a long time now. They have been – and continue to be – critical within a large number of fields. Metal usage continues to grow, partly as a result of global population growth and partly because more and more people can afford to buy goods and services that depend on metals.

There is also a growing demand for more metals to meet new societal challenges, such as climate change. This most urgent of issues requires a wide range of responses, most of which entail producing more energy, in the future, without the use of fossil fuels. This, in turn, means that more metal is required, for example in conjunction with transport electrification.

**Boliden's position**

As one of Europe's biggest producers of the majority of metals, Boliden is well-positioned to help limit Europe's heavy dependence on imports and to improve the sustainability element of metals' value chain. We have in-depth experience of mine development, operation and reclamation and have, over time, built up experience in metal recycling. Our broad portfolio of metals ensures increased stability when prices fluctuate. We also actively attempt to identify new deposits of various metals that will be important in the future.

Naturally, our operations face some challenges. Transports at our mines must become increasingly electrified, so we are delighted that a pilot project with this specific objective is now in progress at Aitik and that similar technological development work is taking place in our underground mines. One of the challenges facing our smelters is to increase resource utilisation, thereby increasing revenues, while at the same time reducing the amounts of waste generated. We are therefore continuously developing our capacity to extract more metal from the raw materials, most recently illustrated by our decision to invest in a new leaching facility at Rönnskär. We are convinced that the challenges in both areas can be met over time and that Boliden as a responsible company with a long-term perspective will continue to contribute towards finding, amongst other, environmental and climate solutions.

**Operational development**

Boliden is in the midst of a massive investment programme that affects large parts of the Group. The expansion of production at Aitik, Garpenberg and Kevitsa is proceeding apace, and we are also investing in new tailings ponds at Tara and in the Boliden Area, in order to ensure an extension to the lifespan of existing operations. On the smelters side of our operations, we have recently expanded zinc production at Odda and a comprehensive programme of expansion and renewal is taking place at both Rönnskär and Harjavalta. Aitik's new crusher came on line during the year, and the same was true for parts of the new sulphuric acid plant at Harjavalta – both important milestones ahead of our impending increases in production.

Stable processes within the company, coupled with the experience and expertise we possess, mean that we have every confidence with regard to our current investments. The respective units' competitiveness will be strengthened as new facilities become operational in the year ahead. Our long-term planning – in

common with that of many other companies – has, however, identified securing tomorrow's talent pool as a challenge we must face. The popular image of the mining and metals sector is now changing, but we must continue recruiting and developing cutting edge expertise in a number of areas. We will, of course, also continue working with a range of different suppliers on the joint development of new solutions.

**Trends during the year**

2018 began with high prices for metals, but these fell over the course of the year. 2018 as a whole was, however, a strong year for Boliden, with prices that were, on average, good, and stable production. Furthermore, grades at Boliden's larger mines remained above the ore base average over the course of the year. These effects yielded an operating profit of SEK nine billion. The fact that Boliden's net debt/equity ratio is now lower than prior to the Kevitsa acquisition in 2016 is also noteworthy.

Developments in the areas of the work environment and safety were another area in which we enjoyed success in 2018. Our efforts to develop a corporate culture based on high levels of safety awareness continued unabated and, as a result, the accident frequency fell. However, we are naturally not content with that, we want it to come down more. It is also worth noting that two thirds of the automation initiatives we take relate to improvements in both safety and the work environment. And coming back to the above-mentioned talent pool challenge, this development will also help raise awareness of our operations and thereby, in turn, enhance our ability to recruit the best of the best.

> I hope you feel the same pride as I do in our fantastic operations.

**Mine-site exploration**

Boliden's exploration work focuses on identifying and upgrading mineralisations in the vicinity of existing mining operations. Historically speaking, this strategy has proven to be successful and is currently forming the basis for the expansions at Aitik and Garpenberg. Exploration work at Tara continued to be successful in 2018, but no other major contributions were noted. Drifts have been cut at Tara and Kristineberg in order to establish better drilling positions for new mineralisations.

**Societal benefits and competitiveness**

It starts with exploration successes and is fulfilled through production stability and carefully selected investments. At the same time, increasing production at our mines and smelters helps Europe to meet existing challenges in relation to raw materials supply in a world that is demanding more and more metals. Several of our metals have, furthermore, been identified as being of special strategic interest for the continent as a whole. 2018 was a strong year for Boliden, and we are well-positioned for the future. I would like to take this opportunity to thank all of my Boliden colleagues for the long-term responsibility and personal commitment they have displayed during the year. I hope that you feel the same pride as I do in our fantastic operations.

Mikael Staffas
President & CEO

# Boliden's metals for modern, sustainable societies

Demand for metals is associated with improved standards of living and economic growth. Infrastructure, buildings, energy systems, and vehicles – they all contain metals. Metal recycling is becoming increasingly important, but in a world in which many countries with growing populations are developing rapidly, there is also a real need for primary production.

## Social

The UN estimates that the global population will grow by 1 billion by 2030. The biggest growth in demand for metals will, at the same time, be seen in countries with a GDP/capita of between USD 5,000 and 15,000, as they develop from agricultural societies to industrial ones. Sweden's GDP/capita, by contrast, exceeds USD 50,000, and a Swede is expected to need 0.6 tonnes of copper and 0.35 tonnes of zinc during their life.

## Environment

Modern energy systems with renewable energy sources require up to 12 times more copper than traditional energy systems. The transport sector, for example, needs charging infrastructure for electric vehicles, which contain 3 – 4 times more copper than petrol-driven ones. Other metals, such as nickel and cobalt, are also closely associated with climate change adaptation and battery technology.

## Economy

Europe is a significant net importer of metals, and the EU estimates, furthermore, that 30 million job opportunities depend on this raw material supply chain. The World Corrosion Organization estimates that the costs of corrosion worldwide are on par with those for global food production and distribution. Over half of global zinc usage is designed to reduce corrosion-related costs.


Copper is one of the best conductors of electricity and heat, and approximately 60% of total copper usage goes to these applications. Silver, tellurium and zinc are also important metals in solar cell farms.

# Mines and smelters with synergies

Boliden is a high-tech metals company that takes a long-term approach to meeting society's demand for base and precious metals – from exploration to production and the delivery of high quality metals to industrial customers. Operations are based on experience, innovation and advanced technology, developed in partnership with Nordic technology and engineering companies.

## Metal mix

Boliden's broad portfolio of base and precious metals provides better stability over pricing cycles. By-products, such as lead and sulphuric acid, also generate important revenue streams for our mines and smelters, respectively.

## Earnings

High-level technical expertise, highly developed processes, and a strong Balance Sheet ensure stability. An integrated business model of mines and smelters also helps ensure greater earnings stability, while partial in-house concentrate supplies provide flexibility in the raw materials market.

## Growth

Successful exploration has laid the foundation for growth investments in several mines. Capacity-boosting investments are also being made at several smelters, making them highly competitive.

## Productivity

A strong corporate culture based on personal responsibility, continuous improvements, and cost-awareness, coupled with carefully considered investments results in continuous productivity development.

## A long-term approach

All of Boliden's larger mines have long lifespans, and significant steps are being taken to extend the lifespan of the others. The smelters cooperate in order to extract as much metal as possible from primary and secondary materials. We also invest heavily in sustainable waste solutions.

## Geography

Geologically attractive areas with good exploration prospects, located in stable democracies. The locations also have good access to renewable energy, which is beneficial from a climate viewpoint.

Boliden's market is global, but its operations are located in northern Europe. Boliden is one of the world's leading zinc producers and one of the leading copper and nickel producers in Europe.

# Strategic development

Boliden is a metals company that focuses on a long-term approach and sustainable development. Our core competencies lie in exploration, mining, smelting, and metal recycling.

## Vision

Metals are vital to the development of modern societies. Boliden's vision is to be one of the leading companies in the industry in terms of responsibility, value creation, development, and productivity. Boliden has a zero vision for accidents affecting people and the environment.

## Business concept

By providing, refining, and recycling the base and precious metals that society needs, Boliden acts as an important component of the circular economy. We work to ensure optimum resource and materials processing at every stage of the value chain and strive to ensure sustainable development in the fields of safety, environmental performance and business ethics.

## Values

Boliden's values involve passion for improvements, taking responsibility for the entire value chain, and demonstrating personal commitment to our work and the company. We strive to be a company governed by its values in that they form the basis for how we develop our business.

## Strategy

Boliden's strategic development follows the principle that organic development creates greater value than acquired development, and investments are made only when other possibilities have been exhausted. Boliden's strategy, of which sustainability issues form an integral part, results in high levels of value creation for each unit and is based on a corporate culture characterised by extensive personal responsibility. The focus at a more overall level is on prioritising investments that establish a value-creating strategic position for the company.

## Operational excellence

Improved stability and high productivity in existing facilities cut costs, increase production, reduce the risk of accidents, and minimise environmental impact, and all without the need for major investments. Elimination of bottlenecks results in resource utilisation throughout the value chain and results in substantial value creation.

## Organic growth

Boliden invests substantial resources in a range of growth projects, over and above its efforts to enhance operational efficiency. These investments have been made – and continue to be made – in existing mines and smelters in order to boost the respective units' long-term competitiveness.

## Selected acquisitions

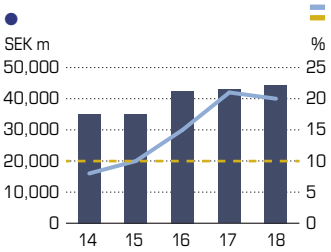
Boliden is constantly evaluating a variety of potential acquisition objects. Operational mines and new mining projects, and smelting and refining operations, are all evaluated on the basis of the economic climate and Boliden's acquisition criteria. The acquisition criteria are based on the Group's risk profile and the potential for value creation through expertise and investment projects.

# Targets

Strong profitability, safe workplaces, and a good environmental performance are all key components of Boliden's operations. By achieving targets in these areas, we lay the foundations for strong competitiveness.

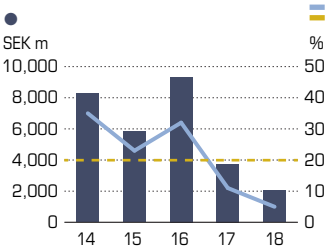
## Financial targets

**Return on investments**
The return on investments shall be a minimum of 10%



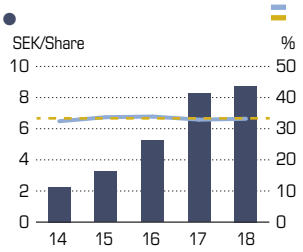

The return on capital employed totalled 20% (21). The average return per annum during the period from 2014 to 2018 has been 15%. Any investments made shall be in line with Boliden's strategy and available resources and shall demonstrate a return of at least 10%.[1)]

**Net debt/equity ratio**
Boliden endeavours to achieve a net debt/equity ratio in an economic upturn of approximately 20%




The net debt/equity ratio at the end of 2018 was 5% (11). The decrease since 2017 was due to the free cash flow for the year. In recent years, the reclamation liability has become an increasingly important balance sheet item. It is, however, not included in the net debt concept. For 2019, the goal will be specified to also include the net reclamation liability in the calculation.

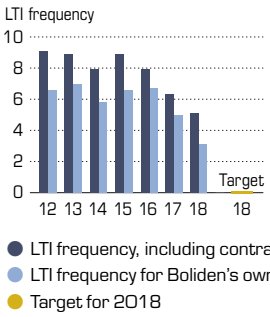
**Dividend**
The dividend shall correspond to one third of the net profit




The proposed ordinary dividend is SEK 8.75 (8.25) per share, corresponding to 33.2% (32.9) of the net profit for the year. In addition, an extra dividend of SEK 4.25 (5.75) per share, in the form of an automatic share redemption procedure, has been proposed. The ordinary dividend share during the period from 2014 – 2018 comprised 33.2% of the aggregate net profit for the period.

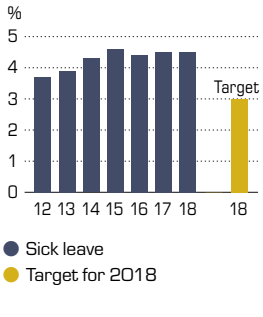
## Social targets

**Accidents**
Boliden's target was to have achieved zero accidents resulting in absence from work per month by 2018



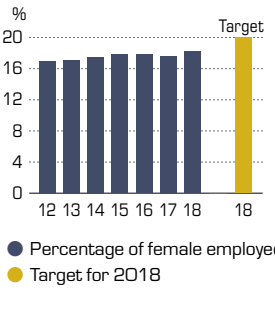

The LTI frequency, i.e. the number of accidents leading to absence from work for employees has decreased by 53% since 2012. The corresponding figure for employees including contractors fell by 44%. One of the reasons for these reductions is an increased commitment, by management and employees alike, to day to day health and safety work.

**Sick leave**
The sick leave rate was not to exceed 3.0% by 2018




The sick leave rate has increased by 22% since 2012. The sick leave rate in 2018 was 4.5%, with seasonal variations during the year. Boliden is continuing its efforts to prevent and rehabilitate in conjunction with both physical and mental ill health.

**Gender equality**
Women were to comprise at least 20% of the workforce by 2018

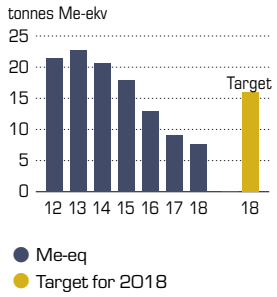



The number of women working at Boliden has increased by 7% since 2012. Women comprised 18.2% of the total workforce in 2018. Women also comprised 107, or 22%, of the total of 483 new recruits in 2018.

[1)] The project's return shall exceed Boliden's weighted average cost of capital (WACC), adjusted for a risk surcharge. (The WACC before tax is nominally set at 12%, which corresponds to 10% in real terms.) Calculations for major and long-term projects are normally conducted in real terms, and are based on forecast interest rates, metal prices, exchange rates, inflation and other relevant assumptions drawn from internal analyses and external assessments.

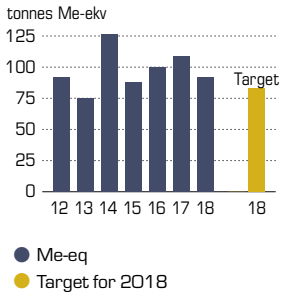
# Environmental targets

**Metal discharges to water**
Discharges of metals to water were to decrease by 25% between 2012 and 2018



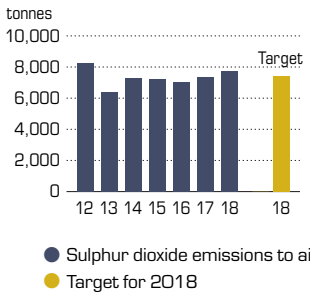

Discharges of metals to water have decreased by 64% since 2012, and fell by 15% in 2018 due to optimised water management and the re-use of water for Boliden's processes.

**Metal emissions to air**
Metal emissions to air were to decrease by 10% between 2012 and 2018



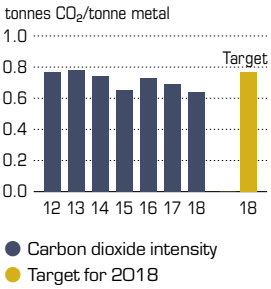

The level of metal emissions to air has remained unchanged since 2012. One of the challenges we have faced during the target period is that the copper smelters have received more complex input materials for which investigative work has been required in order to improve treatment techniques, etc. This has contributed to the variations from one year to another, but in 2018, emissions decreased by 16%.

**Sulphur dioxide emissions**
Sulphur dioxide emissions to air were to decrease by 10% between 2012 and 2018



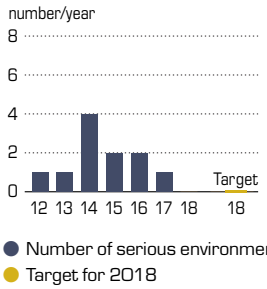

Sulphur dioxide emissions to air have decreased by 6% since 2012. Emissions increased by 5% in 2018 due to changes in production processes at one of Boliden's smelters. The emissions have been rectified, and additional improvements are planned for 2019.

**Carbon dioxide emissions[1)]**
The carbon dioxide intensity was not to exceed 0.77 tonnes of $CO_2$ per tonne of metal produced by 2018




The carbon dioxide intensity has decreased from 0.77 to 0.64 since 2012. Boliden is working on increasing the electrification of transports in order to reduce the use of fossil fuels and carbon dioxide emissions from processes. We are also working systematically to improve energy efficiency.

**Environmental incidents**
Boliden's target was to have zero serious environmental incidents every year by 2018




A serious environmental incident is an event that causes, or could potentially cause, serious environmental damage. A number of serious environmental incidents have occurred since 2012, but none of them have caused any significant environmental harm. No serious environmental incidents occurred during the year.

In 2018, Boliden set new targets for sick leave, gender equality, discharges and emissions of metals to water and air, respectively, and carbon dioxide emissions. The new targets were set due to the period for the current ones ending in 2018. Boliden also decided that the Group target for sulphur dioxide emissions would become a Business Area target for Smelters. The trend in sulphur dioxide emissions is monitored closely at the relevant units. See page 36 for further information on the new social development and environmental targets.

# Business model

By efficiently extracting and refining the base and precious metals that society needs, and which are recycled after use, Boliden is an important part of the circular economy. Cooperation with suppliers helps ensure improved productivity and environmental performance.

## INPUT

### Capital

| | 2018 | 2017 |
|---|---|---|
| Investments, SEK m | 6,140 | 5,588 |
| Capital employed, SEK m | 44,441 | 42,931 |
| Net debt/equity ratio, % | 5 | 11 |

### Know-how

- Patents, e.g. for electronic recycling, exploration techniques, water treatment
- Rights and permits
- Reclamation expertise
- R&D partnerships with universities, colleges, and suppliers

### People

- Number of employees [FTE]: 5,819 (5,684)
- Contractors and partners

### Relationships

- Cooperation and dialogues with prioritised stakeholder groups
- Long-term development partnerships
- Involvement in industry organisations

### Natural resources

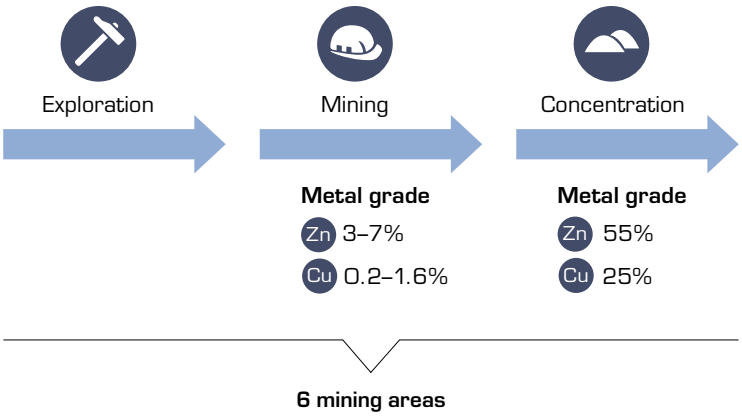
| Natural resources | 2018 | 2017 |
|---|---|---|
| Mineral Resources[1], Mtonnes | 2,050 | 2,065 |
| Mineral Reserves[1], Mtonnes | 1,385 | 1,405 |
| Forests and land, ha | 23,100 | 23,000 |

| Raw materials | 2018 | 2017 |
|---|---|---|
| Energy, TWh | 6.6 | 6.4 |
| – of which, electricity, TWh | 4.5 | 4.6 |
| Water, Mm$^3$ | 145 | 145 |
| Mined concentrate feed (primary material)[2], ktonnes | 2,394 | 2,314 |
| Recycled materials (secondary materials)[2], ktonnes | 349 | 342 |

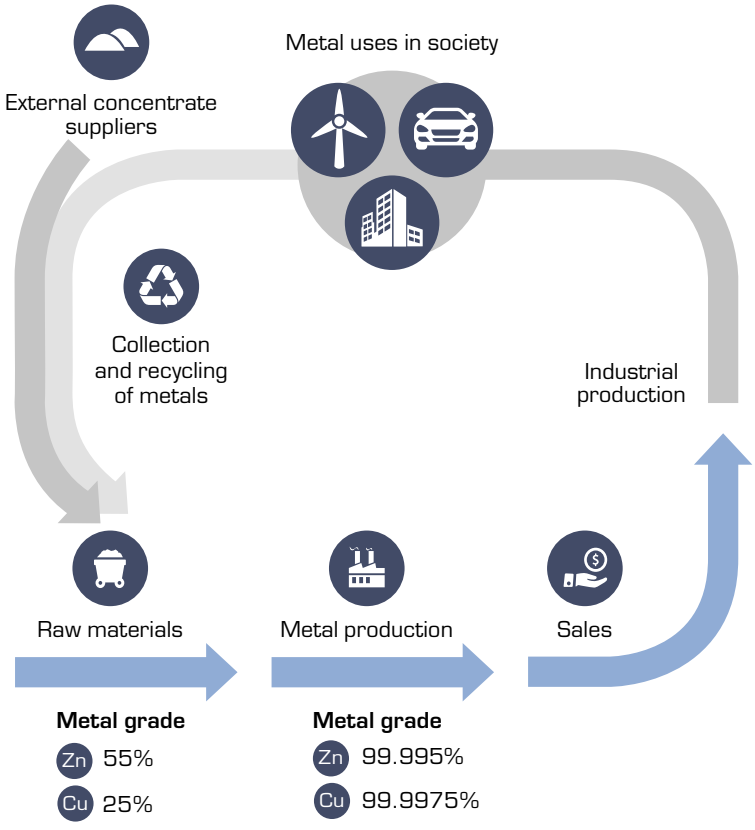
[1] Mineral Resources include measured and indicated resources, while Mineral Reserves include proven and probable reserves. For full details of Boliden's Mineral Reserves and Resources, see pages 106–110.
[2] Adjusted calculation for 2017.

## VALUE CREATION

From exploration to the recycling of metals, value is created for shareholders and society. Cutting-edge competence ensures competitiveness and the minimum possible environmental impact.




Boliden also produces concentrates containing lead and nickel, etc. Concentrates include other metals, in addition to the primary metals, which are largely processed in Boliden's smelters.




## RESULT

### Metal production

| | 2018 | 2017 |
|---|---|---|
| Zinc, ktonnes | 486 | 457 |
| Copper, ktonnes | 364 | 353 |
| Lead and lead alloys, ktonnes | 76 | 78 |
| Nickel matte, ktonnes | 31 | 25 |
| Gold, kg | 16,653 | 17,776 |
| Silver, kg | 544,846 | 551,286 |

Boliden also, and in addition to the above metal production, produces large quantities of by-products, such as sulphuric acid, tellurium, nickel sulphate, and copper residuals.

### Economic impact

- Purchases: SEK 39,749 M (36,664)
- Salaries paid to employees: SEK 4,818 M (4,532)
- Dividends paid to shareholders[1]: SEK 3,556 M (3,829)
- Interest paid to lenders: SEK 242 M (282)
- Taxes and charges: SEK 1,562 M (1, 881)
- Retained within Boliden: SEK 2,133 M (3, 480)

### Social impact

- Direct and indirect job opportunities in Sweden, Finland, Norway and Ireland[2]: 30,000
- Frequency of occupational accidents leading to absence from work, LTI: 5.1 (6.3)
- Sick leave: 4.5 (4.5) %
- Involvement and value creation in local communities
- Utilisation of land and water

### Environmental impact

| | 2018 | 2017 |
|---|---|---|
| Discharges of metals to water, tonnes, Me-eq | 7.7 | 9.1 |
| Emissions of metals to air, tonnes, Me-eq | 92 | 109 |
| Sulphur dioxide emissions, ktonnes | 7.7 | 7.4 |
| Carbon dioxide emissions, ktonnes | 971 | 1,024 |
| Energy, TWh | 6.6 | 6.4 |
| Waste: | | |
| i. Non-hazardous, ktonnes | 309 | 355 |
| ii. Hazardous, ktonnes | 876 | 873 |

[1] The 2018 amount includes a proposed ordinary dividend of SEK 8.75 per share and an extra dividend of SEK 4.25 per share, in the form of an automatic share redemption procedure.
[2] "Boliden's job creation, contribution to GDP and tax 2017", EY.

The model is based on the framework issued by the International Integrated Reporting Council (IIRC). The primary purpose of the model is to explain how the Group creates long-term value

# Metal market trends

Copper and zinc prices began falling in mid-2018 after having risen consistently for almost two years. The average prices did, however, remain virtually unchanged year on year. The price of nickel was, on average, significantly higher than in 2017 after rising in the first half of the year, but then – in common with prices of other base metals, falling in the latter half of the year. The price of gold was stable, but the silver price trend was negative from mid-2018 onwards.

**Market trends, 2018**

The industrial climate showed positive development, but uncertainty with regard to economic growth increased in the autumn. The growth in demand for copper and nickel continued to be strong, but was negative for zinc. There were few disruptions to production in copper mines, and concentrate supplies increased. Global production by copper smelters increased and metal supplies were balanced by demand.

Large new zinc mines opened, and concentrate supplies increased in the latter half of the year, which resulted in spot market treatment charges rising from a low starting level. Metal production declined at China's zinc smelters, and metal supply continued to fall short of demand, in spite of the increase in smelter production elsewhere in the world.

Demand for nickel metal exceeded supply, but supply subsequently increased in Indonesia and China in conjunction with a levelling off of growth in the production of stainless steel.

**Global economic growth**

The demand for metals grows most rapidly in countries where the GDP per capita lies in the interval from USD 5,000 to USD 15,000 as societies develop from agricultural to industrial economies. A large proportion of the world's population still

## Driving forces

Factors that drive demand for metals and which consequently impact pricing.

New technology | Population growth | Urbanisation | Economic growth in developing countries | Increased prosperity in emerging economies | Industrial activity levels | Investments in infrastructure | Automotive market trends

Find out more about price trends in 2018 on pages 16–19

## GDP/capita 2018


All values have been rounded off in USD (PPP) constant prices. Changes show GDP growth year on year. Source: Oxford Economics, IMF October 2018

have per capita GDPs of less than USD 5,000, and high metal demand growth rate are therefore expected long into the future. Mature economies still account for a significant percentage of global metal demand, but growth in these economies is weak.

Mature economies' investments in new energy systems will have a positive impact on demand. This demand will, however, be increasingly met using recycled metals.

**Economic trends**

All mines have a limited lifespan and supply declines if new mines are not brought into production. Justifying investments in new mines requires assumptions that future prices will be sufficiently high to ensure project profitability. When metal prices are low, high-cost mines are mothballed or closed permanently, ensuring a balance in the market.

There has been a rapid growth in copper smelter construction over the past 10 – 15 years, particularly in China, and as a result, a global overcapacity has arisen. Treatment charges were consequently low for an extended period of time, but turned around some years ago when numerous copper mines were opened and others expanded. Increased metal production also caused the price of copper to fall from a previously high level. The launch of new mining capacity has, however, been on a limited scale in recent years, and treatment charges have fallen slightly from previously high levels.

There has been an equally rapid growth in zinc smelter construction in China, but little when it comes to mines. Concentrate has been in short supply in recent years, and treatment charges have fallen to low levels. Metal production fell short of demand, which has been covered by stocks. A few new mines opened in 2017 and 2018, and concentrate supply increased.

Investments in nickel mines and smelters were substantial until around 2012, and there has been a surplus of metal for many years now, healthy demand trends notwithstanding. A number of mines have been temporarily closed since 2014 while metal demand has continued to increase, and there has been a shortage of metal since 2016. Stocks have, however, remained high, and the metal price has consequently remained low in comparison with the industry's cash cost level.

## Development in subsidiary markets, 2018

Demand for Boliden's main metals is primarily driven by global industrial activity levels, and by trends in infrastructure, the construction market (the construction sector's investments), and the automotive market.

| Subsidiary market | Global | China | USA | Europe |
|---|---|---|---|---|
| Industrial activity levels | Growth rate decreased | Growth rate decreased | Growth rate increased | Growth rate decreased |
| The construction sector's investments | Growth rate increased | Growth rate decreased | Growth rate increased | Growth rate unchanged |
| Automotive - production | Production level unchanged | Production decreased | Production level unchanged | Production level unchanged |

### ABOUT PRICING

**Metals**

Copper, zinc and lead prices are set daily on the London Metal Exchange (LME). Premiums, which comprise surcharges whose levels are determined by the local balance between metal demand and smelter capacity, are normally added to the price, along with shipping costs and payment terms. Gold and silver prices are similarly set by the London Bullion Market Association (LBMA). Palladium, platinum, cobalt and tellurium prices are published in the Metal Bulletin.

**Concentrates**

The price of concentrate is the LME price minus the treatment charge (TC), and is calculated on that part of the concentrate's metal content that is payable as per agreed terms between the mines and the smelters. The balance between the supply of concentrates from the world's mines and the smelters' demand determines the prices and terms between mines and smelters.

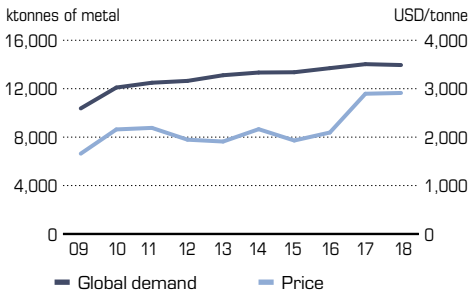
Find out more about Boliden's income model on pages 20–21

# Price and terms trends, 2018

## The zinc market

### Price and global demand

SOURCE: CRU JAN 2019




### Global demand

14.0

MTONNES (–0.5%)

Global demand declined by 0.5%, but continued to outstrip metal production by smelters, and was balanced by stock. Demand fell in China by 1.5% and accounted for approximately 47% (48) of global demand. Demand elsewhere in the world increased by approximately 0.5%.

### Average price

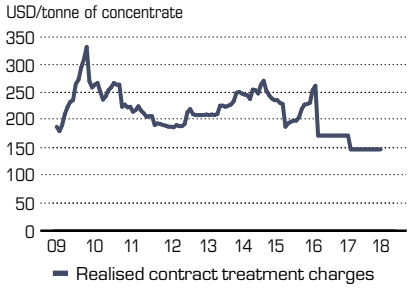
2,922

USD/TONNE (+1%)

The price rose to over USD 3,400 at the beginning of the year, only to subsequently fall again up to the end of the third quarter. The price at year-end continued, however, to exceed the cash cost for high cost mines at USD 2,519 (3,338) per tonne, corresponding to a decline of approximately 25% from levels at the end of the previous year.

### Treatment charges (TC)

SOURCE: CRU JAN 2019




### Global smelter production

13.3

MTONNES (–1.3%)

Global production fell in spite of successive increases in concentrate supply. Production in China fell by 4% and has fallen by 6% over the past two years, in spite of the construction of new smelters, due to weak profitability and the requirement for environmental investments before operating permits are granted.

### Realised contract treatment charges (TC)

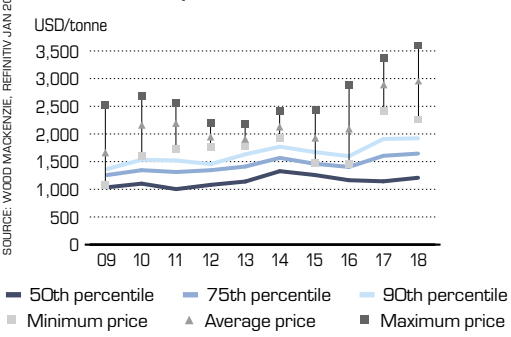
147

USD/TONNE OF CONCENTRATE (–15%)

Contract treatment charges fell, year on year, and treatment charges, including price sharing of metal price changes were, on average around 15% lower. Spot treatment charges for concentrate imported to China started the year at a low level but rose successively and by the end of the year, were higher than western contract levels.

### Cash cost and price

SOURCE: WOOD MACKENZIE, REFINITIV JAN 2019

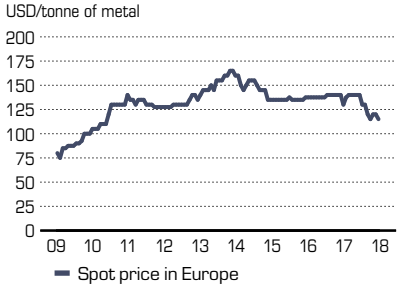



### Cash cost, zinc

In weaker economic markets, metal prices have often reached a low point when they equate to the cash cost level for high-cost mines. The price of zinc has, on occasional trading days under challenging economic conditions, fallen towards the 60th percentile, where 40% of production has a negative cash flow. As a yearly average, zinc prices in a weak economic climate have been close to the 90th percentile. Exchange rate fluctuations against the USD had a marginal impact on the average cash cost in 2018. Cash cost in the 90th percentile is estimated to have remained virtually unchanged at around USD 1,900 (1,900) per tonne.

### Spot metal premiums in Europe

SOURCE: CRU JAN 2019




### Global mined production

12.4

MTONNES (+4.1%)

Mined production increased by just over 4% and was on par with demand from smelters. Concentrate demand was, however, reined in by low levels of capacity utilisation in the Chinese smelting industry. Mined production in China increased by just over 1% and by just under 6% in the rest of the world as new mines became operational.

### Spot metal premiums in Europe

129

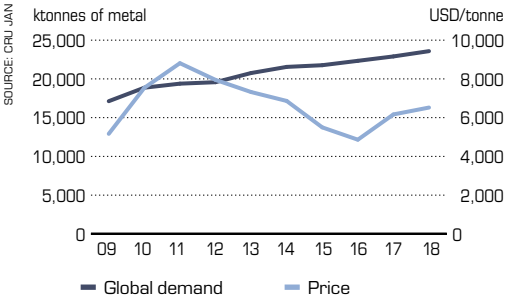
USD/TONNE (–6%)

Metal was available for rapid delivery in Europe in spite of global metal production falling short of global metal demand, and spot market metal premiums fell.

# Copper market Cu

## Price and global demand

SOURCE: CRU JAN 2019




## Global demand

23.6

MTONNES (+3%)

Global metal demand increased by just under 3% and was on par with metal production. Demand in China increased by slightly less than 5% and accounted for 49% (49) of global demand. Elsewhere in the world, demand increased by around 1.5%. Global demand was on par with production.

## Average price

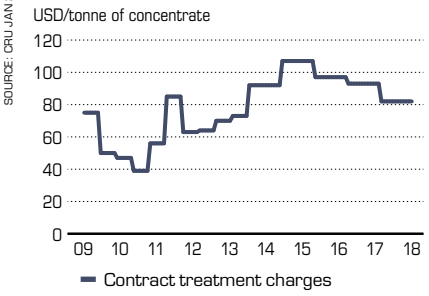
6,523

USD/TONNE (+6%)

The price was stable at around USD 7,000 in the first half of the year, but fell between the middle of the summer and September to a level of around USD 6,000, remaining there for the rest of the year. The price at year-end was USD 5,949 (7,207)/tonne, which is 17% lower than at the end of 2017. The price at this level does, however, continue to be higher than the cash cost for high cost mines.

## Treatment charges (TC)

SOURCE: CRU JAN 2019




## Global smelter production

23.7

MTONNES (+2.1%)

Global production increased by just over 2%, year on year. Production in China increased by 6% in spite of a slow start-up by new smelters, and accounted for 39% (38) of global production. Production elsewhere in the world remained unchanged. A few large smelters in Asia stopped production after environmental audits.

## Contract treatment charges (TC)

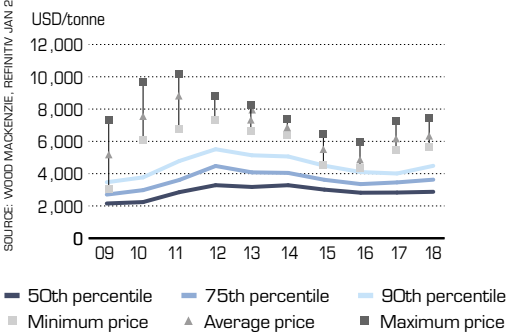
82.25

USD/TONNE CONCENTRATE (–11%)

Contract treatment charges fell in expectation of some degree of concentrate shortage when the contracts were signed at the beginning of 2018. Disruptions to production in the mining sector were, however, few in number, and the concentrate market was balanced. There were periodic surpluses driven by smelter closures after environmental audits and during maintenance work.

## Cash cost and price

SOURCE: WOOD MACKENZIE, REFINITIV JAN 2019

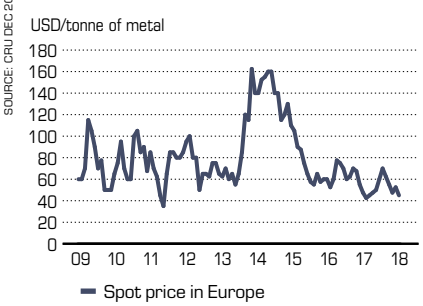



## Cash cost, copper

In weaker economic markets, metal prices have often reached a low point when they equate to the cash cost level for high-cost mines. The price of copper has, in isolated instances, fallen towards the 80th percentile, where 20% of production has a negative cash flow. As a yearly average, copper prices in a weak economic climate have been above the 90th percentile for copper. Exchange rate fluctuations against the USD had a marginal effect on the average cash cost in 2018. Energy costs and consumables costs increased. The cash cost in the 90th percentile is estimated to have increased to around USD 4,500 (4,000) per tonne.

## Spot metal premiums in Europe

SOURCE: CRU DEC 2018




## Global mined production (concentrate)

16.9

MTONNES (+2.2%)

Disruptions to production in the mining sector were fewer in number than in recent years and concentrate supplies increased. Smelters' demand for concentrate increased overall for the year, but concentrate demand was periodically low due to maintenance shutdowns and closures triggered by environmental audits in China and India. Mined production in Chile increased by just over 7%.

## Spot metal premiums in Europe

47

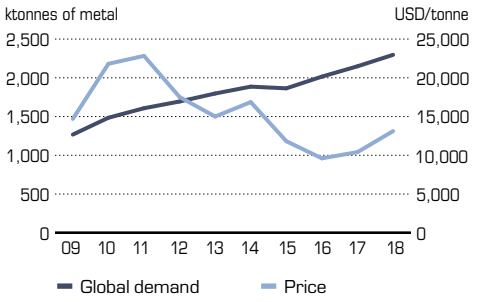
USD/TONNE (+16%)

Spot premiums rose from a low level.

# The nickel market

### Price and global demand

SOURCE: CRU JAN 2019




### Global demand

2.3

MTONNES (+6.9%)

Global demand for nickel rose by approximately 7% with the increase driven by increasing production of stainless steel and lithium batteries. Stainless steel production increased strongly in Indonesia, China, and India. Metal demand outside Asia remained unchanged.

### Average price

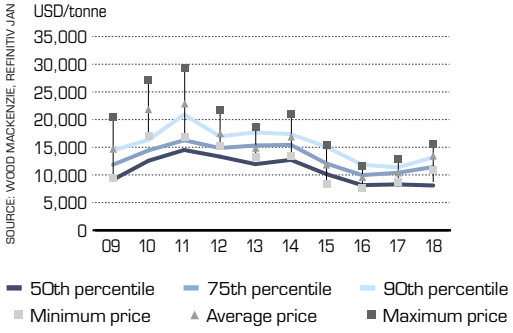
13,122

USD/TONNE (+26%)

The price rose in the first half of the year, but then fell and ended the year at a lower level than it began. The average price was, however, significantly higher than last year. The price at year-end was USD 10,605 (12,706) per tonne, which is 17% lower than at the end of 2017.

### Cash cost and price

SOURCE: WOOD MACKENZIE, REFINITIV JAN 2019




### Cash cost, nickel

In weaker economic markets, metal prices have often reached a low point when they equate to the cash cost level for high-cost producers. The price of nickel has seldom fallen below the cash cost in the 75th percentile, but high stock levels pushed the price of nickel even lower than in 2016 and 2017. The cash cost in the 75th percentile was USD 11,400 (10, 400) per tonne, while in the 90th percentile, it was USD 13,200 (11,350) per tonne. Exchange rate fluctuations are adjudged to have had a limited effect on average cash cost. Higher energy prices have resulted in increased costs.

### Global smelter production

2.1

MTONNES (+5.3%)

Smelter production increased by just over 5%, year on year, driven by rising production of low-grade ferronickel from laterite ore in Indonesia and China. Rapid capacity expansion continued in Indonesia. If Indonesia and China are excluded, production fell by 3%. Smelters that use concentrate have closed in 2017–2018, resulting in a matte shortage in 2018.

### Global mined production

2.4

MTONNES (+6.9%)

Mined production increased by 6% with laterite ore accounting for the entire increase and Indonesia accounting for a large percentage of that. The ore is used in domestic production of low-grade ferronickel and is also exported, mainly to China. Global mined production, excluding Indonesia, fell by 4%. A number of mines with sulphide ores have temporarily closed in recent years, and there was a shortage of concentrate for smelters in 2018.

# The lead market

### Lead price

SOURCE: REFINITIV JAN 2019


### Average price

2,242

USD/TONNE (–3%)

### Lead

Global demand for lead totalled 12 Mtonnes, corresponding to a year on year increase of approximately 1%. Demand for batteries for the new vehicle market increased apace with demand for the replacement market. Demand for lead in China remained unchanged, year on year, while elsewhere in the world, it increased by around 2%. Demand in mature economies increased by approximately 2%. Metal production fell short of metal demand, with the shortfall balanced by stocks.

# The markets for precious metals and sulphuric acid

Au Ag

SOURCE: REFINITIV JAN 2019

**Gold price** **Silver price**


**Average price**

1,269
GOLD
USD/TR.OZ. (+1%)

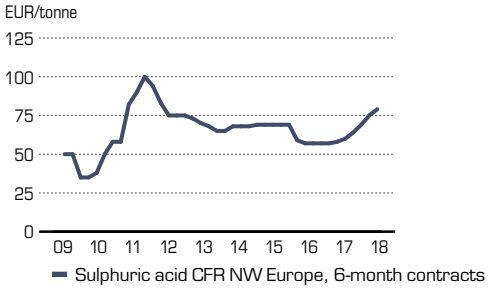
15.7
SILVER
USD/TR.OZ. (–8%)

**Gold and silver**

Gold and silver prices are controlled by expectations with regard to the global economic climate and they have often been sought-after metals in situations of widespread uncertainty and economic weakness. The last ten years have seen the metals become an increasingly popular component of financial investors' portfolios. The average price of gold was on a par with last year, while the price of silver was lower. The increased uncertainty in financial markets during the latter half of the year notwithstanding, precious metal prices mirrored the downward trend in base metal prices.

SOURCE: CRU DEC 2018

**Sulphuric acid price**




**Average price**

71
EUR/TONNE (+24%)

**Sulphuric acid**

Demand for sulphuric acid was on a par with production in the Nordic region, but sulphuric acid exports from the Nordic region did increase, from time to time, when international prices were high and prices accordingly also rose in the Nordic region.

# Exchange rate trends

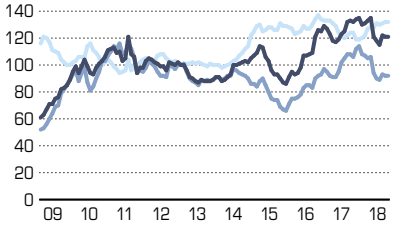
SOURCE: REFINITIV JAN 2019

**Currency**


The USD strengthened against the majority of currencies from spring onwards and exchange rates remained, on average, unchanged year on year. The USA is ahead of Europe in terms of interest rises, which has strengthened the dollar, which has also benefited from uncertainty with regard to trade disputes and the geopolitical situation. The euro weakened slightly against the dollar but has strengthened against the Swedish krona. The average USD/SEK exchange rate was 8.69 (8.54) and by the end of the year, it was 8.97 (8.23). The average EUR/SEK exchange rate was 10.26 (9.63) and, by the end of the year, it was 10.28 (9.85).

# Boliden-weighted index

**Index**




Boliden-weighted index
Metal price/TC index (USD)
Currency index

Index 100=1 January 2013.

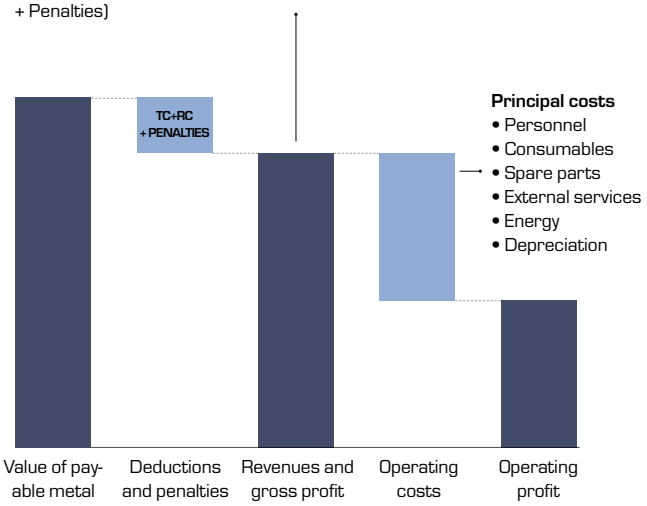
The graph to the left shows a weighted index of the prices, terms, and currencies that have the biggest impact on Boliden's profit, together with a weighted currency index and a weighted metal price and treatment charge index. The Boliden-weighted index fell by 8% during the year, but is still at an historically good level. Exchange rates and metal prices have often displayed a negative correlation that has had an equalising effect on both the Boliden-weighted index and Boliden's profit.

# Income model

Boliden operates in both of the metal market's subsidiary markets, selling raw materials from mines to smelters and selling metals, primarily to industrial customers. Boliden's integrated business model generates a range of synergies and ensures stable revenues for the Group as the income cycles of mines and smelters often differ.

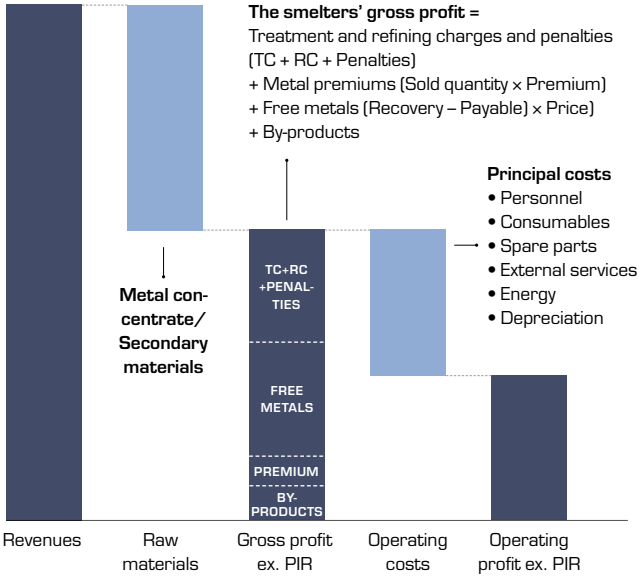
## MINES

**The mines' gross profit =**
The value of metal concentrate (Price x Payable)
– Deductions for treatment and refining charges and penalties (TC + RC + Penalties)




## SMELTERS

**The smelters' gross profit =**
Treatment and refining charges and penalties (TC + RC + Penalties)
+ Metal premiums (Sold quantity x Premium)
+ Free metals (Recovery – Payable) x Price)
+ By-products




Boliden's smelters have the capacity to process considerably larger volumes than those produced by Boliden's mines, and substantial volumes of concentrate are consequently purchased from external mines. All sales of metal concentrates between Boliden's mines and smelters are made on market terms. Bars in the illustrations are not to scale.

## INCOME COMPONENTS

| | |
|---|---|
| **Price** | Global market price in USD set on the LME and LBMA |
| **Premium** | Metal premiums, which comprise a local adjustment of the LME price |
| **Payable** | The payable metal content of the concentrates |
| **TC** | Treatment charges |
| **RC** | Refining charges |
| **Penalties** | Discounts for impurities in the metal concentrates/secondary materials |
| **Recovery** | Extracted metal as a percentage of the metal content, which depends on the quality of the process and the material |
| **By-products** | Income from by-products |

### Mines

Boliden's Business Area Mines produces metal concentrates. Revenues are affected by ore tonnage, metal grades, recovery during the concentration process, the price of concentrates in USD, and exchange rate fluctuations.

The gross profit and revenues are normally the same, as Mines has no input raw materials. Concentrate prices are an effect of the global market price of the pure metal and the payable metal content (the quantity of metal in concentrates for which the mines can get paid), less treatment and refining charges (TC and RC) and deductions for impurities in the concentrate (penalties). The levels of TC/RC and penalty charges are determined in negotiations between mines and smelters.

The operating profit is the gross profit less operating costs, the most important of which are personnel, consumables, spare parts, external services, energy and depreciation.

An individual mine has natural variations in grades, waste rock dilution, energy requirements at different depths, equipment maintenance and other factors that result in the profit varying over time. These variations are often known well in advance and are clearly defined in so-called life of mine plans. Boliden provides guidance on major changes in grades in the larger mines when grades are expected to significantly deviate from the reserves' average grades.

Boliden is one of the world's largest producers of zinc and is known for its high quality products.

**Smelters**

Boliden's Business Area Smelters produces pure metals. Revenues comprise the LME price plus metal premiums. The metal premium is determined by regional supply and demand and constitutes a local adjustment of the LME price, including such factors as transportation and customised alloys, and is affected by payment terms.

The gross profit is the difference between revenues and the price of the raw materials, and comprises treatment and refining charges (from concentrates and secondary raw materials), penalties (remuneration for impurities), metal premiums, income from so-called free metals, and income from by-products. Free metals arise when the amount of metal recovered exceeds the payable metal content of purchased metal concentrates and secondary materials. Sales of by-products extracted during the processing, such as sulphuric acid, also generate important revenues.

The operating profit comprises the gross profit less operating costs, primarily for personnel, consumables, spare parts, external services, energy, and depreciation. Boliden reports operating profit excluding revaluation of the smelters' process inventory (PIR), in order to provide a better picture of the underlying trend.

Unlike mines, smelters have a similar production situation over time with the exception of maintenance shutdowns, which are more comprehensive and which are grouped together – typically every third year and usually during the warmer part of the year. Boliden provides guidance on maintenance shutdowns for the year ahead.

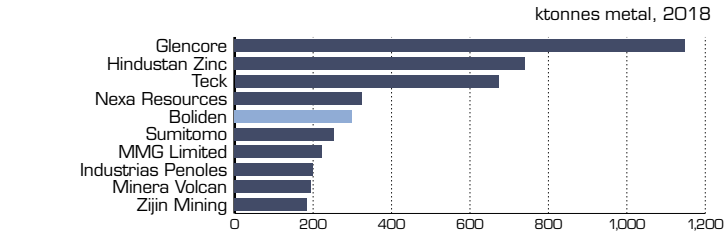
# Market position

Boliden is one of the world's biggest zinc mining and smelting companies and a smaller player in copper, and has, in recent years, built up a position in nickel. Boliden also enjoys a market-leading position in the field of electronics recycling and is a prominent player in the European lead recycling sector.

### Mining companies – zinc

Boliden is the fifth largest zinc mining company in the world. Tara and Garpenberg are both large zinc mines by international standards. The Garpenberg and Boliden Area mines in Sweden receive revenues from a number of other metals, such as silver, gold, lead, and copper, while Tara in Ireland receives limited revenues from by-product metals.

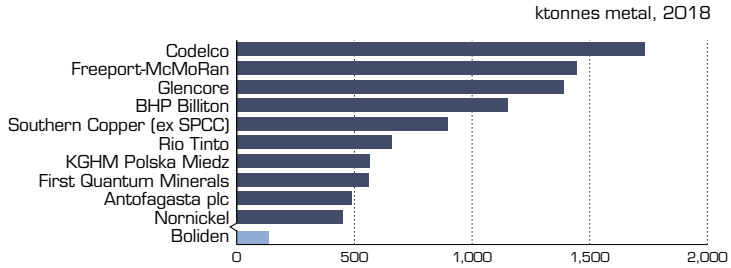
### The ten largest zinc mining operators




### Mining companies – copper

Boliden is a minor operator in the global copper mining industry, but a significant one in Europe. The Aitik mine is a large mine with low grades, world-leading productivity and additional revenues from gold and silver. The Kylylahti mine is a small mine with high grades. Kevitsa is a mine with good productivity and where the primary metals are nickel and copper.

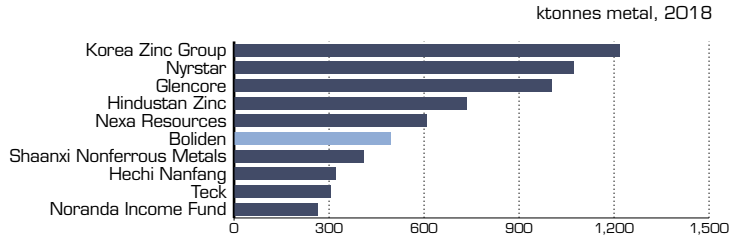
### The ten largest copper mining operators




### Smelting companies – zinc

Boliden is the sixth largest zinc smelting company in the world. The Kokkola smelter is a major zinc producer, while the Odda smelter is a medium-sized producer.

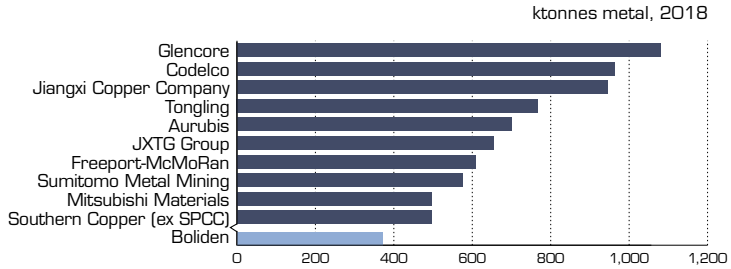
### The ten largest zinc smelting operators




### Smelting companies – copper

Boliden is the fifteenth largest copper smelting company in the world. The Rönnskär smelter is a major copper producer and a world leader in electronics recycling. The Harjavalta smelter is a minor copper smelter, but is the biggest nickel smelter in western Europe. Measured as a producer of refined copper cathodes, Boliden is the twentieth largest company in the world.

### The ten largest copper smelting operators




### Mining and smelting companies – nickel

Boliden has been producing nickel for many years in partnership with one of the world's biggest nickel companies. This partnership was wound up in 2015, and Boliden has built up its own network of concentrate suppliers and customers for Boliden's nickel product, which is known as nickel matte. The purchase of the Kevitsa mine in Finland means that Boliden now has the same structure for nickel as for copper and zinc – an integrated business model including both mines and smelters and where our own mines account for a substantial share of the concentrate requirement.

### Mining and smelting companies – lead

Boliden is a significant global mining company when it comes to lead and a medium-sized smelting company for primary lead. The Bergsöe smelter also gives Boliden a significant position in the European lead recycling sector.

SOURCE: WOOD MACKENZIE DEC 2018

# Competitiveness

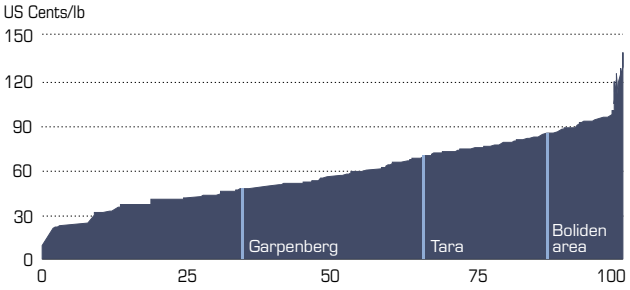
Metals are traded and priced on global exchanges. Competitive costs and sustainable processes are critical to long-term success in that the metals are largely produced and traded in their pure forms without distinguishing properties.

Unlike pure metals, mined concentrates are not traded on exchanges, but are priced by leading operators who announce their terms in the form of annual contracts known as benchmark contracts. The competitiveness of mines – the cost per tonne of metal – is well-known to the market's operators due to the information on cost levels, known as cash cost, regularly compiled by independent analysis companies. Strongly competitive mines often have high grades, substantial revenues from by-product metals, advantageous infrastructure, and low costs. Smelters' competitiveness is usually compared using the cash margin metric, which is a more comparable metric, in that smelters extract multiple metals and by-products. Smelters' competitiveness depends on cost levels, stable processes, and the extraction of metals and by-products in addition to their primary metals. The following graphs display data produced by an analysis company that was not compiled by Boliden.

## Cash cost in the mining industry

### Zinc – cash cost C1 composite costing

SOURCE: WOOD MACKENZIE JAN 2019

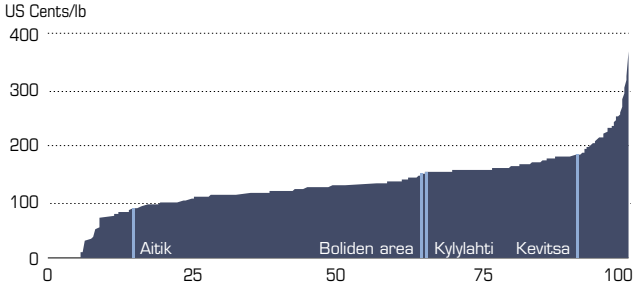



Percentage of the industry's production of zinc metal in concentrate, %

Garpenberg and the Boliden Area have substantial revenues from several metals, and cash costs are calculated using pro rata costing. Tara is described using normal costing. According to Wood Mackenzie, Garpenberg's productivity is amongst the best in the world, and Tara's productivity is high.

### Copper – cash cost C1 composite costing

SOURCE: WOOD MACKENZIE JAN 2019

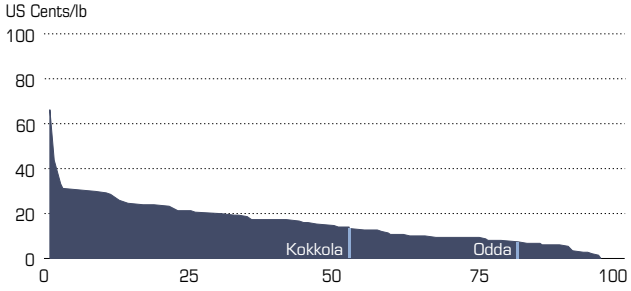



Percentage of the industry's production of copper metal in concentrate, %

Aitik's cash cost is low due to it being the world's most productive open pit mine with concentrating facilities (according to Wood Mackenzie). Kevitsa is a nickel and copper mine with by-metals. Kevitsa is located in the better quartile of the industry's cash cost curve for nickel.

## Cash margin for smelters

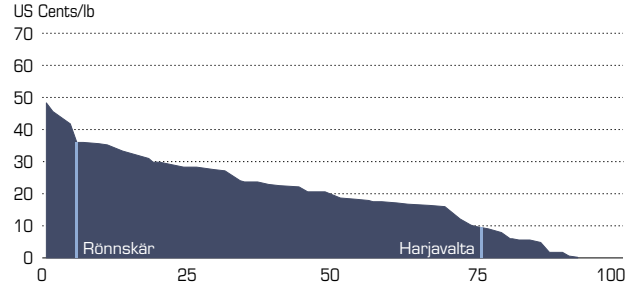
### Zinc – cash margin for smelters




Percentage of the industry's production of zinc metal, %

Kokkola is a larger smelter than Odda. Odda's margin is lower than Kokkola's, but the curve is flat, and the differences between smelters at lower and higher percentiles are small.

### Copper – cash margin for smelters




Percentage of the industry's production of copper metal, %

Rönnskär has a substantial supply of materials from secondary raw materials while Harjavalta generates substantial revenues from the nickel business, which are probably not taken fully into account in Wood Mackenzie's cash margin calculations.

For concept definitions, see page 118

The graphs are based on estimates and assumptions by the analysis company, Wood Mackenzie, and may differ from Boliden's own cash cost per mine data due to differences in the underlying data. There are a number of different definitions of cash cost: composite costing is used in Mine's graph, whereby mines are reported using either pro rata or normal costing. Pro rata costing divides the costs between the different metals, while normal costing reduces the costs by the net revenues from by-metals.

# Boliden's mines and smelters

The competitiveness of the individual mines and smelters relies on stable processes and high productivity. The partial in-house supply of raw materials ensures stability and flexibility in the concentrate market.


## BOLIDEN'S MINES

**Aitik**
Aitik is Sweden's largest open pit copper mine with ore that contains copper, gold and silver. Large-scale production, rational methods, and a high degree of automation make Aitik – which also has a long lifespan – the most productive open pit copper mine in the world.

**The Boliden Area**
The Boliden Area comprises the Renström, Kristineberg and Kankberg underground mines and the Maurliden open pit mine, which is approaching the end of its useful life. Kankberg produces gold ore, with tellurium as a by-product. The other mines produce ores containing zinc, copper, lead, gold and silver.

**Garpenberg**
Garpenberg's productivity is amongst the highest for underground zinc mines in the world, and the mine is one of the world's most modern. Garpenberg produces complex sulphide ores that contain zinc and silver, along with lead, copper and gold as by-products. Garpenberg has a long lifespan.

**Kevitsa**
In 2016, Boliden acquired the Kevitsa open pit mine in northern Finland. The mine opened in 2012 and is still in a ramping up phase. Kevitsa produces concentrate containing nickel, copper, gold, platinum, palladium, and cobalt. The mine has a long lifespan.

**Kylylahti**
The Kylylahti underground mine, which was acquired in 2014, produces copper, gold, zinc, nickel and cobalt. Work aimed at extending Kylylahti's lifespan is currently in progress.

**Tara**
Tara is Europe's largest zinc mine and accounts for half of Boliden's zinc concentrate production. Lead is also extracted as a by-product. Work on expanding the tailings pond is ongoing, as is exploration work aimed at extending the mine's lifespan.

## BOLIDEN'S SMELTERS

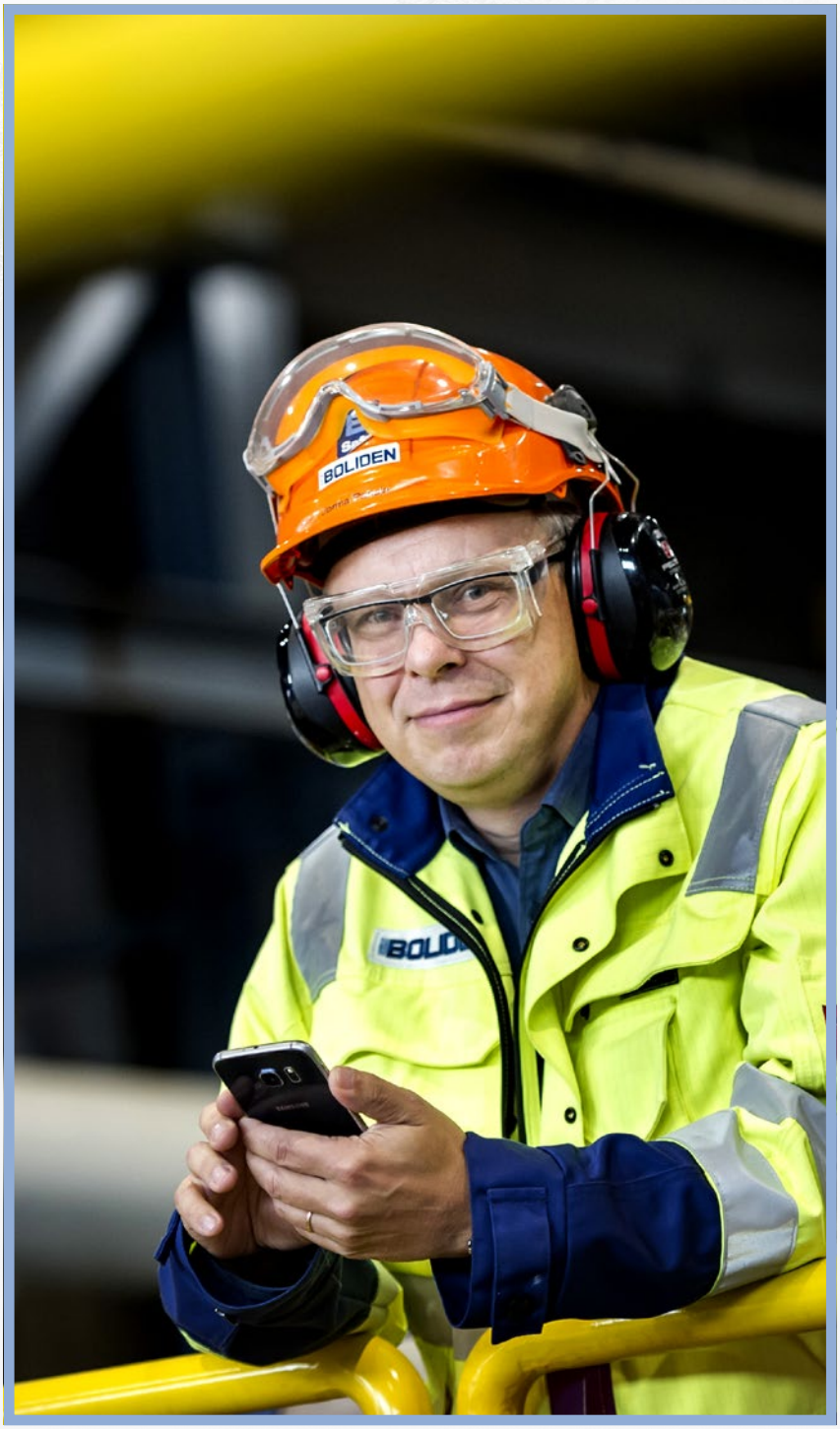
**Bergsöe**
Bergsöe is one of Europe's biggest recycling facilities for lead batteries and the only secondary lead smelter in the Nordic region. The main products are lead and lead alloys. Bergsöe works closely with Rönnskär and Odda to handle certain materials.

**Harjavalta**
Harjavalta is one of the world's most efficient copper and nickel smelters and also produces gold, silver, and sulphuric acid. Harjavalta has some of the lowest sulphur dioxide emissions in comparison with competing nickel smelters. Harjavalta is investing heavily in enhancing its nickel processes and expanding its copper production.

**Kokkola**
Kokkola is the second largest zinc smelter in Europe and produces approximately 40 different zinc products, including both pure zinc and zinc alloys for a range of customer segments.

**Odda**
Odda produces pure zinc and zinc alloys. The smelter's production capacity is 200 ktonnes of zinc per year and, in comparison with equivalent smelters, has some of the lowest levels of carbon dioxide emissions in the world.

**Rönnskär**
Rönnskär produces copper, gold, silver and lead, along with sulphuric acid, zinc clinker, and several other metals as by-products. The smelter is also one of the world's leaders in the field of electronics recycling. Rönnskär is currently investing in both a long-term sustainable underground storage facility and a leaching plant that will increase resource utilisation.



# Mine growth projects

Boliden's mining operations are characterised by long-term value creation and sustainable development. 2018 saw the launch of significant initiatives designed to further strengthen the mines' competitiveness and environmental performance.

Successful exploration is the key to all mining operations. Boliden prioritises exploration in the vicinity of existing mining areas in order to generate the potential for increased production and extended lifespans. Additional long-term value creation is achieved through increased efficiency resulting from continuous improvement work, technological development, and investments in organic growth. Boliden also invests in the acquisition of mines and mining projects in selected situations.

The focus in 2018 has been on maintaining high safety standards and on operational productivity development, in the form of, amongst other things, safety culture, expansions and electrified transports.

**Important events in 2018**

The new KID2 crusher at Aitik became operational, and this, together with related investments, will result in production increasing from 39 Mtonnes/year to 45 Mtonnes in 2020. A decision has also been taken to modernise the truck fleet, offering the potential for increased electrification. In the Boliden Area, the Maurliden open pit is currently being mined out, while at Garpenberg, work has begun on increasing production to 3.0 Mtonnes/year. An expansion project that will increase the rate of production to 9.5 Mtonnes by the end of 2020 has begun at Kevitsa. The expansion includes both investments in installations and an expansion and modernisation of the truck fleet. A comprehensive programme of work has been carried out at Kylylahti with the aim of evaluating the potential for extending the mine's lifespan through increased nickel and cobalt production.

## Expansion at Kevitsa

**62.5 Mtonnes**

proven mineral reserve

Kevitsa is expanding its production from 7.5 Mtonnes/year to 9.5 Mtonnes and expects to achieve the new production rate by the end of 2020. The concentrator will gain a new autogenous mill, together with associated equipment and a new mill house, as the current one is limiting production. Boliden has also decided to invest in 17 new trucks in order to reduce costs and meet the increased transport requirement that will result from the expansion.

# Electrification and profits

The pilot facility for electrified transports at Aitik is now complete. The project has included the development of an electrified transport ramp with overhead contact wires and four modified mine trucks with pantographs. Boliden expects to reduce greenhouse gas emissions on the routes where the technology has been implemented by up to 80%, and the technology consequently has a key part to play in the efforts by Boliden's mines to substantially reduce fossil fuel usage. The potential also exists for increased productivity by increasing transport speeds. A substantial part of Aitik's transport requirements has previously been met by means of conveyor belts. The project has entailed Boliden working in partnership with Eitech and ABB to develop the electrical infrastructure, while Pon Equipment and Caterpillar are rebuilding the mine trucks, and Chalmers University of Technology is conducting research into the systemic aspects of the electrification process. The project has a two-year duration and is supported by the Swedish Energy Agency.

**First**

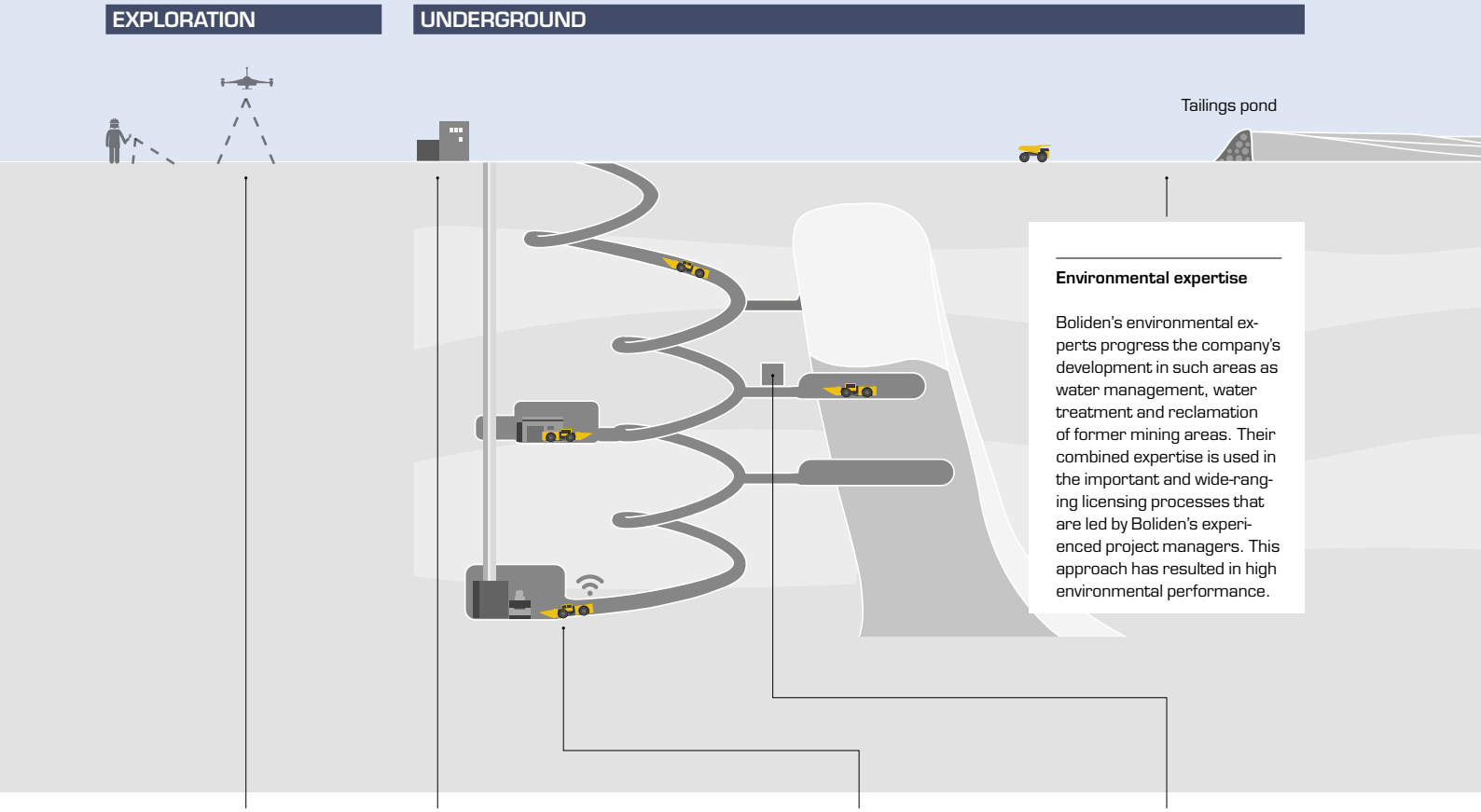
facility in the world of this type in an Arctic climate

**80%**

reduction in greenhouse gas emissions where the technology is implemented

# How Boliden's mines work

Boliden has both open pit and underground mines. Mine production comprises the following processes: drilling, blasting, crushing, concentration and transportation to smelters. Thanks to advanced technology and highly developed processes, several of Boliden's mines are the most productive in the world.




**Environmental expertise**

Boliden's environmental experts progress the company's development in such areas as water management, water treatment and reclamation of former mining areas. Their combined expertise is used in the important and wide-ranging licensing processes that are led by Boliden's experienced project managers. This approach has resulted in high environmental performance.

**Exploration**

Long-term and systematic exploration work is carried out with the aim of identifying new minable deposits. Flight measurements, rock surface finds, geophysical and seismic methods make up the initial phases, while core drilling is the final stage in confirming a mineralisation. Boliden uses a range of different techniques and equipment. Some of the instruments used were developed in-house by Boliden's technology departments.

**Remote control**

The journey down to workplaces in the mines, which may lie several hundred metres underground, can take up to an hour. Operators can now increasingly control loading and drilling machines from control rooms. Some of the loading machines drive themselves (autonomously) to the shaft where the ore is tipped for transportation on to the concentrator at the surface.

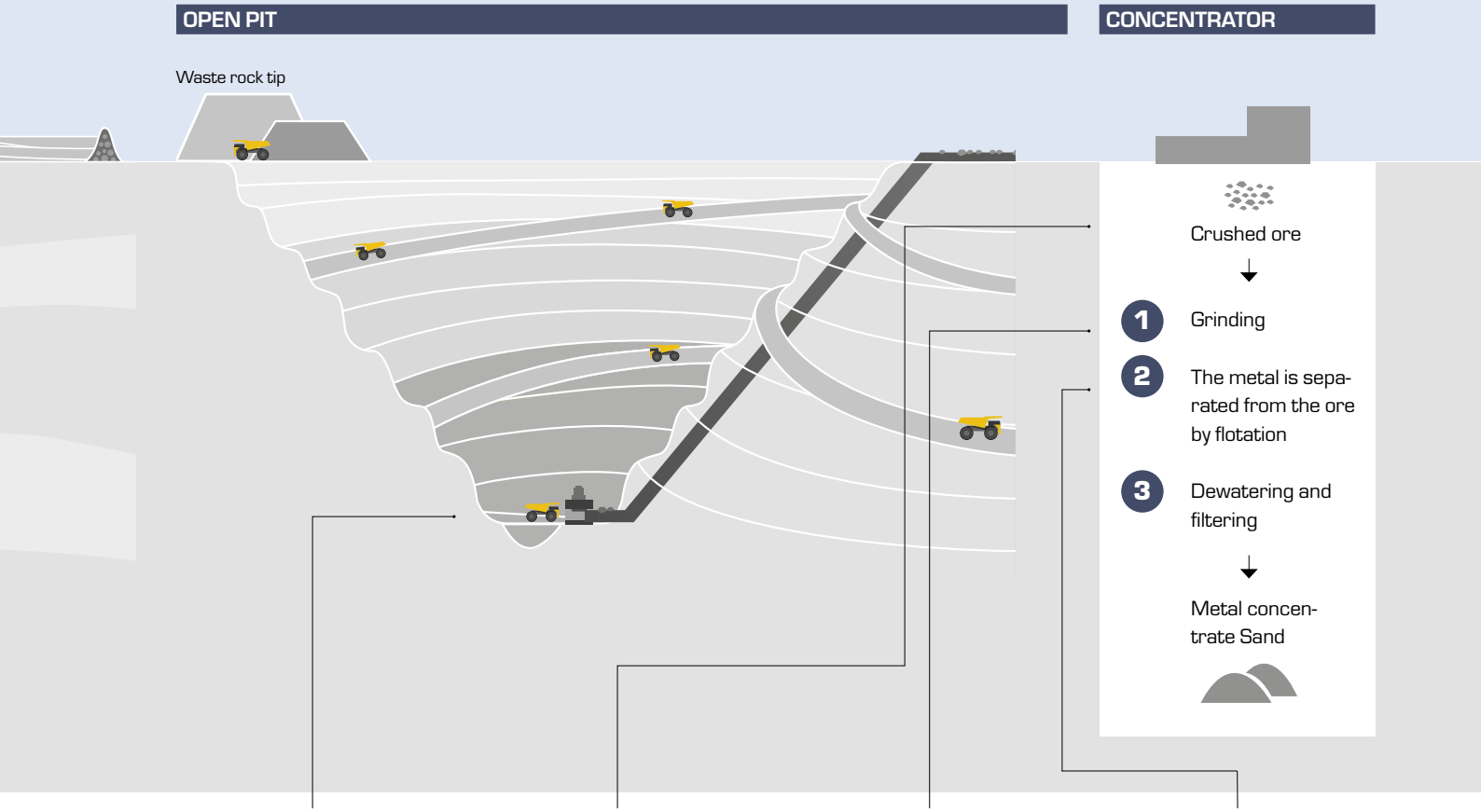
**Positioning**

Boliden has equipped all of its mines with positioning systems that enable the exact position of individuals and vehicles to be located in real time. The technology offers similar functionality to GPS underground in order to provide visual flows in production. The technology improves the safety of the working environment and increases productivity by allowing the operations centre to plan different transportation routes and control production.

**Rescue chambers**

All of Boliden's mines are equipped with rescue chambers where people can seek safety for up to six hours. Each chamber contains supplies of air, water and communication equipment.

**Find out more at boliden.com**




**Optimal mine design**

The Aitik open pit mine's productivity is the highest in the world when it comes to copper mines, due to its cutting-edge technology and logistics and to the way in which the mine is designed. Crusher stations down in the mine mean short routes, requiring fewer trucks. After crushing, the ore is transported to the concentrator on conveyor belts. Highly developed processes and the presence of gold result in high profitability, low costs, and high productivity. Productivity is also high at the recently acquired Kevitsa open pit mine, where grades are also high.

**Mobile control rooms**

The concentrators' control rooms are in several cases connected to mobile units, giving the operators access to processing data in real time. The operators steer and control the processes via mobile phones or tablets, increasing understanding and communication between individuals, departments and suppliers. This, in turn, enables faster intervention, for example, when adjustments to processes are required and increases the potential for delegation.

**Autogenous grinding**

Boliden's concentrators mainly use a technology known as autogenous grinding, whereby the ore is ground without the addition of grinding agents. The technique cuts costs but requires more advanced control than conventional technologies. Autogenous grinding also results in less wear and reduced maintenance costs.

**Concentration of complex ores**

Boliden has developed concentrating techniques for complex ores. Mineralogical studies are used systematically to optimise the concentration process. Boliden has a pilot concentrator that is used to evaluate processes with new minerals or to enhance performance in the concentrators.

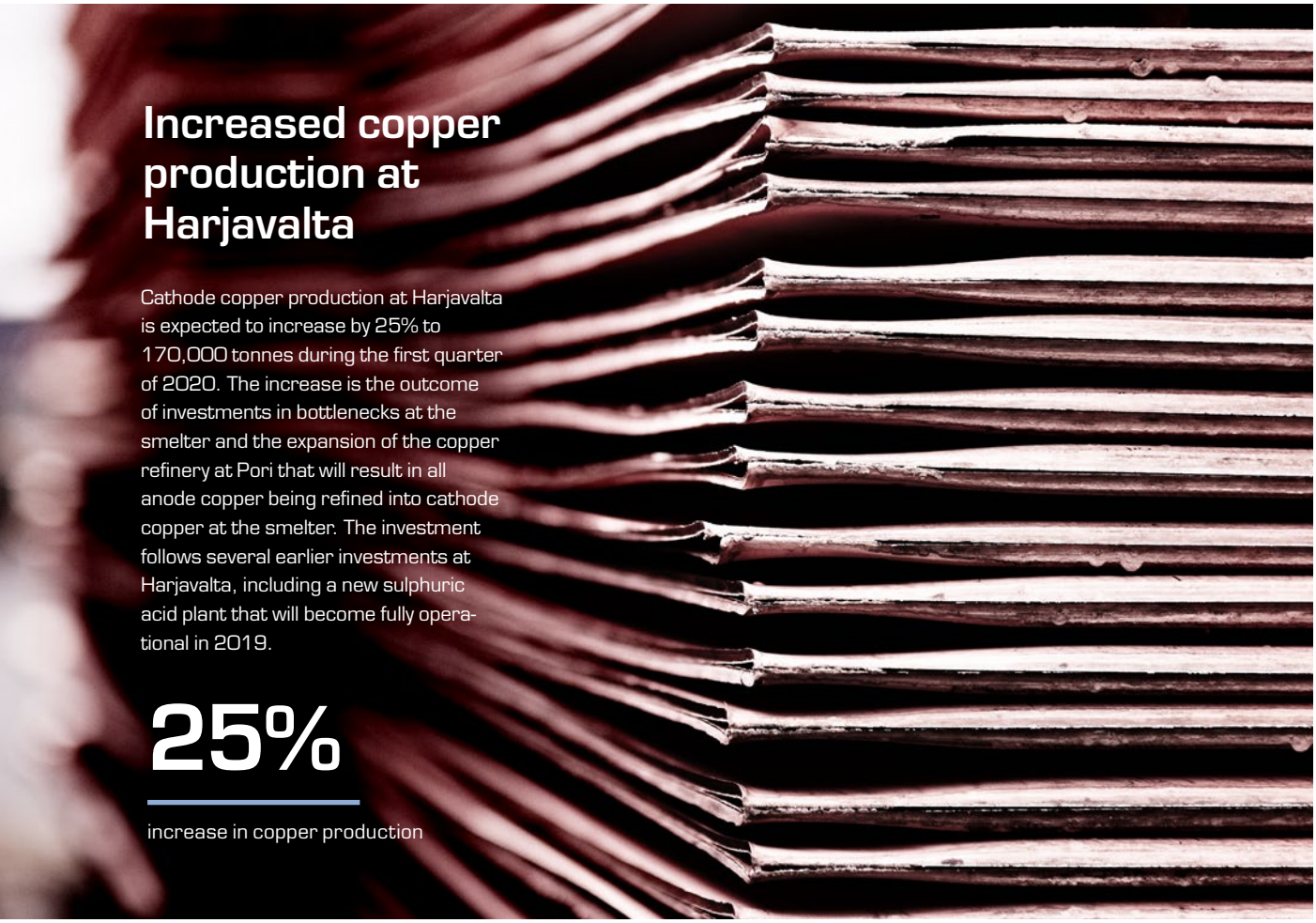
# Highly flexible smelters

Boliden's smelters extract metals and by-products from concentrates supplied by both own mines and external suppliers. Metals are also recovered from secondary raw materials. The vision is to be the most sustainable metal producer, financially, environmentally, and socially.

High-level technical expertise and flexibility are two aspects that characterise Boliden's smelters. The technical expertise is developed by means of both continuous improvement work and investments. The processes at the smelters, which can handle a wide variety of raw materials, coupled with the collaboration between the smelters, create significant flexibility and competitiveness. The smelters' goal is to extract as much metal as possible, thereby ensuring high levels of resource utilisation and minimising waste, while the flexibility acts as a competitive advantage when, for example, there is a shortage of raw material. Metal recycling is an increasingly important component of the operations, and the smelters can now process automotive lead batteries, consumer electronics, and industrial waste products, enabling the metals to be circulated to new usage areas.

**Important events in 2018**

Work on the construction of an underground waste storage facility under the industrial park area has continued at Rönnskär. The expansion of capacity by 12% has also been approved, as has the construction of a leaching plant that will enhance Rönnskär's technical ability to extract metals from waste materials. It will also reduce the amount of material sent to landfills. Work on the construction of a new sulphuric acid plant at Harjavalta was partially completed during the year, and a decision to increase copper production was taken as part of an ongoing investment programme. The primary focus at Odda and Kokkola over the past year has been on process stability. The focus at Bergsöe was similar due, in part, to a fire in conjunction with the construction of a plastics separation facility. Boliden has decided to rebuild the facility.



## Increased copper production at Harjavalta

Cathode copper production at Harjavalta is expected to increase by 25% to 170,000 tonnes during the first quarter of 2020. The increase is the outcome of investments in bottlenecks at the smelter and the expansion of the copper refinery at Pori that will result in all anode copper being refined into cathode copper at the smelter. The investment follows several earlier investments at Harjavalta, including a new sulphuric acid plant that will become fully operational in 2019.

**25%**

increase in copper production

# More metal and less landfill

Rönnskär is investing in both a leaching facility that will extract more metal from residual materials and an underground storage facility. The total being invested across these two projects is SEK 1.4 billion. The leaching facility, including infrastructure, incoming and outgoing freight delivery systems, and preprocessing of intermediate storage materials, is expected to become operational at the end of 2020. The facility will produce lead sulphate and copper/zinc sulphate with the former mainly sold externally and the latter recycled as part of Rönnskär's processes.

Residual material that cannot be turned into products in the leaching facility will be deposited in the new underground storage facility, which is expected to be ready for use in 2020. Work also began on capacity-boosting measures in the sulphuric acid plant and the converter house during the year, with a total investment of SEK 350 m.

**SEK 1,750 m**

in investments in an underground storage facility, a leaching facility, and increased capacity between 2015 and 2020

**2020**

The new facilities become operational

# How Boliden's smelters work

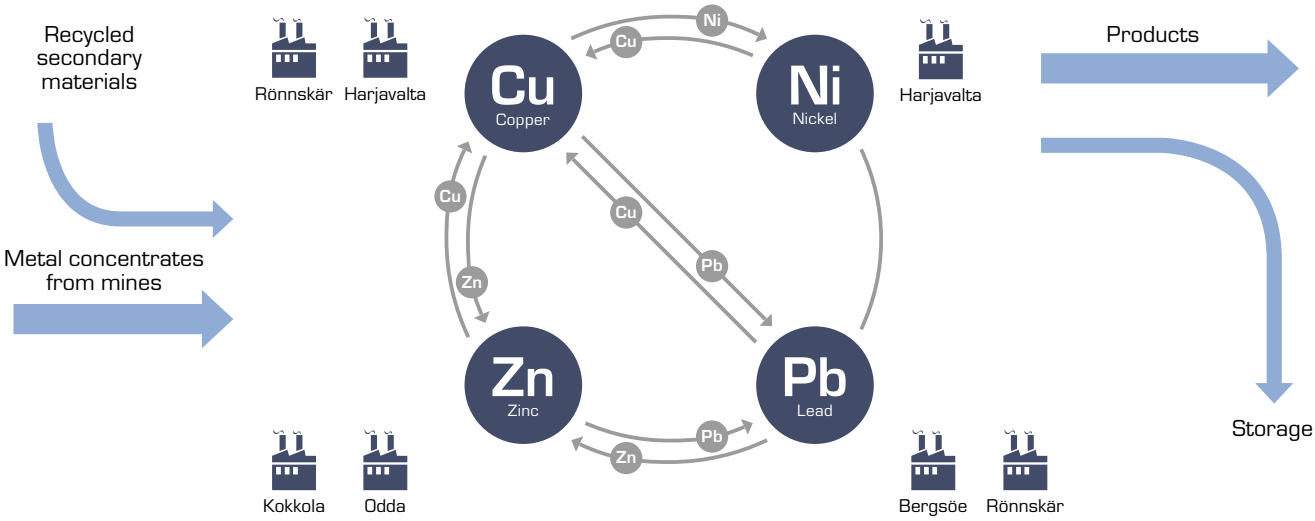
Boliden's smelters handle complex raw materials and refine them to produce pure metals. The breadth of the smelters' processes creates flexibility in the raw materials supply chain and ensures a high degree of resource utilisation.

Boliden's smelters have a long history of supplying society with the metals it needs. Substantial technological development has taken place over the years, and this, in combination with investments and skill development work, means not only that more and more metals can be extracted, but that the environmental impact has been drastically reduced. Secondary materials have, at the same time, become an increasingly important component of the raw materials supply chain, and Boliden is now both a world leader in the recycling of electronics and one of Europe's largest recyclers of lead batteries.

The smelters' various processes enable a broad raw materials portfolio that is refined to produce a variety of metals and by-products. This diversification reduces Boliden's sensitivity to economic fluctuations when it comes to both material supplies and output. At the same time, the smelters are constantly endeavouring to increase their resource utilisation and reduce the amount of materials sent to landfills.

Smelters are energy-intensive operations, which means that stable access not only to electricity and competitive energy prices, but also to raw materials supplies and technical expertise, are important competitive advantages. Boliden's smelters are located in areas with high levels of renewable energy production, ensuring that their environmental performance is generally high. Methods used to minimise emissions to air from the smelters' processes include customised filters, and research and development work is also carried out in this field as part of the smelters' efforts to further reduce their environmental impact.

## SMELTERS




## INPUT

Approximately half of the metal concentrate comes from Boliden's mines, with the rest coming from mines elsewhere in the world. Secondary materials come both from society, in the form of lead batteries and electronics, and from industry, for example, in the form of ashes.

## BY-PRODUCTS

The processes at all of the smelters generate by-products that the smelter in question is not technically equipped to process. They also generate waste where further processing is not possible. Exchanges have been set up between the smelters in order to optimise the way in which these materials are handled and to extract as much value as possible from the raw material. A zinc-bearing material is, for example, produced at Rönnskär that is processed into zinc at Odda and Kokkola. There is also some exchange from smelters to mines. See page 33 for further details of the intermediate products that are processed at the smelters.

## OUTPUT

Metals and by-products are delivered, mainly, to European industrial customers. Trains carry refined copper from Rönnskär on a daily basis, for example. Unprocessable material is prepared for long-term storage.

**Flexibility**
Boliden's smelters are able to use complex raw materials to produce metals, which increases access to materials and, normally speaking, generates additional income.The smelters are working to develop processes and the technical expertise required to enable capacity increases and offer additional flexibility. Boliden invests in waste management and increased capacity to handle difficult materials in order to enable its smelters to handle increasingly complex raw materials containing impurities.

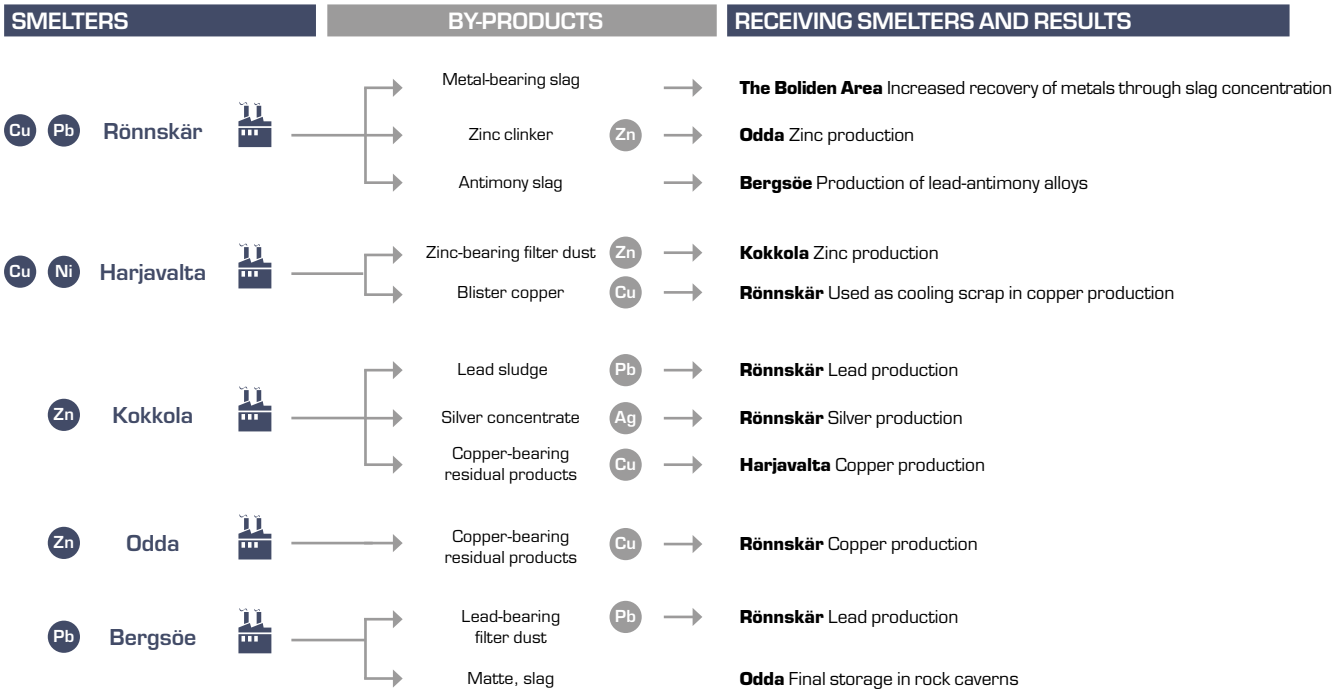
**Efficiency**
The prices of Boliden's metal products are set on global metal exchanges, and Boliden's competitiveness consequently depends on having stable and efficient processes, high recovery levels and low costs. Boliden is working to enhance the efficiency of its maintenance work with the aid of Boliden's lean-based improvement programme, the New Boliden Way.

**Customised products**
Boliden's product portfolio comprises copper, zinc, nickel, gold and silver metal, together with a number of by-products. Boliden also offers a variety of different lead and zinc alloys that are customised in line with different customers' requirements. The alloys enable the customers to create specific end product properties, cut costs, and increase productivity.

**Treatment**
The smelter's treatment processes are continuously being developed to reduce their environmental impact. Stable processes with few stoppages are, furthermore, important in minimising emissions. Kokkola is investing in expanded water treatment capacity and replacing its sulphur dioxide treatment filters. The biggest ongoing environmental investment is a new sulphuric acid plant at Harjavalta.

**Recycling**
Unique, energy-efficient technology has made the Rönnskär smelter one of the world's leading operators in the field of recycling copper and precious metals from electronics. The Bergsöe lead smelter is one of Europe's biggest recyclers of lead from end-of-life vehicle batteries. Synergies between Boliden's smelters and mines also enable metals to be recycled from residual products from in-house processes, enabling Boliden to maximise the value of incoming raw materials.

**Underground storage**
Underground storage enables sustainable, permanent storage of certain types of waste. These sustainable storage solutions enhance the smelters' ability to handle complex raw materials. At Odda, waste is deposited in rock caverns, while at Rönnskär, construction work is in progress on a storage facility 350m underground which is scheduled to become operational in 2020 .



# Long-term sustainable operations

Boliden is a world leader in sustainable metal production – from ore exploration to metal recycling. This position has been achieved through innovation and modern technology, developed in partnership with technological and engineering companies.

### Boliden's significant sustainability issues

Boliden places a high priority on taking economic, environmental and social responsibility. The goal is to be the first sustainable link in a metal's value chain – a goal to be achieved through investments in modern technology and the development of low-emission processes.

Global macrotrends, from fighting poverty and promoting higher standards of living, to resource shortages and climate change, bring about rapid changes in the preconditions for Boliden's commercial operations. Boliden makes full use of the driving forces that enable long-term sustainable development by analysing technical and consumption trends and engaging in close dialogues with customers, suppliers and other stakeholders.

Boliden's success relies on its ability to create value in ways that meet its stakeholders' needs while simultaneously being transparent about the economic, environmental and social consequences. Boliden's materiality analysis has identified 24 material sustainability issues based on these consequences. Sustainability issues form an integral part of the company's strategy and business planning.

Long-term orientation plans for every single one of these relevant issues were drawn up in the spring of 2018. These long-term orientation plans are designed to provide guidance for and improve the structure of sustainability work at every level within the company.

### Managerial responsibility

Sustainability issues are a vital part of Boliden's operations, and the work is conducted on the basis of operations' material issues. The company's Board of Directors is responsible for ensuring that an appropriate corporate governance structure and management systems are in place. Sustainability issues are discussed at every Board Meeting and Group management meeting, and at the business units' managerial meetings. A member of the Group management team is designated to handle sustainability issues, but the day-to-day responsibility for sustainability work is delegated to the individual business units.

### Working towards the UN sustainable development goals (Global goals)

Boliden's overall sustainability strategy means that the company supports the 17 global goals through its operations. Boliden has, however, identified eight goals to which the company pays particular attention:

**5.** Gender Equality
**6.** Clean Water and Sanitation
**7.** Affordable and Clean Energy
**8.** Decent Work and Economic Growth
**12.** Responsible Consumption and Production
**13.** Climate Action
**14.** Life Below Water
**15.** Life on Land

The 24 material sustainability issues and guidelines, together with the relevant global goals for each of these issues are shown in the table opposite.

### Boliden's Annual and Sustainability Report

Boliden's sustainability work is based on its own norms, the UN's Global Compact, and the UN's sustainable development goals. See www.boliden.com for more detailed sustainability information. Boliden has been publishing sustainability information since 2005. This report is a combined Annual and Sustainability Report that shows how sustainability is a fully integrated component of the company's operations. Boliden also publishes a Sustainability Index containing GRI (Global Reporting Index) data that has been audited by an external party.

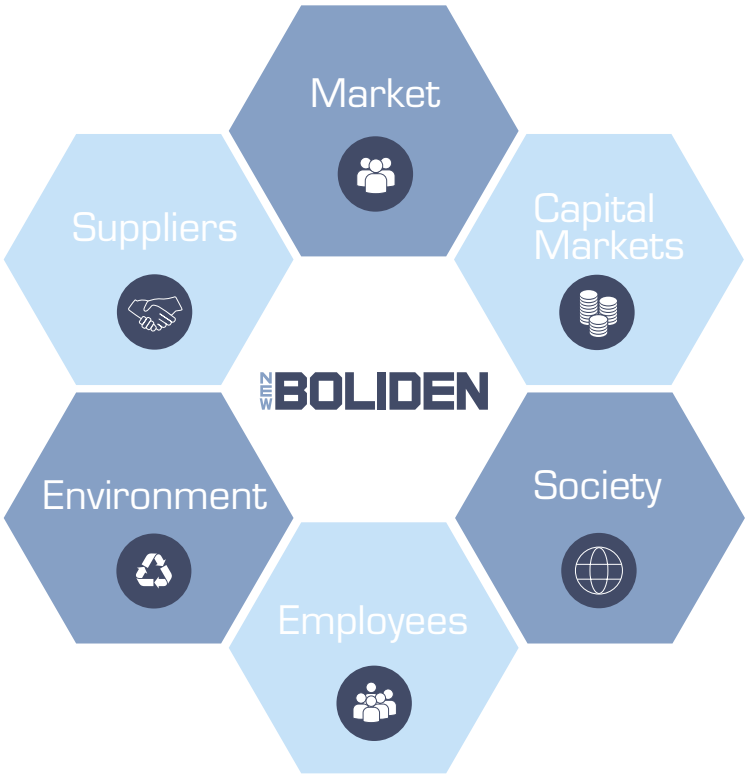

**What are the global goals?**
The UN's sustainable development goals are 17 global goals adopted by United Nations Development Program and which aim to address development problems in relation to economic, environmental and social issues.

| IMPACT | TOPICS | DIRECTIONS | GLOBAL GOALS |
|---|---|---|---|
|  FINANCIAL | **Economic performance** | Contribute to long-term economic growth by providing metals that are important for society's sustainable development. | **8** |
| | **Market presence** | Contribute to local employment levels, trade and industry by generating purchasing power and providing a critical base for social services. | **8, 11** |
| | **Indirect economic impacts** | Contribute to job creation indirectly or induced through its subcontractors, suppliers or the effect of its employees' expenditures. | **4, 8, 17** |
| | **Anti-corruption** | Promote and monitor compliance throughout the company by following the Code of Conduct and Anti-Corruption policies. | **16** |
| | **Activities inhibiting competition** | Cultivate a culture in which employees preserve Boliden's competitive position. | **16** |
|  ENVIRONMENTAL | **Materials** | Contribute to the circular economy through recycling and by maximizing metal recovery from available raw materials. | **8, 12** |
| | **Sustainable resource usage** | Invest in R&D to develop new products that eliminate waste. | **12** |
| | **Energy** | Implement and maintain energy management systems to achieve energy efficiency and conserve energy. | **7,12,13** |
| | **Water** | Reduce the consumption of fresh water and the discharge of used water. | **6, 12** |
| | **Biodiversity** | Measure the effects from our operation on flora and fauna to ensure there is no net loss of biodiversity, using an Environmental Impact Assessment. | **6, 14, 15** |
| | **Air pollution emissions** | Reduce carbon dioxide intensity and reduce metal emissions to air through improved process efficiency and increased electrification with plans for a fossil free mine. | **3, 12, 13, 14, 15** |
| | **Discharges to water and waste** | Decrease the discharge of metals to water and reduce waste. | **3, 6, 12, 14, 15** |
| | **Environmental legislation compliance** | Always meet legal requirements with no serious environmental incidents. | **12, 16** |
| | **Business partner environmental assessment** | Expect Business Partners to follow the Business Partner Code of Conduct; identify and document their significant environmental aspects; and comply with environmental legislation and common practices. | **12** |
|  SOCIAL | **Employment** | Provide an attractive workplace. | **8** |
| | **Occupational health and safety** | Provide a safe and healthy workplace. | **3, 8** |
| | **Training and skills** | Facilitate career and skill development. | **4, 8** |
| | **Diversity and equal opportunity** | Foster workforce diversity that reflects the local community. | **5, 8** |
| | **Non-discrimination** | Discourage all forms of harassment and discrimination on the basis of gender, ethnicity, age, disability, religion, sexual orientation or any other factor. | **5, 8, 16** |
| | **Local communities** | Maintain good community relations and effective operations management. | **8, 10, 11** |
| | **Business partner social assessment** | Expect customers and suppliers to comply with the Business Partner Code of Conduct. | **12, 16** |
| | **Socioeconomic compliance** | Ensure legal requirements are always met. | **12** |
| | **Resettlement and closure planning** | Plan for conservation and reclamation of mining areas during their operation and end of production lifespan. | **1, 5, 11, 14** |
| | **Rights of indigenous people** | Promote open dialogue and long-term cooperation with Sami communities in order to mitigate the negative impacts of Boliden's mining activities on local people and the environment. | **10** |

## BOLIDEN'S STAKEHOLDERS

### Stakeholder model

Boliden's operations affect people, communities and the environment in a variety of different ways. All of these stakeholders have different opinions and expectations when it comes to how the company's operations are conducted. Boliden monitors its stakeholders' expectations and demands through stakeholder dialogues, which guide the company's approach and shape its sustainability work. In 2018, Boliden updated its stakeholder model in order to define more clearly responsibilities throughout operations. Every business unit is responsible for defining its own stakeholders and conducting stakeholder dialogues. Boliden's overall stakeholder model is a functional tool designed to help business units engage with and strengthen the dialogues with important stakeholders.




## NEW CORPORATE RESPONSIBILITY GOALS

### Updated goals for environmental and social development

In 2018, Boliden adopted new goals for environmental and social development as the existing goals expired during the year. The new goals are summarised in the table to the right.

| Material issues | KPI and GOALS |
|---|---|
| **Emissions to air** | • Metals to air: –1% per annum<br>• $CO_2$ intensity: –3% per annum |
| **Discharges to water** | • Metals to water: –1% per annum |
| **Legislative compliance** | • No serious environmental incidents |
| **Health and safety** | • No accidents leading to time off work<br>• Sick leave rate <4,0% |
| **Equality** | • Boliden's long-term orientation plan is for the composition of the workforce to reflect the communities in which it operates.<br>• Women as a percentage of the total workforce by 2020: 20% |

# New areas created in dialogues with locals

Local residents have been involved in decisions on future land use in conjunction with Boliden's completion of the technical reclamation work on the former Gillervattnet tailings pond and an open pit mine in the Boliden Area. The ambition is to create places with high environmental values where those who are affected have played a part in their design. Over 100 suggestions were received and form the basis for the work going forward. The plans include a recreation area, and a park environment with space for outdoor classrooms. Boliden will also implement measures with the aim of increasing the area's biodiversity. Reclamation work is established already at the planning stage for a mine. The goal is to use the best available technology and ongoing monitoring and follow-up work. The specific area's preconditions, such as groundwater level and infiltration, are critical in determining what method to use. Boliden also allocates funding for reclamation measures before a new mine is established, in accordance with the conditions determined as part of the environmental licensing process.

**SEK 4,016 m**

Allocated for Boliden's combined reclamation work at the end of 2018

**2019**

Technical reclamation of Gillervattnet completed

Wintery view over the town of Boliden. The Gillervattnet tailings pond is to the west of the town.

# Responsible business

Boliden endeavours to be a responsible and credible business partner. Partnerships with suppliers and customers are in line with the company's ambitions for continuous improvement and responsibility for the value chain.

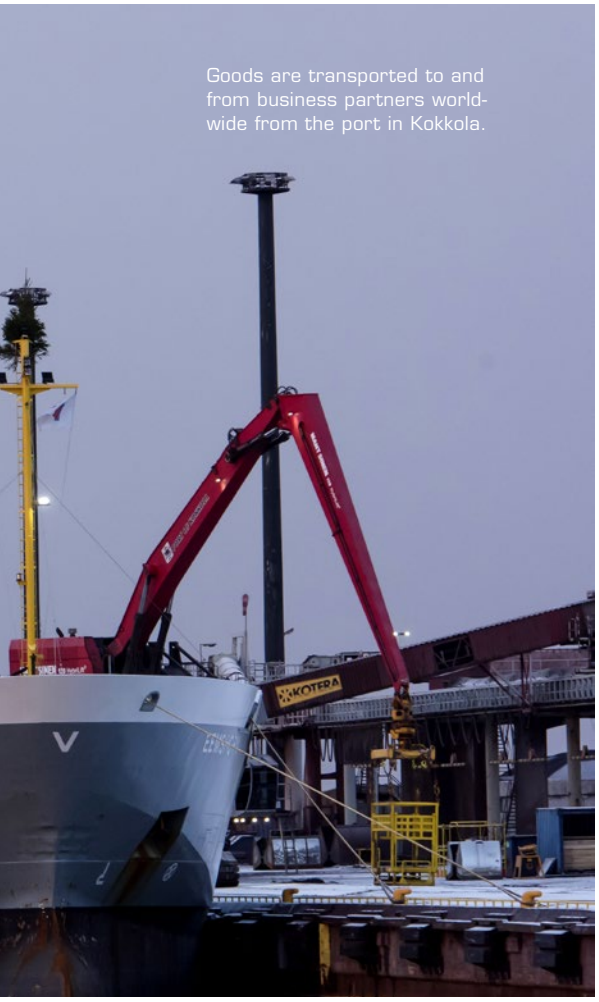

Boliden buys raw materials, energy, services and equipment from external suppliers worldwide. Operating in a global market in which legislation, ethics, working conditions, and environmental norms vary demands a comprehensive risk management strategy. Boliden works actively to promote best practice with its business partners and to bring about continuous improvement throughout the value chain. Some of Boliden's business partners in the metals and mining sector have a long-term and strategic importance. If the risks are adjudged to be manageable, Boliden may elect to work with a business partner to draw up a development plan intended to secure and follow up on improvements.

**Risk management in the value chain**

Boliden demands the same standards of its business partners as it does within its own organisation, when it comes to reducing risks. This entails a systematic and risk-based process for managing suppliers and customers in line with their estimated risk level and strategic importance.

Boliden's Code of Conduct for business partners is based on international standards, and mandates the minimum level of conduct required of all parties in the value chain, whether Boliden is the buyer or the seller of raw materials, products and services.

Risk management in the value chain is also an important component of Boliden's operating licence, e.g. in order to retain our place on the London Bullion Market Association's (LBMA, www.LBMA.org.uk) list of recommended gold producers, known as the Good Delivery List. Boliden's reports submitted to the LBMA refer to Boliden Rönnskär and




Goods are transported to and from business partners worldwide from the port in Kokkola.

are reviewed by the chartered accountant, KPMG. The reports are available at www.boliden.com/sustainability.

### Trade in materials and waste

Boliden complies with national legislation and international guidelines, such as the OECD's guidelines on trading in materials, waste, and hazardous waste. For many years now, Boliden has implemented a policy with regard to hazardous waste whereby no payment is made until the material has been processed. The processing is verified through site visits and audits to ensure that the waste has been processed correctly. Boliden's policy also mandates that no concentrates or secondary raw materials may be purchased from areas with ongoing armed conflicts. Country of origin documentation is required for all raw materials to ensure that they do not originate from areas with armed conflicts. Boliden's ESG (Environmental, Social and Governance) Evaluation of Business Partners also helps check that secondary and primary raw materials suppliers do not deliver conflict minerals.

### Business partner evaluations

Business partner evaluations are an important part of Boliden's risk management. Boliden follows a defined process for evaluating existing and potential business partners, based on risk level and Boliden's Code of Conduct for Business Partners, which is, in turn, based on international standards, such as the 10 principles of the UN's Global Compact, ISO conventions, ISO standards, international industry standards, and best practice. Both suppliers and customers are evaluated, with existing business partners usually evaluated every 3 – 5 years, depending on the estimated risk level.

Self-assessments are the first tool used to assess business partners' work in areas identified by Boliden as being of particular importance. Business partners are initially evaluated by Boliden's specialists, who review documentation containing environmental, social and technical information. The information comes both from the self-assessments and material provided by the business partner, and from public sources. Site visits to the business partner's premises are also conducted, where necessary.

### Business partner audits

If risks are deemed to exist, an audit is conducted of the business partner in question. Boliden has extensive internal expertise that can be utilised in this context, depending on the risk area that will be the focus of the audit. If specialist expertise is lacking, external expertise in the form of local experts from the country in question, for example, will be enlisted.

The audit will include visits to the facility in order to systematically check that documents, written instructions, and routines correspond to the actual situation on site, and in order to build up a comprehensive picture of the company and the facility. Boliden's team puts together a risk assessment report, detailing the risks associated with the country, the company and the facility. Business partners may be rejected for a variety of reasons that may relate to environmental impact or social issues, or to other forms of supplier risk.

### Dispute arising from the export of waste products

In 1984 and 1985 Boliden exported a waste product from Boliden Rönnskär to Chile. The aim of the export was that the material would be processed, thereby reducing the amount of material held in storage. The exports were preceded by consultations with the relevant authorities in Sweden and Chile, and Boliden made several visits to the facility. Promel, which had bought the material, ceased operations several years later and abandoned the facility, where housing had been built in the vicinity of the industrial area, which had not previously been decontaminated. In 2013, a suit for damages was brought against Boliden by a Swedish limited partnership representing a number of private persons from the area. The dispute was resolved in Boliden's favour in 2018 by the District Court in Skellefteå. The ruling has, however, been appealed and the appeal will be heard by the Upper Norrland Court of Appeal. The ruling is expected in the spring of 2019.

# Active talent pool management

Boliden endeavours to help people grow and develop. To this end, Boliden offers interesting job opportunities, and career and skill development for every employee, thereby helping secure long-term manpower needs.

Boliden's operations are complex and technically advanced. Mines and smelters consequently require committed and creative employees with cutting-edge expertise in a number of areas. A comprehensive technology shift towards automation is currently taking place within Boliden, generating opportunities for employees to work with innovation and technological development in many different areas, and opening the door to employees with new skill sets.

Boliden gives all of its employees the opportunity to combine their private and working lives in a balanced way. The company offers terms of employment in line with market conditions, and flexible benefits such as a profit-sharing programme for all employees, and a stimulating and attractive work environment with technical solutions and aids to support them in their day-to-day work.

Boliden aims to be a transparent employer that applies value-based leadership in which managers help create job satisfaction and functioning teams and groups that take pleasure in each others' successes. Boliden places a value on employees challenging and questioning processes and methodologies, in order to ensure continuous learning within the organisation and continuous improvement. Employees' ability to exert influence exists within the context both of their day-to-day work and through structured activities such as pulse meetings, improvement groups, and workplace meetings.

### Employee development

Opportunities for specialisation, in-service training, skill development, and a career path are all a natural part of operational development. A number of internal training programmes are designed to lay the foundations for career and skill development planning. Annual management meetings, known as Talent Forums, are held in order to identify talent and offer skill development programmes to develop leadership and specialist skills. Implementation of a Group-wide skill development system for the further development of Boliden's processes began during the year.

### Securing tomorrow's talent pool

Boliden's staff turnover rate during the year was 6.6% (5.7). An advanced talent pool model gives Boliden a tool that can be used in the context of operational planning in order to meet tomorrow's challenges and meet future manpower requirements.

A systematic methodology for recruitment and succession planning provides the structure needed for building an effective talent pool in both the short and long term. Identification of important future skill challenges gives employees and managers the chance to set individual goals for skill development in line with Boliden's strategical goals.

Skill development and recruitment work is based on both Boliden's needs and the Group's strategic goals of promoting diversity and equal opportunities. The challenges Boliden faces include the fact that this is a male-dominated industry that operates in regions with a limited recruitment base, coupled with the stiff competition for engineers with specialist training. Boliden's operational units consequently all have their own strategic recruitment plans.

Expanding Boliden's future recruitment base is highly prioritised. Competition with other companies, both inside and outside our sector is, furthermore, constantly increasing when it comes to managing future manpower requirements. A large number of different activities were consequently carried out during the year in order to attract new employees to Boliden and thereby help build a larger recruitment base. The primary message of these activities revolved around Boliden's work with social development, work-life balance, technical innovation, and personal learning.


### Diversity and equal opportunities

Diversity and equal opportunity lead to sustainability, dynamism, creativity and, ultimately, to greater profitability. Boliden endeavours, therefore, to ensure its workforce is made up of people with different backgrounds, ages, and experiences. Boliden's goal for 2018 was for 20% of its workforce to comprise women. The result was 18.2% (17.6), which corresponded to an increase during the year, even though the goal was not achieved in full. It is worth noting that a more even gender distribution has been achieved amongst senior management personnel, including amongst Boliden's so-called top 100 managers, where the percentage of female employees is 25% (23). Three out of the eleven mines and smelters are led by women, and Boliden's Group management comprised four men and one woman in 2018.

### Occupational health and safety

A safe work environment is a top priority, and a strong safety culture, coupled with proactive risk prevention, is key to ensuring continuous improvement. A training course for Boliden's senior management was held in 2018 with the aim of further enhancing leadership in relation to safety issues. The number of accidents leading to absence from work per one million hours worked (LTI) was 5.1 (6.3).

Boliden's ability to successfully attract and retain skilled employees is also dependent on our ability to offer a work environment that ensures a work-life balance. Good health is not just positive for the individual in question, it also promotes Boliden's success. The sick leave rate was 4.5% (4.5). Boliden conducts a systematic work environment programme that is based on local conditions and is designed to further reduce the sick leave rate. Good health is also about good leadership and effective rehabilitation measures to reduce long-term sick leave.

### My Opinion

Boliden endeavours to create an organisation in which employees have the skills, the will and the ability to develop. The My Opinion employee survey is carried out every other year and measures Boliden's performance. The results for 2017 showed a positive trend within Boliden in terms of management, health and safety work, and employee motivation in comparison with the previous survey. 70% of employees stated that they would recommend Boliden as an employer to someone they knew. The next employee survey will take place in 2019.

**5,819**

Number of employees (FTE) 2018 +2% in comparison with 2017

# Environmental work

Boliden contributes to societal development in a sustainable way by demonstrating a clear sense of its environmental responsibility in the efficient extraction, production and recycling of metals. Value generation from its own by-products and residual products, and those of other companies, coupled with the recycling of end-of-life products or materials, helps create a circular economy.

**Boliden's environmental agenda**

Boliden's metals have a crucial role to play in the global transition to renewable energy. Solar and wind power produce variable amounts of energy and require substantial upgrades in terms of energy transmission and energy storage, and this demands substantial quantities of copper and zinc. Electric vehicles and other forms of transition away from fossil fuels to renewable energy also require large amounts of copper and a number of other metals for battery manufacturing.

Environmental sustainability is a prerequisite for successful mines and smelters and Boliden endeavours to use cutting edge environmental technology that is developed both internally and in collaboration with suppliers. Environmental improvement measures account for a comparatively large share of Boliden's capital investments, and the Group always evaluates the environmental benefit in relation to the economic commitment in order to prioritise the best projects.

**Boliden's environmental impact**

Boliden utilises land and uses large amounts of energy for its operations, which can impact the environment, and the Group consequently takes far-reaching responsibility for limiting this environmental impact throughout the value chain, including reclamation work when a mine is decommissioned. The operations have a direct environmental impact in the form of, amongst other things, emissions and discharges to air and water, dust, noise, and changes in the landscape. The environmental effects of mines and smelters can also be regional – such as acidification and increased eutrophication – and global, in the form of carbon dioxide emissions and climate change.

**Water management and dam safety**

Boliden's mining operations use large amounts of water. The company is responsible for around 40 dam facilities that were either previously used, or are currently being used, to store tailings sand or other waste and for water management. Boliden endeavours to minimise the impact it has on the surrounding area, both when developing dams, and during and after the dams' operating lives. Boliden complies with the respective countries' national guidelines for dam safety and supports the dam safety policy of the Swedish mining industry organisation, SveMin. Boliden has further developed its internal guidelines for dam safety in 2018, and introduced a methodology involving international audits of the company's operations.

**Measures to promote biodiversity and ecosystem services**

Boliden's operations utilise land for exploration, mining, concentrating, and transport, and the Group accordingly works continuously to minimise its effect on the surrounding environment. Boliden's operations shall be sustainable throughout the chain – from exploration, through production and reclamation, and from a long-term perspective. Boliden takes responsibility for the impact of its operations and works proactively to counter losses in biodiversity and ecosystem services. First and foremost, this means Boliden avoids or minimises its impact, but it also entails the company working to add and create new values. The work is based on the four stages of the so-called mitigation hierarchy: avoid, minimise, mitigate, and compensate harm.

Reclamation in conjunction with the decommissioned mining area in Näsliden has been carried out in consultation with locals in order to create added ecological value.

Boliden's reclamation of mining areas that have reached the end of their useful lives is a field under continuous development. The goal is to use the best available technology and to document and follow up on the work carried out.

**Forestry and land management**

Access to land is fundamental in terms of Boliden's ability to carry out exploration and conduct mining operations, and Boliden manages 23,100 hectares of forests and land. Boliden's own forests and land are managed from a sustainability perspective and are FSC-certified.

The aim of the measures is to ensure biodiversity and ecosystem services in the area that would otherwise have been negatively affected.

## ENVIRONMENTAL PERFORMANCE IN 2018

### AN ACTIVE PART OF THE CIRCULAR ECONOMY

**Contribute to a circular economy by extracting and recycling metals from concentrates and secondary materials**

Metals can be recycled repeatedly without any change in their properties. Boliden recycles lead batteries from the automotive industry (4 million batteries per year/50 ktonnes Pb) and recycles electronic materials (120 ktonnes/year, corresponding to 2 million mobile phones per day). 13% of Boliden's metals come from recycled materials.

### CONTRIBUTE TO CLIMATE ADAPTATION

**Reduce use of fossil fuels through electrification**

Boliden's ambition is to reduce emissions of greenhouse gases per tonne of metal produced. Projects aimed at reducing the reliance on diesel and increasing electrification are currently in progress, and a fossil fuel-free mine is also being planned. Mines' direct (Scope 1) and indirect (Scope 2) carbon dioxide emissions are estimated to correspond to 341 ktonnes (343) during the year, whiles Smelters' direct (Scope 1) and indirect (Scope 2) carbon dioxide emissions are calculated to correspond to 630 (681) ktonnes. Scope 1 and 2 defined by the Greenhouse Gas Protocol.

**Increase energy efficiency**

Boliden's operations have also implemented energy management systems in order to achieve energy efficiency and save energy. Smelters makes use of surplus heat, which helps reduce carbon dioxide emissions. Boliden calculates that 649 GWh (636) were used internally during the year and 1,101 GWh (874) were delivered for external use, e.g. by local district heating plants.

### MINIMISE EMISSIONS AND DISCHARGES

**Minimise emissions to air and discharges to water by improving process efficiency**

Optimised water management and the re-use and reintroduction of water to the processes enables reductions in the amount of water used and discharged. All of Boliden's operations have a water plan that has seen investments made in treatment equipment and modern technology on a rolling basis. The water plan is a natural part of the operations' long-term planning. Boliden's operations are well-positioned to comply with the Best Available Technology requirements stipulated by EU directives from 2020. Boliden's emissions of metals to air totalled 92 (109) tonnes Me-eq and 7.7 (7.4) ktonnes of sulphur dioxide. Mines' discharges to water primarily comprise nitrogen 189 (195) tonnes, but also include metals totalling 1.2 (1.2) tonnes Me-eq. Smelters' discharges to water primarily comprise metals totalling 7 (8) tonnes Me-eq. Some smelters also generate nitrogen discharges totalling 50 (40) tonnes.

### LAND USE AND BIODIVERSITY

**Preserve biodiversity, compensate for any losses, and manage land responsibly**

Boliden works actively to preserve biodiversity and to compensate for any losses. Land areas are managed responsibly through reclamation and ecological compensation. An area comprising 837 hectares of forest was allocated protected status in conjunction with the expansion of the Aitik mine's tailings pond in order to preserve biodiversity and compensate for the land used by the tailings pond. Boliden has also initiated one of Sweden's most comprehensive ecological research projects to date in this area in collaboration with the Swedish University of Agricultural Sciences (SLU) focusing on, amongst other, ecological compensation. Active measures in the area are enhancing natural values, and those carried out include protecting living trees, promoting deciduous tree growth, moving dead wood, instituting controlled burns, release cutting large, old trees, and much more besides.

# Human rights and anti-corruption

Boliden's Code of Conduct constitutes the framework for what Boliden regards as responsible business. Boliden also has a range of policies, including anti-corruption and diversity policies, which complement the Code of Conduct. Boliden expects all employees and suppliers to support the company values.

### Human rights

Boliden's own operations take place in countries where the risk of infringements of human rights in general is low. Some aspects must, however, be taken into account, such as non-discrimination, the rights of indigenous peoples, and risks in the supply chain.

Boliden's Code of Conduct is formulated on the basis of the UN Declaration of Human Rights and ILO conventions. Fundamental human rights include freedom of speech, integrity, health, freedom, safety, and an adequate standard of living. Boliden's Code of Conduct also obliges the company to ensure that none of the operations controlled by the company result in the exploitation of children.

Boliden rejects all forms of harassment, discrimination or other behaviour that may be regarded by a colleague or close associate as offensive or degrading.

Boliden and its employees shall:

- ensure that Boliden is perceived as an equal opportunity employer and that employees and business partners are treated with respect for their dignity and equality;
- refrain from all forms of discrimination and harassment based on gender, ethnicity, age, disability, religion or sexual orientation;
- support employees in their ambition to achieve a healthy work-life balance;
- prevent any incidence of discrimination or harassment.

Boliden respects employees' rights to organise in trade unions and supports all cooperation between employers and employees, and their respective representatives, in all areas of mutual interest.

An agreement on the frequency and organisation of the Boliden Group management's meetings with trade union representatives was reached in 2018. The new agreement is based on the EU directive on European works' councils and the meeting frequency is now 4 times per year.

Boliden's operations in northern Sweden and northern Finland are located in traditional reindeer husbandry areas. Consultations are held with the Sami villages affected, and cooperation and compensation agreements have been reached between Boliden and the Sami villages in question.

### Anti-corruption

Efforts to combat bribery and corruption are an important part of Boliden's sustainability work. Boliden applies a zero tolerance policy in this respect. No form of bribery or corruption is acceptable, and conflicts of interest must be reported and addressed.

Boliden has an anti-corruption policy adopted as part of its anti-corruption programme, which applies to both the Board of Directors and employees of the Boliden Group. This anti-corruption policy also applies to companies and joint ventures in which Boliden has an interest, and to third parties who act for or on behalf of Boliden.

Great emphasis is, in addition to the anti-corruption work, placed on compliance with applicable competition regulation, and Boliden has adopted a policy addressing this issue. An online training course in this subject was provided in 2018.

### Reporting abuses and the whistleblower function

Any instances of discrimination, harassment, corruption, regulatory breaches, or other inappropriate conduct shall be reported. The issue shall, initially, be addressed by means of discussion with the individual's immediate superior, and secondarily with the company's HR function or via the whistleblower function. Boliden's whistleblower function offers an anonymous channel for reporting suspicions of certain types of economic crime.

A case submitted via Boliden's whistleblower function was investigated with the help of an external party in 2018. The investigation, which concerned alleged improprieties with regard to procurement at one of the production units, resulted in a further tightening of the rules governing employees' relationships with suppliers. See Boliden's 2018 Sustainability Index for further information on human rights and anti-corruption work.

# Purchasing goods and services

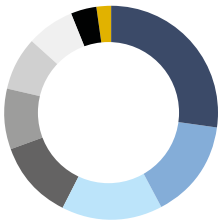
Boliden has a total of around 6,200 suppliers, with approximately 250 of this total accounting for 80% of the volumes purchased. Boliden's purchasing volumes, excluding concentrate purchases, totalled SEK 15.7 billion, with Mines and Smelters accounting for 58% (58) and 42% (42), respectively, of this total. A number of cost-cutting agreements were reached in 2018, but currency weakening and price rises in several categories resulted in a slight increase in the overall price trend.

## PURCHASING CATEGORIES

The following table presents Boliden's purchasing categories and overall strategy, together with the trends in the supplier market and Boliden's costs in 2018.

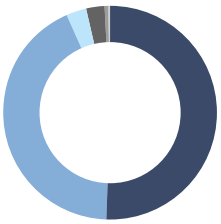
| Category | Strategy and market trends | Boliden's cost trend | |
|---|---|---|---|
| **Services** | The price trend has tracked wage trends. Capacity shortfalls have resulted in several foreign operators establishing themselves and taking market shares. Ongoing substantial focus on health and safety issues when choosing suppliers. | Increased international competition has compensated in part for price trends. Prices have continued to rise in the consultancy market. | ↗ |
| **Electricity** | Network charges have continued to increase. Hydrological stock levels were low during the year, due to droughts. The price of emissions rights increased substantially during the year and, collectively, pushed up the market price. | Electricity market trends, coupled with Boliden's electricity price agreements, have resulted in a slight year on year increase in electricity costs. | ↗ |
| **Bulk goods & chemicals** | Several product groups within this category, e.g. fuels, coal, coke and sodium hydroxide, saw a marked price peak during 2018. There were substantial price increases for many other input chemicals. | Boliden has worked actively with its procurement to avoid substantial cost increases. A number of product groups remained unaffected as Boliden has multi-year agreements with fixed prices. | ↗ |
| **Fixed equipment** | The primary cost drivers were steel, rubber, castings and currencies. Good competition on new investment projects has resulted in new suppliers successfully qualifying on requirements and pricing levels. | Minor price increases on indexed agreements. New suppliers have been chosen with a slightly higher price but lower total cost over the entire lifecycle. | ↗ |
| **Mobile equipment** | The continued economic upturn has affected delivery times and prices. Boliden is continuing to invest in new technology, e.g. automation and electric mobility, in order to reduce overall costs. | Prices have largely tracked inflation with a slight easing towards the end of the year. Investments in high tech result in price increases for the initial investment cost. | ↗ |
| **Logistics** | The cost of transport services has increased due to higher fuel prices, taxes, and charges. A shortage of truck drivers in Europe has contributed to some price rises. | Higher than expected fuel prices have pushed up prices in the category. Successful procurement processes in Finland have resulted in an overall saving in the category. | ↗ |
| **IT & Telecoms** | The price of IT services has increased in line with wage trends and currency effects. The principal strategy continues to be standardisation, consolidation, and exposure to competition. | The general increase in prices has been balanced by a number of larger, Group-wide procurement processes and consolidations, and has resulted in some reduction in costs. | ↘ |
| **Indirect materials & services** | Manpower, cleaning, and consultancy services are affected by wage trends in the respective countries. Other costs are driven by the local competitive situation. The overall strategy is consolidation. | Inflationary pressure notwithstanding, the pricing trend has fallen slightly as a result of a number of Group-wide procurement processes. | ↘ |
| **Tools & consumables** | Raw material prices, wage trends and exchange rates were the cost drivers. The primary strategy is to have Group-wide agreements and preventing price escalation. | Group-wide agreements for the majority of the range in this category have helped ensure competitive purchasing prices, but prices have, in general, increased slightly. | ↗ |
| **Electrical installations & equipment** | High demand for products and services for electrification and delivery lead times continue to be long. | Slight fall in costs, mainly for products with a high copper and aluminium content. | ↘ |

**Purchasing volume by category**



- Services, 27% (24)
- Bulk goods & chemicals, 15% (15)
- Logistics, 15% (13)
- Electricity, 12% (14)
- Mobile equipment, 9% (10)
- Fixed equipment, 8% (11)
- IM&S, IT and other, 7% (7)
- Tools and consumables 4% (4)
- Electrical installations and equipment, 2% (2)

**Purchasing volume by currency**



- EUR, 51% (47)
- SEK, 43% (45)
- USD, 3% (4)
- NOK, 3% (5)
- GBP, 0.4% (0.4)
- Other, 0.2% (0.2)

Over 45% of Boliden's entire purchasing volumes were reviewed in 2018, due to the expiry of numerous multi-year, long-term agreements. Other focus areas in 2018 included improved CR monitoring of existing suppliers, enhancing the efficiency of invoice processing, and increased exposure to competition.

# Combining environmental efficiency with increased production capacity

Construction of Harjavalta's new sulphuric acid plant has continued and the facility will become fully operational in 2019. New technology and improved process management will enable the future plant to achieve increased environmental efficiency while simultaneously increasing the production capacity.

When the new facility comes on line, the sulphuric acid plant's chilled water consumption will decrease by 40%, thanks to enhanced efficiency in the recycling of waste heat. Discharges of metals to water will also fall by around 10%.

**20-25%**

Reduction in sulphur dioxide emissions

**30%**

Higher gas volumes handled

# A significant part in society

Boliden plays an important role in the communities and regions in which the Group's mines and smelters are located. Good relationships and mutual understanding are important components of the ability to conduct and develop its operations.

**Boliden's job creation**

Boliden is the largest employer in many of the communities in which it operates. At year-end, Boliden had 5,819 direct employees in eight countries.

Many of Boliden's employees live in the vicinity of the workplace, and the company consequently has a considerable impact on local employment levels and local trade and industry by generating increased purchasing power and providing a critical base for important social services. Boliden's market presence in Sweden, Finland, Norway and Ireland contributes to the creation of approximately 30,000 job opportunities, either directly or indirectly, through its subcontractors, suppliers, or the effect of its employees' expenditure. And for every one Boliden employee, an estimated four other jobs are created as a result of its operations. For additional details of job creation and other indirect economic impact, see Boliden's Sustainability Index.

Promoting the interests of local communities and maintaining good relationships with employees, neighbours, authorities and business partners is an important part of what it means to be a responsible company and also facilitates efforts to attract a skilled workforce and to develop operations.

**Contributing to tax revenues**

Boliden also contributes to tax revenues in the regions in which the Group operates. The paid tax in 2018 totalled SEK 2,286 m, but Boliden's direct tax expenditure also includes social security contributions, property tax, fuel tax, and VAT. Boliden's total contribution to public finances through taxes (direct, indirect, and induced) is approximately SEK 14.0 billion.

**Community relations**

Good community relations are important to Boliden in terms both of our ongoing operations and of new projects – everything from exploration to reclamation. Boliden maintains ongoing dialogues with affected parties and carries out a number of consultation processes every year in which the public and various stakeholders are encouraged to participate and express their views. It is vital to the ability to shape operations and projects in an optimal way, and to give everyone a chance to be heard, that this consultation process works well. Boliden is working, as part of these efforts, to develop the process and introduce new methodologies. One of these new methodologies includes a detailed analysis of who is affected and a subsequent adaptation of the consultation process to ensure it is optimally structured to capture individual groups' comments and ideas. Active and interactive methodologies also improve the way in which people's interest is captured. Community dialogue on the subject of the reclamation of the former Gillervattnet tailings pond and the Boliden Area's original open pit mine is one example of a developed consultation process that took place during the year. Special measures have been implemented during the consultation process for school children of all ages, various stakeholder groups, local residents, Sami villages, and the municipality, with numerous people engaged in the process of investigating the sites' potential, future use, and development.

In addition to the consultation processes, Boliden maintains an ongoing dialogue and collaboration with those affected by its operations and the local community through various different types of activities. These include event weeks, with visits by schools, trade and industry, and the local municipalities, collaboration with and sponsorship of local associations and sports teams, cultural activities, and cooperation with local history societies.

**Bcause**
**– Boliden's charitable foundation**

Metals contribute to the development and modernisation of societies worldwide. Boliden's operations have enabled it to be part of that process for over 90 years. For years, Boliden has been actively involved locally through associations and voluntary organisations. In 2014, Boliden launched its charitable foundation, Bcause, as part of its efforts to make a global contribution. Bcause is based on voluntary monthly contributions by Boliden's employees, and for every krona donated, Boliden donates two. The money raised is then donated in full, every year, to charitable purposes. Two organisations received a donation from Bcause in 2018: SEK 1 m went to Finn Church Aid, and SEK 600,000 to The Ocean Cleanup.

The public was invited to learn more about mining operations in conjunction with the AGM held in Garpenberg. A total of 1,300 people visited the facility.

# Group performance during the year

Market terms were favourable during the year, helping ensure a stable profit and a strong Balance Sheet. The focus has been on improved production stability and strengthening the safety culture. Smelters' production increased, while Mines' production volumes were stable.

### Revenues and operating profits

Boliden's revenues totalled SEK 52,454 m (49,531) and the operating profit was SEK 9,004 m (9,015). The operating profit excluding revaluation of process inventory was SEK 9,074 m (8,913). The operating profit for Mines totalled SEK 6,451 m (6,681), while for Smelters, the operating profit excluding revaluation of process inventory was SEK 2,435 m (2,732). Planned maintenance shutdowns for Smelters were charged to the profit in the sum of approximately SEK –200 m (–415) in the form of lower production and higher costs. The Group's operating costs before depreciation totalled SEK 15,125 m (14,107), with the increase in costs due to increased costs for energy, chemicals, personnel, and external services. Depreciation increased primarily due to increased mined production and the fact that production at Aitik took place in capital-intensive areas.

### Investments

Investments for the year totalled SEK 6,140 m (5,588). A significant part comprised maintenance investments, which includes development work and waste rock excavation, which constitutes preparatory work needed to access the ore in the mines. Major projects during the year included the new sulphuric acid plant at Harjavalta and the new crusher station at Aitik.

### Future reclamation costs

The reclamation provision and non-current assets have been increased by SEK 893 m and SEK 912 m, respectively, due to a new court ruling. In May 2018, the Land and Environmental Court issued a ruling on the future reclamation of the Aitik mine in which the court, amongst other things, increased the financial security requirement from SEK 1.8 billion to SEK 2.9 billion. Both the reclamation provision and the corresponding asset at Aitik have consequently been increased by the discounted difference. For further information, see Note 24.

### Cash flow

The cash flow from operating activities before changes in working capital totalled SEK 11,531 m (11,837). The reduction in working capital made a positive contribution to the cash flow of SEK 237 m (900), and the cash flow from operating activities totalled SEK 11,768 m (12,737). The free cash flow totalled SEK 5,692 m (7,309). Paid tax for the year totalled SEK 2,286 m (1,457).

### Financial position

On 31 December 2018, Boliden's net debt totalled SEK 2,034 m (3,752). Equity totalled SEK 39,011 m (35,053), including net market valuation of currency, interest and raw material derivatives totalling SEK 11 m (1) and after fiscal effects. The net debt/equity ratio fell to 5% (11) at the end of 2018 due to the high free cash flow.

The average term of Boliden's total granted loan facilities was 3.5 years (2.4) at the end of the year. The average interest level in the debt portfolio on 31 December 2018 was 1.3% (1.3) and the fixed interest term was 0.9 years (0.5). At the end of the year, Boliden's current liquidity totalled SEK 9,964 m (8,768), in the form of cash and cash equivalents and unutilised binding credit facilities with terms of over one year. For further information on Boliden's debt portfolio, see Note 26.

### The Parent Company

The Parent Company conducts limited operations and operates, fiscally speaking, on commission with Boliden Mineral AB. The Income Statements, Balance Sheets and Statements of Cash Flow for the Parent Company are shown on page 75.

### Principles for remuneration to the President and other senior executives

Remuneration paid by Boliden to senior executives shall comprise a fixed salary, variable remuneration, pension benefits and other benefits. Remuneration to senior executives is described in Note 4.

The Board does not intend to propose any changes to these guidelines to the Annual General Meeting to be held in May 2019.

| SEK m | 2018 | 2017 |
|---|---|---|
| Revenues | 52,454 | 49,531 |
| Operating costs before depreciation | 15,125 | 14,107 |
| Depreciation | 4,930 | 4,601 |
| Operating profit, ex. revaluation of process inventory | 9,074 | 8,913 |
| Operating profit | 9,004 | 9,015 |

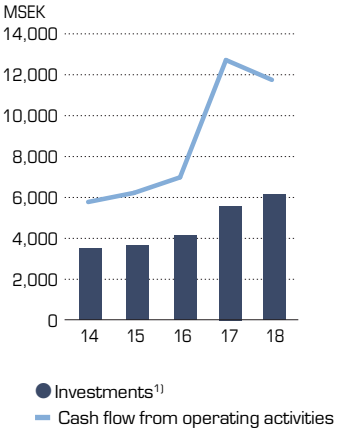
**Profit analysis**

| SEK m | 2018 | 2017 |
|---|---|---|
| **Operating profit** | **9,004** | **9,015** |
| Revaluation of process inventory | –70 | 102 |
| **Operating profit, ex. revaluation of process inventory** | **9,074** | **8,913** |
| **Change** | | **161** |
| **Analysis of change** | | |
| Volumes | | 747 |
| Prices and terms | | 237 |
| *Metal prices* | | *342* |
| *By-product prices* | | *201* |
| *Realised metal and currency hedging* | | *22* |
| *Treatment and refining charges* | | *–348* |
| *Metal premiums* | | *–25* |
| *Exchange rate effects* | | *46* |
| Costs (local currencies) | | –607 |
| Depreciation (local currencies) | | –166 |
| Items affecting comparability | | –13 |
| Other | | –36 |
| **Change** | | **161** |

### Investments

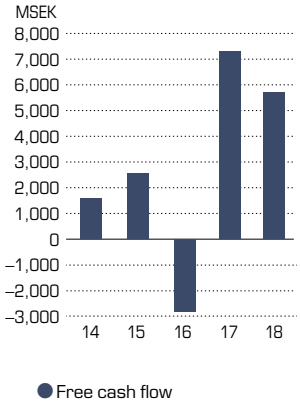
| SEK m | 2018 | 2017 |
|---|---|---|
| Mines | 4,482 | 3,722 |
| Smelters | 1,656 | 1,862 |
| Other | 2 | 4 |
| **Total investments** | **6,140** | **5,588** |

### Investments and cash flow from operating activities




The cash flow from operating activities totalled SEK 11,768 m (12,737).

### Free cash flow




The free cash flow totalled SEK 5,692 m (7,309).

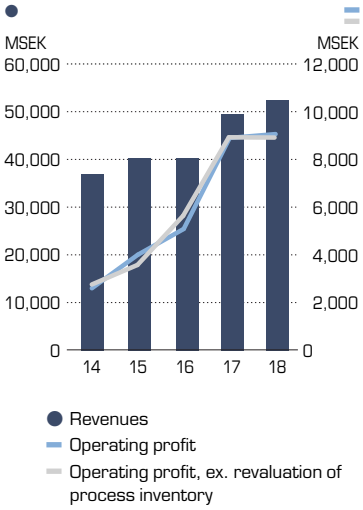
### Cash flow

| SEK m | 2018 | 2017 |
|---|---|---|
| Cash flow from operating activities before changes in working capital | 11,531 | 11,837 |
| Changes in working capital | 237 | 900 |
| Cash flow from operating activities | 11,768 | 12,737 |
| Cash flow from investment activities | –6,076 | –5,428 |
| **Free cash flow (before financing)** | **5,692** | **7,309** |

### Capital structure and return

| | 2018 | 2017 |
|---|---|---|
| Balance Sheet total, SEK m | 58,727 | 55,882 |
| Capital employed, SEK m | 44,441 | 42,931 |
| Equity, SEK m | 39,011 | 35,053 |
| Net debt, SEK m | 2,034 | 3,752 |
| Return on capital employed, % | 20 | 21 |
| Return on equity, % | 19 | 22 |
| Equity/assets ratio, % | 66 | 63 |
| Net debt/equity ratio, % | 5 | 11 |

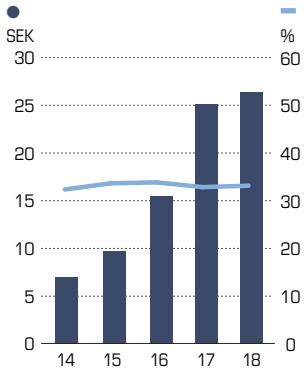
### Revenues and operating profit




### Breakdown of operating costs

- Personnel, 25% (25)
- Energy, 14% (13)
- Consumables and spare parts, 19% (20)
- Transport costs, 4% (4)
- External services, 20% (20)
- Depreciation and other, 18% (18)

### Earnings per share and dividend share




Earnings per share totalled SEK 26.32 (25.06), and an ordinary dividend of SEK 8.75 (8.25) is proposed, corresponding to a dividend share of 33.2% (32.9). An extra dividend of SEK 4.25 (5.75) per share, in the form of an automatic share redemption procedure, has been proposed.

[1)] Excluding acquisitions: Kylylahti 2014 (SEK 718 m), Kevitsa 2016 (SEK 5,961 m)

# PERFORMANCE: **MINES**

### Financial information

The majority of Mines' sales are made to Boliden's smelters and on market terms. Revenues increased to SEK 18,404 m (18,195), with external sales accounting for SEK 1,788 m (1,826) of the total. Mines' operating profit decreased to SEK 6,451 m (6,681), primarily due to higher costs for personnel, external services, energy, and maintenance. Mines' total operating costs before depreciation were SEK 8,481 m (7,947), corresponding to an increase of 4% in local currencies. Depreciation increased to SEK 3,708 m (3,487), largely as a result of a higher percentage of mined production occurring in capital-intensive areas. Investments increased to SEK 4,482 m (3,722).

The improvement in Aitik's operating profit during the year was due to high milled volumes, high grades, and higher copper prices. Kevitsa, which was acquired in June 2016, has performed well in terms of both production and profits since the acquisition. The operating profit continued to improve in 2018, despite lower milled volumes and lower copper grades. Increased recovery and higher metal prices made a positive contribution. The decrease in Garpenberg's profit was primarily due to lower zinc grades, while the decrease in profits in the Boliden Area and at Tara was largely due to higher costs. In the Boliden Area, old ore waste tips have been processed, which compensated for the reduction in Maurliden's production, but which also increased costs. Kylylahti posted a minor operating loss, primarily due to increased depreciation.

### Production

Production of zinc and copper concentrate fell. Higher zinc grades at Tara were unable to compensate for lower milled volumes at all zinc-producing mines. Lower milled volumes and grades at Kevitsa, and lower grades at Kylylahti, had a negative effect on copper production.

**Key data**

| | 2018 | 2017 |
|---|---|---|
| Revenues, SEK m | 18,404 | 18,195 |
| Operating costs, ex. depreciation, SEK m | 8,481 | 7,947 |
| Depreciation, SEK m | 3,708 | 3,487 |
| Operating profit, SEK m | 6,451 | 6,681 |
| Investments, SEK m | 4,482 | 3,722 |
| Capital employed, SEK m | 26,328 | 25,502 |
| Return on capital employed, % | 25 | 27 |
| Number of employees, FTE | 3,291 | 3,164 |

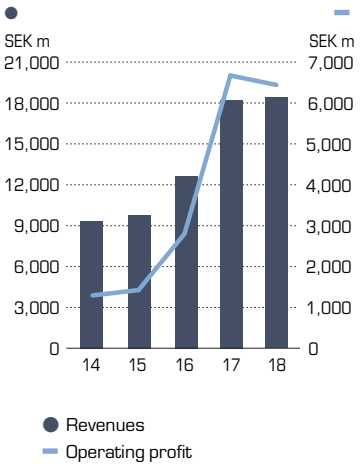
**Profit analysis**

| SEK m | 2018 | 2017 |
|---|---|---|
| **Operating profit** | **6,451** | **6,681** |
| **Change** | | **–229** |
| **Analysis of change** | | |
| Volumes | | 40 |
| Prices and terms | | 187 |
| *Exchange rate effects* | | *265* |
| Costs (local currencies) | | –335 |
| Depreciation (local currencies) | | –145 |
| Items affecting comparability | | 37 |
| Other | | –13 |
| **Change** | | **–229** |

**Operating profit**

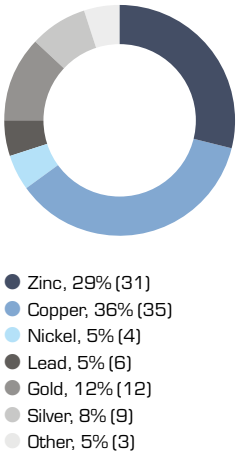
| SEK m | 2018 | 2017 |
|---|---|---|
| Aitik | 2,494 | 2,073 |
| The Boliden Area | 756 | 868 |
| Garpenberg | 2,225 | 2,606 |
| Kevitsa | 974 | 893 |
| Kylylahti | –31 | 34 |
| Tara | 798 | 942 |

**Revenues and operating profit**



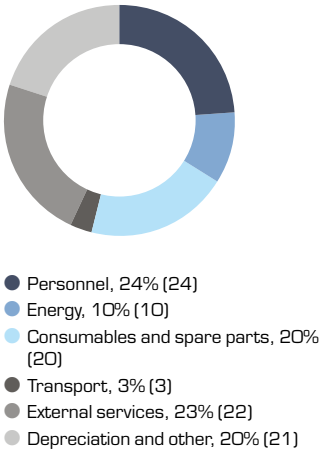

The year on year reduction in the operating profit was due to higher costs.

**Breakdown of revenues by metal**




Copper and zinc account for the majority of Boliden's revenues. "Other" includes cobalt.

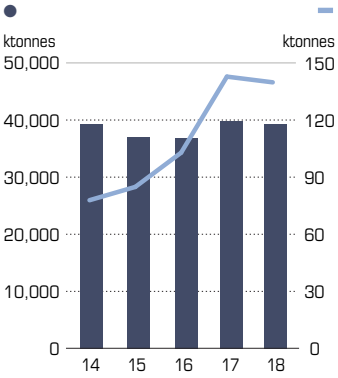
**Breakdown of operating costs**




Operating costs excluding depreciation increased in local currencies by 4%.

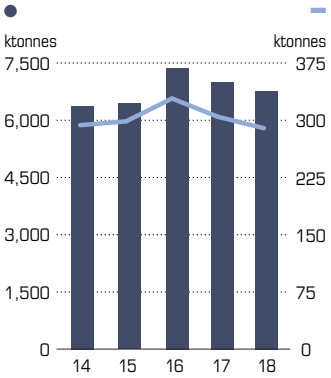
Production of nickel and gold in concentrate increased, but silver production decreased slightly. Production of gold in concentrate increased due to higher grades at Aitik and in the Boliden Area. Nickel production increased as a result of increased recovery levels at Kevitsa and due to the concentration of nickel/cobalt ore at Kylylahti in the latter part of the year. Aitik's production of copper in concentrate increased to 99,283 tonnes (97,573), which is the highest annual production figure ever. Milled volumes decreased slightly to 38.5 Mtonnes (39.0) due to a deterioration in crusher availability in the first half of the year. The copper grade increased to 0.29% (0.28). Recovery levels improved, year on year, for both copper and gold. Milled volumes fell in the Boliden Area to 1,947 ktonnes (2,065) as the Maurliden mine was approaching the end of its useful life during the year. Garpenberg's milled volume was on par with the previous year's level at 2,622 ktonnes (2,634). Zinc production decreased to 101,111 tonnes (107,496) due to lower grades. Kevitsa's milled volume fell during the year to 7,582 ktonnes (7,911). Copper production fell to 27,498 tonnes (29,957), while nickel production increased to 13,948 tonnes (13,777). Kylylahti's milled volume was almost on par with last year's record level, totalling 785 ktonnes (809). A nickel/cobalt campaign resulted in 518 tonnes (0) of nickel and 278 tonnes (0) of cobalt being produced. The trial resulted in a year on year decline in the produced volume of copper. Kylylahti's copper production totalled 7,353 tonnes (9,686). Milled volumes fell at Tara to 2,200 ktonnes (2,311). Higher grades, however, resulted in a slight increase in the volume of zinc to 131,742 tonnes (130,580).

**Copper production**



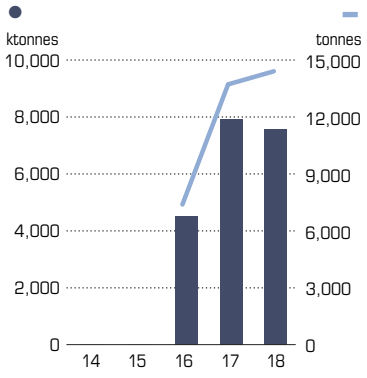

Production of copper in concentrate fell, primarily due to lower milled volumes and grades at Kevitsa and lower grades at Kylylahti.

**Zinc production**



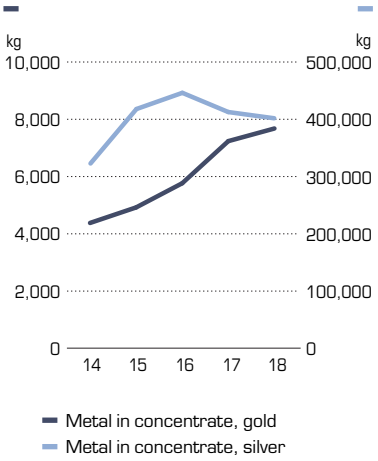

Production of zinc in concentrate fell due to lower milled volumes at all zinc-producing mines.

**Nickel production[1)]**



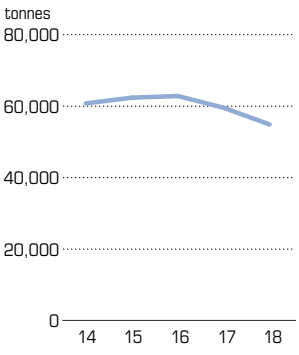

Production of nickel has developed well since the acquisition of Kevitsa in 2016.

**Gold and silver production**




The increase in the production of gold in concentrate is largely due to improved grades at Aitik and in the Boliden Area.

**Lead production**




Production of lead in concentrate has declined due to lower milled volumes at Tara, in the Boliden Area, and at Garpenberg.

1) 2016: refers to June – December

# PERFORMANCE: SMELTERS

### Financial information

Revenues totalled SEK 50,634 m (47,691) and the gross profit, excluding revaluation of process inventory, was SEK 10,088 m (9,776).

The operating profit, excluding revaluation of process inventory, was SEK 2,435 m (2,732). Including the inventory revaluation effect of SEK –70 m (102), the operating profit was SEK 2,364 m (2,834). A positive volume effect was unable to compensate in full for a deterioration in treatment charges and higher costs for personnel, energy and chemicals. The operating profit was impacted by maintenance shutdowns to the tune of approximately SEK –200 m (–415), due to lower production levels and higher costs.

The year on year decrease in Rönnskär's profit was primarily due to lower copper treatment charges and higher costs for energy, personnel, and consumables. Harjavalta's positive profit performance was due to increases in free metals and stable nickel production, coupled with favourable market terms. Kokkola's profit fell due to a deterioration in market terms. Higher volumes and slightly higher zinc prices were unable to compensate for significantly lower zinc treatment charges. Odda, too, was affected by the deterioration in market terms, but the fall in Odda's profit was more limited, due to less comprehensive maintenance activities than last year and higher volumes. Bergsöe's profit fell due to a deterioration in market terms, lower production, and slightly higher costs. A fire in the early part of the year also had a negative effect. Smelters' operating costs, excluding depreciation, totalled SEK 6,490 m (6,004). Costs increased in local currencies by 5% due, largely, to higher personnel costs and higher prices for energy and chemicals. The Business Area's investments during the year totalled SEK 1,656 m (1,862).

**Key data**

| | 2018 | 2017 |
|---|---|---|
| Revenues, SEK m | 50,634 | 47,691 |
| Gross profit, ex. revaluation of process inventory, SEK m | 10,088 | 9,776 |
| Operating costs, ex. depreciation, SEK m | 6,490 | 6,004 |
| Depreciation, SEK m | 1,220 | 1,114 |
| Operating profit, ex. revaluation of process inventory, SEK m | 2,435 | 2,732 |
| Operating profit, SEK m | 2,364 | 2,834 |
| Investments, SEK m | 1,656 | 1,862 |
| Capital employed, SEK m | 18,237 | 18,018 |
| Return on capital employed, % | 13 | 15 |
| Number of employees, FTE | 2,322 | 2,335 |

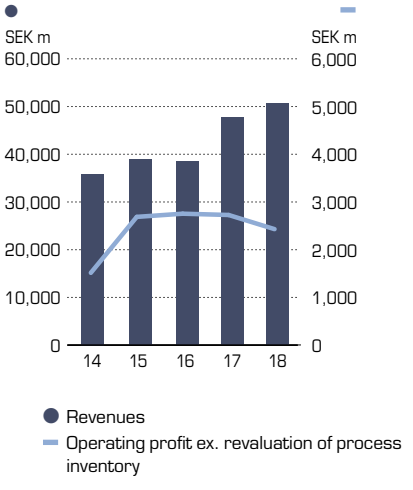
**Profit analysis**

| SEK m | 2018 | 2017 |
|---|---|---|
| **Operating profit** | **2,364** | **2,834** |
| Revaluation of process inventory | –70 | 102 |
| **Operating profit, ex. revaluation of process inventory** | **2,435** | **2,732** |
| **Change** | | **–298** |
| **Analysis of change** | | |
| Volumes | | 552 |
| Prices and terms | | –484 |
| *Exchange rate effects* | | *51* |
| Costs (local currencies) | | –275 |
| Depreciation (local currencies) | | –20 |
| Items affecting comparability | | –50 |
| Other | | –20 |
| **Change** | | **–298** |

**Operating profit**

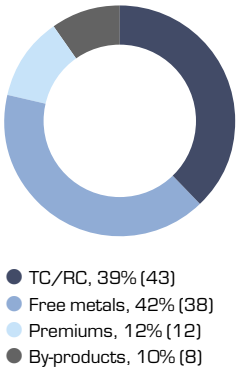
| SEK m | 2018 | 2017 |
|---|---|---|
| Rönnskär | 756 | 900 |
| Harjavalta | 1,043 | 707 |
| Kokkola | 461 | 688 |
| Odda | 168 | 225 |
| Bergsöe | 8 | 110 |

**Revenues and operating profit ex. revaluation of process inventory**



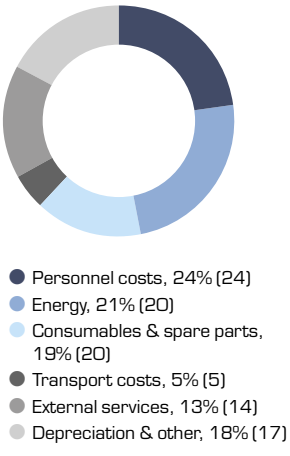

The operating profit, excluding revaluation of process inventory, fell year on year, largely due to increased costs.

**Breakdown of gross profit ex. revaluation of process inventory**




Treatment charges and free metals accounted for 80% of the gross profit, excluding revaluation of process inventory.

**Breakdown of operating costs**




Operating costs, excluding depreciation, increased by 5% in local currencies.

## Production

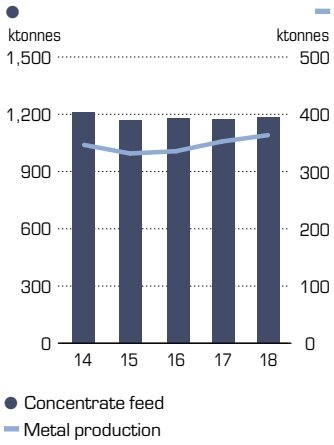
Smelters' production of copper, zinc and nickel matte increased, while production of gold and silver fell, year on year. Rönnskär's process stability improved, and its copper and gold production increased. Lower precious metal content in raw materials resulted in lower silver production.

Harjavalta's copper process was stable, resulting in a per year record level of copper production. A comprehensive maintenance shutdown of the nickel process was carried out last year, and production of nickel matte consequently increased this year. Harjavalta's silver production increased due to higher grades in raw materials, but gold production fell due to process engineering problems.

Kokkola's feed and zinc production increased. The past two years have been affected by production disruptions, and availability improved in 2018. Production at Odda increased, year on year, due to the completion of the investment project that saw production expanded to 200 ktonnes/year. Some process engineering problems were experienced in the fourth quarter, but Odda still posted its highest ever volume of cast zinc.

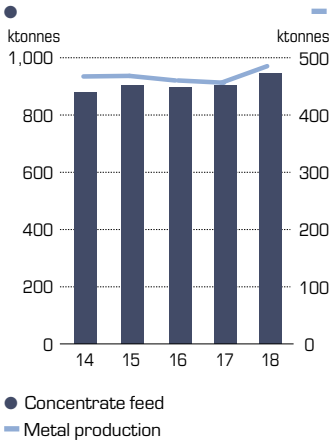
Bergsöe's lead alloy production was slightly down on last year's record level due to generally lower production stability.

**Copper production**



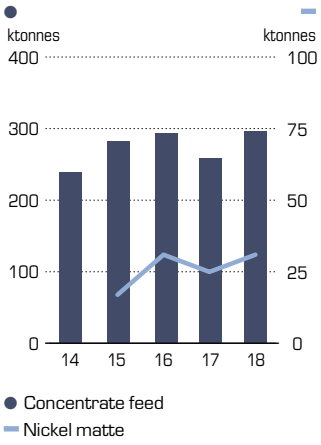

Concentrate feed and copper production increased at Rönnskär. Concentrate feed decreased at Harjavalta, but copper production increased slightly.

**Zinc production**



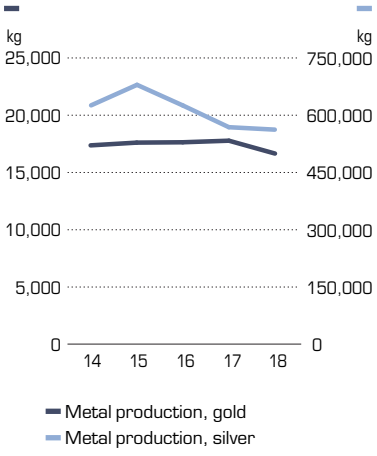

Concentrate feed and zinc production increased, year on year, at both Kokkola and Odda.

**Nickel production**



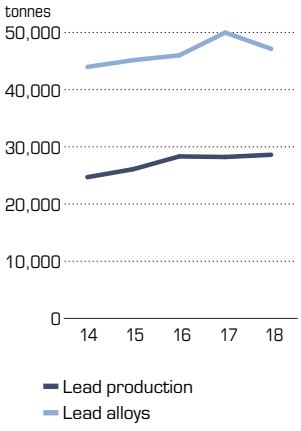

Harjavalta's concentrate feed and nickel in matte production both increased, year on year.

**Gold and silver production [1)]**




Gold production increased at Rönnskär and fell at Harjavalta. Silver production fell at Rönnskär but increased at Harjavalta.

**Production of lead and lead alloys**




Bergsöe's production of lead alloys decreased, year on year. Lead production at Rönnskär increased slightly.

[1)] Silver in concentrate at Kokkola is included in the production figures shown as of 2014.

# The Boliden share

The Boliden share is listed on the NASDAQ Stockholm exchange in the Large Cap segment. The share price fell by 32% during the year and consequently underperformed the Stockholm Stock Exchange.

### Trading in the Boliden share

A total of 0.9 billion (1.1) Boliden shares were traded in all marketplaces in 2018 with a total value of SEK 245 b (277). The NASDAQ accounted for 63% of all trading in Boliden shares. 395 million (455) Boliden shares were traded on the NASDAQ during the year, with a total value of SEK 103 b (120). An average of 1.6 million (1.8) shares were traded per trading day, and the Boliden share accounted for 2.3% (2.8) of the total volume of shares traded on the NASDAQ Stockholm Exchange. The largest marketplace, after the NASDAQ, was Cboe CXE, which accounted for 21% of trading in the share.

### Price trend and dividend

The Boliden share fell by 32%, in contrast to the OMX Stockholm 30 index, which fell by 7%, and the EMIX Global Mining Index in SEK, which fell by 4%. Rising general levels of concern about future macroeconomic trends contributed to the price trend.

At the end of 2018, the Boliden share was quoted at SEK 192 (280.6) on the NASDAQ Stockholm, corresponding to a market capitalisation of SEK 52.5 b (76.7). In common with other raw materials companies, the variation in the value of the Boliden share is, on average, greater than for the broad stock market indices. The beta value of the Boliden share over the last five years against OMXSPI is 1.34.

The Board of Directors proposes to the Annual General Meeting an ordinary dividend of SEK 8.75 (8.25) per share for 2018, which is in line with Boliden's dividend policy. The proposed dividend corresponds to 33.2% (32.9) of the net earnings per share and a dividend yield of 4.6% (2.9), calculated on the basis of the share price at the end of the year. In addition, an extra dividend of SEK 4.25 (5.75) per share, in the form of an automatic share redemption procedure, has been proposed.

The Boliden share's total return (the sum of the dividend paid and the price trend) over the most recent 10-year period was, on average, 31% per annum.

### Share capital

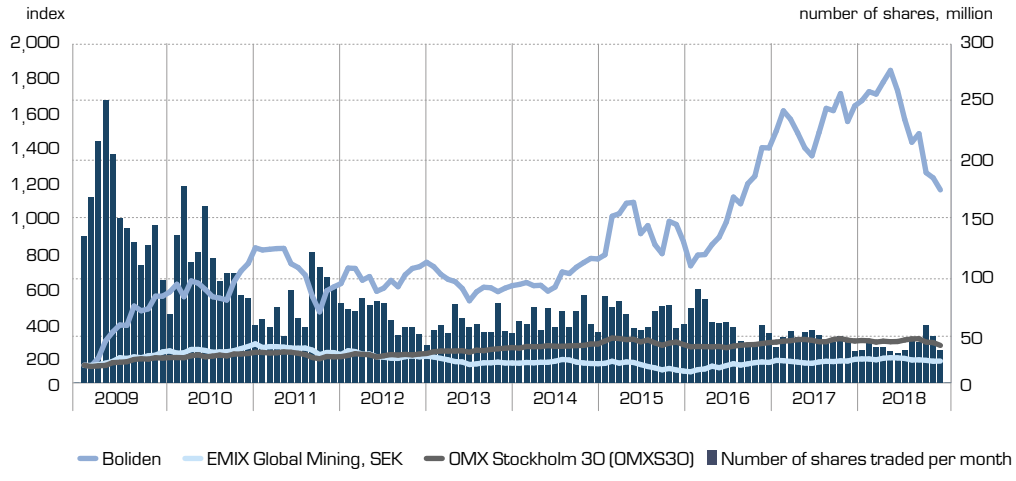
There are a total of 273,511,169 shares in Boliden. Every share has a nominal value of SEK 2.12 and the share capital totals SEK 578,914,338. Boliden's share capital comprises a single class of share in which every share has the same voting power and grants the same entitlement to dividends. The Boliden Articles of Association contain no provisions restricting the right to transfer shares or any limitations with regard to the number of votes that a shareholder can exercise at General Meetings of the company's shareholders. Boliden does not hold any of its own shares, nor has it issued any shares in 2018.

Boliden is unaware of any agreement between shareholders that may entail restrictions on the right to transfer shares in the company. Boliden is not party to any significant agreement affected by any public buyout offer. Boliden has no shareholders who have declared that they, either directly or indirectly, represent at least one tenth of the total number of votes for all shares.

### Share price, sector index, and the NASDAQ Stockholm exchange

**Share price, sector index, and the NASDAQ Stockholm Exchange**
The price of the Boliden share fell by 32% during the year, in comparison with the OMX Stockholm 30 index, which fell by 7% and the EMIX Global Mining sector index in SEK, which fell by 4%.

SOURCE: REFINITIV



## Ownership structure

Boliden had 77,354 (70,416) shareholders on 31 December 2018.

Approximately 60% (66) of the shares were owned by foreign shareholders. The ten biggest individual shareholders represented 30.6% (29.8) of the share capital.

Boliden's employees hold shares, via profit sharing foundations, for which voting rights cannot be directly exercised. The foundations held 653,418 (395,099) shares at the end of the year.

**Distribution of Boliden shares on 31 December 2018**

| Shareholding | Number of shareholders | Number of shares | Holding, % | Votes, % |
|---|---|---|---|---|
| 1–100 | 39,877 | 1,547,496 | 0.6 | 0.6 |
| 101–500 | 23,319 | 6,834,137 | 2.5 | 2.5 |
| 501–1,000 | 7,405 | 6,162,386 | 2.3 | 2.3 |
| 1,001–10,000 | 6,114 | 16,440,691 | 6.0 | 6.0 |
| 10,001–50,000 | 400 | 8,460,053 | 3.1 | 3.1 |
| 50,001– | 239 | 175,760,026 | 64.3 | 64.3 |
| Anonymous ownership | | 58,306,380 | 21.3 | 21.3 |
| **Total** | **77,354** | **273,511,169** | **100.0** | **100.0** |

SOURCE: MONITOR, MODULAR FINANCE AB HOLDINGS

**Boliden's biggest owners** on 31 December 2018

| Percentage of capital and votes, % | |
|---|---|
| Swedbank Robur Fonder | 5.9 |
| BlackRock | 4.6 |
| SEB Fonder | 3.6 |
| AMF Försäkring & Fonder | 3.5 |
| Norges Bank | 3.1 |
| Vanguard | 2.7 |
| Legal & General | 2.1 |
| Söderbloms Factoringtjänst AB | 1.7 |
| Invesco | 1.7 |
| Andra AP Fonden | 1.5 |
| **Total** | **30.6** |

SOURCE: MONITOR, MODULAR FINANCE AB. THE VERIFICATION DATE MAY VARY FOR CERTAIN SHAREHOLDERS.

**The share in brief, 2018**

| | |
|---|---|
| Marketplace | NASDAQ Stockholm |
| Short name | BOL |
| ISIN code | SE 0011088665 |
| ICB code | 1700 |
| Highest price paid | SEK 328.40 |
| Lowest price paid | SEK 187.80 |
| Closing price | SEK 191.98 |
| Market capitalisation, 31 Dec | SEK 52.5 b |
| Turnover rate | 139% |
| Number of shares | 273,511,169 |
| Beta value (5 years) | 1.34 |

SOURCE: NASDAQ OMX

### Shareholder information on the website

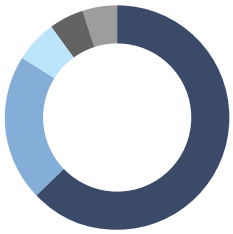
Boliden's website, www.boliden.com, provides information on Boliden, the performance of the Boliden share, metal prices and currencies, financial reports, a list of the analysts who cover Boliden, and details of how to contact Boliden. Presentations of Interim Reports and capital market days are also available on the website.

| **Annual total shareholder return,** 31 December 2018 | 1 year | 3 years | 5 years | 10 years |
|---|---|---|---|---|
| Boliden | –28% | 14% | 17% | 31% |
| OMX Stockholm 30 | –7% | 3% | 5% | 12% |
| EMIX Global Mining, SEK | –4% | 26% | 5% | 5% |

The average total shareholder return on the Boliden share over the past 10 years was 31% per annum and 1,341% for the period as a whole.

SOURCE: REFINITIV

### Trading in different marketplaces

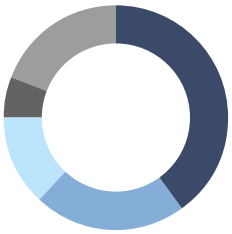


- Nasdaq, 63%
- Cboe CXE, 21%
- Cboe BXE, 6%
- Turquoise, 5%
- Other, 5%

The percentage of Boliden shares traded on the Stockholm Stock Exchange increased in 2018 to 63% (43).

SOURCE: MONITOR, MODULAR FINANCE AB

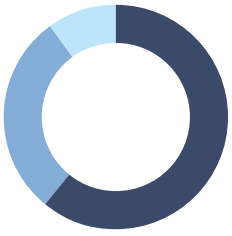
### Ownership by country



- Sweden, 40%
- USA, 22%
- UK, 13%
- Belgium, 6%
- Other, 19%

The percentage of foreign-owned shares fell in 2018. 60% (66) of the shares were registered in foreign ownership.

### Ownership by category



- Foreign accounts, 61%
- Swedish legal entity accounts, 29%
- Swedish natural person accounts, 10%

# Risk management

Boliden's operations are cyclically sensitive and are exposed to fluctuations in metal prices and exchange rates. Sustainability risks are evaluated continuously. The operations have an impact on the surrounding environment, and many processes are associated with work environment and safety risks. Boliden works unceasingly to reduce these risks, e.g. through scenario planning based on a range of different market fluctuations.

## Operational risks

Operational risks are managed by the operating units in accordance with the guidelines and instructions established for each Business Area and unit.

| Risk | Description of risk | Management and comments for the year |
|---|---|---|
| **Health and safety** | Boliden handles large material flows, both below and above ground. Employees and contractors are periodically exposed to heavy machinery and lifting, to high temperatures, and to substances that are hazardous to health. Deviations from established routines or inadequate maintenance can create dangerous situations and increase the risk of personal injury. | Boliden has a zero vision for accidents and established routines for health and safety. The number of accidents resulting in lost time (LTI) per million hours worked, including those suffered by contractors, decreased, year on year, and totalled 5.1 (6.3).<br>The intensified work on developing Boliden's safety culture in recent years has begun yielding tangible results. These results are due to a continued focus on managerial involvement, preventative risk management, and improved involvement by employees in health and safety-related activities. Other important activities that have helped generate these positive results are increased knowledge of how the company handles organisational and social environmental challenges, such as stress, unhealthy workloads, and the need for a work-life balance. |
| **Environmental impact** | ***Environmental impact***<br>Boliden's operations affect the air, water, land and biodiversity in the vicinity of those operations. The extraction of metals also creates waste products that must be processed safely. The risk is posed by both the ongoing and decommissioned operations. | Boliden sets emission goals and monitors them closely. Efforts to manage the risk of emissions and discharges are based on risk analyses, ongoing monitoring and maintenance. Technological development aimed at ensuring optimum resource utilisation and minimizing potential waste volumes is an ongoing process. |
| | ***Carbon dioxide emissions***<br>Boliden's operations are energy-intensive and result in carbon dioxide emissions that can impact the climate. External environmental risks, such as climate change and changes to regulations and taxes, may affect Boliden, e.g. regulations and requirements relating to carbon dioxide emissions from processes. The EU's ETS emissions trading scheme may result in cost increases that jeopardise Boliden's competitive situation in the international market. | Boliden is working to reduce its carbon footprint through electrification and enhanced energy efficiency. Boliden works, through its industry organisations, to promote transparency in the Emissions Trading Scheme and to ensure that European metal producers are not disadvantaged. Boliden's goal is for its carbon dioxide intensity to be below 0.77 tonnes $CO_2$/tonne of metal. In 2018, the carbon dioxide intensity decreased to 0.64 (0.69). |
| | ***Water management and dam safety***<br>Tailings ponds account for one of the risk scenarios for the mining industry. The risks comprise both the environmental impact of dam construction and the risk of a dam failure. Extreme weather conditions and changes in average rainfall levels affect this risk. | Boliden develops water balance models to ensure better resource utilisation and to create a wider safety margin in relation to emergency water discharges. Every operating unit with its own dam has a Dam Safety Manager and a Dam Operations Manager. The dams in Sweden are operated in accordance with the GruvRIDAS dam safety guidelines. |
| **Unplanned stoppages** | Boliden's production essentially comprises continuous processes, and unplanned stoppages can affect production, emissions and discharges to air and water, and financial results. The stoppages can be long-term. Unplanned stoppages can, for example, occur due to technical problems, accidents or strikes. | Boliden carries out preventative maintenance work at all of its production facilities. Major maintenance shutdowns are carried out every year within the smelting operations, while maintenance work, albeit on a generally less comprehensive scale, is an integral part of day-to-day operations for the mines. Boliden has adopted a zero tolerance vision for accidents in order to help prevent unplanned stoppages. |
| **Talent pool** | A large number of Boliden's employees will retire over the next few years; technology will develop through digitalisation; and the competition for skilled manpower is increasing in many of the areas in which Boliden operates. The shortage of people with relevant training and experience increases the difficulty of recruitment work. | Implementation of a Group-wide Learning Management system began in 2017 in order to further develop these processes. Talent Forums are held at all units in order to identify key skills and to work with replacement planning. Management development programmes are conducted annually at various levels. Boliden conducts numerous employer branding activities, primarily at compulsory schools in the vicinity of our operations and at prioritised universities. There is also a considerable focus on attracting, retaining, and developing female employees. One example of this is Women at Work – a training programme for female employees designed to enhance their career development. |

# Market and commercial risks

Boliden's market and commercial risks are primarily managed within the individual Business Areas and at Group level.

| Risk | Description of risk | Management and comments for the year |
|---|---|---|
| **Metal prices** | Changes to metal prices have a significant impact on Boliden's profits and cash flow. | Boliden's policy is not to hedge metal prices, but rather to allow changes to be reflected in the result. There are some exceptions to this, e.g. when mining ore bodies with short residual lifespans or in conjunction with major investment projects. See also under the "Financial risks" section. Boliden also continuously hedges Smelters' metal price and currency exposure during the period between the purchase of raw materials and the sale of corresponding metals (with the exception of process inventory) in what is known as transaction exposure. See also under the "Financial risks" section. |
| **Treatment and refining charges** | Treatment and refining charges make up a large part of the smelters' gross profit and are determined by the supply/demand of metal concentrates. | The terms are negotiated annually by the major players in the mining and smelting industries. Boliden applies these terms internally and the majority of external contracts are based on these terms. |
| **Customers** | Boliden has a reliance on a small number of large copper customers. Reduced sales to industrial customers in Europe increase the risk of sales via the London Metal Exchange (LME), with slightly lower margins as a result. | Boliden endeavours to reduce the risks by maintaining a diversified portfolio of customers and long-term relationships, via its own northern European sales organisation. Boliden also has plans in place that would enable the production to be reorganised to produce LME-quality products that can be sold via LME. |
| **Raw materials supply** | A stable and reliable raw materials supply is important for creating the most profitable raw materials mix and thereby enabling the smelters to produce at high levels of capacity utilisation and consistent quality. | Boliden endeavours to conclude long-term agreements and partnerships with reliable external metal concentrate and recycling materials suppliers. |
| **Energy prices** | Energy accounts for approximately 13% of operating costs, and changes in energy prices can have a significant effect on profitability. | Boliden has long-term electricity agreements with slow-moving pricing clauses in Sweden and Norway. The agreement portfolios in Finland and Ireland have shorter terms and Boliden is more exposed to market prices. Changes in energy prices consequently affect the operating profit. Boliden monitors the potential for entering into longer term pricing agreements as and when favourable terms are offered. |
| **Brexit** | A no-deal Brexit can entail risks to transport flows in Europe. | Boliden has analysed potential scenarios and prepared for certain activities. |

# Financial risks

Boliden has a centralised treasury function that is responsible for managing financial risks with the exception of credit risks in trade and other receivables. The treasury function provides financial risk management support for the management and operating units. The treasury function is responsible for identifying and limiting the Group's financial risks in line with the financial policy adopted by the Board of Directors.

| Risk | Description of risk | Management and comments for the year |
|---|---|---|
| **Exchange rate and metal price risks** | The pricing terms for Boliden's products are primarily determined on raw materials exchanges such as the London Metal Exchange (LME) for base metals, the London Bullion Market Association (LBMA) for precious metals, and the currency and money market. Boliden's products are largely priced in USD and fluctuations in the USD/SEK/EUR exchange rates hence have a significant impact on Boliden's profits and cash flow. The Group's exchange rate and metal price exposure covers transaction exposure and translation exposure:<br><br>***Transaction exposure***<br>Boliden's transaction exposure comprises binding undertakings to customers and suppliers.<br><br>***Exposure in connection with binding undertakings***<br>When Boliden undertakes to participate in a transaction at a fixed value and which is not compensated for by a simultaneous opposite transaction of a corresponding size and nature, a transaction risk arises. The Group buys metals in the form of raw materials, which it processes into refined metals, and where the acquisition value of the raw materials as well as the exchange rates may differ from the final sales value. Such differences arise as a result of variations in quantities and processing and selling dates. Some customers are, furthermore, offered fixed prices in different currencies that are sometimes set well in advance of delivery.<br><br>***Exposure in connection with forecast cash flows***<br>This exposure also arises from future revenues that are affected by fluctuations in metal prices and exchange rates. | Transaction exposure in conjunction with binding undertakings is hedged with the exception of the smelters' process inventory. The Group uses futures contracts to ensure that the sale price and exchange rate correspond to those applicable in conjunction with the purchase of the raw material in question or with the signing of a sales agreement at a fixed price. Hedge accounting is applied to the futures contracts, thereby hedging the fair value in the Income Statement.<br>Exposure in conjunction with forecast cash flows is normally not hedged in line with Boliden's policy. See also the "Market and commercial risks" section above.<br>Boliden continuously calculates the way in which changes in metal and exchange rate markets will affect the Group's future financial position.<br>The Group's total sensitivity to the factors listed (see sensitivity analysis table below) is calculated on the basis of the quarterly reports detailing the Group companies' planned exposure resulting from metal production, exchange rates and interest. The effects of different market scenarios can be quantified on the basis of the information on sensitivity to market changes, and can then act as source data for the management of financial risks and be reported to the Board of Directors, management, and the market.<br>Boliden's policy is not to hedge metal prices and exchange rates in relation to the Group's future income. Boliden can, however, in order to limit the risk in certain situations, hedge part of the forecast cash flows, e.g. in conjunction with major investments or investments in mines with a short lifespan. The Group can use contracts to hedge metal prices and/or exchange rates for the cash flows from forecast metal sales. The derivatives are hedge accounted as cash flow hedging under Other comprehensive income. See page 58 for a sensitivity analysis of how the Other comprehensive income result is affected by a change in the value of financial derivatives (cash flow hedging). |

## Financial risks, cont.

| Risk | Description of risk | Management and comments for the year |
|---|---|---|
| **Exchange rate risk** | ***Translation exposure***<br>A translation difference arises when converting net investments in overseas operations into Swedish kronor, in conjunction with exchange rate fluctuations, which affects Other comprehensive income within the Group. | The effect of translation exposure is, in accordance with Boliden's financial policy, not actively eliminated ("equity hedging"). If an external borrowing requirement exists, however, the liability in a foreign currency is used as equity hedging against the foreign asset pool. The main borrowing currencies are EUR and SEK. |
| **Interest risk** | Changes in market interest rates affect the Group's profits and cash flows. The rapidity with which a change in interest rate levels affects the Group's net financial items depends on the fixed term of the loans and the duration of the loans. | Boliden's financial policy provides the scope for an average fixed interest term of up to 3 years. The Group's loan portfolio had, on 31 December 2018, an average fixed interest term of 0.9 years (0.5). Interest swaps are used to extend the fixed interest term. |

# Sensitivity analysis

**Operating profit, excluding outstanding derivatives**: The table below contains an estimation of the effect on the Group's operating profit of changes in market terms for the following year. The calculation is based on closing day prices on 31 December 2018 and on Boliden's planned production volumes. The sensitivity analysis does not take into account the effects of metal price hedging, exchange rate hedging, contracted treatment and refining charges, or the revaluation of smelters' process inventory.

| SEK m | 2018 | | | | 2017 | | | |
|---|---|---|---|---|---|---|---|---|
| **Change in metal prices, +10%[1]** | **Operating profit** | **Net financial items** | **Tax** | **Equity** | **Operating profit** | **Net financial items** | **Tax** | **Equity** |
| Zinc | 740 | 10 | –165 | 585 | 920 | 12 | –205 | 727 |
| Copper | 730 | 10 | –163 | 577 | 820 | 11 | –183 | 648 |
| Gold | 300 | 4 | –67 | 237 | 285 | 4 | –64 | 225 |
| Silver | 165 | 2 | –37 | 130 | 165 | 2 | –37 | 130 |
| Lead | 110 | 1 | –25 | 87 | 135 | 2 | –30 | 107 |
| Nickel | 100 | 1 | –22 | 79 | 105 | 1 | –27 | 83 |
| **Change in exchange rates, +10%** | | | | | | | | |
| USD/SEK | 1,490 | 20 | –332 | 1,177 | 1,600 | 21 | –357 | 1,264 |
| EUR/USD | 970 | 13 | –216 | 767 | 1,025 | 14 | –228 | 810 |
| USD/NOK | 130 | 2 | –29 | 103 | 145 | 2 | –32 | 115 |
| **Change in TC/RC, +10%** | | | | | | | | |
| TC/RC copper | 75 | 1 | –17 | 59 | 90 | 1 | –20 | 71 |
| TC zinc | 55 | 1 | –12 | 43 | 50 | 1 | –11 | 40 |
| TC lead | –10 | 0 | 2 | –8 | –15 | 0 | 3 | –12 |
| **Change in market rate, +1%[2]** | | 34 | –7 | 26 | | 53 | –12 | 41 |

**Other comprehensive income, taking into account outstanding derivatives:** The table below contains an estimation of the effect on Other comprehensive income (income and cost items including reclassification adjustments not reported under the profit), before tax, of changes in the value of outstanding derivatives based on the closing day prices on 31 December 2018. Changes in the value of financial derivatives in respect of binding undertakings and translation exposure have a very limited or no effect net on the profit or Other comprehensive income. The table below hence contains the effect of changes in the value of derivatives intended to counter the Group's forecast exposure.

| SEK m | 2018 | 2017 |
|---|---|---|
| **Translation exposure, net investments in overseas operations, exchange rate, +10%)[3]** | **Other comprehensive income** | **Other comprehensive income** |
| NOK/SEK | 138 | 154 |
| EUR/SEK | 1,586 | 1,431 |
| **Effect of interest +1%, gold +10%, USD/SEK +10%)[4]** | | |
| Interest derivatives, interest swaps | 5 | 15 |
| Currency derivatives, USD/SEK | 3 | 16 |

1) Based on forecast sales for the coming twelve months.
2) Based on closing day debt portfolio excluding interest swaps (31/12).
3) Based on closing day balances (31/12).
4) Based on outstanding derivatives (31/12).

## Financial risks, cont.

| Risk | Description of risk | Management and comments for the year |
|---|---|---|
| **Refinancing and liquidity risk** | The risk that Boliden will be unable to obtain the requisite financing or to meet its payment undertakings due to insufficient liquidity. | Boliden limits the refinancing risk by ensuring that its loan liability has a good spread in terms of counterparties, financing sources and durations. Satisfactory current liquidity is ensured by making use of unutilised credit facilities with market- and operations-adjusted loan durations and the refinancing requirement is regularly reviewed. The refinancing requirement is dependent, first and foremost, on market trends and investment plans.<br>The loan agreements carry loan covenants which oblige Boliden to comply with certain defined key ratio conditions in order to avoid early repayment. A deterioration in the global economic climate may entail increased risks in respect of profit performance and financial position, and the risk of Boliden coming into conflict with loan terms and conditions. Boliden has complied with all loan covenants in 2018. The average term of total loan facilities was 3.5 years (2.4) at the end of the year, which is in accordance with established Group policy. On 31 December 2018, Boliden's current liquidity totalled SEK 9,964 m (8,768) in cash and cash equivalents and unutilised binding credit facilities with a term in excess of one year. See also Note 26 on financial liabilities and maturity structure. Boliden has a structure of cash pools that enables a central overview of liquidity flows and ensures efficient management of the Group's liquidity. |
| **Credit and counterparty risk** | ***Credit risks in financial operations***<br>*The term, credit and counterparty risk, refers to the risk that a counterparty in a transaction may fail to fulfil their obligation, thus causing the Group to incur a loss. Boliden's financial exposure to counterparty risk mainly occurs when trading in derivative instruments.*<br><br>***Credit risks in trade and other receivables***<br>The risk of the Group's customers failing to fulfil their obligations constitutes a credit risk. | Boliden's financial policy mandates a Standard & Poor's credit rating of A when entering into a transaction, and a maximum investment of cash and cash equivalents per counterparty. The credit quality and counterparty spread for derivatives is adjudged to have been good in 2018. On 31 December 2018, the credit risk in derivative instruments corresponded to a market value of SEK 154 m (141), which relates to Boliden's receivables from external counterparties.<br>Offsetting of financial assets and liabilities is regulated under ISDA agreements (International Swaps and Derivatives Association) which handle both offsetting between contracted counterparties during day-to-day operations and in conjunction with special circumstances, such as failure to pay. Boliden, during the course of its day-to-day operations, net reports market values in the same currency with a single counterparty that mature at the same time and the excess sum is paid by the party with the biggest liability. In the event of a breach of contract, all outstanding obligations covered by ISDA agreements are terminated. The outstanding sum in the majority of ISDA agreements is paid by the counterparty with the biggest liability.<br>Credit risks are managed through an established credit rating process, active credit monitoring, short credit periods, and daily routines for monitoring payments. The requisite provisions for bad debts are also monitored continuously. The quality of trade and other receivables is deemed to be good. Write-downs of outstanding trade and other receivables on 31 December 2018 have only been effected in very limited amounts and have also, historically speaking, been insignificant. See also Note 19, Trade and other receivables. Credit insurance is also used from time to time. |
| **Risk management and insurance** | The risk of damage that causes financial impact. | The objective of the Risk Management function at Boliden is to minimise the total cost of the Group's damage risks. This is achieved both by continuously enhancing the damage prevention and control work conducted within the operations, and by introducing and developing Group-wide insurance solutions. |
| **Financial reporting** | The risk of inaccurate financial and operational reporting. | Boliden has an efficient internal control structure. Control functions exist both locally, in individual units, and within Business Areas and at the Head Office. All of the functions work within a Group-wide internal control framework for financial reporting that is based on COSO. The framework's controls are tested annually, both internally and by external auditors. The operational reporting is followed up and controlled by the Group's Controller function, which works closely with the local units and Business Areas. |

# Other risks

| Risk | Description of risk | Management and comments for the year |
|---|---|---|
| **Legal risks** | Boliden's various operations are widely subject to licensing requirements and to wide-ranging environmental and other regulations. Boliden may become involved in commercial disputes and legal proceedings. | Boliden's operations are, to a large degree, dependent on the retention/renewal of existing licences and the acquisition of new ones. Boliden continuously monitors legal developments in relevant spheres and implements, follows up on and ensures compliance with applicable laws and regulations. Boliden is active in the environmental law sphere, amongst others, through its membership of industry and trade associations, in the form of lobbying activities, and by means of presentations and educational measures for decision-makers and other stakeholder groups. Information on legal proceedings and disputes is provided in Note 30. |
| **Political risks** | Political decisions can have an effect in Sweden and the countries in which Boliden and Boliden's commercial partners operate. Examples of such decisions may include changes to different types of tax, reclamation management, and licensing processes. | Boliden and industry organisations are often an expert body to which reports are referred for comment ahead of impending political decisions that impact Boliden's operations. |
| **Risks to confidence** | Boliden may suffer incidents that adversely affect confidence in the company, when, for example, suppliers, customers and/or employees fail to live up to the environmental, quality, ethical etc. requirements adhered to by Boliden or in the event of accidents. See also pages 38–39 and 44. | Evaluations and sanction monitoring of customers and suppliers and Boliden's business partners, is carried out within the framework of Boliden's CR work before any partnership is entered into and during the course of the business relationship. This is done using questionnaires that are completed by prospective business partners, and which are evaluated systematically. Customer and supplier audits are also carried out, as necessary, to ensure a level that is within the framework of Boliden's requirement structure. Discrepancies may result in the termination of the partnership. Boliden trains its employees in anti-corruption and competition law. Boliden has a crisis management group with established routines for managing crises and complex events. |

# Corporate Governance Report

## Corporate Governance Report

**Efficient corporate governance is a prerequisite for generating added value for our shareholders and maintaining confidence amongst our stakeholders at large.**

A group, essentially comprising Swedish institutional investors, have been long-term owners in Boliden since we were relisted in Sweden nearly twenty years ago, and the last few years have seen their ranks joined by a number of large, foreign, institutional owners. There is no clear principal owner, however, and this places special demands on the Board as the owners' ambitions must be "interpreted".

We work in an industry that is characterised by high volatility, that is, rapid and vigorous fluctuations – both up and down – in profits, and this is something that our shareholders must understand. The volatility also makes significant demands on the company's management and Board in terms of their ability to provide high quality, transparent information and to handle these rapid changes without suffering either from hubris when the trend is upwards or dejection when the trend is downwards.

The Board of Directors and the management must, at the same time, successfully handle large and long-term investment projects. This type of project naturally also entails a large number of risks, which are discussed over a relatively long period of time by the Board before any decision is taken, but is nevertheless vital in terms of the company's ability to generate value.

One of the prerequisites for value-generating work by the Board is that the Board has a firm grasp on the operations and on events in the outside world. We achieve this by, amongst other things, monthly reports and a well-structured body of material for the Board. We also usually visit two of Boliden's operating facilities each year in order to learn about those operations in real depth and to meet with the local management and employees.

In addition, in order to ensure that we spend sufficient time on the more long-term and strategic issues, we agree every year on a number of themes that we incorporate into our Board agenda. The Corporate Governance Report details the themes we have addressed during the past year. Some of them are recurring themes, for example, CSR issues, which we address specifically at our October meeting, and leadership development, which is the focus of our December meeting.

The evaluation of the Board's work that we carried out in 2018 shows that the Board is functioning efficiently. This evaluation forms the basis for the work of the Nomination Committee, and it is an important tool for the Board's efforts to ensure continuous improvement in our work.

February 2019

Anders Ullberg
Chairman of the Board

### Governance of the Boliden Group

Boliden is a Swedish limited company listed on Nasdaq Stockholm. The Boliden Group has approximately 5,800 employees and runs mines and smelters in Sweden, Finland, Norway and Ireland.

Boliden's corporate governance is based on the Swedish Annual Accounts Act, the Swedish Companies Act, NASDAQ Stockholm Rule Book for Issuers, the Swedish Code of Corporate Governance, and other applicable legislation and regulations.

In addition to compliance with rules and regulations, Boliden applies internal governance instruments, such as the Group's organisational and operational philosophy, the New Boliden Way, and Boliden's internal control tool, the Boliden Internal Control System (BICS), together with policies in a number of areas such as Boliden's Code of Conduct with which all employees must be familiar and in accordance with which they must conduct themselves. The Group's units also work in accordance with health & safety, environmental, energy, and quality management systems.

### Highlights and events during 2018

As with the rest of the world, sustainability is a priority issue for Boliden, and its importance is evident not least in the fact that investments' approval by the Board of Directors and company management is contingent upon them being value creating in terms both of financial returns and of sustainable development in a broader sense. Several of the investments approved by the Board had a clear and quantifiable environmental focus, such as the decision to invest SEK 750 m in a leaching plant at Rönnskär in order both to extract more metal from waste materials and to reduce the amount of waste. The ongoing construction of underground storage at Rönnskär is also driven by environmental requirements and considerations, and is another element of the total of SEK 1,400 m being invested in Rönnskär. The investment programme, which began in 2015 and will end in 2020, is designed to further increase the copper smelter's capacity. Boliden's decision to invest almost SEK 900 m in new mine trucks for Kevitsa and Aitik was another of the Group's major

investments during the year. The trucks are "electric-ready" which will, in the long term, generate a substantial reduction in emissions. The investment is in line with the pilot project Boliden is conducting in partnership with a number of other industry and research parties, with the support of the Swedish Energy Agency, aimed at developing technology that enables a reduced reliance on fossil fuels.

Boliden continued to invest in its Finnish units during the year, and by 2020, SEK 800 m will have been invested in the Kevitsa mine in order to increase its annual production from 7.5 to 9.5 Mtonnes. Additional investments are also being made in increasing copper production at the Harjavalta and Pori smelters within the framework of an ongoing investment programme. This programme, which began in 2017 and will end in 2019, will see over SEK 2,000 m invested in, amongst other, a new sulphuric acid plant and the modernisation of smelting furnaces.

Other significant events during the year included the new crusher at Aitik coming on line which has, as planned, helped improve production stability. Many years' of dedicated safety work have also yielded positive results and the number of accidents at work fell in 2018.

At the beginning of the year, Mikael Staffas was appointed to succeed Lennart Evrell as President & CEO on 1 June.

### Shareholders and Annual General Meeting

Boliden's biggest shareholders are Swedish and foreign investment funds and institutions. There were a total of 77,354 (70,416) shareholders at the end of the year and the single largest shareholders were Swedbank Robur and BlackRock. The percentage of foreign ownership fell during the year and was approximately 60% (66) by the end of the year. See pages 54–55 and Boliden's website for further information on the shareholder structure within Boliden.

Boliden's shareholders exercise their right of decision by submitting proposals to and participating in and voting on the proposals submitted to the Annual General Meeting and any Extraordinary General Meetings. Shareholders may request that a matter be discussed at the Annual General Meeting by submitting a written request to the Board of Directors at the designated time that is sufficiently in advance of the meeting that the matter can be included in the notice convening the meeting. Shareholders are also welcome to submit enquiries on company issues to the Board and the President, the Auditor and the Remuneration and Audit Committee Chairmen during the General Meeting.

The Annual General Meeting is the company's supreme decision-making body. The duties of the Annual General Meeting include the election of Members of the Board, the Chairman of the Board, and the Nomination Committee. The Annual General Meeting's duties also include the adoption of the Income Statement and Balance Sheet, resolutions on the appropriation of profits and discharge from liability for the Members of the Board and the President of the company, the determination of fees payable to the Members of the Board and to the auditors and the principles governing conditions of employment and remuneration for the President and senior executives, and, where relevant, the amending of Articles of Association and election of auditors.

The Annual General Meetings are regularly held at one of Boliden's facilities in Sweden in order to give the shareholders an insight into the operations. Shareholders are offered the chance of a guided tour of Boliden's mines, concentrators or smelters in conjunction with these meetings in order to deepen their knowledge of the operations and to give them an opportunity to meet with Boliden's employees.

### The 2018 Annual General Meeting

The Annual General Meeting was held on 27 April in Garpenberg. 103,075,722 shares were represented at the Meeting by 1,189 shareholders, either in person or through their proxies. The shares represented comprised just over 38% of the total number of shares. The Meeting was attended by most Members of the Board and members of the Group management, and the auditor.

The Meeting resolved, amongst other things, to re-elect all of the Members of the Board, with the exception of Lennart Evrell, who had declined re-election following his announcement that he would step down as President. The Meeting resolved that the President would not become a Member of the Board. Anders Ullberg was re-elected as the Chairman of the Board. The Meeting further resolved:

- To pay a dividend of SEK 8.25 per share, totalling SEK 2,256 m (1,436), in accordance with the proposal by the Board of Directors.

## 3 May

Welcome to the 2019 Annual General Meeting!
The 2019 Annual General Meeting will be held in Boliden on 3 May.

- To disburse just under SEK 1,573 m to the shareholders, in addition to the ordinary dividend, corresponding to SEK 5.75 per share, in the form of an automatic redemption procedure. This, coupled with the ordinary dividend, resulted in a total payment to the shareholders of almost SEK 3,829 m.
- To appoint the following persons as members of the Nomination Committee: Jan Andersson (Swedbank Robur fonder), Lars Erik Forsgårdh, Ola Peter Gjessing (Norges Bank Investment Management), Anders Oscarsson (AMF) and Anders Ullberg (Chairman of the Board).
- To raise the Director's fee to the Chairman of the Board by SEK 75,000 to SEK 1,650,000, to raise the fees to Members who are not Boliden employees by SEK 25,000 to SEK 550,000, and to maintain the fees unchanged to members of the Committees at SEK 190,000 payable to the Chairman of the Audit Committee and SEK 90,000 payable to each of the two other members of the Audit Committee, and SEK 50,000 to each of the two members of the Remuneration Committee, all in accordance with the proposal by the Nomination Committee.
- To elect Deloitte AB as the company's auditors for the period up to and including the next Annual General Meeting, in accordance with the proposal by the Nomination Committee and that auditors' fees shall be payable in accordance with the approved invoices received.

The Annual General Meeting also resolved to approve the proposed principles for remuneration to the Group management whereby the remuneration shall comprise a fixed salary, any variable remuneration, other benefits and pensions. The variable remuneration shall be maximised at 60% of the fixed salary for the President and maximised at 40–50% of the fixed salary for other senior executives and shall be based on results in relation to targets set. The variable remuneration shall not entitle to pensionable income.

## BOLIDEN'S GOVERNANCE STRUCTURE


The resolutions passed by the 2018 Annual General Meeting are included in the Minutes of the Meeting published on Boliden's website, where the minutes of previous Annual General Meetings are also published.

### The Nomination Committee

The Nomination Committee represents Boliden's shareholders and is tasked with preparing and presenting proposals for resolutions that Boliden's shareholders vote on at the Annual General Meeting. The proposals relate to the number and election of Board Members, election of the Chairman of the Board, fees payable to members of the Board and its Committees, election of and fees payable to the company's auditors, and to the process and the criteria that shall govern the appointment of the members of the Nomination Committee.

The focus of the Nomination Committee's work is on ensuring that the company's Board of Directors comprises Members who, collectively, possess the knowledge and experience that corresponds to the standards that Boliden's shareholders require of the company's most senior governing body. The Chairman of the Board accordingly presents the Nomination Committee with the evaluation conducted of the work of the Board and the individual Members during the past year as part of the process of drafting proposals for Board Members. The Company President also presents Boliden's operations and future orientation. The Nomination Committee is also afforded the opportunity to meet Members of the Board. The Nomination Committee, assisted by the Audit Committee, also drafts proposals for the election of auditors. Shareholders can submit proposals to the Nomination Committee in accordance with the instructions presented on Boliden's website. The Annual General Meeting passes resolutions on the principles governing the appointment and duties of the Nomination Committee. The Nomination Committee shall, in accordance with the Instructions for the Nomination Committee, comprise a minimum of five and a maximum of seven members. Five members shall be elected at the Annual General Meeting, of whom three shall represent the biggest shareholders and one the smaller shareholders, and one of whom shall be the Chairman of the Board. The Nomination Committee may, in order better to reflect the shareholder structure in the event of changes in ownership, offer places on the Committee to other larger shareholders. The Nomination Committee appoints its own Chairman and works in the best interests of all shareholders. The members of the Nomination Committee receive no remuneration for their work.

### The work of the Nomination Committee in 2018

Jan Andersson (Swedbank Robur fonder), Lars Erik Forsgårdh, Ola Peter Gjessing (Norges Bank Investment Management), Anders Oscarsson (AMF) and Anders Ullberg (Chairman of the Board) were elected to the Nomination Committee at the 2018 Annual General Meeting. In November, the Chairman of the Board convened the Committee members, at which time the Nomination Committee, in accordance with its mandate and in order to better reflect the shareholder structure, resolved to appoint an additional member, Tommi Saukkoriipi (SEB Investment Management). Jan Andersson was appointed Chairman of the Nomination Committee. The current composition of the Nomination Committee is also shown on Boliden's website. The Nomination Committee has met three times prior to the 2019 Annual General Meeting, and has at the same time also met with two of the Members of the Board and the President. The Committee has also had telephone contacts. These contacts afford the Nomination Committee a good opportunity to form an opinion of the way in which the Chairman of the Board and the individual Members of the Board view the work of the Board, of the executive management, and of the way in which they view Boliden's operations and the challenges faced by the company in the next few years.

In accordance with the provisions of the Code, the Nomination Committee endeavours to ensure an even gender distribution and a Board which – taking account of Boliden's operations, developmental phase, future orientation and overall conditions – provides a fit for purpose composition, with members possessing multifaceted and broad competencies, experiences and backgrounds.

The Nomination Committee's proposals for submission to the 2019 Annual

General Meeting will be published in the impending notice convening the Annual General Meeting and on Boliden's website.

### The Board of Directors

The Board of Directors is appointed by the owners to bear ultimate responsibility for the company's organisation and the management of the company's affairs in the best interests of both Boliden and the shareholders. This shall be done in a sustainable way that entails carefully balanced risk-taking, in order to ensure that the company's long-term developmental trend is a positive one.

The Board of Directors shall, under the provisions of the Articles of Association, comprise a minimum of three and a maximum of ten Members, without Deputy Members, elected by the Annual General Meeting. The company's employees have a statutory entitlement to appoint three Members and three Deputy Members to the Board. The Board of Directors, which is elected for one year at a time, has comprised seven members elected by the Annual General Meeting and three Members appointed by the trade union organisations since the 2018 Annual General Meeting. The Board Meetings are attended both by the ordinary Members and by the unions' three Deputy Members. The General Counsel Group Legal Affairs is the Board's Secretary. Boliden's President and CEO as well as the Chief Financial Officer (CFO) also usually attend the Meetings as members of the Group management. Other members of the Group management and other executives also attend and present reports on individual issues as required.

The Board Members elected by the Annual General Meeting are all to be regarded as independent in relation to major shareholders and are all to be regarded as independent in relation to the company and the Group management. The Board consequently complies with the requirements of the Code with regard to independent Members. The Members of the Board are presented on pages 66–67 and on Boliden's website.

The Board sets the company's financial goals and strategy, appoints and evaluates the President and CEO, and ensures that efficient systems are put in place for following up on and monitoring operations, that the company complies with statutory and regulatory requirements, and that information is published in a correct and transparent manner. The Board adopts a Formal Work Plan every year at the statutory Board Meeting, held after the Annual General Meeting. The Formal Work Plan regulates the work and responsibilities of the Board in greater detail, together with the special duties with which the Chairman of the Board is tasked.

The Chairman of the Board presides over the Board's work and the Board Meetings and establishes an open and constructive dialogue. The Chairman's duties also include monitoring and evaluating the expertise and work of the Board Members and the contribution they make to the Board as a whole. Another important component of the Chairman's work is monitoring the operations through an ongoing dialogue with the President. The Chairman of the Board acts as a discussion party and source of support for the President and ensures implementation of and compliance with the Board's decisions, instructions and directives. Prior to every Board Meeting, the Chairman and the President review the issues to be discussed at the meeting. The supporting documents for the Board's discussion of the issues are sent to the Members one week before each Board Meeting. The division of labour between the Board of Directors and the President is clarified in the written "Instructions to the President" adopted by the Board at the Statutory Board Meeting.

### The Board of Directors' work in 2018

The Board of Directors held eight meetings in 2018, including the Statutory Board Meeting. A number of the Board Meetings are regularly held at the company's operating units in order to give the Members an increased insight into the operations. In 2018, the Board therefore visited Garpenberg and Harjavalta.

The Board receives ongoing information on the commercial and financial performance and updates on the fulfilment of the company's sustainability goals in the form of monthly reports and at Board Meetings. Every Board Meeting begins with a review of the operations, the current safety status and of sustainability issues. The Board also, at the beginning of the year and in addition to these and other customary operations-related issues, sets a number of themes that it particularly wishes to address during the year in order to create an increased understanding of Boliden's opportunities and challenges from a broader perspective. Accordingly, the Board's discussions in 2018 have focused on automation and technological development, battery metals, the potential opportunities and possible threats that the move to electric cars can entail for Boliden, and the prospective opportunities for partnerships with so-called junior companies (companies working with projects or assets in the early phases of development). As previously mentioned, the Board has decided on a number of major investments during the year, including the investments in Rönnskär, Aitik, Kevitsa and Harjavalta/Pori.

A major concentrate transaction designed to secure raw material supplies for Boliden's copper smelters in Finland was also discussed and approved by the Board. Follow-up work on the project involving the development of the new mineralisation at the Tara zinc mine in Ireland that would extend the mine's lifespan continued during the year, and the prioritisation of exploration measures was addressed. The Board also resolved to propose that the Annual General Meeting approve a redemption programme designed to disburse funds to the company's shareholders, over and above the ordinary dividend. The Board discussed financing issues in the spring and autumn and resolved to refinance Boliden's credit facilities and set up a new bond loan programme in order to increase flexibility.

Efficient and appropriate environmental permit processes and reasonable operating conditions (License to Operate) are, in light of the nature of Boliden's business, important issues for the company and its Board, and are the subject of recurring discussions. A related area, namely CSR and business ethics concerns have also been addressed.

The Chairman ensures that the Board and its work are evaluated annually and that the results of the evaluation are conveyed to the Nomination Committee. The evaluation is carried out by the Board itself under the guidance of the Chairman or with the help of an independent consultant. The 2018 evaluation was a self-assessment during which the Members answered a number of questions in writing on a range of different subjects.

### The Committees

The overall responsibility of the Board of Directors cannot be delegated but the Board may, within itself, set up committees which prepare issues within their respective spheres. The Board has, accordingly and as in previous years, set up an Audit Committee and a Remuneration Committee in 2018. The Committees' members are appointed at the Board Meeting following the election held after the Annual General Meeting and their work is governed by the Committees' formal work plans and instructions.

## THE BOARD OF DIRECTORS' WORK IN 2018

**Recurring business:** Sustainability and health & safety issues, operational review, investments, cost accounting, and theme items. The main matters on the agenda at Board Meetings in 2018 are shown below:

**February:** Extraordinary Board Meeting to decide on the appointment of a new President and CEO.

**February:** Review of the Year-End Report, the Annual Report, the Audit Report,the dividend proposal and the share redemption proposal and matters for submission to the Annual General Meeting. Mineral Resources and Mineral Reserves, financing issues, expansion investments, License to operate, public affairs, status of major disputes.

**April (Ordinary and Statutory Meeting):** Q1 Interim Report, in-depth analysis of technological development and automation, battery technology and battery metals, trading companies and business logic, securing concentrate supplies and concentrate transactions, structural transactions within the mining industry, investments, IT security, refinancing of revolving credit facility, purchasing issues and cost trends. Meeting between the Board of Directors and auditors in the absence of the management. AGM and Statutory Board Meeting.

**May:** Extraordinary Board Meeting by reason of a concentrate transaction.

**July:** Q2 Interim Report and review of the Audit Report, junior companies, concentrate supplies, investments.

**October: Q3 Interim Report**, strategic orientation for Business Area Mines and Business Area Smelters, follow-up of the New Boliden Way, Corporate Responsibility (CR) and Group policies.

**December:** Review of strategy, budget and business plan, managerial and Board Member evaluation, risks and risk preparedness and refinancing issues.

### The Audit Committee

The Audit Committee prepares a number of issues for consideration by the Board and thereby supports the Board in its endeavours to fulfil its responsibilities within the areas of auditing and internal control and with assuring the quality of Boliden's financial reporting. Boliden has an internal control function whose work involves mapping risk areas and following up on work in identified areas, amongst other things. The Committee also oversees the procurement of services from the company's auditors in addition to the actual auditing services and procures auditing services jointly with the Nomination Committee, as necessary. The Audit Committee meets before the publication of every financial report, and as necessary.

As of the 2018 AGM, the Audit Committee comprises Pia Rudengren (Chairwoman), Tom Erixon and Anders Ullberg. The Committee members have specialist competence, experience of and interest in financial and accounting issues – see Directorships and previous positions, pages 66 – 67. The Committee's meetings are also attended by Boliden's CFO and the Director of Internal Control. The Committee met five times in 2018. Special attention was paid during the year to internal controls, IT security, and accounting principles. The Committee works on the basis of a set of "Instructions for the Audit Committee" adopted every year by the Board of Directors and reports back to the Board on the results of its work.

### The Remuneration Committee

The Remuneration Committee submits proposals for resolution by the Board regarding salary and other terms of employment for the President, and follows up on and evaluates programmes for variable remuneration for the management. The Committee also approves proposals regarding salaries and other terms of employment for the Group management, as proposed by the President. The Remuneration Committee is, furthermore, tasked with submitting proposals regarding remuneration principles for the President and Group management – proposals which are then submitted by the Board to the Annual General Meeting for resolution. The application of the guidelines and relevant remuneration structures and levels within the company is also followed up by the Committee and the results of this evaluation are published on the company's website. See Note 4 for an account of the remuneration paid to the Group management. The Remuneration Committee works on the basis of a set of "Instructions for the Remuneration Committee" adopted every year by the Board of Directors and reports back to the Board on the results of its work. The Remuneration Committee comprises Anders Ullberg (Committee Chairman), and Michael G:son Löw. The Committee has held one meeting during the year and has also had telephone contacts on a number of occasions.

### The President and Group management

The President has ultimate responsibility for Boliden's strategic orientation and for ensuring the compliance with and implementation of the Board of Directors' decisions, and for ensuring that risk management, steering, systems, organisation and processes are all of a satisfactory standard. The President is supported in his work by the Group's management team which, in addition to the President, comprises the SVPs for Boliden's two Business Areas, Mines and Smelters, the CFO, and the SVP Corporate Responsibility (CR). The Group management meets once a month to follow up on operations and to discuss Group-wide issues, and to draw up proposals for strategic plans, business plans, and budgets that the President submits to the Board of Directors for their consideration. The areas addressed by the Board have largely reflected the work of the Group management during the year. The Group management also holds two meetings every year on strategy planning. The Group management, together with the management of the respective Business Areas, also meet six times a year to review Business Area-specific issues including a review of budgets and operations. For large scale projects, relevant parts of the Group management form special steering groups, together with project managers and other stakeholders, and meet regularly. The Group management also meets with the company's employee representative Board Members and their deputies ahead of every Board Meeting, at which time the Board

Meeting agenda and other topical issues are discussed. See page 68 for a presentation of the Group management team.

**Business management**

Management by the Board goes through a chain of command from the President and the Group management to the operating units. Boliden has an organisation in which responsibilities and authority are delegated within clear frameworks. These frameworks are defined by Boliden's steering documents, budget and strategic plan. The steering documents, which are available on Boliden's internal website and which comprise the internal framework required for effective management, include the Code of Conduct, the Financial Policy, the Tax Policy, the Insider Trading Policy, the Whistleblower Policy, and documentation on sanctions control, delegation and decision-making, anti-corruption and conflicts of interest, competition law issues, supplier evaluation and code of conduct, communications, privacy and GDPR, and a large number of steering documents relating to environmental, health, and safety issues.

**Sustainability governance in Boliden**

Sustainability issues are an integral part of Boliden's operations and the work is conducted from the starting point of the most operationally critical issues. Sustainability issues are discussed at every management group and Board meeting, as is the case at the local management group meetings. One member of the Group management works primarily, furthermore, with CR issues. The day-to-day responsibility is decentralised to the respective units. Central sustainability, environmental, energy and HR functions follow up on the units' work and are responsible for creating a structure and orientation for the work.

The sustainability issues identified by Boliden as material are linked to Boliden's budget and strategy. Factors that form the basis for the prioritisation include Boliden's operations and their impact on people and the environment, the way in which work on these issues can support the operations, expectations of Boliden from internal and external stakeholders, risks and opportunities, external factors, and applicable regulations. The challenges that will be prioritised change over time and are, therefore, regularly reviewed – usually once every year. It is the responsibility of the various controlling parties within the Group to set local goals with regard to the overall issues.

Boliden's environmental work is value-based, which means that measures are approved not solely on the basis of official requirements, but on the basis of what can be done to improve the environment at the operational sites. This means that investments that yield a substantial environmental benefit for the amount invested are approved and implemented, independently of external requirements or charges. Extensive investments have, consequently, been approved with regard to, amongst other things, modernisation of the truck fleets at Aitik and Kevitsa, a new leaching plant for processing residual products at Rönnskär and rebuilding the plastic separation facility at Bergsöe. Work has already commenced on the dewatering of Kokkola's tailings pond and on a new sulphuric acid plant at Harjavalta. Work is being completed on the underground storage facility at Rönnskär, where certain types of waste will be stored.

Following a couple of years with a higher number of accidents, Boliden's focused work on safety culture and safety issues is now yielding results, with fewer accidents reported than in previous years. In order to maintain this positive trend, our work on safety will continue relentlessly. These measures are, in part, of a technical nature and aim to raise the physical standard and quality of the workplaces, for example, by separating pedestrians and vehicle traffic, improving signposting and reviewing parking regulations. The measures taken over recent years relating to managerial development and improved safety culture continue unabated and also involve contractors and business partners. The work environment activities are, in common with the environmental work, value-based, and investments are approved on the basis of risk analyses as well as of mandatory laws and regulations. Boliden also imposes stringent demands on its business partners with regard to respect for, and compliance with, applicable health and safety directives and regulations. Business partners are investigated, selected, and evaluated on the basis of these issues, amongst others.

Efficient and appropriate licensing processes and reasonable operating conditions are, in the light of the nature of Boliden's operations, important issues for the company. Boliden works actively with industry organisations to monitor and promote the interests of the mining industry.

Matters of business ethics are constantly topical and an area with which the company actively works. During the year, Boliden prioritised a review of the business partner evaluation process and conducted a project implementing the General Data Protection Regulation (GDPR). Boliden has also strengthened its work with sanctions compliance and implemented new tools for sanctions monitoring, which are included in the evaluation of business partners. Boliden has a whistle blower function to facilitate the reporting of suspected cases of impropriety. New steering documents in the anti-corruption sphere have been produced during the year, complemented with class room-based and electronic training programmes involving managers and office staff. Implementation and roll-out of the updated regulatory framework will be done via the web and via physical meetings starting in the new year.

As of 2017, the Sustainability Report is included in the Annual Report. As in previous years, a GRI Report, which is subject to an external review by auditors, is published separately. This review aims, amongst other things, to underline the importance of the sustainability work to Boliden and to further reinforce the confidence of the market and other stakeholders in the work conducted by the company in this respect.

**Auditors**

The external auditor conducts independent audits of Boliden's accounts in order to ensure that they, in all material respects, provide a correct, fair and comprehensive picture of the company's position and results. The auditor also reviews the management by the Board of Directors and the President and presents his/her observations to the Board in the absence of the management. The auditor is in contact with the Group management in conjunction with audits or issues arising. The auditor is a regular attendee at the Audit Committee's meetings and has also met with the Board in the absence of the management on one occasion in 2018. The auditor also reports to the shareholders at the Annual General Meeting.

The accounting firm of Deloitte AB was elected at the 2018 Annual General Meeting to serve as the company's auditors until the conclusion of the 2019 Annual General Meeting. Authorised Public Accountant, Jan Berntsson, is the auditor in charge. He is a partner in and CEO of Deloitte Sweden and his other audit engagements include Kinnevik. Remuneration to the company's auditors is payable in accordance with the approved invoices. See Note 5 for information on remuneration disbursed in 2018.

## THE BOARD OF DIRECTORS



| Name | Anders Ullberg<br>Chairman of the Board | | Marie Berglund<br>Member of the Board | Tom Erixon<br>Member of the Board |
|---|---|---|---|---|
| **Position** | – | | Vice President, Raw Materials and Environment, NCC Industry | President & CEO, Alfa Laval |
| **Education** | M.Sc. Economics | | M.Sc. Biology | LL.B, MBA. |
| **Elected** | 2005 | | 2003 | 2013 |
| **Born** | 1946 | | 1958 | 1960 |
| **Directorships** | Chairman of the Boards of Eneqvist Consulting and Studsvik. Member of the Boards of Atlas Copco, Beijer Alma, Epiroc and Valedo Partners. Chairman of the Swedish Financial Reporting Board,and Member of the Board of the European Financial Reporting Advisory Group | | Chairman of the Board of Eurocon Consulting. Member of the Boards of Baltic Sea 2020, and the Advisory Council of the County Administrative Board of Västernorrland | |
| **Previous positions** | CFO of Svenska Varv, CFO, Executive Vice President,and President and CEO of SSAB | | Group Ecologist in the former MoDo Group, Environmental Manager of Botniabanan AB, President of BioEndev (consultant) | Managing partner Boston Consulting Group, a variety of senior positions within Sandvik, and President and CEO of Ovako |
| **Number of shares**[1] | 45,000 | | 1,250 | 6,900 |
| **Meetings attended** | 8 of 8 | | 8 of 8 | 7 of 8 |
| **Committee work (present)** | Audit Committee<br>5 of 5 | Remuneration Committee<br>1 of 1 | – | Audit Committee<br>4 of 5 |
| **Director's fees, SEK** | 1,650,000 | | 550,000 | 550,000 |
| **Committee fees, SEK** | 90,000 | 50,000 | – | 90,000 |
| **Combined fees** | 1,790,000 | | 550,000 | 640,000 |
| **Independent from the company and management** | Yes | | Yes | Yes |
| **Independent from major shareholders** | Yes | | Yes | Yes |



| Name | Marie Holmberg<br>Employee Representative | Kenneth Ståhl<br>Employee Representative | Cathrin Öderyd<br>Employee Representative |
|---|---|---|---|
| **Position** | Member of the Board since 2008, Deputy Member of the Board 2005 – 2008, Representative of the Swedish Association of Graduate Engineers | Member of the Board since 2014, Process operator, Representative of IF Metall (the Swedish Metalworkers' Union), Chairman of the IF Metall Bergsöe branch | Member of the Board since 2018, Chairwoman of IF Metall (the Swedish Metalworkers' Union) Aitik branch, member of the Boliden Workers' Council |
| **Elected** | 2008 | 2014 | 2018 |
| **Born** | 1963 | 1973 | 1975 |
| **Number of shares**[1] | 50 | 0 | 5 |
| **Meetings attended** | 8 of 8 | 8 of 8 | 3 of 5 |

## THE BOARD OF DIRECTORS




| Name | **Michael G:son Löw**<br>Member of the Board | **Elisabeth Nilsson**<br>Member of the Board | **Pia Rudengren**<br>Member of the Board | **Pekka Vauramo**<br>Member of the Board |
|---|---|---|---|---|
| **Position** | – | Dr.h.c. Luleå University of Technology, Special Government Investigator | – | President and CEO of Metso |
| **Education** | M.Sc. Economics | M.Sc. Engineering | M.Sc. Economics | M.Sc. Engineering |
| **Elected** | 2010 | 2015 | 2017 | 2016 |
| **Born** | 1951 | 1953 | 1965 | 1957 |
| **Other directorships** | Chairman of the Board of ReconddOil. Member of the Boards of Concordia Maritime, Preem, Stena Bulk, and Naturstenkompaniet International. Deputy Chairman of the Boards of the Swedish Chamber of Commerce for Russia & CIS, and the Swedish Association for Energy Economics. Member of the Royal Swedish Academy of Engineering Sciences | Chairman of the Board of Göta Kanalbolaget. Member of the Board of EKN,member of Skandia's council, member of the Royal Swedish Academy of Engineering Sciences, member of Hanaholmen's Executive Board | Chairman of the Board of Social Initiative. Member of the Boards of Duni, Academedia, KappAhl and Tikkurila | Member of the Boards of Nokia Tyres Plc and I.S. Mäkinen Oy |
| **Previous positions** | A variety of senior positions within Conoco Inc. in Stockholm, Houston, Copenhagen, Bangkok, Prague, and London. President & CEO of Preem | CEO of Jernkontoret (the Swedish Steel Producers' Association) and a variety of senior positions within the SSAB Group. CEO of SSAB Merox | CFO of Investor and Vice President of W Capital Management | A variety of senior positions within Sandvik Mining and Cargotec, CEO of Finnair |
| **Number of shares**[1] | 100 | 200 | 0 | 1,000 |
| **Meetings attended** | 8 of 8 | 8 of 8 | 8 of 8 | 6 of 8 |
| **Committee work (present)** | Remuneration Committee<br>1 of 1 | – | Audit Committee<br>5 of 5 | – |
| **Director's fees, SEK** | 550,000 | 550,000 | 550,000 | 550,000 |
| **Committee fees, SEK** | 50,000 | – | 190,000 | – |
| **Combined fees** | 600,000 | 550,000 | 740,000 | 550,000 |
| **Independent from the company and management** | Yes | Yes | Yes | Yes |
| **Independent from major shareholders** | Yes | Yes | Yes | Yes |



| Name | **Magnus Filipsson**<br>Employee Representative | **Gard Folkvord**<br>Employee Representative | **Ola Holmström**<br>Employee Representative |
|---|---|---|---|
| **Position** | Deputy Member of the Board since 2018, Chairman of the Unionen trade union branch for Aitik, the Boliden Area and the Stockholm office | Deputy Member of the Board since 2018, Specialist operator, Chairman of Odda Kjemiske Arbeiderforening. Member of the Industri Energi trade union Competency Committee, Member of the Odda Municipal Executive Committee representing the Norwegian Labour Party, Chairman of the Board of Oddaprodukt AS | Deputy Member of the Board since 2017, Chairman of the IF Metall (the Swedish Metalworkers' Union) Kristineberg branch, FSG (Trade union cooperation), member of the Boliden Workers' Council |
| **Elected** | 2018 | 2018 | 2017 |
| **Born** | 1974 | 1969 | 1965 |
| **Number of shares**[1] | 0 | 101 | 170 |
| **Meetings attended** | 3 of 5 | 4 of 5 | 8 of 8 |

1) Own holdings and those of related legal or natural persons, on 31 December 2018.

## GROUP MANAGEMENT



| Name | Mikael Staffas | Kerstin Konradsson | Stefan Romedahl |
|---|---|---|---|
| **Position** | President & CEO | President Boliden Smelters | President Boliden Mines |
| **Education** | M.Sc. Engineering, MBA | M.Sc. Engineering | M.Sc. Engineering |
| **Employed** | 2011 | 2012 | 2018 |
| **Born** | 1965 | 1967 | 1967 |
| **Directorships** | Chairman of the Boards of Eurometaux, the Employers' Association of the Swedish Mining Industry, and Deputy Chairman of the Board of SveMin. Member of the Boards of the International Zinc Association, the International Copper Association and the Swedish Association of Industrial Employers | Member of the Board of Höganäs, Member of the Royal Swedish Academy of Engineering Sciences | Member of the Boards of the Employers' Association of the Swedish Mining Industry, SveMin and Euromines |
| **Previous positions** | CFO of Södra Skogsägarna, Partner at McKinsey & Co | Business Area President and CEO within the Åkers Group and a variety of senior positions within SSAB | Vice President of LKAB Northern Division, CEO of Zinkgruvan, Project Manager of Swedish Nuclear Fuel and Waste Management Company (SKB) and a variety of senior positions within Boliden |
| **Number of shares**[1] | 12,700 | 4,400 | 0 |


| Name | Håkan Gabrielsson | Åsa Jackson |
|---|---|---|
| **Position** | CFO | Senior Vice President – Corporate Responsibility[2] |
| **Education** | M.Sc. Business Administration and Economics | M.Sc. Economics |
| **Employed** | 2009–2011, 2016 | 2019 |
| **Born** | 1967 | 1964 |
| **Directorships** | – | – |
| **Previous positions** | CFO of Fagerhult, Director Group Controlling at Boliden, and a variety of positions within Sapa, Ericsson and Electrolux | President HR, Health & Safety, Ahlstrom-Munksjö, President HR and Sustainable Development and other senior positions within ABB Sweden |
| **Number of shares**[1] | 1,230 | 0 |

1) Own holdings and those of related legal or natural persons, on 31 December 2018.
2) Thomas Söderqvist was SVP Corporate Responsibility until 31 December 2018, inclusive.

### Internal control report by the Board of Directors

The purpose of internal control over financial reporting is to provide reasonable assurance with regard to the reliability of the external financial reporting and to ensure that the reports are produced in accordance with generally accepted accounting principles, applicable legislation and statutes, and with other requirements imposed on listed companies.

The Board of Directors has overall responsibility for ensuring that an efficient internal control system exists within the Boliden Group. The President is responsible for the existence of a process and organisation that ensure internal control and the quality of the internal and external financial reporting.

### Internal control function

Boliden has an internal control function responsible for implementing processes and frameworks that secure internal control and ensure the quality of the financial reporting. The internal control function reports to the CFO and presents reports on issues relating to internal control at the Audit Committee's meetings.

### Control environment

The control environment within Boliden is characterised by the fact that the Group has relatively few but large operating units that have carried out their operations for many years, using well-established processes and control activities. A structure of steering documents in the form of binding policies and guidelines for the organisation's delegated responsibilities has been established to ensure a collective attitude and methodology within the Group.

The starting point is the New Boliden Way, which includes the Code of Conduct, decision-making and authorisation instructions, and a financial manual covering financial policy, accounting and reporting instructions. Local management systems with more detailed instructions and descriptions of important processes have also been set up.

Boliden has a uniform and standardised internal control framework known as the Boliden Internal Control System (BICS).

### Risk analysis

The operating units conduct ongoing risk analyses with regard to financial reporting. The risks inherent in the various accounting and reporting processes are identified, analysed and documented in BICS.

### Control activities

Various types of control activities are carried out within the Group and within every different aspect of the accounting and reporting process on an ongoing basis. The control activities are carried out in order to manage known risks and to detect and rectify any errors and discrepancies in the financial reporting.

Documentation of significant control activities within the accounting and reporting process continued in BICS in 2018. For every risk identified, the controls that manage the risk are documented.

### Information and communication

Information on policies, guidelines and manuals is available on Boliden's intranet. Information on updates and changes to reporting and accounting principles is issued via email and at the regular treasury and controller meetings. External communication is conducted in accordance with the Group's Communications Policy. All information must be communicated in a discerning, open and transparent manner.

### Follow-ups

Work on follow-ups of, improvements to and development of systems, processes and controls within the Group is ongoing. Annual testing of documented controls within the framework of BICS is conducted, both by internal resources and external auditors. Areas where scope for improvement is identified in conjunction with audits are documented, analysed and actioned.

| Control activity | Responsible | Follow-up |
|---|---|---|
| **Compliance with Boliden's accounting manual** | Group accounting/Controller department | Group management |
| **Control of consolidated results** | Group accounting/Controller department | Group management |
| **Analysis and follow-up work** | Business Areas/Controller department | Group management |
| **Budget and forecasts** | Business Areas/Controller department | Group management |
| **Correct financial reporting controls** | Operating units/Business Areas | Group accounting/Internal control/Controller department |
| **Tax control** | Operating units | Group Tax Director |

# Financial reports

## CONTENTS

# Consolidated Income Statement

| SEK m | Note | 2018 | 2017 |
|---|---|---|---|
| Revenues | 2, 3 | 52,454 | 49,531 |
| Cost of goods sold | 6 | –41,761 | –38,988 |
| **Gross profit** | | **10,693** | **10,543** |
| Selling expenses | 6 | –438 | –417 |
| Administrative expenses | 5, 6 | –648 | –452 |
| Research and development costs | 6 | –705 | –659 |
| Other operating income | 7 | 305 | 206 |
| Other operating expenses | | –200 | –212 |
| Results from participations in associated companies | 16 | –4 | 6 |
| **Operating profit** | 2–7, 10, 12–14 | **9,004** | **9,015** |
| Financial income | 8 | 2 | 4 |
| Financial expenses | 9 | –242 | –282 |
| **Profit after financial items** | | **8,763** | **8,737** |
| Tax | 17 | –1,562 | –1,881 |
| **Net profit for the year** | | **7,201** | **6,856** |
| Net profit for the year attributable to: | | | |
| Owners of the Parent Company | | 7,198 | 6,854 |
| Non-controlling interests | | 3 | 2 |
| Earnings per share, SEK | 22 | 26.32 | 25.06 |
| There are no potential shares and hence no dilution effect | | | |
| Average number of shares, basic and diluted | | 273,511,169 | 273,511,169 |

# Consolidated Statement of Comprehensive Income

| SEK m | Note | 2018 | 2017 |
|---|---|---|---|
| **Net profit for the year** | | **7,201** | **6,856** |
| **Other comprehensive income** | | | |
| ***Items that will be reclassified to the profit/loss*** | | | |
| Cash flow hedging | | | |
| Change in market value of derivative instruments | | 9 | –26 |
| Fiscal effect on derivative instruments | | –2 | 5 |
| Transfers to the Income Statement | | 4 | 31 |
| Tax on transfers to the Income Statement | | –1 | –7 |
| | | **10** | **3** |
| Year's translation difference on overseas operations | | 694 | 320 |
| Result of hedging of net investments in overseas operations | | –121 | –94 |
| Tax on the net profit for the year from hedging instruments | | 27 | 21 |
| | | **600** | **247** |
| **Total items that will be reclassified to the profit/loss** | | **610** | **250** |
| ***Items that will not be reclassified to the profit/loss*** | | | |
| Revaluation of defined benefit pension plans | 23 | –26 | –12 |
| Tax attributable to items not reclassified to the profit/loss for the period | | 5 | 2 |
| **Total items that will not be reclassified to the profit/loss** | | **–21** | **–9** |
| **Total other comprehensive income** | | **589** | **241** |
| **Comprehensive income for the year** | | **7,790** | **7,096** |
| Comprehensive income for the year attributable to: | | | |
| Owners of the Parent Company | | 7,787 | 7,094 |
| Non-controlling interests | | 3 | 2 |

# Consolidated Balance Sheet

| SEK m | Note | 31-12-2018 | 31-12-2017 |
|---|---|---|---|
| **ASSETS** | | | |
| **Non-current assets** | | | |
| ***Intangible assets*** | 12 | **3,566** | **3,482** |
| ***Property, plant and equipment*** | 13, 14 | | |
| Buildings and land | | 5,468 | 5,410 |
| Deferred mining costs | | 7,832 | 7,907 |
| Machinery and other technical facilities | | 19,717 | 18,725 |
| Equipment, tools, fixtures and fittings | | 327 | 301 |
| Work in progress | | 5,533 | 3,970 |
| | | **38,877** | **36,313** |
| ***Other non-current assets*** | | | |
| Participations in associated companies | 16 | 25 | 29 |
| Other shares and participations | 29 | 18 | 30 |
| Deferred tax assets | 17 | 136 | 58 |
| Long-term receivables | | 131 | 133 |
| | | **310** | **251** |
| **Total non-current assets** | | **42,752** | **40,046** |
| **Current assets** | | | |
| Inventories | 18 | 10,358 | 9,500 |
| Trade and other receivables | 19, 29 | 1,864 | 2,324 |
| Tax receivables | | 90 | 71 |
| Interest-bearing receivables | 29 | – | 2 |
| Derivative instruments | 27, 29 | 154 | 141 |
| Other current receivables | 20 | 1,235 | 1,288 |
| Cash and cash equivalents | 10, 29 | 2,272 | 2,510 |
| **Total current assets** | | **15,975** | **15,836** |
| **TOTAL ASSETS** | | **58,727** | **55,882** |
| **EQUITY AND LIABILITIES** | | | |
| **Equity** | 22 | | |
| Share capital | | 579 | 579 |
| Other capital provided | | 5,940 | 5,940 |
| Translation reserve | | 942 | 342 |
| Hedging reserve | | 11 | 1 |
| Defined benefit pension plans | | –838 | –817 |
| Retained earnings | | 32,366 | 28,999 |
| **Equity attributable to the owners of the Parent Company** | | **39,000** | **35,044** |
| **Non-controlling interests** | | **11** | **9** |
| **Total equity** | | **39,011** | **35,053** |
| **Long-term liabilities** | | | |
| Provisions for pensions | 23 | 967 | 943 |
| Other provisions | 24 | 3,898 | 2,911 |
| Deferred tax liabilities | 17 | 2,941 | 3,089 |
| Liabilities to credit institutions | 26, 29 | 3,145 | 4,004 |
| Other interest-bearing liabilities | 26, 29 | – | 2 |
| **Total long-term liabilities** | | **10,950** | **10,949** |
| **Current liabilities** | | | |
| Liabilities to credit institutions | 26, 29 | 216 | 1,331 |
| Other interest-bearing liabilities | 26, 29 | 2 | 5 |
| Trade and other payables | 26, 29 | 5,106 | 4,426 |
| Other provisions | 24 | 134 | 226 |
| Current tax liabilities | | 683 | 1,166 |
| Derivative instruments | 26, 27, 29 | 34 | 92 |
| Other current liabilities | 28 | 2,590 | 2,633 |
| **Total current liabilities** | | **8,767** | **9,880** |
| **TOTAL EQUITY AND LIABILITIES** | | **58,727** | **55,882** |

# Consolidated Statement of Changes in Equity

| | | Equity attributable to the owners of the Parent Company | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SEK m | Note | Share capital | Other capital provided | Translation reserve | Hedging reserve | Defined benefit pension plans | Retained earnings | Total, Boliden's shareholders | Non-controlling interests | Total equity |
| **Opening equity, 01-01-2017** | | **579** | **5,940** | **95** | **–2** | **–808** | **23,582** | **29,386** | **8** | **29,394** |
| Net profit for the year | | | | | | | 6,854 | 6,854 | 2 | 6,856 |
| Other comprehensive income | | – | – | 247 | 3 | –9 | – | 241 | 0 | 241 |
| **Comprehensive income for the year** | | **–** | **–** | **247** | **3** | **–9** | **6,854** | **7,094** | **2** | **7,096** |
| Dividend to Boliden AB's shareholders | | – | – | – | – | – | –1,436 | –1,436 | – | –1,436 |
| Dividend to non-controlling interests | | – | – | – | – | – | – | – | 0 | 0 |
| **Closing equity, 31-12-2017** | | **579** | **5,940** | **342** | **1** | **–817** | **28,999** | **35,044** | **9** | **35,053** |
| **Opening equity, 01-01-2018** | | **579** | **5,940** | **342** | **1** | **–817** | **28,999** | **35,044** | **9** | **35,053** |
| Net profit for the year | | | | | | | 7,198 | 7,198 | 3 | 7,201 |
| Other comprehensive income | | – | – | 600 | 10 | –21 | – | 589 | 0 | 589 |
| **Comprehensive income for the year** | | **–** | **–** | **600** | **10** | **–21** | **7,198** | **7,787** | **3** | **7,790** |
| Dividend to Boliden AB's shareholders | | – | – | – | – | – | –2,256 | –2,256 | – | –2,256 |
| Dividend to non-controlling interests | | – | – | – | – | – | – | – | 0 | 0 |
| Redemption | | –289 | – | – | – | – | –1,284 | –1,573 | – | –1,573 |
| Bonus issue | | 289 | – | – | – | – | –289 | – | – | – |
| **Closing equity, 31-12-2018** | **22** | **579** | **5,940** | **942** | **11** | **–838** | **32,366** | **39,000** | **11** | **39,011** |

**Other capital provided**
Refers to equity contributed by the owners. When shares are issued at a premium, an amount corresponding to the amount received in excess of the nominal value of the shares is reported as Other capital provided.

**Translation reserve**
The Balance Sheets for overseas companies are converted at the exchange rates applicable at the end of the reporting period. Income Statements are converted at the average rates for the reporting period. Any exchange rate differences arising are reported under Other comprehensive income. Boliden currency hedges net investments in overseas subsidiaries to some extent by adopting the opposite position in the form of loans in the relevant foreign currency. The exchange rate difference on loans raised is, after the fiscal effect, reported under Other comprehensive income.

**Hedging reserve**
Boliden applies hedge accounting for financial derivatives acquired with a view to hedge part of the forecast currency, metal and interest flows. Changes in the market value of hedging instruments are reported under Other comprehensive income until such time as the underlying flows are reported in the Income Statement.

**Defined benefit pension plans**
Revaluations of pension undertakings have been reported under Other comprehensive income.

**Retained earnings**
Refers to profits earned.

| Net debt, SEK m | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Liabilities to credit institutions | 3,361 | 5,335 |
| Other interest-bearing liabilities | 2 | 8 |
| Pension liabilities | 967 | 943 |
| Interest-bearing assets | –24 | –24 |
| Cash and cash equivalents | –2,272 | –2,510 |
| | **2,034** | **3,752** |

| Capital employed, SEK m | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Intangible assets | 3,566 | 3,482 |
| Property, plant and equipment | 38,877 | 36,313 |
| Participations in associated companies | 25 | 29 |
| Other shares and participations | 18 | 30 |
| Inventories | 10,358 | 9,500 |
| Trade and other receivables | 1,864 | 2,324 |
| Other receivables | 1,495 | 1,541 |
| Provisions, other than for pensions and tax | –4,032 | –3,137 |
| Trade and other payables | –5,106 | –4,426 |
| Other non-interest bearing liabilities | –2,624 | –2,726 |
| | **44,441** | **42,931** |

# Consolidated Statement of Cash Flow

| SEK m | Note | 2018 | 2017 |
|---|---|---|---|
| **Operating activities** | | | |
| Profit after financial items | | 8,763 | 8,737 |
| Adjustment for items not included in the cash flow: | | | |
| Depreciation, amortisation, and impairment of assets | 12, 13 | 4,930 | 4,601 |
| Provisions | | –3 | 5 |
| Revaluation of process inventory | | 70 | –102 |
| Translation differences and Other | | 57 | 52 |
| Tax paid | | –2,286 | –1,457 |
| **Cash flow from operating activities before changes in working capital** | **11** | **11,531** | **11,837** |
| **Cash flow from changes in working capital** | | | |
| Increase (–)/Decrease (+) in inventories | | –865 | 709 |
| Increase (–)/Decrease (+) in operating receivables | | 544 | –319 |
| Increase (+)/Decrease (–) in operating liabilities | | 562 | 530 |
| Other | | –3 | –20 |
| **Cash flow from changes in working capital** | | **237** | **900** |
| **Cash flow from operating activities** | | **11,768** | **12,737** |
| **Investment activities** | | | |
| Acquisition of intangible assets | 12 | –33 | –20 |
| Acquisition of property, plant and equipment | 13 | –6,105 | –5,575 |
| Sale of property, plant and equipment | | 55 | 6 |
| Disposal/acquisition of financial assets | | 6 | 160 |
| **Cash flow from investment activities** | | **–6,076** | **–5,428** |
| **Free cash flow** | | **5,692** | **7,309** |
| **Financing activities** | | | |
| Dividend | | –3,829 | –1,436 |
| Loans raised | | 2,270 | 1,143 |
| Amortisation of loans | | –4,372 | –6,011 |
| **Cash flow from financing activities** | **11** | **–5,931** | **–6,304** |
| **Cash flow for the year** | | **–239** | **1,005** |
| **Opening cash and cash equivalents** | | **2,510** | **1,503** |
| **Exchange rate difference on cash and cash equivalents** | | **1** | **1** |
| **Closing cash and cash equivalents** | **11** | **2,272** | **2,510** |

# Income Statement, the Parent Company

| SEK m | Note | 2018 | 2017 |
|---|---|---|---|
| Dividends from subsidiaries | 15 | 6,000 | 3,000 |
| Results from participations in associated companies | 16 | –6 | – |
| **Profit after financial items** | | **5,994** | **3,000** |
| Tax | | – | – |
| **Net profit for the year** | | **5,994** | **3,000** |

The operations of Boliden AB are limited in scale and are conducted, fiscally speaking, on commission with Boliden Mineral AB, which means that the profit is reported as part of Boliden Mineral AB.

Boliden AB has no amounts to report under Other comprehensive income.

# Balance Sheet, the Parent Company

| SEK m | Note | 31-12-2018 | 31-12-2017 |
|---|---|---|---|
| **ASSETS** | | | |
| **Non-current assets** | | | |
| ***Financial assets*** | | | |
| Participations in subsidiaries | 15 | 3,911 | 3,911 |
| Participations in associated companies | 16 | – | 5 |
| Long-term receivables from subsidiaries | | 11,068 | 8,897 |
| **Total non-current assets** | | **14,980** | **12,813** |
| **Current receivables** | | | |
| Current receivables from subsidiaries | | – | 519 |
| **Total current assets** | | **–** | **519** |
| **TOTAL ASSETS** | | **14,980** | **13,333** |
| **EQUITY AND LIABILITIES** | | | |
| **Equity** | 22 | | |
| ***Restricted equity*** | | | |
| Share capital | | 579 | 579 |
| Statutory reserve | | 5,252 | 5,252 |
| | | **5,831** | **5,831** |
| ***Non-restricted equity*** | | | |
| Retained earnings | | 2,655 | 3,484 |
| Net profit for the year | | 5,994 | 3,000 |
| | | **8,649** | **6,484** |
| **Total equity** | | **14,480** | **12,314** |
| **Liabilities** | | | |
| Long-term liabilities to credit institutions | 26 | 500 | 500 |
| Short-term liabilities to credit institutions | 26 | – | 519 |
| **Total liabilities** | | **500** | **1,019** |
| **TOTAL EQUITY AND LIABILITIES** | | **14,980** | **13,333** |

# Changes in equity, the Parent Company

| SEK m | Share capital | Statutory reserve | Non-restricted equity | Total equity |
|---|---|---|---|---|
| **Opening equity, 01-01-2017** | **579** | **5,252** | **4,920** | **10,751** |
| Dividend | | | –1,436 | –1,436 |
| Net profit for the year | | | 3,000 | 3,000 |
| **Closing equity, 31-12-2017** | **579** | **5,252** | **6,484** | **12,314** |
| **Opening equity, 01-01-2018** | **579** | **5,252** | **6,484** | **12,314** |
| Dividend | | | –2,256 | –2,256 |
| Redemption | –289 | | –1,284 | –1,573 |
| Bonus issue | 289 | | –289 | – |
| Net profit for the year | | | 5,994 | 5,994 |
| **Closing equity, 31-12-2018** | **579** | **5,252** | **8,649** | **14,480** |

The statutory reserve includes amounts which, prior to 1 January 2006, were transferred to the share premium reserve. The retained earnings comprises, together with the net profit for the year, the total non-restricted equity. The non-restricted equity in the Parent Company is available for distribution to the shareholders.

# Statement of Cash Flow, the Parent Company

| SEK m | 2018 | 2017 |
|---|---|---|
| **Operating activities** | | |
| Profit after financial items | 5,994 | 3,000 |
| Adjustment for items not included in the cash flow: | | |
| Capital profit/loss | 6 | – |
| **Cash flow from operating activities** | **6,000** | **3,000** |
| **Financing activities** | | |
| Loans raised | 595 | 1,143 |
| Amortisation of loans | –1,115 | –2,312 |
| Dividend | –3,829 | –1,436 |
| Amortisation, loans from subsidiaries | –1,651 | –395 |
| **Cash flow from financing activities** | **–6,000** | **–3,000** |
| **Cash flow for the year** | **–** | **–** |
| **Opening cash and cash equivalents** | **–** | **–** |
| **Closing cash and cash equivalents** | **–** | **–** |

# Notes

All amounts are in SEK million unless otherwise stated. All notes refer to the Group unless otherwise stated.

## Note 01 Significant accounting and valuation principles

**General accounting principles**

Boliden AB (publ.) Swedish corporate ID no. 556051-4142, is a limited liability company registered in Sweden. The Company's registered office is in Stockholm at the address: Klarabergsviadukten 90, SE-101 20 Stockholm. The Boliden share is listed on NASDAQ Stockholm's Large Cap list.

The Company is the Boliden Group's Parent Company, whose principal operations involve the mining and production of metals and operations compatible therewith.

The Consolidated Statements have been compiled in accordance with the EU-approved International Financial Reporting Standards (IFRS) and interpretations of the IFRS Interpretations Committee (IFRS IC). In addition, the Group applies the Swedish Financial Reporting Board's recommendation RFR 1 Supplementary accounting regulations for corporate conglomerates specifying the supplements to IFRS required pursuant to the stipulations of the Swedish Annual Accounts Act.

The Parent Company's functional currency is the Swedish krona (SEK) and this is also the reporting currency for both the Group and the Parent Company.

Items have been valued at their historical cost in the consolidated accounts, with the exception of certain financial assets and liabilities (derivative instruments), which have been valued at their fair value, and inventories in those cases where they are hedged at fair value.

The Parent Company's accounting principles follow those of the Group with the exception of the mandatory regulations stipulated in the Swedish Financial Reporting Board's recommendation, RFR 2 Accounting for legal entities. The Parent Company's accounting principles are presented under the heading, The Parent Company's accounting principles.

The most important accounting principles that have been applied are described below. These principles have been applied consistently for all years presented, unless otherwise specified.

The Annual Report was approved for publication by the Board on 13 February 2019. The Balance Sheets and Income Statements are subject to approval by the Annual General Meeting on 3 May 2019.

**New or amended standards and interpretations from IASB and IFRS IC that came into force in the 2018 calendar year**

Two new IFRS standards that will be applied from 1 January 2018, IFRS 9 Financial Instruments, and IFRS 15 Revenue from Contracts with Customers.

IFRS 9 Financial instruments has replaced IAS 39 Financial Instruments: Recognitions and Measurement. IFRS 9 includes a model for the classification and valuation of financial instruments, a forward-looking impairment model for financial assets, and a revised approach to hedge accounting.

Classification and valuation under IFRS 9 is based on the business model applied by a company for the management of financial assets and the characteristics of the contractual cash flows from the financial assets. The amendment has no effect on the classification of Boliden's financial instruments, except for certain naming changes. See the section entitled Financial Instruments on page 78 for a description of new classifications.

A provision for impairment shall be reported for all financial assets valued at amortised cost. In Boliden's case, this will be primarily applicable to trade and other receivables. Boliden will apply IFRS 9 from 1 January 2018 and has elected not to implement any retroactive application. The new method of determining a provision has no material effect for the Group.

No opening balance is presented in that there is no effect on the financial reports.

IFRS 15 Revenue from Contracts with Customers replaces existing standards and interpretations regarding revenues. The standard introduces a new revenue recognition model for contracts with customers and shall be applied to all contracts with customers. The new standard entails new starting points for when revenue shall be recognised and requires new evaluations by the Company management that differ from those previously applied.

Boliden has carried out analyses of customer contracts to determine the effects on revenue recognition. Boliden's primary income derives from the sale of metals. It has become apparent that the freight in conjunction with certain freight terms can be regarded as a separate performance obligation. Freight will not be reported separately from sales in that there are limited numbers of this type of contract and the amounts involved are insignificant. The conclusion of the analysis work is that IFRS 15 has had no material effect on the Group's net sales in terms either of amount or of differences in periodicity. The accounting principles for revenues are presented on page 79.

**New standards and interpretations that come into force in the 2019 calendar year or thereafter**

The accounting principles that will be applied from 2019 and which affect Boliden's accounts are presented below.

IFRS 16, Leases:

The standard comes into force for financial years beginning on or after 1 January 2019 and provides a comprehensive model for the identification and reporting of leasing agreements for lessors and lessees alike. It replaces the existing leasing standard, IAS 17 Leases and related interpretations. Boliden will begin applying the new standard on 1 January 2019.

Under IFRS 16, a lease is an agreement that transfers the right to control the use of an identified asset for a period of time in return for compensation. Controls exists if the customer has the right to obtain substantially all of the economic benefits of the use from the identified asset and has the right to decide on the way in which the identifiable asset is used.

Boliden has, for many years now, adopted a restrictive approach to financing the purchase of property, plant and equipment via leasing, and leasing agreements are consequently only signed in exceptional cases. Those leasing agreements that do exist refer primarily to production equipment. Boliden carried out an analysis of existing leasing agreements and similar agreements, prior to the implementation of IFRS 16, in order to determine the impact of the new standard. The analysis has shown that the new standard will not affect Boliden's accounting to any significant extent.

IFRS 16 primarily changes the reporting method for leasing agreements previously classified as operational in accordance with IAS 17, which were not reported in the Balance Sheet. The approach is based on the concept that the lessee has a right to use an asset for a fixed period of time and, simultaneously, an obligation to pay for this right.

Boliden has elected to apply the simplified transition method whereby the comparison year is not recalculated and the size of the right-of-use asset is valued such that it corresponds to the size of the leasing liability on the transfer date. Calculations of the liability for a leased asset are based on the current value of the remaining leasing charges, discounted by the leasing agreement's implicit interest rate, or, where this cannot be determined, by the marginal borrowing rate. The marginal borrowing rate has been determined centrally, based on the Group's financing requirements and terms. The Boliden Group applies mitigation rules available in conjunction with the transition to IFRS 16 when determining liability and right-of-use assets in the Balance Sheet. Under the mitigation rules, leases with a remaining term of twelve months or less and leases for which the underlying asset is of lesser value shall not be included when determining the liability or right-of-use asset in the Balance Sheet.

The impact on the Income Statement derives from the requirement for costs which, in accordance with IAS 17, are reported in the operating profit to now be divided up into depreciation, which will continue to be reported in the operating profit, and interest, which will be reported under net financial items. The date when the cost is reported will also change from that used when reporting today's operational leasing agreements. The depreciation will be effected linearly while that part that relates to interest will initially be higher and decrease over time. The effect on Boliden's operating profit is expected to be marginal.

The estimated effect on Boliden's Balance Sheet is approximately SEK 230 m in the form of right-of-use assets and corresponding leasing liabilities. The transition to IFRS 16 is expected to have only a marginal effect on Boliden's core key ratios.

**Estimates and assessments**
In order to compile the Financial Statements in accordance with IFRS accounting principles, assessments and assumptions must be made that impact the reported asset and liability amounts and the income and expense amounts, as well as other information provided in the Financial Statements. The estimates and assessments of the Board of Directors and the Company's management are based on historical experience and future trend forecasts. The actual outcome may differ from these assessments.

**Valuation of inventories**
It is not easy, in the smelters' process inventories and stocks of finished metals, to differentiate between externally purchased material and mined concentrate from the Group's own operations. Calculating the internal profit of inventories and the reported value of process inventory consequently entails estimations of the share of the process inventory and finished metal stocks that comes from the in-house mining operations, based on the quantities of mined concentrate bought in and produced in-house.

**Pension undertakings**
Pension provisions are dependent on the assumptions made in conjunction with the calculations of the amounts. The assumptions refer to discount interest rates, rate of salary increases, future increases in pensions, the number of remaining working years for employees, life expectancy, inflation and other factors, and are reviewed annually. The assumptions are made for every country in which Boliden has defined benefit pension plans. The most significant assumptions, in Boliden's opinion, are with regard to the discount rate, the rate of salary increases, and life expectancy, and Boliden has elected to present sensitivity analyses for these factors. Boliden's assumptions and sensitivity analyses are presented in Note 23.

**Legal disputes**
Boliden regularly analyses and evaluates outstanding legal disputes using internal company legal counsels and, when necessary, with the help of external advisors, in order to assess the need for provisions to be made. See Note 30, Pledged assets and contingent liabilities.

**Reclamation costs**
Provisions for reclamations are made on the basis of an assessment of future costs based on current conditions. Provisions are reviewed regularly by internal and external specialists and updates made when necessary when the estimated useful lives, costs, technical preconditions, regulations or other conditions of mine and smelter assets change. See Note 13, Property, plant and equipment and Note 24, Other provisions.

Boliden also has a responsibility for the reclamation of a number of decommissioned mines and continuously reviews the requirement to make provisions in respect of these objects. Inspection of and risk assessments in relation to reclamation measures are conducted on a systematic basis.

In the event of complementary reclamation work on a decommissioned mine being deemed necessary in order to comply with the requirements of external regulations, a provision is reported for the anticipated future costs. The provision is reviewed as investigations and action plans provide underlying data for revised costings.

**Valuation of non-current assets**
Impairment tests for property, plant and equipment and intangible assets are based on the Company's internal business plan and on assumptions with regard to future trends in metal prices, treatment and refining charges, and exchange rates, amongst other things. Changes in market prices of metals, treatment and refining charges and currencies have a substantial effect on the Group's future cash flows and hence on the estimated write-down requirement. Assumptions with regard to price trends for metals, treatment and refining charges and currencies are made by the Company management with the help of external experts. The assumptions are reviewed on an annual basis and adjusted when necessary. For further information, see Note 13, Property, plant and equipment.

The depreciation period for deferred mining costs, installations and equipment in mines depend on future ore extraction and the lifespan of the mine. The assessment of these aspects is, in turn, heavily dependent on Mineral Reserves and, consequently, on factors such as anticipated future metal prices. The valuation is based on assumptions that the necessary environmental permits will be obtained. Changes to conditions may entail changes to the rate of depreciation applied in future. Business Area Mines draws up annual production plans for the mines' lifespans.

**Mineral Reserves**
Boliden's Mineral Reserves are divided into two categories, namely probable and proven. The assessment is based on geological measurements and assumptions that are explained in greater detail on pages 106–110. Boliden's assessment of the size of the Mineral Reserves affects annual depreciation costs and impairment tests.

**Consolidated Statements**
The Consolidated Statements cover the Parent Company and all companies over which the Parent Company through ownership, directly or indirectly, exercises a controlling influence. The term "controlling influence" refers to companies in which Boliden exerts influence, is exposed to, or is entitled to a variable return from its involvement and in which it can use its influence over the company to influence its return. This is generally achieved by ensuring that its ownership share, and the share of votes, exceeds 50 per cent. The existence and effect of potential voting rights that can currently be utilised or converted are taken into account when assessing whether the Group is capable of exercising a controlling influence over another company. Subsidiaries are included in the Consolidated Statements as of the point in time at which a controlling influence has been attained, while companies that have been sold are included in the Consolidated Statements up to the time when the sale occurred, i.e. up to the point in time when controlling influence ceased to obtain.

The Consolidated Statements have been compiled in accordance with the acquisition accounting method, which means that the historical cost of a company comprises the fair value of the payment made (including the fair value of any assets, liabilities and own equity instruments issued). The identifiable assets, liabilities and contingent liabilities acquired are reported at their fair value on the acquisition date. A determination of whether a holding without a controlling influence shall be reported at fair value or at the holding's proportional share of the acquired company's net assets is conducted in conjunction with every acquisition. When required, the subsidiaries' accounts are adjusted to ensure that they follow the same principles applied by other Group companies. All internal transactions between Group companies and intra-Group balances are eliminated when the Consolidated Statements are compiled.

**Associated companies**
Shareholdings in associated companies, in which the Group has a minimum of 20 per cent and a maximum of 50 per cent of the votes, or otherwise has a significant influence over operational and financial management, are reported in accordance with the equity method. Under the equity method, the consolidated book value of the shares in the associated companies corresponds to the Group's share of the associated companies' equity and any consolidated surplus values. Shares in associated companies' profits/losses are reported in the Consolidated Income Statement as part of the operating profit and comprise the Group's share in the associated companies' net profits/losses.

**Conversion of foreign subsidiaries and other overseas operations**
The currency in the primary economic environments in which the subsidiary companies operate is the functional currency. When consolidating to the reporting currency, the Balance Sheets for overseas subsidiary companies are converted at the exchange rates applicable at the reporting period end, while the Income Statements are converted at the average exchange rates for the reporting period. Any exchange rate differences arising and accumulated translation differences in respect of the conversion of subsidiaries are reported as Other comprehensive income.

Boliden hedges its net investments in foreign subsidiaries to some extent by taking an opposite position (in the form of loans) in the relevant foreign currency. Exchange rate differences on hedging measures are reported as Other comprehensive income.

In conjunction with the sale of overseas operations whose functional currency is different from the Group's reporting currency, the accumulated translation differences attributable to the operations are realised in the Consolidated Income Statement, after deductions for any currency hedging activities.

**Financial instruments**
The following financial instruments, i.e. financial assets and liabilities, are recognised in the Balance Sheet: shares, receivables, cash and cash equivalents, liabilities and derivatives.

Financial instruments are recognised in the Balance Sheet when the company becomes bound by the instrument's contractual terms (the economic approach). Liabilities to credit institutions are, however, not reported until the settlement date. Financial assets are removed from the Balance Sheet when the rights entailed by the agreement are utilised, mature or are transferred to another counterparty. Financial liabilities are removed from the Balance Sheet when the agreement's obligations are fulfilled or if significant aspects of the loan terms are renegotiated.

Financial instruments are reported at the fair value or amortised cost, depending on the initial categorisation under IFRS 9. On each reporting occasion, the Group performs an impairment test to determine whether objective indications exist of the need to write down a financial asset or group of assets.

**Valuation principles**
**Fair value**
The fair value of derivatives is based on listed bid and ask prices on the closing day and on a discounting of estimated cash flows. Market prices for metals are taken from the trading locations of metal derivatives, i.e. the London Metal Exchange (LME) and the London Bullion Market Association (LBMA). Discount rates are based on current market rates per currency and time to maturity for the financial instrument. Exchange rates are obtained from the Swedish central bank.

When presenting the fair value of liabilities to credit institutions, the fair value is calculated as discounted agreed amortisations and interest payments at estimated market interest rate levels. The fair value of trade and other receivables and trade and other payables is deemed to be the same as the reported value due to the short term to maturity, to the fact that provisions are made for bad debts, and to the fact that any penalty interest incurred will be debited.

If changes in value cannot be determined for financial assets or liabilities reported at fair value, they are reported at the historical costs of the instruments at their time of acquisition, which corresponds to the fair value at the time of acquisition.

Boliden provides information on all financial assets and liabilities reported at fair value in the Balance Sheet on the basis of a three-level fair value hierarchy. Level one comprises instruments that are listed and traded on an active market where identical instruments are traded. Level two comprises instruments that are not traded on an active market, but where observable market data is used for valuation of the instrument (either directly or indirectly). Level three comprises instruments where the valuation is, to a considerable extent, based on unobservable market data.

The assessments have been conducted on the basis of the circumstances and factors obtaining with regard to the various instruments. Metal futures are classified as level two, in that the discounted prices are based on listed daily prices from the exchanges. Currency futures and interest swaps have also been classified as level two, with reference to the fact that the valuation is based on observable market data. The fair value of liabilities to credit institutions has been classified as level two. Shares and participations that are not listed have been classified as level three. Exceptions to classification on the basis of the fair value hierarchy are made for trade and other receivables, cash and cash equivalents, and trade and other payables where the reported value is deemed to constitute a reasonable estimation of the fair value.

**Amortised cost**
Amortised cost is calculated using the effective interest rate method. This means that any premiums or discounts, as well as expenses or income directly attributable to them, are distributed over the duration of the contract with the aid of the estimated effective interest rate. The effective interest rate is the rate that yields the instrument's historical cost as a result in conjunction with current value calculation of future cash flows.

**Classification and valuation category**
Boliden divides financial instrument into the following valuation categories below and classifies the instrument at amortised cost, at fair value through profit or loss, or at fair value through other comprehensive income, see also Note 29. The classification is determined by the characteristics of the instrument and the business model in which it is held.

**Financial assets at amortised cost**
The financial assets at amortised cost category includes financial investments, cash and cash equivalents, and receivables not listed on an active market. These financial instruments are characterised by being part of a business model whose purpose is to be held until maturity and to collect cash flows from payments of principals and any interest.

Cash and cash equivalents comprises short-term investments with a due date of no more than three months from the acquisition date and can easily be converted into cash. Cash and cash equivalents are only exposed to an insignificant risk of fluctuations in value and are reported according to the amortised cost method. Receivables are classified as trade and other receivables and interest-bearing short-term holdings of securities or other investments, which are not classified as non-current assets and which are not attributable to cash and cash equivalents. Receivables are reported at the anticipated recoverable amount, i.e. after deductions for bad debts. The anticipated term of trade receivables and other current receivables is short, and the value is, therefore, reported at the nominal amount without any discounting in accordance with the amortised cost method.

**Financial assets at fair value through profit or loss**
The financial instruments recognised at fair value in the Income Statement includes shares and participations. These instrument are characterised by being part of a business model whose purpose is to be held until maturity or held for sale, and which are expected to be sold in a near future. Financial assets in this category are valued at fair value and changes in value are reported in the Income Statement. Shares for which the fair value cannot be established are reported at their historical cost, taking into account any impairments.

**Derivatives**
Derivatives that are valued at fair value and for which changes in the value are reported in the financial items comprise currency futures and are not included in the hedge accounting.

**Hedge accounting**
Derivatives used in hedge accounting comprise derivatives valued at fair value included in fair value hedging or cash flow hedging. The derivatives comprise metals futures, currency futures, and interest derivatives. The hedge relationship is identified and an assessment of the hedge's efficacy documented, both when hedging commences and on an ongoing basis. The efficacy is assessed by means of an analysis of the economic correlation between the hedged item and hedging instrument, and by ensuring that the effect of the credit risk does not dominate changes in the value of underlying items and instruments. The hedge ratio for the hedge relationship is the same as in the actual hedge. See Note 27 on derivatives used for hedging purposes.

**Other financial liabilities**
Financial liabilities primary comprise of liabilities to credit institutions and trade and other payables. The anticipated term of trade and other payables is short and the value is, consequently, reported at a nominal amount in accordance with the amortised cost method as the amount is held to correspond to the fair value. Liabilities to credit institutions are initially valued at amounts received, less any set-up fees, and are then valued at amortised cost. Interest expenses are reported on a rolling basis in the Income Statement with the exception of the part included in the historical cost for property, plant and equipment. Capitalised set-up fees are reported directly against the loan liability to the extent that the loan agreement's underlying loan guarantee has been utilised, and are recognised in the Income Statement under Other financial expenses over the contractual term of the loan. If a loan agreement is terminated or otherwise ceases to obtain at a point in time prior to the end of the original contractual term, capitalised set-up fees are recognised as an expense. If a current agreement is renegotiated during the contractual term, any additional fees in connection with the renegotiation are allocated over the remaining contractual term of the loans.

**Assets and liabilities in foreign currencies**
Receivables, liabilities and derivatives in foreign currencies are converted to Swedish kronor at the exchange rate applying on the clos-

ing day. Exchange rate differences on operating receivables and operating liabilities are included in the operating profit, while exchange rate differences on financial assets and liabilities, including any profit/loss, are reported under financial items. Exchange rate effects on financial instruments used in cash flow hedging and the hedging of net investments in overseas operations, are reported under Other comprehensive income with the exception of any exchange rate differences on currency swaps in foreign currencies reported under net financial items.

**Classification and reporting of derivatives used for hedging purposes**
See also "Risk management" in the Directors' Report on pages 56–59.

**Fair value hedging (binding undertaking)**
Changes in the value of financial derivatives used to hedge a binding undertaking are reported under the operating profit together with changes in the value of the asset or liability that the hedging is designed to counter. Parts of inventories constitute binding undertakings and are reported at market value as inventory value, and changes in the value of derivatives consequently effectively match the changes in value from hedged items in the Income Statement and Balance Sheet.

**Cash flow hedging (forecast cash flows)**
Hedge accounting is applied to financial derivatives that refer to the hedging of forecast flows, which means that the effective share of the unrealised market values is reported under Other comprehensive income up to the point in time when the hedged item, such as forecast metal sales, US dollar income, and interest expenses, is realised and thus reported in the Income Statement. Realised profits/losses attributable to metal and currency derivatives are reported under net sales, while the profit/loss on interest derivatives is reported under net financial items. Individual interest swaps and multiple interest swaps – known as portfolio hedging – are both used to hedge future interest payments. Any ineffective part of cash flow hedging is reported under net financial items.

**Hedging of net investments**
Hedge accounting is applied to the profit/loss on hedging in respect of net investments in overseas operations under Other comprehensive income. Any ineffective component of these hedges is reported under net financial items. Associated hedging results are, in conjunction with the sale of overseas operations, reported in the Income Statement, together with the translation effect of the net investment.

**Offsetting of financial assets and liabilities**
The offsetting of financial assets and liabilities is regulated by ISDA (International Swaps and Derivatives Association) agreements, which regulate both offsetting between contracted counterparties as part of operating activities and in conjunction with circumstances relating to breach of contract or early termination. In its operating activities, Boliden offsets payments on undertakings with the same maturity date, which are in the same currency, which have the same counterparty, and which are for the same type of instrument. Surplus amounts per instrument and currency only are paid by the party with the biggest outstanding liability. All terminated undertakings comprised by ISDA agreements are, in conjunction with breach of contract or early termination, which may be caused by circumstances not directly linked to neglect by any party, offset in a sum that is paid by the party with the biggest outstanding liability.

**Government contributions and support**
Government support refers to subsidies, grants or premiums designed to provide an economic benefit, or Government support in the form of transfers of resources to the company that may be applied to an undertaking. Government support attributable to assets is reported either by recognising the support as a prepaid income or by reducing the reported value of the asset.

**Revenue recognition**
Sales of metal concentrates, metals, intermediate products and by-products are reported upon delivery to the customer in accordance with the terms and conditions of sale, i.e the revenue is recognised in conjunction with control passing to the purchaser.

Preliminary invoices are raised for the Group's metal concentrates at the time of delivery. Final invoices are raised when all component parameters (concentrate quantity, metal content, impurity content, and the metal price for the agreed pricing period – normally the average price on the LME in the month after delivery) have been established. Revenues from the preliminary invoicing are reported at the metal prices and exchange rates obtaining on the closing day and adjusted continuously until final invoicing occurs.

The Group's metals are invoiced to the customers at the time of delivery. The Group eliminates the price risk in conjunction with the sale and purchase of metals by hedging the imbalance between quantities purchased and sold on a daily basis. The smelters' income comprises treatment and refining charges (TC/RC), free metals, compensation for impurities in the raw materials, and the worth of by-products.

Income from activities outside the sphere of the regular operations is reported as Other operating income.

**Exploration, research and development**
Boliden's R&D primarily comprises exploration. Boliden is also involved, to a limited extent, in developing mining and smelting processes. Expenses associated with research and development are primarily booked as costs when they arise. When the financial potential for the exploitation of a mine deposit has been confirmed, the expenses are booked as costs up to that date. After that date, the expenses are capitalised as deferred mining costs, the governing principles of which are described under the Property, plant and equipment heading. Exploration rights acquired in conjunction with operational acquisitions have been capitalised as intangible assets.

**Intangible assets**
Intangible assets include patents, licenses, similar rights, emission rights, exploration rights acquired in conjunction with operational acquisitions and goodwill. Goodwill comprises the amount by which the historical cost exceeds the fair value of the Group's share of the identifiable net assets of the subsidiary company acquired at the time of acquisition. Goodwill is reported in the Balance Sheet at the value given in conjunction with the acquisition, converted, where relevant, at the closing day rate, after deduction for accumulated impairments. Calculations of the profit or loss on the sale of a unit include any remaining reported goodwill value ascribed to the operations sold.

Goodwill has been assessed as having an indefinite useful life. Goodwill is allocated to the smallest possible unit or group of units that generate cash where separate cash flows can be identified, and an impairment test is performed on the reported value at least once a year to determine whether there is any need for an impairment. Such impairment tests are, however, performed more frequently if there are indications that the value may have fallen during the year.

Other intangible assets, with the exception of emission and exploration rights, are amortised over their anticipated useful lives.

**Emission rights**
The Boliden Group participates in the European system for emission rights. Rights are allocated across the European market. One emission right grants entitlement to emit the equivalent of one tonne of carbon dioxide or similar gas and is classified as an intangible asset. Emission rights allocated are valued at the historical cost of zero, while rights acquired are valued at the purchase price. An intangible asset and a provision in the corresponding amount are reported during the current year in the event of any need arising to purchase additional emission rights. The asset is amortised over the remaining months of the year, thereby distributing the cost in line with production. The intangible asset is thereby exhausted and the provision for emissions made is settled. If the liability to deliver emission rights exceeds the remaining emission rights allocation, the liability is revalued at the market value of the number of emission rights required to clear the undertaking on the closing day.

**Property, plant and equipment**
Land, plants and equipment, and capitalised costs associated therewith for development, pre-production measures and future reclamation costs, are booked at the historical cost less depreciations and any impairment. Interest expenses attributable to financing development and completion of significant property, plant and equipment are included in the acquisition value. Repair and maintenance expenses are booked as costs, while substantial improvements and replacements are capitalised.

Estimated future expenses for the dismantling and removal of a tangible asset and the restoration of a site or area where the tangible asset is located (reclamation costs) are capitalised. Capitalised amounts comprise estimated expenses, calculated at current value, which are simultaneously reported as provisions. Effects of subsequent events that result in costs that exceed the provision are discounted, capitalised as tangible asset, and increase the provisions, and are depreciated over the remaining life of the asset.

Deferred mining costs at mines comprise the waste rock excavation required to access the ore body, work relating to infrastructural facilities, roads, tunnels, shafts and inclined drifts, as well as service, electricity and air distribution facilities. Deferred mining costs arising from capacity expansion of the mining operation, the development of new ore bodies, and the preparation of mining areas for future ore production are capitalised. Mining costs arising from waste rock removal from open pit mines are capitalised as part of an asset when it becomes possible to identify the part of an ore body to which access has been improved.

**Depreciation principles for Property, plant and equipment**
Depreciation according to plan is based on the original capitalised values and the estimated useful life. Depreciation of an asset begins when an asset becomes operational.

Plant and capitalised values attributable to waste rock are depreciated per push-back and in conjunction with metal extraction in relation to the anticipated metal extraction for the entire push-back. Installations and capitalised values included in deferred mining costs are depreciated in accordance with a production-based depreciation method that is based on the proven and probable Mineral Reserves in the respective ore bodies. Depreciation is effected to the estimated residual value. Estimated residual values and production capacity are subject to ongoing review. Plant not directly linked to production capacity is depreciated on the basis of their anticipated useful lives. The estimated useful life period is based on the assumption that the necessary environmental permits can be obtained.

Smelters and production plants are depreciated linearly over their anticipated useful lives.

The following depreciation periods are applied to Property, plant and equipment, including future reclamation costs:

| | |
|---|---|
| Buildings | 20–50 years |
| Land improvements | 20 years |
| Deferred mining costs and waste rock capitalisation | Concurrently with metal depletion |
| Capitalised reclamation costs | Linearly over the anticipated lifespan |
| Processing facilities | 10–25 years |
| Machinery | 3–10 years |
| Equipment, tools, fixtures and fittings | 3–10 years |

Boliden applies component depreciation, which means that larger processing facilities are broken down into component parts with different useful lives and thus different depreciation periods.

**Impairment**
On each reporting occasion, an assessment is performed to determine whether there is any indication of impairment. Should this be the case, a calculation is performed of the recoverable amount of the asset in question. Goodwill is, together with any intangible assets with an indefinable useful life, subject to annual impairment tests even if there are no indications of a reduction in its value. The recoverable amount comprises whichever is the higher of the value in use of the asset in the operations and the value that would result if the asset were sold to an independent party, fair value minus selling expenses. The value in use comprises the present value of all incoming and outgoing payments attributable to the asset for the duration of its expected use in the operations, plus the present value of the net sales value at the end of the asset's useful life. The period during which use of the asset is expected to be possible is based on the assumption that the necessary environmental permits can be obtained. If the estimated recoverable amount is lower than the book value, the latter is written down to the former. Impairments are reported in the Income Statement. Any impairment is reversed if changes in the assumptions leading to the original impairment mean that the impairment is no longer warranted. Impairments that have been performed are not reversed in such a way that the reported value exceeds the amount that would, following deductions for depreciation according to plan, have been reported if no impairment had been performed. Reversals of impairments performed are reported in the Income Statement. Goodwill impairments are not reversed. See also the section on Valuation of non-current assets.

**Leasing**
A financial leasing agreement is an agreement whereby the financial risks and benefits associated with a title are, in all significant respects, transferred from the lessor to the lessee. Leasing agreements that are not classified as financial leasing agreements are classified as operational leasing agreements.

Assets held in accordance with financial leasing agreements are reported initially as non-current assets in the Consolidated Balance Sheet at the present value of the future lease payments. The Group's liability in relation to the lessor is reported in the Balance Sheet under the heading of Other interest-bearing liabilities, broken down into short-term and long-term components.

Lease payments are broken down into interest and amortisation of the liability. The interest is distributed over the leasing period so that an amount corresponding to the fixed interest amount payable on the liability reported in each period is charged to each reporting period. The leased asset is depreciated according to the same principles as those that apply to other assets of the same type.

The leasing charges for operational leasing agreements are booked as costs on a linear basis over the leasing period.

**Inventories**
The Group's inventories primarily comprise mined concentrates, materials tied up in the smelters' production processes, and finished metals. Inventories are valued at whichever is the lower of the historical cost in accordance with the first-in-first-out principle and the net sale value, taking into account the risk of obsolescence. The historical cost of inventories of metals from the company's mines and semi-finished and finished products manufactured in house comprises the direct manufacturing costs plus a surcharge for indirect manufacturing costs. Supplies inventories are valued at whichever is the lower of the average historical cost and the replacement value. When mined concentrates are bought in from external sources and definitive pricing has not yet occurred, the acquisition value is estimated at the closing day price. Fair value hedging is effected in conjunction with the definitive pricing of mined concentrates. The change in the value of hedged items in the inventory value is also reported in conjunction with fair value hedging of mined concentrates and finished metals.

**Tax**
The tax expense (income) for the period comprises current tax and deferred tax. Tax is reported in the Income Statement, Other comprehensive income or Equity, depending on where the underlying transaction has been reported.

Current tax is the tax calculated on the taxable profit/loss for each period. The year's taxable profit/loss differs from the year's reported profit/loss before tax in that it has been adjusted for non-taxable and non-deductible items and temporary differences. The Group's current tax liability is calculated in accordance with the taxation rates stipulated or announced on the closing day.

Deferred tax is reported using the Balance Sheet method, under which deferred tax liabilities are reported in the Balance Sheet for all taxable temporary differences between reported and fiscal values of assets and liabilities. Deferred tax assets are reported in the Balance Sheet in respect of loss carry-forwards and all deductible temporary differences to the extent that it is likely that these amounts can be used to offset future taxable surpluses. The reported value of deferred tax assets is reviewed at the end of each accounting period and reduced to the extent that it is no longer likely that sufficient taxable surpluses will be available for its use. Deferred tax is calculated in accordance with the taxation rates that are expected to apply to the period in which the asset is recovered or the liability settled.

Both deferred and current tax receivables and tax liabilities are offset when they relate to income tax levied by the same tax authority.

**Provisions**
Provisions are reported when the Group has, or may be considered to have an obligation as a result of events that have occurred and it is likely that disbursements will be required in order to fulfil this obligation. A further prerequisite is that it should be possible to make a reliable estimate of the amount to be disbursed.

When a significant effect arises due to the point in time at which a provision is made, the provision is valued at the present value of the

amount estimated to be required to fulfil the obligation. A discount interest rate before tax that reflects current market evaluations of the time value of money and the risks associated with the provision is applied in conjunction herewith. The increase that is due to time passing is reported as an interest expense. Provisions are broken down into short-term and long-term provisions.

Boliden's provisions primarily, with the exception of pensions (see separate section), refer to reclamation costs that are expected to arise when operations are decommissioned. Provisions are also made for any purchases of emission rights and for any remuneration payable in conjunction with the termination of employment that may be payable to employees to whom a commitment of termination has been given or to employees who accept voluntary redundancy. The Group reports a provision and a cost in conjunction with termination when Boliden is obligated either to give the employee notice prior to the normal point in time for employment cessation, or to provide remuneration with a view to encouraging early retirement.

**Contingent liabilities**
A contingent liability is a potential undertaking that derives from events which have occurred and whose incidence is only confirmed by one or more uncertain future events. A contingent liability can also be an existing undertaking that has not been reported in the Balance Sheet because it is unlikely that an outflow of resources will be required or because the size of the undertaking cannot be reliably calculated. See Note 30.

**Employee benefits**
**Pension undertakings**
The Group's companies have a variety of pension systems in accordance with local conditions and practices in the countries in which they operate. They are generally financed through payments made to insurance companies or through the company's own provisions which are determined through periodic actuarial calculations. The Group's provisions for pension undertakings are calculated in accordance with IAS 19 Employee benefits.

For pension systems where the employer is committed to defined contribution systems, the undertaking in relation to the employee ceases when the agreed premiums have been paid. Premiums paid are booked as costs on an ongoing basis.

The undertaking does not cease for pension systems where a defined benefit pension has been contractually agreed, until the agreed pensions have been paid out. Boliden commissions independent actuaries to calculate pension undertakings relating to the defined benefit pension plan arrangements in each country. For information on calculation parameters, see the section entitled "Estimates and assessments – pension undertakings" and Note 23.

Revaluations of the defined benefit net pension liability, such as actuarial profits and/or losses and the difference between the return on plan assets and the discount rate, are reported under Other comprehensive income. The financing cost of the net pension liability is calculated using the discount rate for the pension liability. The financing cost, the cost of service during the current period and any previous periods, losses from settlements and costs in connection with special payroll tax are all reported in the Income Statement. Special payroll tax is regarded as part of the total net pension liability.

**Share capital**
Ordinary shares are classified as share capital. Transaction costs in conjunction with a new share issue are reported as a net amount after tax for deduction from the issue proceeds received.

**Buy-back of own shares**
Boliden's holdings of its own shares are reported as a reduction in equity. Transaction costs are reported directly against equity.

**Dividend**
A dividend payment proposed by the Board of Directors does not reduce the equity until it has been approved by the Annual General Meeting.

**Information per segment and geographical market**
Boliden's operations are organised into two segments: Business Area Mines and Business Area Smelters. The Business Areas correspond to Boliden's operating segments in that 1) the Business Area Managers are directly responsible to the CEO, 2) the CEO controls the Group's component parts via two "Business Area Boards", one for each Business Area, through which the financial results in relation to financial goals are evaluated, 3) financial goals and investment plans and overhead budgets for the respective Business Areas are set in the business plan and budget process, 4) decisions on goals and resource allocation for units within the respective Business Areas are made within the respective Business Areas' management groups, and 5) heads of operating units report not to the CEO but to the Business Area Managers.

Business Area Mines comprises the operations of the Swedish mines, Aitik, the Boliden Area and Garpenberg, the Tara mine in Ireland, and the Kylylahti and Kevitsa mines in Finland. Aitik produces copper concentrate with some gold and silver content. The other Swedish mines produce zinc, copper and lead concentrates with variable gold and silver content. Tara produces zinc and lead concentrates and Kylylahti produces concentrate that contains copper, gold, zinc and silver. Kevitsa primarily produces nickel and copper concentrates. Business Area Mines is also responsible for sales of mined concentrates.

Business Area Smelters includes the Kokkola and Odda zinc smelters in Finland and Norway, respectively, the Rönnskär and Harjavalta copper smelters in Sweden and Finland, respectively, and the Bergsöe lead smelter in Sweden. The Business Area is responsible for all sales of the smelters' products and handles all raw material flows between the Group's mines, smelters and customers. This includes responsibility for purchases of metal concentrates and recycling materials from external suppliers. The zinc smelters' production primarily comprises zinc metal, but also includes silver in concentrate, aluminium fluoride and sulphuric acid. The copper smelters' production primarily comprises copper, gold, silver, lead and sulphuric acid. The copper smelters also recycle metal and electronic scrap and smelt nickel. The Bergsöe lead smelter recycles lead metal, mainly from scrap car batteries.

Transactions between the Business Areas, primarily involving metal concentrates, are settled on an arms' length basis.

Note 2 contains details of revenues per segment and geographical market, showing the location of external customers, and providing information on major customers. Assets and investments per geographical market are also reported there.

**The Parent Company's accounting principles**
The Parent Company's annual accounts are compiled in accordance with the Swedish Annual Accounts Act, the Swedish Financial Reporting Board's recommendation, RFR 2 Accounting for legal entities, and the statements issued by the Swedish Financial Reporting Board. Under RFR 2, the Parent Company shall, in the accounts for the legal entity, apply all EU-approved International Financial Reporting Standards (IFRS) and statements to the extent that this is possible within the framework of the Swedish Annual Accounts Act and while taking into account the connection between reporting and taxation. The recommendation specifies the exceptions and additions to be made in relation to IFRS. The differences between the Group's and the Parent Company's accounting principles are described below.

**Reporting of Group contributions and shareholders' contributions**
Group contributions received or made are reported as appropriations. Shareholders' contributions are booked directly against non-restricted equity by the recipient and as an increase in the Participations in Group companies item by the contributor.

**Anticipated dividends**
Anticipated dividends can be reported in those cases where the Parent Company has the sole right to determine the size of the dividend and has ensured that the dividend does not exceed the subsidiary company's dividend payment capacity.

**Financial instruments**
Financial instruments are not valued in the Parent Company in accordance with IFRS 9. The valuation is conducted on the basis of the historical cost (see the Group's accounting principles).

**Subsidiaries**
Participations in subsidiaries are reported in the Parent Company in accordance with the historical cost method. Transaction expenses in conjunction with the acquisition of subsidiaries are reported as costs in the consolidated accounts, while in the Parent Company, they are reported as part of the historical cost.

Determination of the value of subsidiaries is effected when there are indications of a decline in value.

## Note 02 Information per segment and geographical market

For additional information, please refer to "General accounting principles" for segment reporting on page 81.

**Segment – Business Areas**

| 31-12-2018 | Mines | Smelters | Other[2] | Accounting principles[3] | Eliminations | The Group |
|---|---|---|---|---|---|---|
| External revenues | 1,788 | 50,666 | 0 | – | – | 52,454 |
| Internal revenues | 16,615 | –32 | 117 | – | –16,701 | – |
| **Revenues** | **18,404** | **50,634** | **117** | **–** | **–16,701** | **52,454** |
| Results from participations in associated companies | 0 | 1 | –6 | – | – | –4 |
| **Operating profit** | **6,451** | **2,364** | **189** | **–** | **–** | **9,004** |
| Net financial items | | | | | | –240 |
| **Profit after financial items** | | | | | | **8,763** |
| Tax | | | | | | –1,562 |
| **Net profit for the year** | | | | | | **7,201** |
| | | | | | | |
| Intangible assets | 363 | 3,195 | 8 | | | 3,566 |
| Property, plant and equipment | 28,555 | 10,246 | 76 | | | 38,877 |
| Equity shares and other financial assets | 9 | 11 | 23 | | | 43 |
| Inventories | 1,327 | 9,474 | –442 | | | 10,358 |
| Other receivables | 2,344 | 2,276 | 239 | | –1,499 | 3,359 |
| **Assets in capital employed** | **32,598** | **25,202** | **–96** | | **–1,499** | **56,204** |
| Provisions, other than for pensions and tax | 3,491 | 541 | 0 | | | 4,032 |
| Other liabilities | 2,778 | 6,424 | 29 | | –1,499 | 7,731 |
| **Liabilities in capital employed** | **6,269** | **6,965** | **29** | | **–1,499** | **11,763** |
| **Total capital employed** | **26,328** | **18,237** | **–125** | | | **44,441** |
| Depreciation | 3,717 | 1,212 | 1 | | | 4,930 |
| Investments[1] | 4,482 | 1,656 | 2 | | | 6,140 |

| 31-12-2017 | Mines | Smelters | Other[2] | Accounting principles[3] | Eliminations | The Group |
|---|---|---|---|---|---|---|
| External revenues | 1,826 | 47,727 | 1 | – | – | 49,553 |
| Effect on profit of metal price and currency hedging | –22 | – | – | – | – | –22 |
| Internal revenues | 16,391 | –36 | 94 | – | –16,450 | – |
| **Revenues** | **18,195** | **47,691** | **95** | **–** | **–16,450** | **49,531** |
| Results from participations in associated companies | 5 | 0 | – | – | – | 6 |
| **Operating profit** | **6,681** | **2,834** | **–500** | **–** | **–** | **9,015** |
| Net financial items | | | | | | –278 |
| **Profit after financial items** | | | | | | **8,737** |
| Tax | | | | | | –1,881 |
| **Net profit for the year** | | | | | | **6,856** |
| | | | | | | |
| Intangible assets | 372 | 3,104 | 7 | | | 3,482 |
| Property, plant and equipment | 26,509 | 9,729 | 75 | | | 36,313 |
| Equity shares and other financial assets | 21 | 10 | 29 | | | 59 |
| Inventories | 1,117 | 9,171 | –789 | | | 9,500 |
| Other receivables | 2,744 | 2,828 | 203 | 1 | –1,911 | 3,864 |
| **Assets in capital employed** | **30,763** | **24,842** | **–475** | **1** | **–1,911** | **53,219** |
| Provisions, other than for pensions and tax | 2,518 | 619 | | | | 3,137 |
| Other liabilities | 2,744 | 6,205 | 114 | | –1,911 | 7,151 |
| **Liabilities in capital employed** | **5,261** | **6,824** | **114** | **1** | **–1,911** | **10,289** |
| **Total capital employed** | **25,502** | **18,018** | **–589** | | | **42,931** |
| Depreciation | 3,487 | 1,114 | 1 | | | 4,601 |
| Investments[1] | 3,722 | 1,862 | 4 | | | 5,588 |

[1] Excluding capitalised reclamation costs and financial leasing.

[2] "Other" includes Group staff functions and Group-wide functions not allocated to Mines or Smelters.

[3] Comprises unrealised market values attributable to cash flow hedging and minor adjustments for other accounting principles only followed up at Group level. The market values of the cash flow hedges are, when realised, reported in the respective segment.

Boliden has three customers within Segment Smelters who account for 14% (13), 13% (12) and 8% (6), respectively, of Boliden's external revenue. Other customers each represent less than 5% (5) of Boliden's total external revenue. Boliden's metals are sold primarily to industrial customers, but are also sold to base metal dealers and international metal stocks, such as the LME.

**Geographical areas**
Sales figures are based on the country in which the customer is located. Assets and investments are reported in the location of the asset.

| Revenues | 2018 | 2017 |
|---|---|---|
| Sweden | 8,146 | 7,009 |
| Nordic region, other | 5,454 | 4,981 |
| Germany | 15,592 | 16,388 |
| UK | 10,261 | 9,932 |
| Europe, other | 12,066 | 10,656 |
| North America | 51 | 16 |
| Other markets | 885 | 549 |
| | **52,454** | **49,531** |

| Assets in capital employed | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Sweden | 38,365 | 37,325 |
| Finland | 13,579 | 12,087 |
| Norway | 1,642 | 1,577 |
| Ireland | 2,595 | 2,194 |
| Other countries | 22 | 36 |
| | **56,204** | **53,219** |

| Investments in non-current assets [1] | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Sweden | 3,140 | 2,817 |
| Finland | 2,255 | 2,093 |
| Norway | 152 | 298 |
| Ireland | 592 | 379 |
| Other countries | 0 | 0 |
| | **6,140** | **5,588** |

[1] Excluding capitalised reclamation costs and financial leasing.

## Note 03 Revenues

Boliden's revenues derive primarily from the sale of metals. The following table shows external revenues broken down by product category. Information on internal sales revenues between the segments are shown in Note 2 Information per segment and geographical market.

| 2018 | Mines | Smelters | Other | The Group |
|---|---|---|---|---|
| Finished metals | – | 44,301 | – | 44,301 |
| Metal concentrates | 1,788 | 0 | – | 1,788 |
| Intermediate products | – | 5,053 | – | 5,053 |
| By-products | 0 | 1,167 | 0 | 1,167 |
| Other sales | 0 | 145 | 0 | 145 |
| **Total external sales revenues** | **1,788** | **50,666** | **0** | **52,454** |

| 2017 | Mines | Smelters | Other | The Group |
|---|---|---|---|---|
| Finished metals | – | 42,093 | – | 42,093 |
| Metal concentrates | 1,826 | 0 | – | 1,826 |
| Intermediate products | – | 4,718 | – | 4,718 |
| By-products | 0 | 847 | – | 847 |
| Strategic metal price and currency hedging | –22 | – | – | –22 |
| Other sales | 0 | 68 | 1 | 68 |
| **Total external sales revenues** | **1,804** | **47,727** | **0** | **49,531** |

Revenues broken down by geographical area shown in Note 2 Information per segment and geographical market.

## Note 04 Employees and personnel costs

The Parent Company, Boliden AB, is in a tax agreement with Boliden Mineral AB. Boliden AB has one employee who is compensated by Boliden Mineral AB.

| Average number of employees[1] | 2018 | of whom, women | of whom, men | 2017 | of whom, women | of whom, men |
|---|---|---|---|---|---|---|
| **Subsidiaries** | | | | | | |
| Sweden | 3,250 | 708 | 2,542 | 3,161 | 667 | 2,494 |
| Finland | 1,642 | 259 | 1,383 | 1,594 | 245 | 1,349 |
| Norway | 299 | 49 | 250 | 322 | 47 | 275 |
| Ireland | 610 | 37 | 573 | 586 | 36 | 550 |
| Other countries | 18 | 7 | 11 | 21 | 7 | 14 |
| **Total in subsidiaries/Group** | **5,819** | **1,060** | **4,759** | **5,684** | **1,002** | **4,682** |

[1] Refers to full-time employees.

| Percentage of women at Board and Group management level | 2018 | 2017 |
|---|---|---|
| Board of Directors | 50% | 36% |
| Group management | 20% | 20% |

| | 2018 | | 2017 | |
|---|---|---|---|---|
| **Salaries, other remuneration and social security expenses** | **Salaries and remuneration** | **Social security expenses** | **Salaries and remuneration** | **Social security expenses** |
| Subsidiaries | 3,579 | 1,240 | 3,334 | 1,197 |
| *of which, pension expenses* | | *(353)* | | *(334)* |
| **Group, total** | **3,579** | **1,240** | **3,334** | **1,197** |

| | 2018 | | 2017 | |
|---|---|---|---|---|
| **Salaries and other remuneration broken down by country and between Board Members etc. and other employees** | **Board of Directors, President & other senior executives** | **Other employees** | **Board of Directors, President & other senior executives** | **Other employees** |
| **Subsidiaries in Sweden** | **27** | **1,832** | **32** | **1,758** |
| **Subsidiaries abroad** | | | | |
| Finland | 10 | 909 | 7 | 813 |
| Norway | 2 | 201 | 2 | 175 |
| Ireland | 6 | 575 | 6 | 526 |
| Other | 1 | 15 | 1 | 14 |
| **Group, total** | **47** | **3,532** | **48** | **3,286** |

**Profit-sharing system**

A profit-sharing system was introduced for all employees of the Boliden Group in 2007. A profit share is payable when the return on capital employed exceeds 8%, and the maximum profit share (SEK 30,000/full-time employee) is payable when the return on capital employed reaches 18%. The annual maximum allocation must never, however, exceed one third of the dividend paid to shareholders. The funds cannot be disbursed to employees until after 3 years. An allocation of SEK 30,000 (30,000) per full-time employee is proposed for 2018 as the return on capital employed was 20.3% (21.0). This is, however, conditional upon the dividend resolution by the Annual General Meeting. The allocation for each year is invested in liquid interest-bearing assets and shares in Boliden.

**Remuneration paid to the Board Members and senior executives**

**Principles**

Fees as approved by the Annual General Meeting are payable to the Chairman of the Board and to Members of the Board. The President and Employee representatives receive no Directors' fees.

Remuneration paid to the President and other senior executives comprises the basic salary, variable remuneration, other benefits and pensions. The term senior executives refers to those persons who have comprised the Group management during the year. The Group management comprised five persons, including the President, at the end of the year. All members of the Group management are employed in Sweden.

The breakdown between basic salary and variable remuneration shall be in proportion to the executive's responsibilities and authority. The variable remuneration is maximised to 60% of the basic salary for the President, while for other senior executives, it is maximised to 40–50% of the basic salary. 10 percentage points of this is conditional on the purchase of Boliden shares for the gross sum before tax.

Pension benefits and other benefits payable to the President and other senior executives are taken into account when determining fixed and variable remuneration.

**Remuneration and other benefits paid during the year**
Specification of remuneration paid to the Board Members and senior executives.

| | Directors' fees/ Basic salary | | Variable remuneration | | Other benefits | | Pension cost | |
|---|---|---|---|---|---|---|---|---|
| SEK k | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| **Board of Directors** | | | | | | | | |
| Anders Ullberg, Chairman | 1,790 | 1,715 | | | | | | |
| Marie Berglund | 550 | 525 | | | | | | |
| Tom Erixon | 640 | 615 | | | | | | |
| Michael G:son Löw | 600 | 575 | | | | | | |
| Elisabeth Nilsson | 550 | 525 | | | | | | |
| Pia Rudengren | 740 | 715 | | | | | | |
| Pekka Vauramo | 550 | 525 | | | | | | |
| **Group management** | | | | | | | | |
| Lennart Evrell, President [1] | 4,050 | 7,700 | 2,353[5] | 3,200[4] | 113 | 214 | 998 | 2,695 |
| Mikael Staffas, President [2] | 4,375 | – | 2,551[5] | – | 27 | – | 1,491 | – |
| Other members of the Group management [3] | 9,887 | 10,104 | 3,715[5] | 3,800[4] | 283 | 339 | 3,365 | 3,553 |

[1] President & CEO until 31 May 2018 (incl.). Employed until 30 June 2018 (incl.).
[2] President & CEO from 1 June 2018 (incl.). Salaries and remuneration prior to this date are included under "Other members of the Group management".
[3] A total of 4 people in 2018 and 2017.
[4] The amounts are attributable to 2017 but were disbursed in 2018.
[5] The amounts are attributable to 2018 but will be disbursed in 2019.

The Directors' fees shown above also include remuneration for work on the Remuneration and Audit Committees.

**Variable remuneration**
The variable remuneration paid to the President in 2018 was based on the Group's return on equity and the accident trend within the Group.

For other members of the Group management the variable remuneration for 2018 was based on the Group's financial goals and on their personal spheres of responsibility, including financial and individual targets, and the accident trend. Other benefits refer primarily to company cars.

**Pensions**
The President has a defined contribution pension plan to which the company allocates 35% of the fixed monthly salary on a rolling basis. The President decides for himself the level of survivor annuity, indemnity for medical treatment or disability, etc. component of his insurance solution. The President's retirement age is 65.

All other members of the Group management have defined contribution pension plans to which the company allocates 30–35% of the fixed monthly salary. The retirement age is 65.

**Severance pay**
The President and the company shall give six and twelve months' notice of the termination of the President's position, respectively. If notice is given by the company, severance pay corresponding to twelve months' salary is payable, over and above the notice period pay. Other income shall be offset against the severance pay. No severance pay is payable in the event of notice being given by the President.

Other members of the Group management have a notice period of six months if they give notice themselves. If notice of termination is given by the company, the period of notice is twelve months. In addition, severance pay corresponding to a maximum of six months' salary shall be payable. Other income shall be offset against the severance pay. No severance pay is payable in the event of notice being given by the member of the Group management.

**Preparation and decision-making process**
See the 2018 Corporate Governance Report for information.

## Note 05 Auditors' fees and reimbursement of expenses

| | 2018 | 2017 |
|---|---|---|
| **Deloitte AB** | | |
| Audit engagements | 6 | 6 |
| Auditing assignments over and above audit engagements | 0 | 0 |
| Tax consultancy | 0 | 0 |
| Other services | 0 | 0 |
| | **6** | **6** |

## Note 06 Key expense items

| | 2018 | 2017 |
|---|---|---|
| Raw material costs, incl. inventory changes | 23,497 | 21,806 |
| Personnel costs | 5,004 | 4,678 |
| Energy costs | 2,850 | 2,508 |
| Other external costs | 7,271 | 6,922 |
| Depreciation | 4,930 | 4,601 |
| | **43,552** | **40,516** |

The specification of key expense items relates to the following Income Statement items: "Cost of goods sold", "Selling expenses", "Administrative expenses" and "Research and development costs".

| **Depreciation and amortisation are reported under the following Income Statement items:** | 2018 | 2017 |
|---|---|---|
| Cost of goods sold | 4,904 | 4,575 |
| Selling expenses | 0 | 0 |
| Administrative expenses | 19 | 21 |
| Research and development costs | 7 | 6 |
| | **4,930** | **4,601** |

## Note 07 Other operating income

| | 2018 | 2017 |
|---|---|---|
| Payment for sludge deliveries | 22 | 24 |
| Rental income, industrial properties | 19 | 19 |
| Insurance payments | 0 | 1 |
| Profit, sale of non-current assets | 26 | – |
| Realised exchange rate profits | 160 | 74 |
| Scrap sales | 39 | 41 |
| Profit on the sale of emissions rights | – | 7 |
| Other | 39 | 40 |
| | **305** | **206** |

## Note 08 Financial income

| | 2018 | 2017 |
|---|---|---|
| Interest income on cash and cash equivalents | 0 | 3 |
| Other | 2 | 1 |
| | **2** | **4** |

## Note 09 Financial expenses

| | 2018 | 2017 |
|---|---|---|
| Interest on loans at amortised cost | 66 | 104 |
| Interest on currency futures | 57 | 61 |
| Interest on pension provisions | 19 | 18 |
| Interest on reclamation reserve | 70 | 56 |
| Other financial items | 30 | 43 |
| | **242** | **282** |

Boliden's average interest rate totalled 1.20% (1.30), weighted against rolling debt.

## Note 10 Government subsidies

Government subsidies totalling SEK 52 m (36) were received in 2018 and SEK 38 m (36) was reported in the Income Statement. The majority of the subsidies were received in Norway under a carbon dioxide compensation scheme and for energy efficiency improvement measures and are reported under Cost of goods sold in the Income Statement.

## Note 11 Supplementary information to the Statements of Cash Flow

The Statements of Cash Flow are drawn up in accordance with the indirect method.

| | 2018 | 2017 |
|---|---|---|
| **Interest received** | | |
| Bank interest | 0 | 2 |
| | **0** | **2** |
| **Interest paid** | | |
| Interest on currency futures | –55 | –62 |
| Interest on external loans | –66 | –115 |
| | **–121** | **–177** |
| **Cash and cash equivalents on 31 December** | | |
| ***The following items are included in cash and cash equivalents:*** | | |
| Cash and bank balances | 2,272 | 2,510 |
| Short-term investments | 0 | 0 |
| | **2,272** | **2,510** |

The interest paid in the Statement of Cash Flow does not include accrued interest expenses, unlike in the Income Statement. Interest paid for interest capitalisation is reported as part of the investment operations.

The short-term investments included in cash and cash equivalents comprise investments with a term of three months or less at the point of acquisition and which can be easily converted into cash and cash equivalents. Cash and cash equivalents are only exposed to an insignificant risk of value fluctuation.

The following table shows changes in liabilities attributable to financing activities.

| | | | Items not affecting cash flow | | |
|---|---|---|---|---|---|
| **The Group, 2018** | **Amount at the beginning of the year** | **Cash flow** | **Currency** | **Other** | **Amount at year-end** |
| Long-term liabilities to credit institutions | 4,004 | –982 | 123 | | 3,145 |
| Current liabilities to credit institutions | 1,331 | –1,115 | | | 216 |
| Other interest-bearing liabilities, long-term | 2 | | | –2 | – |
| Other interest-bearing liabilities, current | 5 | –5 | | 2 | 2 |
| **Total liabilities from financing activities** | **5,342** | **–2,102** | **123** | **0** | **3,363** |

| | | | Items not affecting cash flow | | |
|---|---|---|---|---|---|
| **The Group, 2017** | **Amount at the beginning of the year** | **Cash flow** | **Currency** | **Other** | **Amount at year-end** |
| Long-term liabilities to credit institutions | 8,187 | –4,292 | 109 | | 4,004 |
| Current liabilities to credit institutions | 1,903 | –572 | | | 1,331 |
| Other interest-bearing liabilities, long-term | 7 | –1 | | –4 | 2 |
| Other interest-bearing liabilities, current | 4 | –3 | | 4 | 5 |
| **Total liabilities from financing activities** | **10,101** | **–4,868** | **109** | **0** | **5,342** |

The Parent Company's changes in liabilities attributable to financing activities constitute, in their entirety, items affecting cash flow.

## Note 12 Intangible assets

| | Capitalised development expenses | Patents, licences, and similar rights | Exploration rights | Goodwill | Total intangible assets |
|---|---|---|---|---|---|
| **Historical costs** | | | | | |
| Opening balance, 01-01-2017 | 177 | 219 | 233 | 3,087 | 3,716 |
| Investments | 17 | 2 | – | – | 19 |
| Sales and retirements | – | –1 | – | – | –1 |
| Reclassifications | – | 3 | – | – | 3 |
| Translation differences for the year | 3 | 7 | 7 | –1 | 15 |
| **Closing balance, 31-12-2017** | **197** | **229** | **240** | **3,086** | **3,752** |
| Opening balance, 01-01-2018 | 197 | 229 | 240 | 3,086 | 3,752 |
| Investments | 30 | 3 | – | – | 33 |
| Sales and retirements | – | –2 | – | – | –2 |
| Reclassifications | – | 17 | – | – | 17 |
| Translation differences for the year | 4 | 10 | 10 | 73 | 97 |
| **Closing balance, 31-12-2018** | **231** | **257** | **250** | **3,159** | **3,897** |
| **Amortisation** | | | | | |
| Opening balance, 01-01-2017 | –76 | –133 | | | –209 |
| Amortisation for the year | –40 | –16 | | | –56 |
| Sales and retirements | – | 1 | | | 1 |
| Translation differences for the year | –2 | –4 | | | –6 |
| **Closing balance, 31-12-2017** | **–118** | **–152** | | | **–270** |
| Opening balance, 01-01-2018 | –118 | –152 | | | –270 |
| Amortisation for the year | –33 | –20 | | | –53 |
| Sales and retirements | – | 2 | | | 2 |
| Translation differences for the year | –3 | –7 | | | –10 |
| **Closing balance, 31-12-2018** | **–154** | **–177** | | | **–331** |
| **Reported value as per Balance Sheet, 31-12-2017** | **79** | **77** | **240** | **3,086** | **3,482** |
| **Reported value as per Balance Sheet, 31-12-2018** | **77** | **80** | **250** | **3,159** | **3,566** |
| Amortisation according to plan, included in the operating profit | | | | | |
| 2017 | –40 | –16 | | | –56 |
| 2018 | –33 | –20 | | | –53 |

**Goodwill**
The Group's goodwill item arose primarily in conjunction with the acquisition of the operations from Outokumpu at the end of December 2003. Goodwill from the 2003 acquisition has principally been allocated to the Group's Smelters segment. Impairment tests have been carried out on the goodwill value in the manner described in Note 13 under Impairment tests – Intangible assets and Property, plant and equipment.

**Emission rights**
The Boliden Group had a surplus of emission rights in 2018 and there was consequently no impact on the Group's financial reports. Emission rights reporting is described in Note 1 Significant accounting and valuation principles.

**Exploration rights**
In 2014, Boliden acquired the exploration rights and mining operations of the Kylylahti copper mine in Finland. The acquisition yielded intangible assets totalling SEK 221 m in respect of exploration rights. No depreciation of these assets has been effected. Acquired exploration rights are assessed to have an indefinite useful life and that there is no predictable limit on the time period during which the asset is expected to generate net payments to Boliden. Impairment testing in respect of exploration rights is carried out in accordance with IFRS 6 Exploration for and Evaluation of Mineral Resources, and impairment testing is, therefore, only carried out in the presence of an indication that the need to write down an asset exists.

## Note 13 Property, plant and equipment

| | Buildings and land | Deferred mining costs | Machinery and other technical facilities | Equipment, tools, fixtures and fittings | Work in progress | Total Property, plant and equipment |
|---|---|---|---|---|---|---|
| **Historical costs** | | | | | | |
| Opening balance, 01-01-2017 | 10,250 | 14,813 | 41,432 | 1,556 | 2,120 | 70,171 |
| Investments | 288 | 1,597 | 1,588 | 53 | 2,043 | 5,569 |
| Capitalised reclamation costs | –9 | – | 134 | 37 | – | 163 |
| Sales and retirements | –17 | – | –904 | –11 | – | –933 |
| Reclassifications | 35 | – | 168 | 18 | –221 | – |
| Translation differences for the year | 60 | 155 | 284 | –72 | 28 | 456 |
| **Closing balance, 31-12-2017** | **10,608** | **16,565** | **42,703** | **1,580** | **3,970** | **75,426** |
| Opening balance, 01-01-2018 | 10,608 | 16,565 | 42,703 | 1,580 | 3,970 | 75,426 |
| Investments | 251 | 1,543 | 1,717 | 83 | 2,513 | 6,107 |
| Capitalised reclamation costs | 20 | – | 892 | – | – | 912 |
| Sales and retirements | –33 | – | –505 | –8 | –35 | –581 |
| Reclassifications | 222 | – | 601 | 3 | –970 | –144 |
| Translation differences for the year | 187 | 246 | 691 | 34 | 55 | 1,213 |
| **Closing balance, 31-12-2018** | **11,255** | **18,354** | **46,099** | **1,692** | **5,533** | **82,933** |
| **Depreciation** | | | | | | |
| Opening balance, 01-01-2017 | –4,745 | –6,900 | –22,380 | –1,296 | | –35,322 |
| Depreciation for the year | –445 | –1,694 | –2,356 | –51 | | –4,545 |
| Sales and retirements | 16 | – | 902 | 11 | | 928 |
| Reclassifications | – | – | – | –3 | | –3 |
| Translation differences for the year | –23 | –65 | –144 | 60 | | –172 |
| **Closing balance, 31-12-2017** | **–5,198** | **–8,659** | **–23,978** | **–1,279** | | **–39,113** |
| Opening balance, 01-01-2018 | –5,198 | –8,659 | –23,978 | –1,279 | | –39,113 |
| Depreciation for the year | –510 | –1,758 | –2,546 | –63 | | –4,877 |
| Sales and retirements | 18 | – | 535 | 4 | | 557 |
| Reclassifications | 0 | – | 0 | – | | – |
| Translation differences for the year | –97 | –105 | –393 | –27 | | –622 |
| **Closing balance, 31-12-2018** | **–5,787** | **–10,522** | **–26,382** | **–1,365** | | **–44,056** |
| **Reported value, as per Balance Sheet, 31-12-2017** | **5,410** | **7,907** | **18,725** | **301** | **3,970** | **36,313** |
| **Reported value, as per Balance Sheet, 31-12-2018** | **5,468** | **7,832** | **19,717** | **327** | **5,533** | **38,877** |
| Depreciation according to plan included in the operating profit | | | | | | |
| 2017 | –445 | –1,694 | –2,356 | –51 | | –4,545 |
| 2018 | –510 | –1,758 | –2,546 | –63 | | –4,877 |

Capitalised reclamation costs include expenses in relation to the dismantling and removal of assets and the restoration of the sites where the assets are located. Accumulated capitalised reclamation costs total SEK 2,741 m (1,830). Accumulated depreciation totals SEK –482 m (–364). The year's capitalised reclamation costs total SEK 912 m (163) and are attributable to the customary review of reclamation requirements and to a new ruling by the Land and Environmental Court regarding the future reclamation of the Aitik mine. The change is reported in accordance with IFRIC 1 Changes in Existing Decommissioning, Restoration and Similar Liabilities. The year's reclamation costs are not included in the consolidated key ratios for the year's investments, and have no effect on the Group's cash flow.

Investments in property, plant and equipment include financial leasing in the sum of SEK 0 m (0), see also Note 14 Leasing charges. The same principle applies to financial leasing as to the year's capitalised reclamation costs with regard to key ratios and cash flow.

At the end of the year, there were no material, contractual undertakings to acquire property, plant and equipment to report.

| | 31-12-2018 | | 31-12-2017 | |
|---|---|---|---|---|
| **Interest expenses carried forward included in the residual value according to plan** | **Reported value, SEK m** | **Interest rate, %** | **Reported value, SEK m** | **Interest rate, %** |
| Rönnskär's expansion, completed 2000 | 25 | 6.8 | 28 | 6.8 |
| Odda's expansion, completed 2004 | 4 | 4.0 | 5 | 4.0 |
| Aitik's expansion, completed 2011 | 142 | 2.5 | 155 | 2.5 |
| Rönnskär, electronic scrap recycling, completed 2012 | 9 | 3.2 | 10 | 3.2 |
| Garpenberg's expansion, completed 2014 | 80 | 1.7 | 86 | 1.7 |

**Impairment tests – Intangible assets and Property, plant and equipment**

Impairment tests are carried out yearly, or throughout the year if an event occurs that may result in an impairment requirement, and are based on the Group's annual budget and strategic planning work. The planning horizon is the estimated lifespan of each mine – typically between 5 and 30 years – and 10 years for smelters. Boliden's operations are characterised by long-term production plans in which every mine has set production plans for the entire estimated lifespan of the mine in question, while a substantial part of the smelters' concentrate supply is regulated by means of long-term delivery agreements. The plans are based on the assumption that the permits needed to conduct the operations can be obtained and, where necessary, renewed. This long-term production planning also enables the use of long-term cash flow forecasts. Additional growth assumptions are not included in extrapolated cash flow forecasts beyond the planning horizon, and smelters' cash flows from year eleven onwards are, therefore, extrapolated using year ten as a base, after which no growth is taken into account.

The value of discounted cash flows is highly sensitive to metal prices, treatment and refining charges (TC/RC), and exchange rates (see sensitivity table on page 58 of the Risk management section of the Directors' Report). The present value of estimated future cash flows is based on the budget and planning prices adopted by the Board of Directors. Planning prices for the first year comprise futures prices on metals and currency markets. The long-term planning prices used in year two and thereafter consist of an anticipated average price over a single business cycle, generally 10 years. The long-term planning prices are based on internal and external analyses, primarily with regard to anticipated demand for metals and margin costs for metal producers. The long-term planning prices are compared with average long-term prices from different market players, such as industry analysts and other mining and smelting companies. The Group does not believe that futures prices from base metals markets are good indicators of long-term price trends, in that they are heavily dependent on spot prices.

The long-term real planning prices are currently as listed in the table below.

| | 2018 | | | 2017 | | |
|---|---|---|---|---|---|---|
| | Metal prices | Treatment/refining charges | Exchange rates | Metal prices | Treatment/refining charges | Exchange rates |
| Copper | USD 6,600/t | USD 80/t USc 8.0/lb. | USD/SEK 7.50 | USD 6,200/t | USD 80/t USc 8.0/lb. | USD/SEK 7.50 |
| Zinc | USD 2,400/t | USD 190 | USD/NOK 7.35 | USD 2,200/t | USD 180 | USD/NOK 7.14 |
| Lead | USD 2,100/t | USD 215 | EUR/USD 1.18 | USD 2,100/t | USD 215 | EUR/USD 1.15 |
| Nickel | USD 16,000/t | | | USD 16,000/t | | |
| Gold | USD 1,200/tr.oz. | | | USD 1,200/tr.oz. | | |
| Silver | USD 17.0/tr.oz. | | | USD 18.0/tr.oz. | | |

Individual mines or mining areas with centralised concentrating facilities, copper smelters, zinc smelters, Boliden Bergsöe AB and Boliden Commercial AB are classified as cash-generating units. The discounted real cash flows before tax for the respective cash-generating units are compared with the book value of capital employed. The cash flows are discounted with a real discount rate before tax of 9% (9), which corresponds to the weighted capital cost. The Group's goodwill is allocated to Segment Smelters, rather than to cash-generating units, in accordance with monitoring of goodwill. The value in use of the Group's assets is held to exceed the reported values and no impairment requirement is consequently deemed to exist.

An increase in the discount rate of one percentage point would have given rise to an impairment requirement for one cash-generating unit within Segment Mines. A lowering of all long-term planning prices for metals by 10% would not result in any impairment requirements for Segment Smelters, while for Segment Mines, a corresponding lowering would result in the book value exceeding the discounted cash flows in respect of two cash-generating units. Nor, if the long-term planning prices for metals remain unchanged, would a 10% weakening of the US dollar against all other currencies occasion an impairment requirement for Segment Mines or Smelters. The calculation does not include any compensatory movements in metal prices, TC/RC, or the prices of by-products or input goods, which has historically often been the case. A 10% fall in TC/RC for all metals would not result in any impairment requirement in Segment Smelters. For Segment Mines, the same fall would have a positive effect.

## Note 14 Leasing charges

**Group**

| Assets held via operational leasing agreements | 2018 | 2017 |
|---|---|---|
| Leasing charges paid during the financial year | 88 | 59 |
| Contracted future leasing charges | | |
| Maturity within one year | 41 | 76 |
| Maturity later than one year but within five years | 17 | 23 |
| Maturity later than five years | 0 | 0 |

| Assets held via financial leasing agreements | 2018 | 2017 |
|---|---|---|
| Machinery and other equipment | | |
| Historical cost | 32 | 30 |
| Accumulated depreciation | –31 | –26 |
| **Closing value on 31 December** | **1** | **4** |

The company with financial leasing agreements is Boliden Kylylahti OY, and the agreements refer to mining machinery. See Note 26 for details of future leasing charges and Note 1 for information on the new leasing standard, IFRS 16.

## Note 15 Participations in subsidiaries

Specification of the Parent Company's and the Group's holdings of participations in subsidiaries

| | 31-12-2018 | | | |
|---|---|---|---|---|
| Subsidiary/Co. reg. no./Registered office | Shares/ participations | Percent-age share | Book value | Book value 2017 |
| Boliden Limited, 3977366, Toronto, Canada | 85,811,638 | 100 | – | – |
| Ontario Inc, 1393512, Toronto, Canada | | | | |
| Boliden BV, 18048775, Drunen, Netherlands | | | | |
| Boliden Apirsa S.L in liquidation, ESB-41518028, Aznalcóllar (Seville), Spain | | | | |
| Boliden Mineral AB, 556231-6850, Skellefteå | 1,650,000 | 100 | 3,911 | 3,911 |
| Boliden Harjavalta Oy, 1591739-9, Harjavalta, Finland | | | | |
| Boliden Kokkola Oy, 0772004-3, Kokkola, Finland | | | | |
| Kokkolan Teollisuusvesi OY, 2558533-2, Kokkola, Finland | | | | |
| Boliden Commercial AB, 556158-2205, Stockholm | | | | |
| Boliden Commercial UK Ltd, 5723781, Warwickshire, UK | | | | |
| Boliden Commercial Deutschland GmbH, 165903, Neuss, Germany | | | | |
| Tara Mines Holding DAC, 60135, Navan, Ireland | | | | |
| Boliden Tara Mines DAC, 33148, Navan, Ireland | | | | |
| Irish Mine Development Ltd, 174811, Navan, Ireland | | | | |
| Rennicks and Bennett Ltd, 34596, Navan, Ireland | | | | |
| APC Properties DAC, 361022, Navan, Ireland | | | | |
| Tara Prospecting Ltd, 34434, Navan, Ireland | | | | |
| Boliden Odda AS, 911177870, Odda, Norway | | | | |
| Boliden Bergsöe AB, 556041-8823, Landskrona | | | | |
| Boliden Bergsoe AS, 20862149, Glostrup, Denmark | | | | |
| Boliden Kylylahti Oy, 1925412-3, Polvijärvi, Finland | | | | |
| Boliden Kuhmo Oy, 1925450-2, Polvijärvi, Finland | | | | |
| Boliden Kevitsa Mining Oy, 2345699-1, Sodankylä, Finland | | | | |
| Boliden FinnEx Oy, 2345662-5, Sodankylä, Finland | | | | |
| Other subsidiaries, dormant or of lesser significance | | | | |
| | | | **3,911** | **3,911** |

The Parent Company, Boliden AB, has received a dividend totalling SEK 6,000 m (3,000) from Boliden Mineral AB during the year.

## Note 16 Participations in associated companies

| | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Book value at beginning of year | 29 | 25 |
| Divestment of participations in associated companies | –6 | – |
| Exchange rate differences | 0 | –2 |
| Share in associated companies' profits for the year | 2 | 6 |
| **Book value at year-end** | **25** | **29** |

| | Co. reg. no. | Registered office | Number of participations | Percentage share | Value of equity share in the Group |
|---|---|---|---|---|---|
| Indirectly owned | | | | | |
| KIP Service OY | 2240650-3 | Kokkola | 3,280 | 46 | 9 |
| Aitik EcoBallast AB in liquidation | 556726-2299 | Gällivare | 500 | 50 | 16 |
| KB Aitik EcoBallast in liquidation | 969731-9748 | Gällivare | 1,000 | 50 | – |
| | | | | | **25** |

## Note 17 Tax

| Current tax expenses | 2018 | 2017 |
|---|---|---|
| Tax expenses for the period | –1,719 | –1,769 |
| Adjustment of tax attributable to previous years | –61 | 19 |
| | **–1,780** | **–1,750** |
| **Deferred tax expenses (–) /tax income (+)** | | |
| Deferred tax income/tax expenses in respect of temporary differences | 91 | –3 |
| Revaluation of deferred tax due to a change in the taxation rate | 127 | – |
| Deferred tax income in fiscal value capitalised during the year in loss carry forward deductions | – | 21 |
| Deferred tax expense resulting from the utilisation of previously capitalised fiscal value in loss carry forward deductions | – | –149 |
| | **218** | **–131** |
| **Total reported tax expenses (–) /tax income (+)** | **–1,562** | **–1,881** |
| **Reconciliation of effective tax** | | |
| Reported profit before tax | 8,763 | 8,737 |
| Tax according to current taxation rate | –1,902 | –1,907 |
| Fiscal effect of non-deductible expenses | –7 | –18 |
| Fiscal effect of non-taxable income | 1 | 2 |
| Deductible costs not reported in the Income Statement | 215 | – |
| Market valuation of deferred tax assets | –2 | 2 |
| Capitalised fiscal value in loss carry forward deductions | – | 21 |
| Utilised non-capitalised loss carry forward deductions | 67 | – |
| Revaluation effect due to a change in the taxation rate | 127 | – |
| Adjustment of tax attributable to previous years | –61 | 19 |
| **Total reported tax expenses** | **–1,562** | **–1,881** |

Tax expenses comprise 17.8% (21.5) of the Group's pre-tax profit. The anticipated tax expense for 2018 of 21.7% (21.8) has been calculated given the current Group structure and applicable taxation rates in the respective countries. The lower tax effect can, to some extent, be explained by the revaluation effect of a reduction in the taxation rate in Sweden (from 22% to 21.4% from 2019, and to 20.6% in 2021) and in Norway (from 23% to 22% from 2019) and that non-capitalised loss carry forward deductions could be utilised. Changes in the way maximum fiscal depreciation is treated also had a positive effect on the Group's effective tax.

**Deferred tax assets/tax liability**
The tax assets reported in the Balance Sheet and the provision for deferred tax relates to the following assets and liabilities.

| | 31-12-2018 | | | 31-12-2017 | | |
|---|---|---|---|---|---|---|
| **Group** | **Deferred tax assets** | **Deferred tax liability** | **Net** | **Deferred tax assets** | **Deferred tax liability** | **Net** |
| Intangible assets | 20 | –6 | 14 | 5 | –1 | 4 |
| Buildings and land | 195 | –114 | 81 | 133 | –105 | 28 |
| Machinery and fixtures and fittings | 6 | –2,779 | –2,773 | 1 | –2,892 | –2,891 |
| Deferred mining costs | 54 | –97 | –43 | 39 | –142 | –103 |
| Other property, plant and equipment | 1 | –5 | –4 | 24 | –5 | 19 |
| Inventories | 22 | –348 | –327 | 52 | –329 | –277 |
| Long-term liabilities | 245 | 2 | 247 | 228 | –40 | 188 |
| Current liabilities | – | – | – | 2 | –1 | 1 |
| **Total** | **544** | **–3,348** | **–2,804** | **484** | **–3,515** | **–3,031** |
| Offset within companies | –408 | 408 | – | –426 | 426 | – |
| **Total deferred tax assets/tax liability** | **136** | **–2,941** | **–2,804** | **58** | **–3,089** | **–3,031** |

**Change in deferred tax in respect of temporary differences and tax losses carried forward**

| Group 2018 | Amount at the beginning of the year | Reported in the Income Statement | Reported in the Other comprehensive income | Translation difference | Amount at year-end |
|---|---|---|---|---|---|
| Intangible assets | 4 | 10 | – | – | 14 |
| Buildings and land | 28 | 51 | – | 2 | 81 |
| Machinery and fixtures and fittings | –2,891 | 126 | –2 | –7 | –2,774 |
| Deferred mining costs | –103 | 66 | – | –6 | –43 |
| Other property, plant and equipment | 19 | –24 | – | 1 | –4 |
| Inventories | –277 | –49 | – | – | –326 |
| Long-term liabilities | 188 | 40 | 31 | –12 | 247 |
| Current liabilities | 1 | –1 | – | – | – |
| **Total** | **–3,031** | **218** | **29** | **–21** | **–2,804** |

**Change in deferred tax in respect of temporary differences and tax losses carried forward**

| Group 2017 | Amount at the beginning of the year | Reported in the Income Statement | Reported in the Other comprehensive income | Translation difference | Amount at year-end |
|---|---|---|---|---|---|
| Intangible assets | – | 4 | – | – | 4 |
| Buildings and land | –40 | 74 | – | –6 | 28 |
| Machinery and fixtures and fittings | –2,765 | –129 | –2 | 5 | –2,891 |
| Deferred mining costs | –227 | 128 | – | –4 | –103 |
| Other property, plant and equipment | –100 | 119 | – | – | 19 |
| Inventories | –336 | 59 | – | – | –277 |
| Long-term liabilities | 386 | –214 | 23 | –7 | 188 |
| Current liabilities | 20 | –19 | – | – | 1 |
| Tax losses carried forward | 152 | –153 | – | 1 | – |
| **Total** | **–2,910** | **–131** | **21** | **–11** | **–3,031** |

**Tax losses carried forward**
Unutilised tax losses carried forward for which deferred tax assets have not been reported totalled SEK 75 m (107) in Canada on 31 December 2018, which will mature between 2030 and 2037. It is considered unlikely that the loss can be offset against future surpluses as no operations are conducted in Canada.

**Tax paid by country**

| | 2018 | 2017 |
|---|---|---|
| Sweden | 1,770 | 788 |
| Finland | 299 | 305 |
| Ireland | 159 | 287 |
| Norway | 56 | 74 |
| Other | 1 | 3 |
| | **2,286** | **1,457** |

## Note 18 Inventories

| | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Raw materials and consumables | 5,666 | 5,079 |
| Goods under manufacture | 2,908 | 2,710 |
| Finished goods and tradable goods | 1,784 | 1,712 |
| | **10,358** | **9,500** |

## Note 19 Trade and other receivables

On 31 December 2018, trade and other receivables falling due for payment in more than 30 days totalled SEK 10 m (18), corresponding to 0.5% (1.0) of the total trade and other receivables. The maturity structure is shown in the following table:

| | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Trade and other receivables, not due | 1,755 | 2,031 |
| Overdue: 0–30 days | 99 | 275 |
| Overdue: 31–60 days | 2 | 13 |
| Overdue: 61–90 days | 7 | 4 |
| Overdue: >90 days | 1 | 1 |
| | **1,864** | **2,324** |

The majority of the Group's trade and other receivables relate to European customers. Trade and other receivables in foreign currencies have been valued at the closing day rate. Note 2, Information per business segment and geographical market shows the breakdown of revenues by geographical area. Boliden applies the simplified method for reporting anticipated credit losses on trade and other receivables. The impairment requirement on every closing day is evaluated on the basis of anticipated credit losses, which constitutes an assessment that reflects an objective and probability-weighted result, based on reasonable and verifiable data. Trade and other receivables are only written down to a minor extent and doubtful receivables total only small amounts. Confirmed bad debt losses are insignificant.

For information on the management of credit risks, see the section entitled Credit risks in trade and other receivables on page 59 that forms part of the Risk management section of the Directors' Report.

## Note 20 Other current receivables

| | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Energy tax | 316 | 245 |
| Other prepaid expenses and accrued income | 156 | 164 |
| VAT recoverable | 413 | 673 |
| Other current receivables | 350 | 206 |
| | **1,235** | **1,288** |

## Note 21 Related Party Disclosures

**Relationships**
The Parent Company's directly owned subsidiaries are reported in Note 15, Participations in Subsidiaries, while its participations in associated companies are reported in Note 16, Participations in Associated companies. Information regarding the Members of the Board and Group management, and the remuneration paid to the same, is presented in Note 4, Employees and personnel costs and in the Corporate Governance Report on pages 66–68.

**Transactions**
No Member of the Board or senior executive in the Group participates or has participated, directly or indirectly, in any business transactions during the current or previous financial year between themselves and the Group which are or were unusual in nature with regard to their terms. Nor has the Group granted loans, issued guarantees or provided sureties to any of the Members of the Board or senior executives of the Company. The Parent Company, Boliden AB, has received a dividend totalling SEK 6,000 m (3,000).

## Note 22 Equity

| Share capital | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Opening number of shares | 273,511,169 | 273,511,169 |
| Stock split 2:1, 31 May 2018 | 273,511,169 | – |
| Redemption, 15 June 2018 | –273,511,169 | – |
| **Closing number of shares** | **273,511,169** | **273,511,169** |
| Nominal value, SEK | 578,914,338 | 578,914,338 |
| Nominal value per share | 2.12 | 2.12 |

| Equity, SEK m | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Share capital | 579 | 579 |
| Total equity | 39,011 | 35,053 |
| Equity attributable to the owners of the Parent Company | 39,000 | 35,044 |
| Equity per share, SEK | 142.59 | 128.13 |

| Earnings per share | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Net profit for the year attributable to the owners of the Parent Company, SEK m | 7,198 | 6,854 |
| Average number of shares, basic and diluted | 273,511,169 | 273,511,169 |
| Number of own shares held | – | – |
| **Earnings per share, SEK** | **26.32** | **25.06** |

**Equity**
The Articles of Association for Boliden AB state that the share capital shall comprise a minimum of SEK 200 m and a maximum of SEK 800 m. The share capital comprises a single class of share.

There are no potential shares and hence no dilution effect.

The Annual General Meeting of the Company's shareholders held on 27 April 2018 resolved to pay a dividend of SEK 8.25 per share, equivalent to a total payment of SEK 2,256,467,144. An automatic share redemption procedure was simultaneously approved whereby each share would be divided into one ordinary share and one redemption share. The redemption share was then automatically redeemed for SEK 5.75 per share, equivalent to a total payment of SEK 1,573 m.

Boliden's Board of Directors will propose to the Annual General Meeting that a dividend of SEK 8.75 (8.25) per share be paid, equivalent to a total of SEK 2,393,222,729. Boliden's dividend policy stipulates that approximately one third of the net profit after tax shall be disbursed in the form of dividends.

The Board of Directors of Boliden also proposes that the Annual General Meeting approve an automatic share redemption procedure whereby every share is divided into one ordinary share and one redemption share. The redemption share will then automatically be redeemed for SEK 4.25 (5.75) per share, corresponding to a total of SEK 1,162 m.

This, in combination with the proposed ordinary dividend, will, subject to the approval of the AGM, mean that shareholders receive SEK (13.00) 14.00 per share, corresponding to a total of SEK 3,556 m.

**Earnings per share**
Earnings per share are calculated by dividing the profit for the period attributable to the owners of the Parent Company by the average number of shares.

**Asset management**
Boliden's managed assets comprise equity. Consolidated equity is presented on page 73, along with a description of the content of the various capital categories. There are no other external capital requirements than those mandated in the Swedish Companies Act.

Boliden monitors its capital structure with the aid of the net debt/equity ratio, amongst other things. The net debt/equity ratio is calculated as the net of interest-bearing provisions and liabilities minus financial assets including cash and cash equivalents divided by equity.

See page 10 for details of Boliden's dividend policy and net debt target.

## Note 23 Provisions for pensions and similar undertakings

Boliden has established pension plans in the countries in which the company operates. The pension plans include both defined benefit and defined contribution plans. The defined benefit plans provide the employee with a fixed amount of their final salary in conjunction with retirement. Boliden's defined benefit plans are mainly operated in Sweden and Ireland, with a very small number also operated in Norway and Finland. The defined contribution plans comply with local regulations in the respective countries. Boliden has defined contribution plans in Sweden, Ireland, Finland and Norway.

**Sweden**
Boliden's pension undertakings in Sweden are not invested in funds. The pension undertakings are secured through the Swedish PRI/FPG system and through insurance companies. The majority of the pension undertakings for salaried employees are secured through insurances with Alecta and are lifelong retirement pensions. The benefits offered by the lifelong pensions are determined using different percentages for different salary intervals. Alecta has not provided sufficient information for 2018 for the ITP plan (supplementary pensions for salaried employees) to be reported as a defined benefit plan, and it is consequently reported in accordance with UFR 10 as a defined contribution plan. A surplus in Alecta can be allocated to the policyholders and/or those insured. At the end of the year, Alecta's collective consolidation level was 142% (154). The collective consolidation level comprises the market value of Alecta's assets as a percentage of the insurance undertakings calculated in accordance with Alecta's actuarial calculation assumptions, which do not correspond with those of IAS 19. Boliden's pension undertakings account for only a very small percentage of Alecta's insurance undertakings. There are, in addition to the ITP plan, a few previously earned temporary retirement pensions within Boliden.

"Gruvplanen" (GP) is a pension agreement for underground workers. The plan grants underground workers entitlement to receive a pension between the ages of 60 and 65 and between 65 and 70 under certain preconditions based on an average income. The "Gruvplanen" plan was closed to new earners in 2011 and replaced by a defined contribution pension plan (GLP). The commitments change from vesting to non-vesting in conjunction with retirement.

**Ireland**
The pension undertaking is secured by the transfer of funds to four defined benefit plans and one defined contribution plan. The defined benefit plans are closed to new employees. The pension plans are controlled by the Irish Pensions Board and Irish Pensions Legislation. All defined benefit plans are invested in funds. The largest defined benefit plan and the defined contribution pension plan have Board Members from both the company and the members. Boliden has appointed the Irish Pension Trust to manage the other defined benefit plans.

The financial position of the pension plans is reviewed every three years by an actuary in order to determine the requisite financing level. When a pension plan is deemed to be in deficit, which is currently the case for the four defined benefit plans, a financing proposal must be submitted to the Irish Pension Board in order to demonstrate how the deficit will be cleared. The actuary also ensures that Boliden receives annual reports on the financial position in accordance with accounting requirements. Payments are made to all five plans through a combination of contributions from both Boliden and employees in accordance with employment contracts. No other deposits are made.

The Board of the pension plans is responsible for investments in plan assets. The majority of the shares are invested in companies operating in the health care, financial services and raw materials sectors that are based in North America (59%) and Europe (30%), and which are measured against sector indices and other benchmarks. Some of the assets are invested in index funds. A significant share of the assets, 78%, is invested in European government bonds in order to reduce the risk. Cash and cash equivalents are held in order to facilitate pension disbursements.

**Norway**
The pension undertaking is primarily secured by means of defined contribution pension plans in that Boliden wound up the majority of the defined benefit plans in 2012. The defined benefit plan only comprises the operations manager. Other employees in Norway are covered by a defined contribution plan that covers all employees and a contractual early retirement pension (AFP) with supplementary benefits from the ages of 62 to 67.

**Events during the year**
The current value of Boliden's pension undertaking is slightly higher than last year's level (recalculated), largely due to the effect of amended assumptions.

The Group's reported pension liability totals SEK 967 m (943), which includes endowment insurance and similar undertakings totalling SEK 102 m (104) in respect of defined contribution pension plans in Sweden.

**Actuarial assumptions during the year**
Costs, undertakings and other factors in pension plans are calculated by means of the Projected Unit Credit Method, using the assumptions shown in the table below.

The discount rate is established for every geographical market with reference to the market return on company bonds on the closing day. In Sweden, where there is no functioning market for such bonds, the market return on housing bonds has been used and a premium for a longer term added, based on the duration of the pension undertakings.

The financing cost of the net pension liability is calculated using the discount rate and is reported under Boliden's net financial item.

| | Sweden | | Ireland | | Other | |
|---|---|---|---|---|---|---|
| **Actuarial assumptions (weighted averages)** | **2018** | **2017** | **2018** | **2017** | **2018** | **2017** |
| Discount rate, % | 2.50 | 2.60 | 1.85 | 1.70 | 1.5–2.6 | 1.3–2.6 |
| Future pay increases, % | 2.50 | 2.50 | 1.75 | 1.75 | 1.8–2.75 | 2.3–2.5 |
| Future pension increases, % | 2.0 | 1.75 | 1.75 | 1.75 | 18 | 1.50 |
| **Life expectancy** | | | | | | |
| Women | 89 | 89 | 89 | 90 | 90 | 90 |
| Men | 87 | 87 | 87 | 88 | 86 | 86 |

| | Sweden | | Ireland | | Other | | Total | |
|---|---|---|---|---|---|---|---|---|
| **Specification of provisions for pensions** | **2018** | **2017** | **2018** | **2017** | **2018** | **2017** | **2018** | **2017** |
| **Pension undertaking at the beginning of the year** | **797** | **766** | **30** | **51** | **13** | **14** | **840** | **831** |
| Defined benefit plan costs | 56 | 52 | 13 | 5 | 9 | 9 | 79 | 66 |
| Revaluations recognised in Other comprehensive income | 31 | 20 | –13 | –8 | 8 | – | 26 | 12 |
| Payments and disbursements | –42 | –40 | –19 | –18 | –8 | –7 | –70 | –66 |
| Translation differences | – | – | 1 | 1 | –9 | –2 | –8 | –2 |
| **Pension undertaking at the end of the year[1)]** | **840** | **797** | **12** | **30** | **13** | **13** | **865** | **840** |
| Endowment insurance and similar undertakings | 102 | 104 | – | – | – | – | 102 | 104 |
| **Net debt, as per Balance Sheet[2)]** | **941** | **901** | **12** | **30** | **13** | **13** | **967** | **943** |
| **Specification of provisions for pensions, as per 31 December** | | | | | | | | |
| Pension undertakings, funded | – | – | 289 | 272 | 23 | 23 | 312 | 294 |
| Pension undertakings, unfunded | 840 | 797 | – | – | 6 | 8 | 846 | 805 |
| Fair value of plan assets | – | – | –277 | –243 | –16 | –17 | –293 | –260 |
| **Pension undertakings** | **840** | **797** | **12** | **30** | **13** | **13** | **865** | **839** |
| Endowment insurance and similar undertakings | 102 | 104 | – | – | – | – | 102 | 104 |
| **Net debt, as per Balance Sheet** | **941** | **901** | **12** | **30** | **13** | **13** | **967** | **943** |
| **Specification of costs** | | | | | | | | |
| **Cost of defined benefit plans** | | | | | | | | |
| Current service cost | 36 | 35 | 11 | 2 | 8 | 9 | 55 | 46 |
| Interest expense on undertaking | 19 | 17 | 5 | 4 | 1 | – | 24 | 22 |
| Interest income from plan assets | – | – | –4 | –3 | – | – | –4 | –3 |
| Special payroll tax and other tax | 1 | 0 | – | – | – | – | 1 | 0 |
| Administrative costs and premiums paid | – | – | 2 | 2 | 1 | – | 3 | 2 |
| **Total cost of defined benefit plans** | **56** | **52** | **13** | **5** | **9** | **9** | **79** | **66** |
| Cost of defined contribution plans | 61 | 53 | 46 | 68 | 188 | 165 | 293 | 286 |
| **Total pension costs** | **117** | **105** | **59** | **73** | **197** | **174** | **373** | **352** |

[1)] Undertakings in Sweden include undertakings in accordance with PRI/FGI totalling SEK 581 m (501), undertakings for underground workers totalling SEK 177 m (212), and other undertakings totalling SEK 0 m (1).

[2)] The pension liability reported in the Balance Sheet includes not only the defined benefit pension undertaking and endowment insurance but also special payroll tax in Sweden.

| | Sweden | | Ireland | | Other | | Total | |
|---|---|---|---|---|---|---|---|---|
| **Reconciliation of pension undertaking** | **2018** | **2017** | **2018** | **2017** | **2018** | **2017** | **2018** | **2017** |
| Present value of undertakings at the beginning of the year | 797 | 766 | 272 | 283 | 30 | 30 | 1,099 | 1,079 |
| Reclassifications | – | – | 24 | – | – | – | 24 | – |
| Current service cost | 36 | 35 | 11 | 2 | 8 | 9 | 55 | 46 |
| Interest expense on undertaking | 19 | 17 | 5 | 4 | 1 | – | 24 | 22 |
| Special payroll tax | 1 | 0 | – | – | – | – | 1 | 0 |
| Fees from plan participants | – | – | 0 | 0 | – | – | 0 | 0 |
| Revaluation of defined benefit pension liability recognised in Other comprehensive income | 31 | 20 | –19 | –2 | 5 | – | 17 | 18 |
| *of which profit/loss as a result of financial assumptions* | *30* | *8* | –5 | *–4* | 3 | – | *28* | *4* |
| *of which profit/loss as a result of experience-based assumptions* | *1* | *12* | –14 | *2* | 2 | – | –11 | *14* |
| Disbursements made | –42 | –40 | –15 | –18 | –8 | –7 | –66 | –66 |
| Translation differences | – | – | 12 | 4 | *–5* | –2 | 7 | 1 |
| **Present value of undertakings at the end of the year** | **840** | **797** | **289** | **272** | **30** | **30** | **1,160** | **1,099** |
| **Endowment insurance and similar undertakings** | **102** | **104** | **–** | **–** | **–** | **–** | **102** | **104** |
| *of which amounts attributable to active employees* | *480* | *487* | *69* | *35* | *21* | *21* | *571* | *543* |
| *of which amounts attributable to holders of paid up policies* | *196* | *175* | *10* | *10* | *–* | *–* | *206* | *184* |
| *of which amounts attributable to retired employees* | *260* | *235* | *210* | *227* | *9* | *9* | *480* | *471* |
| **Reconciliation of plan assets** | | | | | | | | |
| Fair value of plan assets at the beginning of the year | – | – | 243 | 232 | 17 | 16 | 260 | 248 |
| Reclassifications | – | – | 9 | – | – | – | 9 | – |
| Interest income on plan assets | – | – | 4 | 3 | – | – | 4 | 3 |
| Return on plan assets excluding amounts included in net interest items recognised in Other comprehensive income | – | – | –7 | 6 | *–3* | – | –10 | 6 |
| Fees from the employer excluding disbursements in conjunction with terminations | – | – | 34 | 18 | – | – | 34 | 18 |
| Fees from plan participants | – | – | 0 | 0 | – | – | 0 | 0 |
| Disbursements made | – | – | –15 | –18 | – | – | –15 | –18 |
| Administrative costs, tax and premiums paid | – | – | –2 | –2 | – | – | –2 | –2 |
| Translation differences | – | – | 11 | 5 | 2 | 1 | 13 | 6 |
| **Fair value of plan assets at the end of the year** | **–** | **–** | **277** | **243** | **16** | **17** | **293** | **260** |
| **Net debt, as per Balance Sheet**[1] | | | | | | | **967** | **943** |

[1] Including endowment insurance and similar undertakings totalling SEK 102 m (104).

| **Specification of plan assets** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Listed shares and participations | – | – | 57 | 105 | – | – | 57 | 105 |
| Interest-bearing securities | – | – | 217 | 133 | – | – | 217 | 133 |
| Cash and cash equivalents | – | – | 3 | 1 | – | – | 3 | 1 |
| Other | – | – | 1 | 3 | 16 | 17 | 17 | 20 |
| | **–** | **–** | **277** | **243** | **16** | **17** | **293** | **260** |

| Sensitivity analysis of the effect on the defined benefit pension liability (+increase/–decrease in pension liability) | | | Sweden | Ireland | Total |
|---|---|---|---|---|---|
| Significant actuarial assumptions | | | | | |
| Discount rate, % | | +0.5 | –59 | –16 | –75 |
| | | –0.5 | 68 | 18 | 86 |
| Pay increases, % | | +0.5 | 50 | 5 | 55 |
| | | –0.5 | –42 | –5 | –47 |
| Increased life expectancy, years | Men | +1 | 22 | 10 | 32 |
| | Women | +1 | –22 | 0 | –22 |

The sensitivity analysis has been conducted on the basis of the above mentioned actuarial changes as Boliden is of the opinion that they can have a substantial impact on the pension liability. It is also likely that changes to these assumptions will be made. The calculations have been performed by means of the analysis of each change individually and the calculations have not taken into account any interdependence between the assumptions. No sensitivity analyses have been conducted for Norway and Finland as the amounts in question are insignificant. Other countries do not have any defined benefit pension liabilities.

| Defined benefit pension liability terms | Sweden | Ireland | Other | Total |
|---|---|---|---|---|
| Benefits scheduled for disbursement within 12 months | 46 | 15 | 3 | 63 |
| Benefits scheduled for disbursement within 1–5 years | 184 | 62 | 8 | 254 |
| Benefits scheduled for disbursement after 5 years or more | 706 | 482 | 27 | 1,215 |

The maturity of plan assets in Ireland have reduced anticipated payments after 5 years or more. The weighted average duration of the defined benefit pension liability is 16 years for Sweden and 11 years for Ireland.

## Note 24 Other provisions

| | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Reclamation costs | 4,016 | 3,123 |
| Other | 16 | 14 |
| | **4,032** | **3,137** |
| **Of which:** | | |
| Long-term | 3,898 | 2,911 |
| Short-term | 134 | 226 |
| | **4,032** | **3,137** |

**Reclamation costs**
Provisions for reclamation costs are made on the basis of an assessment of future costs based on current technology and other conditions. Provision has been made for the current value of estimated reclamation undertakings in accordance with IAS 37 and IFRIC 1. Gradual reclamation is preferable, although most of the reclamation work is carried out after a decision to decommission. In historical terms, Boliden has succeeded in extending the useful life of its mining assets compared with the original plans. Reclamation provisions are reviewed on an ongoing basis. Additions to existing provisions are primarily attributable to a new ruling by the Land and Environmental Court regarding the future reclamation of the Aitik mine. Customary reviews of reclamation requirements have also contributed to the increase.

| | 2018 | | | 2017 | | |
|---|---|---|---|---|---|---|
| Group | Reclamation costs | Other | Total | Reclamation costs | Other | Total |
| Book value at the beginning of the year | 3,123 | 14 | 3,137 | 2,873 | 18 | 2,891 |
| Additions to existing provisions | 1,002 | 5 | 1,007 | 280 | 8 | 289 |
| Reversal of existing provisions | –27 | – | –27 | –34 | –8 | –42 |
| Payments | –193 | –3 | –196 | –74 | –5 | –79 |
| Discount effect for the period | 70 | 0 | 70 | 56 | 0 | 56 |
| Translation difference | 42 | 0 | 42 | 22 | 0 | 22 |
| **Book value at year-end** | **4,016** | **16** | **4,032** | **3,123** | **14** | **3,137** |
| Anticipated date of outflow of resources: | | | | | | |
| Within one year | 134 | 0 | 134 | 217 | 9 | 226 |
| Between one and two years | 208 | 10 | 218 | 173 | 0 | 173 |
| Between three and five years | 324 | 0 | 325 | 261 | 1 | 262 |
| More than five years | 3,350 | 5 | 3,355 | 2,472 | 5 | 2,477 |
| | **4,016** | **16** | **4,032** | **3,123** | **14** | **3,137** |

## Note 25 Risk information

See the section entitled "Risk management" in the Directors' Report on pages 56–59 for a description of Boliden's financial risks. The amounts reported refer to the Group.

## Note 26 Financial liabilities and maturity structure

| | Financial liabilities | | | Maturity structure[2] | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 31-12-2018<br>SEK m | Currency | Interest[1], % | Reported amount | 2019 | 2020 | 2021 | 2022 | 2023 | 2024+ |
| Bilateral loans | EUR | 0.93 | 1,695 | 229 | 168 | 108 | 107 | 323 | 807 |
| Bilateral loans | SEK | 1.61 | 1,166 | 15 | 19 | 582 | 9 | 9 | 609 |
| Bond[3] | SEK | 1.90 | 500 | 10 | 510 | | | | |
| Leasing, other | | | 2 | 2 | | | | | |
| Trade and other payables | | | 5,106 | 5,106 | | | | | |
| Derivative instruments | | | 34 | 34 | | | | | |
| **Total** | | | **8,503** | **5,396** | **697** | **690** | **116** | **332** | **1,416** |

| | Financial liabilities | | | Maturity structure[2] | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 31-12-2017<br>SEK m | Currency | Interest[1], % | Reported amount | 2018 | 2019 | 2020 | 2021 | 2022 | 2023+ |
| Bilateral loans | EUR | 1.43 | 1,338 | 812 | 211 | 153 | 95 | 94 | |
| Bilateral loans | SEK | 1.79 | 561 | 22 | 10 | 10 | 553 | | |
| Bond[3] | SEK | 1.90 | 500 | 10 | 10 | 503 | | | |
| Term loan | EUR/SEK | 1.20 | 2,417 | 29 | 29 | 2,429 | | | |
| Commercial papers[3] | SEK | 0.41 | 519 | 522 | | | | | |
| Leasing, other | | | 8 | 5 | 3 | | | | |
| Trade and other payables | | | 4,426 | 4,426 | | | | | |
| Derivative instruments | | | 92 | 92 | | | | | |
| **Total** | | | **9,861** | **5,917** | **263** | **3,094** | **648** | **94** | **–** |

[1] Weighted interest including interest swaps.

[2] The duration analysis includes gross flows of loans and interest, including flows from interest swaps.

[3] Outstanding commercial papers and bonds are officially reported under the Group's Parent Company, Boliden AB.

**Loan portfolio**

Boliden has a number of utilised long-term loans from Swedish, Nordic and European institutions which, on 31 December 2018, totalled SEK 2,861 m (1,899) and which mature between 2019 and 2026. A term loan for EUR 620 m that was raised in conjunction with the acquisition of Kevitsa in 2016 was amortised in full in 2018. A corporate bond for SEK 500 m issued on the Swedish capital market in 2014 matures in 2020. Boliden also has syndicated credit facilities totalling EUR 362 m and EUR 408 m that mature in 2021 and 2023, respectively. The utilised component of the syndicated credit facilities totalled SEK 0 m (0) on 31 December 2018. SEK 0 m (519) of Boliden's commercial papers programme, with a framework of SEK 4,000 m, remained outstanding on 31 December 2018. An MTN programme with a framework of SEK 3,000 m drawn up in 2018 had SEK 0 m outstanding on 31 December 2018. The average term of the loan facilities on 31 December 2018 was 3.5 years (2.4) and the debt portfolio's average interest rate was 1.32% (1.31). The fixed interest term of outstanding loans, including interest swaps entered into, totalled 0.9 years (0.5) on 31 December 2018. The above maturity analysis includes interest flows from interest swaps. Boliden's current liquidity in the form of cash and cash equivalents and unutilised credit facilities with a term in excess of one year totalled SEK 9,964 m (8,768) on 31 December 2018. The maturity structure for the financial liabilities, including interest payments and accrued interest on derivatives, includes the undiscounted cash flows that derive from the Group's liabilities, based on the contracted remaining durations. Loan maturity has been calculated at the applicable exchange rate in conjunction with the year-end accounts. Interest maturity, including interest swaps, has been calculated on the basis of the applicable closing interest rates.

## Note 27 Financial derivative instruments

Boliden uses financial derivative instruments to manage currency rate risks, raw material price risks, and interest rate risks arising within its operations.

| Outstanding financial derivative instruments, SEK m | 31-12-2018 Nominal amount | 31-12-2018 Fair value | 31-12-2017 Nominal amount | 31-12-2017 Fair value |
|---|---|---|---|---|
| **Transaction exposure (binding undertakings)[1)]** | | | | |
| Currency futures | –3,842 | 47 | –4,583 | 7 |
| Raw material derivatives | 208 | 70 | –28 | 44 |
| **Transaction exposure (forecasted cash flows)[1)]** | | | | |
| Currency futures | 30 | 0 | 163 | –2 |
| Interest derivatives | –1,789 | 2 | –1,661 | 1 |
| **Total** | | **120** | | **49** |

[1)] Find out more about the Group's transaction exposure and Risk management on page 57.

| Hedge accounting, SEK m | 2018 | 2017 |
|---|---|---|
| **Hedging of fair value** | | |
| – Changes in value of hedging instruments in respect of binding undertakings | –727 | –789 |
| – Change in value of hedged item | 727 | 789 |
| Ineffectiveness of fair value hedging | – | – |
| Ineffectiveness of cash flow hedging | – | – |
| Ineffectiveness of hedging net investments in overseas operations | – | – |
| **Total ineffectiveness** | **0** | **0** |

The effect of effective cash flow hedging with regard to Transaction exposure on the result for 2018 totals SEK –4 m (–31), which refers to interest swaps.

**Offsetting of financial assets and liabilities**

| | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Gross amount for financial assets | 216 | 235 |
| Amount offset in Balance Sheet | –62 | –93 |
| Net asset reported in Balance Sheet | 154 | 141 |
| Amount comprised by offsetting in conjunction with insolvency, etc. | –24 | –30 |
| **Net asset** | **130** | **111** |

| | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Gross amount for financial liabilities | 97 | 185 |
| Amount offset in Balance Sheet | –62 | –93 |
| Net liability reported in Balance Sheet | 34 | 92 |
| Amount comprised by offsetting in conjunction with insolvency, etc. | –24 | –30 |
| **Net liability** | **10** | **62** |

## Note 28 Other current liabilities

| | 31-12-2018 | 31-12-2017 |
|---|---|---|
| Accrued salaries and social security expenses | 879 | 591 |
| Accrued interest expenses | 0 | 6 |
| Other accrued costs and prepaid income | 1,337 | 1,546 |
| Other operating liabilities | 374 | 490 |
| | **2,590** | **2,633** |

## Note 29 Financial assets and liabilities by valuation category

| 31-12-2018 | Valuation hierarchy | Amortised cost | Fair value through profit or loss | Derivatives (hedge accounting) | Total reported value | Total fair value |
|---|---|---|---|---|---|---|
| **ASSETS** | | | | | | |
| **Financial assets** | | | | | | |
| Other shares and participations | 3 | | 18 | | 18 | 18 |
| **Current assets** | | | | | | |
| ***Current receivables*** | | | | | | |
| Trade and other receivables | | 1,864 | | | 1,864 | 1,864 |
| Derivative instruments | 2 | | 51 | 103 | 154 | 154 |
| Cash and cash equivalents | | 2,272 | | | 2,272 | 2,272 |
| **Total financial assets** | | **4,136** | **69** | **103** | **4,308** | **4,308** |
| **LIABILITIES** | | | | | | |
| **Long-term liabilities** | | | | | | |
| Liabilities to credit institutions | 2 | 3,145 | | | 3,145 | 3,149 |
| **Current liabilities** | | | | | | |
| Liabilities to credit institutions | 2 | 216 | | | 216 | 216 |
| Trade and other payables | | 5,106 | | | 5,106 | 5,106 |
| Derivative instruments | 2 | | 19 | 15 | 34 | 34 |
| **Total financial liabilities** | | **8,467** | **19** | **15** | **8,501** | **8,505** |

Boliden's financial instruments, which are reported at fair value in the Balance Sheet, are classified as level two in the Fair value hierarchy (see Accounting principles), with the exception of a small amount in other shares and participations that are classified as level three. The fair value of liabilities to credit institutions is calculated as discounted contractually agreed amortisations and interest payments at estimated market interest rates. The interest covenants of existing loan agreements were, on 31 December 2018, assessed to be in line with credit market interest rates, and the fair value therefore corresponds, in every significant respect, to the reported value.

The reported value of trade and other receivables and trade and other payables is held to be the same as the fair value due to the short term to maturity, to the fact that provision has been made for bad debts, and to the fact that any penalty interest will be debited.

| 31-12-2017 | Valuation hierarchy | Amortised cost | Fair value through profit or loss | Derivatives (hedge accounting) | Total reported value | Total fair value |
|---|---|---|---|---|---|---|
| **ASSETS** | | | | | | |
| **Financial assets** | | | | | | |
| Other shares and participations | 3 | | 30 | | 30 | 30 |
| **Current assets** | | | | | | |
| ***Current receivables*** | | | | | | |
| Trade and other receivables | | 2,326 | | | 2,326 | 2,326 |
| Derivative instruments | 2 | | 26 | 115 | 141 | 141 |
| Cash and cash equivalents | | 2,510 | | | 2,510 | 2,510 |
| **Total financial assets** | | **4,835** | **56** | **115** | **5,007** | **5,007** |
| **LIABILITIES** | | | | | | |
| **Long-term liabilities** | | | | | | |
| Liabilities to credit institutions | 2 | 4,004 | | | 4,004 | 4,017 |
| **Current liabilities** | | | | | | |
| Liabilities to credit institutions | 2 | 1,331 | | | 1,331 | 1,331 |
| Trade and other payables | | 4,426 | | | 4,426 | 4,426 |
| Derivative instruments | 2 | | 22 | 70 | 92 | 92 |
| **Total financial liabilities** | | **9,761** | **22** | **70** | **9,853** | **9,866** |

## Note 30 Pledged assets and contingent liabilities

| | Group | | Parent Company | |
|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 |
| **Pledged assets** | | | | |
| For own liabilities and provisions | None | None | None | None |
| **Contingent liabilities** | | | | |
| Parent Company sureties | – | – | 3,437 | 5,368 |
| Other sureties and guarantees | 3,769 | 3,673 | 1 | 1 |
| Pension liabilities | 6 | 6 | – | – |
| Agreed residual values according to leasing contracts | 11 | 9 | – | – |
| | **3,786** | **3,688** | **3,438** | **5,369** |

The Parent Company sureties refer to guarantees issued for subsidiaries. SEK 3,437 m (5,368) refers to Parent Company sureties for external financial borrowing. Parent Company sureties in the above table have been booked in the utilised amounts. Guarantees in respect of unutilised credits total SEK 7,912 m (7,584).

Other surety undertakings and guarantees refer primarily to counter undertakings issued by Boliden to banks or other lenders. These have, in turn, with regard to states or authorities, guaranteed Boliden's proper completion of reclamation undertakings.

The possibility exists, in addition to the above specifications under the heading of contingent liabilities and the items included in the financial information, that the Group may incur environmentally-related contingent liabilities or contingent liabilities attributable to legal proceedings and claims which cannot be currently calculated but which may, in future, entail costs or investments.

**Legal proceedings**

**Overview**

Boliden conducts extensive domestic and international operations and is occasionally involved in disputes and legal proceedings arising in the course of these operations. These disputes and legal proceedings are not expected, either individually or collectively, to have any significant negative impact on Boliden's operating profits, profitability or financial position, over and above that detailed below.

**Disputes**

**Disputes arising from the dam accident in Spain**

In April 1998, a dam accident occurred in a tailings pond at the Los Frailes mine in Spain, which was then owned by Boliden's subsidiary, Boliden Apirsa S.L. ("Apirsa"). Following the dam accident, preliminary investigations in a criminal case were initiated against Apirsa and its representatives. In December 2000, the investigations were closed. The criminal proceedings determined that the accident was caused by design and construction errors in the dam, not by Apirsa's operations at the mine. The outcome of the criminal proceedings notwithstanding, the Spanish Ministry of the Environment declared Apirsa liable to pay an amount corresponding to approximately EUR 45 m in clean-up costs, damages and fines. This resulted, in January 2005, in Apirsa initiating insolvency proceedings in order to ensure a coordinated and orderly closure of the company. The receivers in bankruptcy have, within the framework of the insolvency proceedings, requested that Apirsa's parent company, Boliden BV, together with Boliden Mineral AB and Boliden AB, be held liable for Apirsa's shortfall in an amount which, according to the receivers in bankruptcy, totals just over EUR 142 m, including a disputed claim of slightly over EUR 89 m which the local government (Junta de Andalucía) believes it is owed, as described in greater detail below.

As a result of the dam breach, the local government sued Apirsa in its capacity as the owner and operator of the mine at the time of accident, and Boliden BV and Boliden AB in their capacity as the direct and indirect owners of Apirsa demanding joint and several liability for damages to cover expenses totalling slightly over EUR 89 m. The suit was dismissed on formal legal grounds and the dismissal conformed by a higher court. Since the dismissal of the suit in the civil court, the local government in Andalucía has initiated administrative proceedings in respect of the same claim. This also resulted in the local government's ruling and claim against the Boliden companies in question being deemed invalid on formal grounds. The Supreme Administrative Court decided that, in the light of the fact that the local government's claims have hence been ruled inadmissible in both civil and administrative courts, the civil court was the correct court in which to hear the matter. The local government consequently brought suit against the above-mentioned companies in the Seville District Court in 2015. The suit is the same as that brought back in 2002 and the local government is demanding compensation for the costs that it claims to have incurred in conjunction with the clean-up after the dam breach accident. All three defendants have contested the plaintiff's suit and the case has, since then, been dormant. The companies that were responsible for the design and construction of the dams and against which Apirsa had previously brought suit and lost have now submitted claims against Apirsa, seeking compensation for their legal costs. It is currently not possible to assess with any reasonable degree of certainty whether the legal cost claims can be brought against any Boliden company other than Apirsa.

Based on the legal advice and opinions given by the company's Spanish legal counsel, Boliden's overall view is that the company will not suffer any substantial financial loss as a result of the legal proceedings described. The company has made no provision, pending a final ruling.

**Summons arising due to exports to Chile in the 1980s**

In October 2013, suit was brought against Boliden claiming damages for the export of smelter sludge from the Rönnskär smelter between 1984 and 1985 for processing by a Chilean company. The suit was brought by a Swedish limited partnership, Arica Victims KB. The claim comprises approximately 800 people and is for a combined total of slightly over SEK 100 m plus interest. Boliden won the dispute in the District Court and the counterparty was sentenced to pay Boliden's legal costs. The counterparty appealed the ruling to the Upper Norrland Appeals Court. Proceedings in the Appeal Court began on 22 January 2019 and a ruling is expected in the late spring. Boliden is of the opinion, overall, that the company will not suffer any substantial financial loss as a result of the legal process and the company has made no provision, pending a final ruling.

**Boliden Kevitsa Oy's tax assessment increased**

The Finnish tax authorities have increased Boliden Kevitsa Oy's tax assessment for the years from 2012 to 2016, which would result in an increase in tax expenses of EUR 29 m. The increased assessment is attributable to the period prior to Kevitsa's acquisition by Boliden. Based on the fact that the ruling will be appealed and on the guarantee provisions of the acquisition agreement, amongst other things, no provision has been made in the accounts.

# Proposed allocation of profits

**The Board's proposed allocation of profits for 2018 and statement in accordance with the Swedish Companies Act, 18:4**

Boliden has a dividend policy whereby approximately one third of the profit after tax is to be distributed. The Board of Directors proposes that the Annual General Meeting approve payment of a dividend of SEK 8.75 (8.25) per share or a total of SEK 2,393 m (2,256), corresponding to 33.2% of the profit after tax for 2018. The Parent Company's non-restricted equity totals SEK 8,649 m and the Group's total equity is SEK 39,000 m. The non-restricted equity in the Parent Company and the Group will total SEK 6,256 m and SEK 36,607 m, respectively, after payment of the proposed dividend to the shareholders. The Board has taken the cyclic nature of the industry and the risks associated with the operations into account in its dividend proposal.

Boliden has generated substantial cash flows over the past year and the financial position is strong. The Board of Directors' proposal, which will jeopardise neither Boliden's ability to handle any deterioration in market terms nor to finance additional growth, asks the AGM to approve an automatic share redemption procedure whereby each share is divided into one ordinary share and one redemption share. The redemption share will then automatically be redeemed for SEK 4.25 per share, corresponding to a total of SEK 1,162 m. This, in combination with the proposed ordinary dividend, will, subject to the approval of the AGM, mean that shareholders receive SEK 13.00 per share, corresponding to a total of SEK 3,556 m. The non-restricted equity in the Parent Company after the ordinary dividend and the automatic share redemption procedure will total SEK 5,093 m and the Group's equity will total SEK 35,444 m. The remaining non-restricted equity in the Parent Company will be carried forward.

The Annual Accounts have been prepared in accordance with generally accepted accounting principles in Sweden and the Consolidated Accounts have been prepared in accordance with EU-approved International Financial Reporting Standards, IFRS.

The Annual Accounts and the Consolidated Accounts give a true and fair view of the Parent Company's and the Group's financial position and results of operations.

The Directors' Report for the Group and the Parent Company give a true and fair overview of the Group's and the Parent Company's operations, position and results and describes the material risks and uncertainties faced by the Parent Company and the companies that make up the Group.

Stockholm, 13 February 2019

Anders Ullberg
*Chairman*

Marie Berglund
*Member of the Board*

Tom Erixon
*Member of the Board*

Michael G:son Löw
*Member of the Board*

Elisabeth Nilsson
*Member of the Board*

Pia Rudengren
*Member of the Board*

Pekka Vauramo
*Member of the Board*

Marie Holmberg
*Employee Representative*

Kenneth Ståhl
*Employee Representative*

Cathrin Öderyd
*Employee Representative*

Mikael Staffas
*President & CEO*

Our Audit Report was submitted on 13 February 2019
Deloitte AB

Jan Berntsson
*Authorised Public Accountant*

# Auditor's report

**To the general meeting of the shareholders of Boliden AB (publ) corporate identity number 556051-4142**

## REPORT ON THE ANNUAL ACCOUNTS AND CONSOLIDATED ACCOUNTS

### Opinions

We have audited the annual accounts and consolidated accounts of Boliden AB (publ) for the financial year January 1, 2018 to December 31, 2018 except for the corporate governance statement on pages 60–69 and the statutory sustainability report on pages 10–13 and 34–47. The annual accounts and consolidated accounts of the company are included on pages 10–13, 24–53 and 56–101 in this document.

In our opinion, the annual accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of parent company as of December 31, 2018 and its financial performance and cash flow for the year then ended in accordance with the Annual Accounts Act. The consolidated accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of the group as of December 31, 2018 and its financial performance and cash flow for the year then ended in accordance with International Financial Reporting Standards (IFRS), as adopted by the EU, and the Annual Accounts Act. Our opinions do not cover the corporate governance statement on pages 60–69 and the statutory sustainability report on pages 10–13 and 34–47. The statutory administration report is consistent with the other parts of the annual accounts and consolidated accounts.

We therefore recommend that the general meeting of shareholders adopts the income statement and balance sheet for the parent company and the group.

Our opinions in this report on the the annual accounts and consolidated accounts are consistent with the content of the additional report that has been submitted to the parent company's audit committee in accordance with the Audit Regulation (537/2014) Article 11.

### Basis for Opinions

We conducted our audit in accordance with International Standards on Auditing (ISA) and generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements. This includes that, based on the best of our knowledge and belief, no prohibited services referred to in the Audit Regulation (537/2014) Article 5.1 have been provided to the audited company or, where applicable, its parent company or its controlled companies within the EU.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions.

### Key Audit Matters

Key audit matters of the audit are those matters that, in our professional judgment, were of most significance in our audit of the annual accounts and consolidated accounts of the current period. These matters were addressed in the context of our audit of, and in forming our opinion thereon, the annual accounts and consolidated accounts as a whole, but we do not provide a separate opinion on these matters.

#### *Recognition of revenues from sales of metals at the appropriate price and in the correct period*

The group's sales of metals are to a large extent priced in US dollars and sales are often made to predetermined price terms. Individual sales transactions may represent significant amounts. Contractual prices are hedged for variations in metal prices and exchange rates. Taken together, this requires good practices to ensure that revenues are recognized at agreed prices adjusted for the effects from hedging and that revenues are recognized in the correct period.

For the group's accounting principles for revenue recognition please refer to note 1, and for the group's revenues by geographical area and product group refer to note 2 and 3.

*Our audit procedures*

Our audit procedures included, but were not limited to:

- review of the group's accounting policy for revenue recognition for compliance with IFRS,
- evaluating the group's controls for recognizing revenues at appropriate prices and in the correct accounting period,
- analysis of revenues by metal based on sales volumes, metal prices and exchange rates, and
- on a sample basis testing of sales transactions against sales contracts, invoices and shipping documents to assess that revenues have been recognized at appropriate prices and in the correct accounting period.

#### *Valuation of inventory*

The group's inventory consists primarily of metal concentrate, materials tied up in the production process of the smelters and finished metal. The group's accounting and valuation of inventory is complex and requires judgment about stock levels, metal content, metal prices, exchange rates and internal profits.

For the group's accounting principles for valuation of inventory please refer to note 1, and please refer to note 18 for a breakdown of the group's inventory.

*Our audit procedures*
Our audit procedures included, but were not limited to:
- review of the group's valuation policy for inventory and its compliance with IFRS,
- assessing the group's controls for inventory valuation,
- observations of physical inventory counts,
- on a sample basis testing that the inventory has been valued to current metal prices and exchange rates,
- review of the process inventory revaluation and eliminations for intragroup profits in inventory.

***Accounting and valuation of financial instruments***
The group is exposed to changes in metal prices, exchange rates and interest rates. To reduce its exposure in larger investment projects and in contracted purchase and sales commitments the group uses various types of financial instruments, including derivatives. The group also manages its exposure to changes in interest rates by reducing or extending the interest duration period via interest rate swaps. The accounting for financial instruments is complex and may have significant impact on the group's earnings and financial position.

For the group's financial risks and management of these risks please refer to page 57–59, refer to note 1 for the group's principles for the valuation of financial instruments and note 27 for the group's financial derivatives.

*Our audit procedures*
Our audit procedures included, but were not limited to:
- review of the group's financial policy and hedging strategies,
- review of hedging activities to ensure that these have been properly authorized and accounted for in accordance with IFRS, and
- review of the relevance of market data and methodologies used to determine fair value of derivative contracts.

***Capitalization and depreciation of deferred mining costs***
In conjunction with excavation of waste rock and production of ore in open pit mines, the costs of waste rock removal, which improves access to the ore body are capitalized. Deferred mining costs are depreciated per push-back and the depreciation is based on the metal content in relation to estimated metal content for the entire push-back. Both the initial capitalization and the depreciation rate are dependent on planned production and estimated mineral reserves and, as a consequence among other things, expected future metal prices. Hence, the carrying value and depreciation of deferred mining costs are dependent on a number of complex assumptions and estimates.

For the group's accounting principles related to deferred mining costs please refer to note 1 and note 13 for the group's investments and depreciation of deferred mining costs.

*Our audit procedures*
Our audit procedures included, but were not limited to:
- review of accounting policy for deferred mining costs for compliance with IFRS,
- review of model used for capitalization and depreciation of deferred mining costs against production costs and production volumes, and
- analytical review of capitalization and depreciation in relation to production costs and production volumes.

***Provisions for reclamation costs***
The group has commitments for reclamation of closed mines and for reclamation costs that are expected to arise for mines when the mine operations are decommissioned. The provision for these commitments is judgmental and dependent on several factors including cost estimates for different reclamation measures, life of mine, regulatory decisions, future inflation and discount rates. Any changes in these estimates and assumptions may have a significant impact on the group's earnings and financial position.

For the group's accounting principles for reclamation provisions please refer to note 1 and note 13 for this year's change in capitalized reclamation costs, and note 24 for the group's reclamation provisions.

*Our audit procedures*
Our audit procedures included, but were not limited to:
- review of accounting policy for reclamation provisions for compliance with IFRS,
- evaluating the group's controls to account for reclamation provisions, and
- review of assumptions used to estimate the reclamation provisions for consistency with approved production plans, life of mines expectancies, and current financial conditions (inflation and interest rates).

***Valuation of intangible and tangible assets***
The group's intangible and tangible assets represent significant amounts. Impairment testing of these assets is based on production plans, which in turn are based on assumptions about future metal prices, treatment and refining charges, and exchange rates. Changes in market prices for metals, treatment and refining charges, and exchange rates have a significant impact on the group's future cash flows and thus the estimated recoverable value of intangible and tangible assets and any impairment needs.

For the group's principles to prepare impairment tests for intangible and tangible assets please refer to note 1 and for significant assumptions applied in the impairment tests, please refer to note 13.

*Our audit procedures*
Our audit procedures included, but were not limited to:
- review of the group's process and principles for preparing impairment tests for compliance with IFRS,
- evaluation of key assumptions such as estimated life of mines, production plans, metal prices, treatment and refining charges, and exchange rates and the sensitivity in these assumptions to any changes, and
- review of the model used to discount future cash flows for arithmetical correctness.

**Other information than the annual accounts and consolidated accounts**
This document also contains other information than the annual accounts and consolidated accounts and is found on pages 1–9, 14–23, 54–55 and 106–121. The Board of Directors and the Managing Director are responsible for this other information.

Our opinion on the annual accounts and consolidated accounts does not cover this other information and we do not express any form of assurance conclusion regarding this other information.

In connection with our audit of the annual accounts and consolidated accounts, our responsibility is to read the information identified above and consider whether the information is materially inconsistent with the annual accounts and consolidated accounts. In this procedure we also take into account our

knowledge otherwise obtained in the audit and assess whether the information otherwise appears to be materially misstated.

If we, based on the work performed concerning this information, conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

### Responsibilities of the Board of Directors and the Managing Director

The Board of Directors and the Managing Director are responsible for the preparation of the annual accounts and consolidated accounts and that they give a fair presentation in accordance with the Annual Accounts Act and, concerning the consolidated accounts, in accordance with IFRS as adopted by the EU. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of annual accounts and consolidated accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts and consolidated accounts, The Board of Directors and the Managing Director are responsible for the assessment of the company's and the group's ability to continue as a going concern. They disclose, as applicable, matters related to going concern and using the going concern basis of accounting. The going concern basis of accounting is however not applied if the Board of Directors and the Managing Director intends to liquidate the company, to cease operations, or has no realistic alternative but to do so.

The Audit Committee shall, without prejudice to the Board of Director's responsibilities and tasks in general, among other things oversee the company's financial reporting process.

### Auditor's responsibility

Our objectives are to obtain reasonable assurance about whether the annual accounts and consolidated accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and generally accepted auditing standards in Sweden will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts and consolidated accounts.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the annual accounts and consolidated accounts, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of the company's internal control relevant to our audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors and the Managing Director.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting in preparing the annual accounts and consolidated accounts. We also draw a conclusion, based on the audit evidence obtained, as to whether any material uncertainty exists related to events or conditions that may cast significant doubt on the company's and the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the annual accounts and consolidated accounts or, if such disclosures are inadequate, to modify our opinion about the annual accounts and consolidated accounts. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause a company and a group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the annual accounts and consolidated accounts, including the disclosures, and whether the annual accounts and consolidated accounts represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated accounts. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.

We must inform the Board of Directors of, among other matters, the planned scope and timing of the audit. We must also inform of significant audit findings during our audit, including any significant deficiencies in internal control that we identified.

We must also provide the Board of Directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Board of Directors, we determine those matters that were of most significance in the audit of the annual accounts and consolidated accounts, including the most important assessed risks for material misstatement, and are therefore the key audit matters. We describe these matters in the auditor's report unless law or regulation precludes disclosure about the matter.

## REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

### Opinions

In addition to our audit of the annual accounts and consolidated accounts, we have also audited the administration of the Board of Directors and the Managing Director of Boliden AB (publ) for the financial year January 1, 2018 to December 31, 2018 and the proposed appropriations of the company's profit or loss.

We recommend to the general meeting of shareholders that the profit to be appropriated in accordance with the proposal in the statutory administration report and that the members of the Board of Directors and the Managing Director be discharged from liability for the financial year.

**Basis for Opinions**
We conducted the audit in accordance with generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions.

**Responsibilities of the Board of Directors and the Managing Director**
The Board of Directors is responsible for the proposal for appropriations of the company's profit or loss. At the proposal of a dividend, this includes an assessment of whether the dividend is justifiable considering the requirements which the company's and the group's type of operations, size and risks place on the size of the parent company's and the group's equity, consolidation requirements, liquidity and position in general.

The Board of Directors is responsible for the company's organization and the administration of the company's affairs. This includes among other things continuous assessment of the company's and the group's financial situation and ensuring that the company's organization is designed so that the accounting, management of assets and the company's financial affairs otherwise are controlled in a reassuring manner. The Managing Director shall manage the ongoing administration according to the Board of Directors' guidelines and instructions and among other matters take measures that are necessary to fulfill the company's accounting in accordance with law and handle the management of assets in a reassuring manner.

**Auditor's responsibility**
Our objective concerning the audit of the administration, and thereby our opinion about discharge from liability, is to obtain audit evidence to assess with a reasonable degree of assurance whether any member of the Board of Directors or the Managing Director in any material respect:

- has undertaken any action or been guilty of any omission which can give rise to liability to the company, or
- in any other way has acted in contravention of the Companies Act, the Annual Accounts Act or the Articles of Association.

Our objective concerning the audit of the proposed appropriations of the company's profit or loss, and thereby our opinion about this, is to assess with reasonable degree of assurance whether the proposal is in accordance with the Companies Act.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with generally accepted auditing standards in Sweden will always detect actions or omissions that can give rise to liability to the company, or that the proposed appropriations of the company's profit or loss are not in accordance with the Companies Act.

As part of an audit in accordance with generally accepted auditing standards in Sweden, we exercise professional judgment and maintain professional scepticism throughout the audit. The examination of the administration and the proposed appropriations of the company's profit or loss is based primarily on the audit of the accounts. Additional audit procedures performed are based on our professional judgment with starting point in risk and materiality. This means that we focus the examination on such actions, areas and relationships that are material for the operations and where deviations and violations would have particular importance for the company's situation. We examine and test decisions undertaken, support for decisions, actions taken and other circumstances that are relevant to our opinion concerning discharge from liability. As a basis for our opinion on the Board of Directors' proposed appropriations of the company's profit or loss we examined the Board of Directors' reasoned statement and a selection of supporting evidence in order to be able to assess whether the proposal is in accordance with the Companies Act.

**The auditor's examination of the corporate governance statement**
The Board of Directors is responsible for that the corporate governance statement on pages 60–69 has been prepared in accordance with the Annual Accounts Act.

Our examination of the corporate governance statement is conducted in accordance with FAR´s auditing standard RevU 16 The auditor´s examination of the corporate governance statement. This means that our examination of the corporate governance statement is different and substantially less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. We believe that the examination has provided us with sufficient basis for our opinions.

A corporate governance statement has been prepared. Disclosures in accordance with chapter 6 section 6 the second paragraph points 2–6 of the Annual Accounts Act and chapter 7 section 31 the second paragraph the same law are consistent with the other parts of the annual accounts and consolidated accounts and are in accordance with the Annual Accounts Act.

**Auditor´s report on the statutory sustainability report**
It is the board of directors who is responsible for the statutory sustainability report for the year 2018 on pages 10–13, 34–47 and 56–57 and that it has been prepared in accordance with the Annual Accounts Act.

**The scope of the audit**
Our examination has been conducted in accordance with FAR's auditing standard RevR 12 The auditor´s opinion regarding the statutory sustainability report. This means that our examination of the statutory sustainability report is substantially different and less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. We believe that the examination has provided us with sufficient basis for our opinion.

A statutory sustainability report has been prepared.

Deloitte AB, was appointed auditor of Boliden AB by the general meeting of the shareholders on the April 27, 2018 and has been the company's auditor since May 5, 2015.

Stockholm, February 13, 2019
Deloitte AB
Signature on Swedish original

Jan Berntsson
Authorized Public Accountant

# Mineral Resources and Mineral Reserves

Mineral Resources and Mineral Reserves are the basis for the future viability of a mining company's operations. They form the basis for the mines' long-term plans and are the underlying data for many of the company's major investments. Mineral Reserves are reduced every year through mining activities, and new additions to the Resources and Reserves are, therefore, vital to the viability of the operations.

### Mineral Resources and Mineral Reserves

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Garpenberg, Aitik and Kevitsa have Mineral Resources and Reserves sufficient to secure production for many years to come. The situation in the Boliden Area is more complex. There are 4 mines in operation, one of which – the Maurliden mine – will be mined out in 2019. Other mines have secured lifespans of between 7 and 10 years. The Kylylahti mine has short-term remaining Mineral Reserves but some additions to the reserve have proved possible, mainly due to technological successes in the processing and improved economic conditions.

Exploration work continued to be successful at Tara in 2018, but no other major additions have been noted. Drifts have been driven at Tara and Kristineberg in order to establish better locations from which to drill towards new deposits.

Boliden shall work to ensure optimal resource and materials handling at every stage of the value chain, and the responsible conversion of assets in the form of Mineral Resources and Reserves is an important component of this work. We consequently follow up on our Mineral Resources and Reserves carefully and produce an annual summary. The estimations of Mineral Resources and Reserves are always associated with a degree of uncertainty as to the geological basis and due to sensitivity to the pricing and cost conditions used.

### Mineral Resources and Mineral Reserves, 2018

Boliden is switching from reporting in accordance with the recommendations of the Fennoscandian Review Board (FRB) to those of the Pan-European Reserves and Resources Reporting Committee (PERC). The PERC standard is an internationally recognised reporting standard approved by the mining associations in Sweden (SveMin), Finland (FinnMin) and Norway (Norsk Bergindustri) for exploration and mining companies in the Nordic countries.

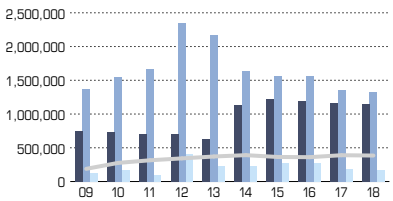
#### *Aitik*

No extensive exploration work is currently being carried out at the Aitik mine. Work is, however, continuing on preparing the Liikavaara deposit, approximately 3 km north west of Aitik, for production. Exploration and evaluation work is also being carried out on the Nautanen deposit, approximately 15 km north of Aitik. Changes in Aitik's resources and reserves since last year were minor: 38 Mtonnes of ore was mined, but more than half of that amount was added to the mineral reserve by a change in the design of the open pit.

#### *The Boliden Area*

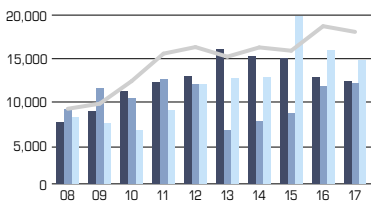
The Maurliden open pit will be mined out in early 2019, and there are consequently no longer any reasonable grounds for ex-

**Aitik**



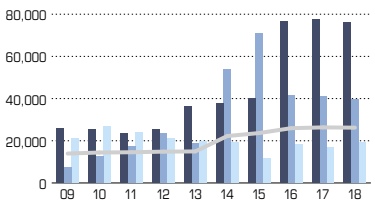

Small changes in Mineral Reserves due to changes in the open pit design.

**The Boliden Area**




Decline in Mineral Resources and small changes in Mineral Reserves.

**Garpenberg**




Marginal increase in Mineral Resources but Mineral Reserves fall by 1 Mtonne.

● Proven/probable Mineral Reserve ● Measured/indicated Mineral Resource ● Inferred Mineral Resource — Production ×10
All values are shown in ktonnes.

tracting the remaining Mineral Resources at Maurliden. Almost 1 Mtonne was added to Renström's Mineral Reserves by the scheduling of two new areas for extraction. At Kristineberg, drifts have been cut towards a new lens 2.5 km to the west of the mine, in the old Rävliden area. Drilling from the drift towards the new lens is scheduled to begin in 2019. The Mineral Reserve for the area as a whole is almost the same as for last year, while Mineral Resources have decreased.

***Garpenberg***

Garpenberg's long-term planning in terms of Mineral Resources and Mineral Reserves is good. No major changes occurred during the year, but minor updates and design changes have meant that the Mineral Reserve only decreased by 1 Mtonne in spite of the extraction of 2.6 Mtonnes of ore. The mine's Mineral Resource increased marginally.

***Kevitsa***

Minor changes were made to the economic parameters that control mining operations at the Kevitsa mine, which was acquired by Boliden in 2016, along with some fine-tuning of the open pit's design. As a result of these changes, the Mineral Reserve only decreased by 5 Mtonnes, in spite of the extraction of 8 Mtonnes of ore in 2018. A comprehensive review of the Mineral Resource was carried out during the year, including adjustments to calculation methods designed to bringing them in line with Boliden's normal method of defining Mineral Resources in open pit mines. The Mineral Resource comprises a mineralisation in the vicinity of the existing open pit, but mining of this mineralisation – despite its grade – is currently not justifiable, due to economic conditions. This year's report takes into account the distance from the existing open pit and more distant mineralisations have been excluded. This resulted in a decrease in the Mineral Resource of 20 Mtonnes, or –11%.

***Kylylahti***

The Mineral Reserve is small, and the mine is consequently coming to the end of its life. A little over 400 ktonnes were, however, added to the reserve this year due, in part, to improvements in room design but due primarily to improvements in the concentration of nickel and cobalt and to better pricing terms and conditions from the smelter. 790 ktonnes of ore were mined in 2018, and the Mineral Reserve has, therefore, decreased by just under 400 ktonnes. Mineral Resources have increased due to exploration and infill drilling in the mine and to the improved economic conditions.

***Tara***

Investigations of the Tara Deep mineralisation at Tara continue, with simultaneous drilling from the surface and the exploration drift towards Tara Deep. The size of the inferred Mineral Resource at Tara Deep is now estimated at 18 Mtonnes (13 Mtonnes in 2017). Work has also continued on improving the geological models of the ore lenses and the design of mining rooms at the Tara mine. The Mineral Reserve has still decreased slightly, but the Mineral Resource has increased due to the contribution of Tara Deep.

**About the classification**

Mineral Resources and Mineral Reserves are estimated separately and broken down into different categories. Boliden's Mineral Reserves are not subsidiary amounts of the Mineral Resources, and when a Mineral Resource is converted to a Mineral Reserve, the quantity is eliminated from the Mineral Resource. Mineral Resources and Reserves are a concentration of minerals in the bedrock in a form, quality and quantity that there are reasonable prospects for eventual economic extraction. To be classified as a Mineral Reserve, appropriate valuations and studies must have been carried out, showing that extraction and refining can be carried out in accordance with the company's profitability requirements and that take into account such factors as waste rock dilution, ore losses, pillar offset, and process recovery rates.

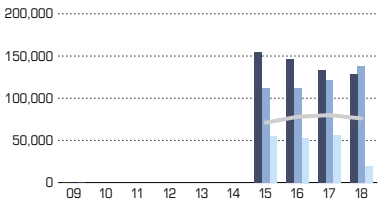
***Inferred Mineral Resource***

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded with continued exploration.

***Indicated Mineral Resource***

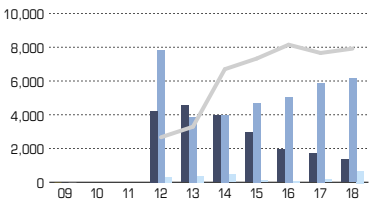
An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.

**Kevitsa**



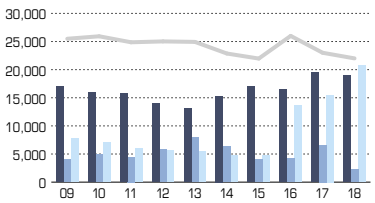

Reduction in Mineral Resources and Mineral Reserves decline by 5 Mtonnes.

**Kylylahti**




Increased Mineral Resources but small reduction in Mineral Reserves.

**Tara**




Increase in Mineral Resources but decrease in Mineral Reserves.

● Proven/probable Mineral Reserve ● Measured/indicated Mineral Resource ● Inferred Mineral Resource — Production ×10
All values are shown in ktonnes.

***Measured Mineral Resource***
A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

***Probable Mineral Reserve***
A Probable Mineral Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. It is defined by studies at Pre-Feasibility or Feasibility level that demonstrate, at the time of reporting, extraction could reasonably be justified.

***Proved Mineral Reserve***
A Proved Mineral Reserve is the economically mineable part of a Measured Mineral Resource. It is defined by studies at Pre-Feasibility or Feasibility level that implies with a high degree of confidence in the Modifying Factors that, at the time of reporting, extraction could reasonably be justified.

**Complementary information on Mineral Resources and Mineral Reserves**
Complementary information in the form of a summary report per mine and project is available on Boliden's website under Operations – Exploration – Mineral Reserves and Mineral Resources.

***Regulations, codes and "Competent Persons"***
Boliden is switching from reporting in accordance with the recommendations of the Fennoscandian Review Board (FRB) to those of the Pan-European Reserves and Resources Reporting Committee (PERC). The PERC standard includes more stringent demands with regard to documentation and the "Competent Persons" who evaluate the information reported by the companies. The transition to the PERC standard will be an ongoing process during a transition period that allows companies time to adjust to using the PERC standard. The reports here have, as far as possible, been compiled in accordance with the PERC standard, but do not claim to be completely in accordance with the specified regulations.

For each mine and project, Boliden makes a summary report over Mineral Resources and Mineral Reserves. All these reports have been reviewed and approved by the Competent Persons presented in the respective reports. This summary of Mineral Resources and Mineral Reserves has been reviewed and approved by Gunnar Agmalm, Boliden's Mineral Reserves and Project Evaluation Manager, who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM) and the Fennoscandian Association for Metals and Minerals Professionals (FAMMP), both of which are approved organisations for designation as Competent Persons in accordance with PERC.

February 2019

Gunnar Agmalm
*Competent Person*

| Planning prices | Long-term prices 2018 | Change since 2017 |
|---|---|---|
| Copper | USD 6,600/tonne | +400 |
| Zinc | USD 2,400/tonne | +200 |
| Lead | USD 2,100/tonne | |
| Gold | USD 1,200/tr. oz. | |
| Silver | USD 17/tr.oz. | –1 |
| Molybdenum | USD 8/lb. | |
| Nickel | USD 16,000/tonne | |
| Palladium | USD 1,000/tr. oz. | +250 |
| Platinum | USD 1,000/tr. oz. | –150 |
| Cobalt | USD 25/lb. | +11 |
| Tellurium | USD 30/kg | |
| USD/SEK | 7.5 | |
| EUR/SEK | 8.85 | +0.22 |
| EUR/USD | 1.18 | +0.03 |

## Mineral Reserves, 31 December 2018

| | | Quantity, ktonnes | | 2018 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018 | 2017 | Au g/t | Ag g/t | Cu % | Zn % | Pb % | Ni[1] % | Co % | Pt g/t | Pd g/t | Te g/t |
| **Aitik** | **Proven** | **787,000** | **801,000** | 0.15 | 1.2 | 0.22 | | | | | | | |
| | **Probable** | **361,000** | **360,000** | 0.13 | 1.2 | 0.23 | | | | | | | |
| **The Boliden Area** | | | | | | | | | | | | | |
| *Sulphide mineralisations* | | | | | | | | | | | | | |
| Kristineberg | Proven | 10 | 20 | 1.0 | 15 | 1.4 | 0.3 | 0 | | | | | |
| | Probable | 4,280 | 4,880 | 0.5 | 37 | 0.5 | 5.3 | 0.3 | | | | | |
| Renström | Proven | 340 | 190 | 2.8 | 133 | 0.5 | 6.8 | 1.1 | | | | | |
| | Probable | 3,180 | 2,380 | 1.8 | 99 | 0.4 | 4.8 | 0.9 | | | | | |
| Maurliden | Proven | 70 | 170 | 1.5 | 56 | 0.6 | 4.4 | 0.4 | | | | | |
| | Probable | | | | | | | | | | | | |
| **Total** | **Proven** | **420** | **380** | 2.5 | 119 | 0.5 | 6.3 | 1.0 | | | | | |
| *Sulphide mineralisations* | **Probable** | **7,500** | **7,300** | 1.1 | 63 | 0.5 | 5.1 | 0.6 | | | | | |
| *Gold mineralisations* | | | | | | | | | | | | | |
| Kankberg | **Proven** | **2,700** | **2,400** | 3.8 | 12 | | | | | | | | 182 |
| | **Probable** | **1,500** | **2,100** | 3.4 | 8 | | | | | | | | 153 |
| **Garpenberg** | **Proven** | **22,800** | **21,900** | 0.24 | 101 | 0.03 | 3.6 | 1.4 | | | | | |
| | **Probable** | **53,400** | **55,800** | 0.32 | 94 | 0.05 | 2.9 | 1.4 | | | | | |
| **Kevitsa** | **Proven** | **62,500** | **71,400** | 0.09 | | 0.35 | | | 0.21 | 0.010 | 0.18 | 0.12 | |
| | **Probable** | **66,100** | **62,400** | 0.10 | | 0.34 | | | 0.24 | 0.010 | 0.21 | 0.14 | |
| **Kylylahti** | **Proven** | **800** | **1,000** | 0.9 | | 0.9 | 0.4 | | 0.22 | 0.19 | | | |
| | **Probable** | **500** | **700** | 1.1 | | 0.3 | 0.1 | | 0.27 | 0.13 | | | |
| **Tara** | **Proven** | **1,600** | **2,900** | | | | 6.7 | 1.8 | | | | | |
| | **Probable** | **17,400** | **16,600** | | | | 5.6 | 1.5 | | | | | |

1)Kevitsa reports sulphur-bound Ni and Co. Figures may be rounded up or down.

## Mineral Resources, 31 December 2018

| | | Quantity, ktonnes | | 2018 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018 | 2017 | Au g/t | Ag g/t | Cu % | Zn % | Pb % | Ni[1] % | Co % | Pt g/t | Pd g/t | Te[2] g/t | Mo g/t |
| **The Aitik area** | | | | | | | | | | | | | | |
| Aitik | **Measured** | **204,000** | **240,000** | 0.08 | 0.8 | 0.15 | | | | | | | | |
| | **Indicated** | **1,127,000** | **1,116,000** | 0.09 | 0.8 | 0.17 | | | | | | | | |
| | **Inferred** | **175,000** | **180,000** | 0.11 | 0.5 | 0.14 | | | | | | | | |
| Nautanen | **Measured** | | | | | | | | | | | | | |
| | **Indicated** | **8,200** | **8,200** | 0.9 | 5.0 | 1.7 | | | | | | | | 86 |
| | **Inferred** | **7,500** | **7,500** | 0.6 | 7.0 | 1.5 | | | | | | | | 81 |
| **The Boliden Area** | | | | | | | | | | | | | | |
| *Sulphide mineralisations* | | | | | | | | | | | | | | |
| Kristineberg | Measured | 50 | 50 | 0.7 | 45 | 1.3 | 4.2 | 0.2 | | | | | | |
| | Indicated | 5,210 | 5,040 | 0.4 | 64 | 0.9 | 4.6 | 0.5 | | | | | | |
| | Inferred | 5,950 | 7,400 | 0.4 | 61 | 0.9 | 2.5 | 0.4 | | | | | | |
| Petiknäs N | Measured | | 310 | | | | | | | | | | | |
| | Indicated | 310 | 1,200 | 8.1 | 73 | 1.8 | 3.1 | 0.3 | | | | | | |
| | Inferred | 1,920 | 720 | 2.9 | 45 | 0.5 | 1.6 | 0.2 | | | | | | |
| Renström | Measured | | | | | | | | | | | | | |
| | Indicated | 1,890 | 2,850 | 2.2 | 112 | 0.3 | 5.6 | 1.0 | | | | | | |
| | Inferred | 1,550 | 1,570 | 2.4 | 154 | 0.3 | 10.1 | 1.8 | | | | | | |
| Maurliden[3] | Measured | | 620 | | | | | | | | | | | |
| | Indicated | | 220 | | | | | | | | | | | |
| | Inferred | | | | | | | | | | | | | |
| **Total** | **Measured** | **50** | **1,000** | 0.7 | 45 | 1.3 | 4.2 | 0.2 | | | | | | |
| *Sulphide mineralisations* | **Indicated** | **7,400** | **9,300** | 1.2 | 76 | 0.8 | 4.8 | 0.6 | | | | | | |
| | **Inferred** | **9,400** | **9,700** | 1.2 | 73 | 0.7 | 3.5 | 0.6 | | | | | | |
| *Gold mineralisations* | | | | | | | | | | | | | | |
| Kankberg | Measured | 260 | 190 | 4.0 | 11 | | | | | | | | 155 | |
| | Indicated | 600 | 310 | 5.2 | 7 | | | | | | | | 151 | |
| | Inferred | 1,390 | 1,360 | 5.2 | 9 | | | | | | | | 209 | |
| Älgträsk | Measured | | | | | | | | | | | | | |
| | Indicated | 1,070 | 1,070 | 2.8 | 5 | | | | | | | | | |
| | Inferred | 3,520 | 3,520 | 2.0 | 4 | | | | | | | | | |
| **Total** | **Measured** | **260** | **190** | 4.0 | 11 | | | | | | | | | |
| *Gold mineralisations* | **Indicated** | **1,700** | **1,400** | 3.6 | 5 | | | | | | | | | |
| | **Inferred** | **4,900** | **4,900** | 2.9 | 5 | | | | | | | | | |
| **Garpenberg** | **Measured** | **4,400** | **5,700** | 0.31 | 100 | 0.06 | 3.3 | 1.6 | | | | | | |
| | **Indicated** | **35,400** | **35,500** | 0.35 | 88 | 0.05 | 2.8 | 1.3 | | | | | | |
| | **Inferred** | **19,100** | **17,000** | 0.48 | 56 | 0.08 | 2.8 | 1.7 | | | | | | |
| **Kevitsa** | **Measured** | **23,600** | **19,100** | 0.08 | | 0.31 | | | 0.22 | 0.010 | 0.17 | 0.11 | | |
| | **Indicated** | **114,900** | **102,800** | 0.08 | | 0.34 | | | 0.23 | 0.011 | 0.14 | 0.09 | | |
| | **Inferred** | **19,200** | **56,100** | 0.06 | | 0.32 | | | 0.22 | 0.010 | 0.13 | 0.08 | | |
| **Kylylahti** | **Measured** | **2,500** | **1,900** | 0.2 | | 0.56 | 0.3 | | 0.25 | 0.14 | | | | |
| | **Indicated** | **3,600** | **3,900** | 0.4 | | 0.34 | 0.2 | | 0.27 | 0.11 | | | | |
| | **Inferred** | **740** | **150** | 0.0 | | 0.08 | 0.1 | | 0.42 | 0.04 | | | | |
| **Tara** | **Measured** | | **400** | | | | | | | | | | | |
| | **Indicated** | **2,200** | **6,200** | | | | 6.2 | 1.6 | | | | | | |
| | **Inferred** | **20,800** | **15,500** | | | | 7.3 | 1.7 | | | | | | |
| **Laver** | **Measured** | **1,100** | **1,100** | 0.11 | 4 | 0.20 | | | | | | | | 18 |
| | **Indicated** | **512,400** | **512,400** | 0.13 | 3 | 0.22 | | | | | | | | 36 |
| | **Inferred** | **550,600** | **550,600** | 0.10 | 3 | 0.21 | | | | | | | | 33 |
| **Rockliden** | **Measured** | | | | | | | | | | | | | |
| | **Indicated** | **800** | **800** | 0.08 | 102 | 2.1 | 4.4 | 0.90 | | | | | | |
| | **Inferred** | **9,200** | **9,200** | 0.15 | 47 | 1.7 | 3.9 | 0.40 | | | | | | |

1) Kevitsa reports sulphur-bound Ni and Co. 2) Te at Kankberg only. 3) Resource no longer available as a result of being mined out. Figures may be rounded up or down.

# Ten-year overviews

## The Group

| | 2009 | 2010 | 2011 | 2012[1)] | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Result, SEK m** | | | | | | | | | | |
| Revenues | 27,635 | 36,716 | 40,323 | 40,001 | 34,409 | 36,891 | 40,242 | 40,316 | 49,531 | 52,454 |
| Operating profit before depreciation | 5,186 | 7,445 | 6,674 | 6,731 | 4,632 | 6,035 | 7,112 | 9,881 | 13,617 | 13,933 |
| Operating profit excluding revaluation of process inventory | 2,350 | 4,830 | 5,008 | 4,042 | 2,271 | 2,605 | 4,010 | 5,094 | 8,913 | 9,074 |
| Operating profit | 3,623 | 5,643 | 4,748 | 4,171 | 1,803 | 2,759 | 3,590 | 5,682 | 9,015 | 9,004 |
| Profit after financial items | 3,377 | 5,331 | 4,560 | 3,992 | 1,581 | 2,471 | 3,356 | 5,375 | 8,737 | 8,763 |
| Tax | –876 | –1,375 | –1,171 | –651 | –288 | –572 | –715 | –1,135 | –1,881 | –1,562 |
| Net profit for the year | 2,501 | 3,957 | 3,389 | 3,341 | 1,294 | 1,899 | 2,641 | 4,239 | 6,856 | 7,201 |
| **Cash flow, SEK m** | | | | | | | | | | |
| Cash flow from operating activities | 3,974 | 6,197 | 4,021 | 5,518 | 3,505 | 5,789 | 6,235 | 6,995 | 12,737 | 11,768 |
| Cash flow from investment activities | –4,922 | –2,995 | –4,024 | –4,129 | –4,971 | –4,206 | –3,670 | –9,795 | –5,428 | –6,076 |
| Free cash flow | –948 | 3,202 | –3 | 1,389 | –1,466 | 1,583 | 2,565 | –2,801 | 7,309 | 5,692 |
| Cash flow from financing activities | 571 | –3,199 | –464 | –730 | 1,060 | –1,355 | –2,503 | 3,376 | –6,304 | –5,931 |
| Cash flow for the year | –377 | 3 | –467 | 659 | –406 | 228 | 63 | 575 | 1,005 | –239 |
| **Capital structure and return, SEK m** | | | | | | | | | | |
| Balance Sheet total | 33,258 | 35,128 | 37,615 | 40,080 | 41,841 | 43,865 | 43,022 | 53,877 | 55,882 | 58,727 |
| Capital employed | 26,229 | 27,151 | 30,473 | 31,236 | 34,451 | 35,087 | 35,131 | 42,457 | 42,931 | 44,441 |
| Return on capital employed, % | 14 | 21 | 17 | 14 | 5 | 8 | 10 | 15 | 21 | 20 |
| Equity | 16,257 | 18,846 | 21,032 | 22,354 | 23,075 | 23,974 | 25,807 | 29,394 | 35,053 | 39,011 |
| Return on equity, % | 16 | 23 | 17 | 16 | 6 | 8 | 11 | 16 | 22 | 19 |
| Equity/assets ratio, % | 49 | 54 | 56 | 56 | 55 | 55 | 60 | 55 | 63 | 66 |
| Net debt | 7,402 | 4,584 | 6,063 | 6,276 | 8,673 | 8,283 | 5,827 | 9,339 | 3,752 | 2,034 |
| Net debt/equity ratio, % | 46 | 24 | 29 | 28 | 38 | 35 | 23 | 32 | 11 | 5 |
| **Data per share, SEK** | | | | | | | | | | |
| Earnings for the period | | | | | | | | | | |
| Basic | 9.14 | 14.47 | 12.39 | 12.21 | 4.72 | 6.94 | 9.65 | 15.49 | 25.06 | 26.32 |
| Diluted | 9.14 | 14.47 | 12.39 | 12.21 | 4.72 | 6.94 | 9.65 | 15.49 | 25.06 | 26.32 |
| Cash flow from operating activities | | | | | | | | | | |
| Basic | 14.53 | 22.66 | 14.70 | 20.17 | 12.82 | 21.17 | 22.80 | 25.57 | 46.57 | 43.03 |
| Diluted | 14.53 | 22.66 | 14.70 | 20.17 | 12.82 | 21.17 | 22.80 | 25.57 | 46.57 | 43.03 |
| Equity | | | | | | | | | | |
| Basic | 59.44 | 68.90 | 76.90 | 81.68 | 84.31 | 87.63 | 94.33 | 107.44 | 128.13 | 142.59 |
| Diluted | 59.44 | 68.90 | 76.90 | 81.68 | 84.31 | 87.63 | 94.33 | 107.44 | 128.13 | 142.59 |
| Ordinary dividend[2)] | 3.00 | 5.00 | 4.00 | 4.00 | 1.75 | 2.25 | 3.25 | 5.25 | 8.25 | 8.75 |
| Redemption[2)] | – | – | – | – | – | – | – | – | 5.75 | 4.25 |
| Share price, 31/12 | 92.1 | 136.7 | 100.5 | 122.1 | 98.45 | 125.5 | 142.9 | 237.9 | 280.6 | 192.0 |
| Highest price paid | 95.3 | 137.7 | 143.5 | 125.6 | 126.7 | 129.9 | 201.1 | 258.2 | 307.9 | 328.4 |
| Lowest price paid | 16.1 | 79.5 | 65.35 | 87.8 | 80.2 | 90.7 | 112.1 | 100 | 222.7 | 187.8 |
| P/E ratio | 10.07 | 9.45 | 8.11 | 10.0 | 20.9 | 18.09 | 14.8 | 15.4 | 11.4 | 7.3 |
| Change in share price during the year, % | 417 | 48 | –26 | 21 | –19 | 27 | 14 | 66 | 18 | –32 |
| Dividend yield, % | 3.3 | 3.7 | 4.0 | 3.3 | 1.8 | 1.8 | 2.3 | 2.2 | 2.9 | 4.6 |
| Total yield, % | 423 | 52 | –23 | 25 | –16 | 30 | 15 | 70 | 20 | –28 |
| **Number of shares, million** | | | | | | | | | | |
| Number of shares, 31/12 | 274 | 274 | 274 | 274 | 274 | 274 | 274 | 274 | 274 | 274 |
| Average number of shares | 274 | 274 | 274 | 274 | 274 | 274 | 274 | 274 | 274 | 274 |
| No. own shares held, 31/12 | – | – | – | – | – | – | – | – | – | – |
| **Employees** | | | | | | | | | | |
| Number of Group employees, total | 4,379 | 4,412 | 4,597 | 4,795 | 4,815 | 4,881 | 4,878 | 5,477 | 5,684 | 5,819 |
| Number of female employees | 598 | 669 | 736 | 813 | 824 | 852 | 867 | 976 | 1,001 | 1,060 |
| Percentage of women on the Board/in Group management, % | 27/17 | 27/0 | 27/0 | 27/17 | 27/20 | 27/20 | 36/20 | 36/20 | 36/20 | 50/20 |
| Accidents per one million hours worked, own personnel, frequency | 5.5 | 8.2 | 4.9 | 6.6 | 7.0 | 5.8 | 6.6 | 6.7 | 5.0 | 3.1 |
| Accidents per one million hours worked incl. contractors, frequency | | | | 9.1 | 8.9 | 7.9 | 8.9 | 7.9 | 6.3 | 5.1 |
| Fatalities, own personnel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fatalities, contractors | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Sick leave rate, % | 4.2 | 4.0 | 3.7 | 3.7 | 3.9 | 4.3 | 4.6 | 4.4 | 4.5 | 4.5 |

| Ten-year overview – The Group, cont. | 2009 | 2010 | 2011 | 2012[1] | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Energy consumption** | | | | | | | | | | |
| Total energy consumption, TJ | 14,664 | 16,147 | 15,579 | 16,140 | 16,415 | 17,231 | 16,813 | 19,061 | 19,788 | 19,650 |
| Water withdrawal, total, km$^3$ | 0.135 | 0.140 | 0.153 | 0.160 | 0.155 | 0.173 | 0.150 | 0.140 | 0.145 | 0.145 |
| **Emissions & Discharges** | | | | | | | | | | |
| Direct emissions of greenhouse gases, ktonnes | 486 | 510 | 499 | 574 | 578 | 554 | 559 | 594 | 605 | 644 |
| Indirect emissions of greenhouse gases, electricity purchased, ktonnes | 356 | 398 | 408 | 416 | 402 | 425 | 313 | 436[4] | 387 | 299 |
| Indirect emissions of greenhouse gases, heating and steam purchased, ktonnes | 5 | 6 | 17 | 18 | 20 | 22 | 17 | 23 | 31 | 28 |
| Carbon dioxide emissions, total, ktonnes | 848 | 913 | 924 | 1,008 | 1,000 | 1,001 | 889 | 1,052 | 1,024 | 971 |
| Emissions of metals to air, tonnes[3] | 21 | 23 | 23 | 92 | 75 | 126 | 88 | 100 | 109 | 92 |
| Sulphur dioxide emissions to air, tonnes | 6,930 | 6,850 | 7,410 | 8,240 | 6,410 | 7,320 | 7,210 | 7,060 | 7,360 | 7,720 |
| Discharges of metals to water, tonnes[3] | 14 | 18 | 14 | 21 | 23 | 21 | 18 | 13 | 9 | 8 |
| Discharges of nitrogen to water, tonnes | 225 | 199 | 205 | 253 | 219 | 225 | 261 | 300 | 236 | 240 |

1) The 2012 comparison year has been restated due to the changes to the IFRIC 20 and IAS 19 accounting principles in 2013.

2) The figures for 2018 comprise proposed dividend and share redemption amounts, respectively.

3) Refers to metal equivalents (tonnes), as of 2012. The period from 2008–2011 refers to the metal's mass (tonnes).

4) The 2016 emissions figure has been changed from 381 to 436 due to incorrect calculation data.

# Mines

| | 2009 | 2010 | 2011 | 2012[1] | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Production of metal in concentrate** | | | | | | | | | | |
| Zinc, ktonnes | 307 | 294 | 283 | 271 | 272 | 294 | 299 | 329 | 305 | 290 |
| Copper, ktonnes | 55 | 76 | 81 | 79 | 79 | 78 | 85 | 103 | 143 | 140 |
| Nickel, ktonnes | – | – | – | – | – | – | – | 7 | 14 | 14 |
| Lead, ktonnes | 57 | 50 | 49 | 49 | 48 | 61 | 62 | 63 | 60 | 55 |
| Gold, kg | 3,130 | 3,727 | 3,681 | 3,644 | 3,849 | 4,379 | 4,922 | 5,766 | 7,237 | 7,678 |
| Gold, troy oz. | 100,623 | 119,839 | 118,332 | 117,150 | 123,759 | 140,789 | 158,228 | 185,386 | 232,666 | 246,855 |
| Silver, kg | 214,120 | 230,756 | 231,388 | 229,791 | 261,804 | 323,325 | 418,489 | 446,826 | 413,238 | 402,349 |
| Silver, '000 troy oz. | 6,884 | 7,419 | 7,439 | 7,388 | 8,417 | 10,395 | 13,454 | 14,365 | 13,286 | 12,936 |
| Tellurium, kg[2] | – | – | – | 6,791 | 24,457 | 30,917 | 33,000 | 38,680 | 34,979 | 44,641 |
| | | | | | | | | | | |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 6,509 | 9,580 | 10,279 | 9,509 | 8,303 | 9,318 | 9,808 | 12,659 | 18,195 | 18,404 |
| Operating expenses | 3,652 | 4,535 | 5,189 | 5,008 | 4,924 | 5,417 | 5,842 | 6,833 | 7,947 | 8,481 |
| Depreciation | 673 | 954 | 1,110 | 1,669 | 1,917 | 2,264 | 2,520 | 3,172 | 3,487 | 3,708 |
| Operating profit | 2,159 | 4,113 | 3,913 | 2,974 | 1,598 | 1,299 | 1,429 | 2,804 | 6,681 | 6,451 |
| Investments | 4,435 | 2,189 | 2,338 | 3,570 | 3,763 | 2,732 | 2,394 | 2,755 | 3,722 | 4,482 |
| Operational acquisitions[3] | – | – | – | – | – | 718 | – | 5,961 | – | – |
| Capital employed | 12,476 | 13,501 | 14,272 | 16,125 | 18,288 | 19,615 | 19,275 | 24,972 | 25,502 | 26,328 |
| | | | | | | | | | | |
| **AITIK** | | | | | | | | | | |
| Milled ore, ktonnes | 18,791 | 27,596 | 31,541 | 34,321 | 37,070 | 39,090 | 36,361 | 36,051 | 39,045 | 38,472 |
| **Head grades** | | | | | | | | | | |
| Cu, % | 0.27 | 0.27 | 0.24 | 0.22 | 0.21 | 0.20 | 0.21 | 0.22 | 0.28 | 0.29 |
| Au, g/tonne | 0.13 | 0.16 | 0.14 | 0.11 | 0.10 | 0.09 | 0.11 | 0.11 | 0.13 | 0.14 |
| Ag, g/tonne | 1.99 | 2.07 | 2.15 | 2.50 | 2.28 | 2.14 | 2.45 | 2.11 | 1.98 | 1.82 |
| **Concentrate production** | | | | | | | | | | |
| Cu, ktonnes | 171 | 263 | 267 | 270 | 292 | 277 | 307 | 320 | 394 | 404 |
| **Concentrate grade** | | | | | | | | | | |
| Cu, % | 26.94 | 25.58 | 25.00 | 24.85 | 24.29 | 24.48 | 21.93 | 22.12 | 24.76 | 24.58 |
| **Production of metal in concentrate** | | | | | | | | | | |
| Cu, ktonnes | 46 | 67 | 67 | 67 | 71 | 68 | 67 | 71 | 98 | 99 |
| Au, kg | 1,348 | 2,208 | 2,447 | 1,959 | 1,765 | 1,767 | 2,042 | 2,119 | 2,899 | 3,150 |
| Au, troy oz. | 43,338 | 70,987 | 78,657 | 62,996 | 56,731 | 56,823 | 65,666 | 68,127 | 93,197 | 101,285 |
| Ag, kg | 24,701 | 36,468 | 45,040 | 51,698 | 53,612 | 54,854 | 61,452 | 56,602 | 61,862 | 54,894 |
| Ag, '000 troy oz. | 794 | 1,172 | 1,448 | 1,662 | 1,724 | 1,764 | 1,976 | 1,820 | 1,989 | 1,765 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 1,997 | 3,996 | 4,549 | 4,170 | 3,593 | 3,427 | 3,292 | 3,273 | 5,487 | 6,017 |
| Operating profit before depreciation | 1,134 | 2,442 | 2,583 | 2,651 | 1,902 | 1,669 | 1,413 | 1,548 | 3,513 | 3,974 |
| Operating profit | 949 | 2,008 | 2,046 | 1,732 | 882 | 558 | 183 | 222 | 2,073 | 2,494 |
| Investments | 3,674 | 1,210 | 1,178 | 1,207[1] | 1,143 | 1,181 | 1,207 | 1,174 | 1,534 | 1,576 |
| Cash cost USc/lb. Cu C1, Normal | 86 | 105 | 120 | 83 | 131 | 138 | 105 | 102 | 82 | 77 |
| **Proven and probable Mineral Reserves[4]** | | | | | | | | | | |
| Mtonnes | 747 | 733 | 710 | 702 | 1,085 | 1,126 | 1,227 | 1,194 | 1,161 | 1,148 |
| Cu, % | 0.25 | 0.25 | 0.25 | 0.25 | 0.22 | 0.22 | 0.23 | 0.23 | 0.23 | 0.22 |
| Au, g/tonne | 0.10 | 0.10 | 0.10 | 0.10 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |

| Ten-year overview – Mines, cont. | 2009 | 2010 | 2011 | 2012[1)] | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| **THE BOLIDEN AREA** | | | | | | | | | | |
| Milled ore, ktonnes | 1,192 | 1,375 | 1,677 | 1,862 | 1,809 | 1,862 | 1,879 | 2,138 | 2,065 | 1,947 |
| of which, slag | 242 | 157 | 134 | 241 | 301 | 245 | 301 | 300 | 264 | 199 |
| **Head grades** | | | | | | | | | | |
| Zn, % | 3.69 | 3.69 | 2.87 | 2.15 | 2.61 | 3.00 | 3.82 | 4.16 | 3.99 | 3.54 |
| Cu, % | 0.95 | 0.79 | 1.03 | 0.84 | 0.61 | 0.60 | 0.41 | 0.40 | 0.38 | 0.36 |
| Pb, % | 0.46 | 0.37 | 0.27 | 0.23 | 0.28 | 0.30 | 0.44 | 0.44 | 0.42 | 0.36 |
| Te, g/tonne[2)] | – | – | – | 8.94 | 28.78 | 33.8 | 37.6 | 36.9 | 34.9 | 44.7 |
| Au, g/tonne | 2.0 | 1.6 | 1.2 | 1.3 | 1.6 | 1.8 | 1.7 | 1.7 | 1.9 | 1.9 |
| Ag, g/tonne | 65 | 55 | 41 | 35 | 42 | 42.6 | 59.6 | 59.2 | 57.7 | 52.1 |
| **Concentrate production** | | | | | | | | | | |
| Zn, ktonnes | 58 | 74 | 69 | 56 | 63 | 82 | 103 | 129 | 123 | 103 |
| Cu, ktonnes | 28 | 31 | 60 | 47 | 31 | 32 | 20 | 23 | 20 | 20 |
| Pb, ktonnes | 4 | 4 | 3 | 3 | 3 | 5 | 9 | 12 | 13 | 9 |
| **Concentrate grade** | | | | | | | | | | |
| Zn, % | 54.7 | 54.7 | 55.7 | 54.6 | 55.9 | 54.9 | 54.2 | 54.5 | 53.2 | 54.7 |
| Cu, % | 28.4 | 26.4 | 23.3 | 25.5 | 25.4 | 24.5 | 25.7 | 24.8 | 25.3 | 23.9 |
| Pb, % | 42.7 | 41.5 | 41.7 | 44.5 | 45.26 | 32.9 | 34.0 | 31.3 | 25.7 | 32.1 |
| **Production of metal in concentrate** | | | | | | | | | | |
| Zn, ktonnes | 31 | 40 | 38 | 30 | 35 | 45 | 56 | 70 | 66 | 57 |
| Cu, ktonnes | 8 | 8 | 14 | 12 | 8 | 8 | 5 | 6 | 5 | 5 |
| Pb, ktonnes | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 4 | 3 | 3 |
| Te, kg[2)] | – | – | – | 6,791 | 24,457 | 30,917 | 33,000 | 38,680 | 34,979 | 44,641 |
| Au, kg | 1,568 | 1,285 | 989 | 1,434 | 1,808 | 2,062 | 1,899 | 2,261 | 2,476 | 2,752 |
| Au, troy oz. | 50,414 | 41,318 | 31,781 | 46,102 | 58,117 | 66,293 | 61,058 | 72,693 | 79,615 | 88,461 |
| Ag, kg | 48,186 | 52,806 | 45,318 | 41,405 | 45,212 | 47,421 | 64,846 | 84,911 | 80,781 | 72,154 |
| Ag, '000 troy oz. | 1,549 | 1,698 | 1,457 | 1,331 | 1,454 | 1,525 | 2,085 | 2,730 | 2,597 | 2,320 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 1,109 | 1,448 | 1,587 | 1,552 | 1,317 | 1,712 | 1,602 | 2,025 | 2,612 | 2,361 |
| Operating profit before depreciation | 405 | 588 | 659 | 554 | 250 | 474 | 437 | 924 | 1,267 | 1,149 |
| Operating profit | 303 | 481 | 530 | 369 | 19 | 188 | 108 | 548 | 868 | 756 |
| Investments | 264 | 298 | 565 | 623 | 364 | 261 | 413 | 365 | 440 | 632 |
| Cash cost USc/lb. Zn C1, Pro-rata | | | | | 72 | 78 | 68 | 64 | 79 | 78 |
| Cash cost USc/lb. Cu C1, Pro-rata | | | | | 264 | 216 | 167 | 112 | 143 | 153 |
| Cash cost USD/tr.oz. Au C1, Pro-rata | | | | | 1,098 | 921 | 818 | 710 | 686 | 692 |
| **Proven and probable Mineral Reserves** | | | | | | | | | | |
| Sulphide ores, ktonnes | 6,950 | 8,220 | 8,980 | 9,110 | 12,680 | 11,580 | 10,550 | 8,910 | 7,680 | 7,920 |
| Zn, % | 4.3 | 5.3 | 5.2 | 5.4 | 6.0 | 5.5 | 5.7 | 5.5 | 5.2 | 5.2 |
| Cu, % | 0.8 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 |
| Gold ores, ktonnes | 1,610 | 2,780 | 3,100 | 3,584 | 3,274 | 3,500 | 4,300 | 3,680 | 4,500 | 4,200 |
| Au, g/tonne | 4.9 | 4.1 | 3.6 | 3.8 | 3.8 | 3.5 | 3.3 | 3.6 | 3.7 | 3.7 |
| Te, g/tonne | 0 | 186 | 165 | 177 | 181 | 200 | 187 | 189 | 175 | 171 |
| | | | | | | | | | | |
| **KYLYLAHTI[5)]** | | | | | | | | | | |
| Milled ore, ktonnes | – | – | – | – | – | 172 | 733 | 797 | 809 | 785 |
| **Head grades** | | | | | | | | | | |
| Cu, % | – | – | – | – | – | 1.58 | 1.72 | 1.62 | 1.30 | 1.01 |
| Zn, % | – | – | – | – | – | 0.50 | 0.70 | 0.64 | 0.53 | 0.41 |
| Ni, % | – | – | – | – | – | – | – | – | – | 0.21 |
| Co, % | – | – | – | – | – | – | – | – | – | 0.20 |
| Au, g/tonne | – | – | – | – | – | 0.67 | 0.75 | 0.81 | 1.08 | 0.98 |
| **Concentrate production** | | | | | | | | | | |
| Cu, tonnes | – | – | – | – | – | 13,275 | 62,144 | 61,155 | 51,440 | 42,107 |
| Zn, tonnes | – | – | – | – | – | 756 | 5,177 | 5,283 | 3,799 | 2,334 |
| **Concentrate grade** | | | | | | | | | | |
| Cu, % | – | – | – | – | – | 19.2 | 19.0 | 19.8 | 18.8 | 17.5 |
| Zn, % | – | – | – | – | – | 44.3 | 42.3 | 46.9 | 44.3 | 43.3 |
| **Production of metal in concentrate** | | | | | | | | | | |
| Cu, tonnes | – | – | – | – | – | 2,546 | 11,835 | 12,123 | 9,686 | 7,353 |
| Zn, tonnes | – | – | – | – | – | 335 | 2,189 | 2,477 | 1,682 | 1,011 |
| Ni, tonnes | – | – | – | – | – | – | – | – | – | 518 |
| Co, tonnes | – | – | – | – | – | – | – | – | – | 278 |
| Au, kg | – | – | – | – | – | 82 | 421 | 477 | 674 | 605 |
| Au, troy oz. | – | – | – | – | – | 2,624 | 13,542 | 15,347 | 21,657 | 19,435 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | – | – | – | – | – | 117 | 560 | 573 | 708 | 674 |
| Operating profit before depreciation | – | – | – | – | – | 31 | 192 | 164 | 267 | 241 |
| Operating profit | – | – | – | – | – | 7 | 74 | –28 | 34 | –31 |
| Investments | – | – | – | – | – | 36 | 137 | 97 | 24 | 10 |
| Cash cost USc/lb. Cu C1, Normal | – | – | – | – | – | 190 | 150 | 143 | 153 | 198 |
| **Proven and probable Mineral Reserves** | | | | | | | | | | |
| ktonnes | – | – | – | – | – | 3,900 | 2,900 | 1,900 | 1,700 | 1,300 |
| Cu, % | – | – | – | – | – | 1.6 | 1.4 | 1.2 | 1.2 | 0.7 |
| Zn, % | – | – | – | – | – | 0.6 | 0.6 | 0.5 | 0.4 | 0.3 |
| Au, g/tonne | – | – | – | – | – | 0.9 | 1.0 | 1.1 | 0.9 | 1.0 |

| Ten-year overview – Mines, cont. | 2009 | 2010 | 2011 | 2012[1)] | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| **GARPENBERG** | | | | | | | | | | |
| Milled ore, ktonnes | 1,394 | 1,443 | 1,456 | 1,484 | 1,495 | 2,224 | 2,367 | 2,622 | 2,634 | 2,622 |
| **Head grades** | | | | | | | | | | |
| Zn, % | 7.3 | 6.6 | 6.2 | 5.6 | 5.2 | 5.1 | 5.0 | 4.4 | 4.3 | 4.1 |
| Cu, % | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Pb, % | 2.8 | 2.5 | 2.4 | 2.1 | 2.1 | 2.1 | 2.1 | 1.8 | 1.8 | 1.6 |
| Au, g/tonne | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Ag, g/tonne | 139 | 133 | 133 | 129 | 153 | 136 | 156 | 150 | 133[6)] | 135 |
| **Concentrate production** | | | | | | | | | | |
| Zn, ktonnes | 167 | 160 | 148 | 136 | 127 | 182 | 196 | 200 | 201 | 191 |
| Cu, ktonnes | 3 | 3 | 2 | 2 | 3 | 3 | 5 | 5 | 5 | 5 |
| Pb, ktonnes | 44 | 41 | 39 | 35 | 36 | 58 | 60 | 54 | 55 | 50 |
| **Concentrate grade** | | | | | | | | | | |
| Zn, % | 53.8 | 53.7 | 55.0 | 54.8 | 55.4 | 54.6 | 55.0 | 54.3 | 53.5 | 52.9 |
| Cu, % | 18.3 | 18.3 | 19.1 | 17.7 | 18.0 | 14.8 | 16.3 | 15.2 | 16.3 | 13.7 |
| Pb, % | 71.3 | 72.0 | 72.4 | 70.7 | 70.3 | 63.1 | 70.7 | 72.7 | 70.9 | 70.5 |
| **Production of metal in concentrate** | | | | | | | | | | |
| Zn, ktonnes | 90 | 86 | 81 | 75 | 70 | 99 | 108 | 109 | 107 | 101 |
| Cu, ktonnes | 0.5 | 0.5 | 0.4 | 0.4 | 0.5 | 0.4 | 0.8 | 0.7 | 0.8 | 0.7 |
| Pb, ktonnes | 31 | 29 | 28 | 25 | 25 | 37 | 42 | 39 | 39 | 35 |
| Au, kg | 214 | 234 | 246 | 250 | 277 | 468 | 559 | 580 | 541 | 542 |
| Au, troy oz. | 6,870 | 7,534 | 7,895 | 8,051 | 8,911 | 15,049 | 17,962 | 18,661 | 17,406 | 17,413 |
| Ag, tonnes | 139 | 140 | 140 | 135 | 162 | 218 | 288 | 302 | 268 | 273 |
| Ag, '000 troy oz. | 4,473 | 4,505 | 4,505 | 4,341 | 5,201 | 7,014 | 9,270 | 9,705 | 8,602 | 8,769 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 1,490 | 1,902 | 2,155 | 1,876 | 1,675 | 2,318 | 2,862 | 3,491 | 4,019 | 3,700 |
| Operating profit before depreciation | 945 | 1,293 | 1,506 | 1,262 | 1,025 | 1,319 | 1,896 | 2,509 | 3,049 | 2,685 |
| Operating profit | 793 | 1,124 | 1,314 | 1,033 | 776 | 919 | 1,452 | 2,063 | 2,606 | 2,225 |
| Investments | 157 | 281 | 660 | 1,459 | 2,045 | 916 | 336 | 317 | 377 | 395 |
| Cash cost USc/lb. Zn C1, Pro-rata | | | | | 46 | 56 | 45 | 43 | 46 | 47 |
| **Proven and probable Mineral Reserves** | | | | | | | | | | |
| ktonnes | 25,800 | 25,100 | 23,600 | 25,600 | 36,300 | 37,600 | 39,800 | 76,400 | 77,700 | 76,200 |
| Zn, % | 5.4 | 5.3 | 5.1 | 5.1 | 4.6 | 4.3 | 3.9 | 3.2 | 3.1 | 3.1 |
| Ag, g/tonne | 142 | 145 | 144 | 131 | 132 | 120 | 113 | 97 | 100 | 96 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **TARA** | | | | | | | | | | |
| Milled ore, ktonnes | 2,508 | 2,593 | 2,486 | 2,502 | 2,493 | 2,287 | 2,197 | 2,603 | 2,311 | 2,200 |
| **Head grades** | | | | | | | | | | |
| Zn, % | 7.9 | 7.0 | 7.0 | 7.0 | 7.1 | 6.9 | 6.4 | 6.0 | 5.9 | 6.3 |
| Pb, % | 1.5 | 1.4 | 1.4 | 1.4 | 1.5 | 1.6 | 1.3 | 1.2 | 1.1 | 1.2 |
| **Concentrate production** | | | | | | | | | | |
| Zn, ktonnes | 344 | 316 | 307 | 305 | 298 | 267 | 243 | 268 | 239 | 242 |
| Pb, ktonnes | 41 | 34 | 34 | 41 | 39 | 42 | 34 | 37 | 31 | 29 |
| **Concentrate grade** | | | | | | | | | | |
| Zn, % | 53.9 | 53.0 | 53.3 | 54.4 | 55.9 | 56.0 | 54.8 | 55.2 | 54.6 | 54.4 |
| Pb, % | 57.5 | 53.7 | 58.8 | 55.2 | 56.1 | 53.1 | 49.9 | 52.8 | 54.7 | 57.0 |
| **Production of metal in concentrate** | | | | | | | | | | |
| Zn, ktonnes | 186 | 167 | 164 | 166 | 166 | 150 | 133 | 148 | 131 | 132 |
| Pb, ktonnes | 24 | 19 | 20 | 23 | 22 | 22 | 17 | 20 | 17 | 17 |
| Ag, kg | 2,092 | 1,344 | 909 | 1,673 | 1,197 | 2,433 | 1,273 | 1,076 | 1,344 | 1,160 |
| Ag, '000 troy oz. | 67 | 43 | 29 | 54 | 38 | 78 | 41 | 35 | 43 | 37 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 1,671 | 1,831 | 1,757 | 1,727 | 1,542 | 1,743 | 1,492 | 2,085 | 2,691 | 2,727 |
| Operating profit before depreciation | 303 | 619 | 503 | 421 | 595 | 479 | 470 | 947 | 1,275 | 1,160 |
| Operating profit | 76 | 383 | 268 | 100 | 195 | 56 | 95 | 476 | 942 | 798 |
| Investments | 338 | 285 | 372 | 268 | 201 | 313 | 274 | 299 | 379 | 592 |
| Cash cost USc/lb. Zn C1, Normal | 64 | 69 | 72 | 69 | 68 | 75 | 76 | 69 | 70 | 78 |
| **Proven and probable Mineral Reserves** | | | | | | | | | | |
| ktonnes | 17,000 | 16,000 | 15,700 | 14,000 | 13,100 | 15,300 | 17,000 | 16,500 | 19,500 | 19,000 |
| Zn, % | 7.2 | 7.1 | 7.1 | 7.1 | 7.0 | 6.6 | 6.3 | 6.3 | 5.8 | 5.7 |
| Pb, % | 1.8 | 1.8 | 1.8 | 1.7 | 1.6 | 1.5 | 1.5 | 1.6 | 1.4 | 1.5 |

| Ten-year overview – Mines, cont. | 2009 | 2010 | 2011 | 2012[1] | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| **KEVITSA[7]** | | | | | | | | | | |
| Milled ore, ktonnes | – | – | – | – | – | – | – | 4,518 | 7,911 | 7,582 |
| **Head grades** | | | | | | | | | | |
| Cu, % | – | – | – | – | – | – | – | 0.35 | 0.42 | 0.39 |
| Ni, % | – | – | – | – | – | – | – | 0.24 | 0.25 | 0.26 |
| Co, % | – | – | – | – | – | – | – | 0.01 | 0.01 | 0.01 |
| Au, g/tonne | – | – | – | – | – | – | – | 0.14 | 0.16 | 0.15 |
| Pd, g/tonne | – | – | – | – | – | – | – | 0.19 | 0.20 | 0.22 |
| Pt, g/tonne | – | – | – | – | – | – | – | 0.29 | 0.32 | 0.36 |
| **Concentrate production** | | | | | | | | | | |
| Cu, ktonnes | – | – | – | – | – | – | – | 55 | 112 | 110 |
| Ni, ktonnes | – | – | – | – | – | – | – | 80 | 139 | 145 |
| **Concentrate grade** | | | | | | | | | | |
| Cu, % | – | – | – | – | – | – | – | 25.8 | 26.8 | 25.1 |
| Ni, % | – | – | – | – | – | – | – | 9.3 | 9.9 | 9.6 |
| **Production of metal in concentrate** | | | | | | | | | | |
| Cu, tonnes | – | – | – | – | – | – | – | 14,217 | 29,957 | 27,498 |
| Ni, tonnes | – | – | – | – | – | – | – | 7,442 | 13,777 | 13,948 |
| Co, tonnes | – | – | – | – | – | – | – | 322 | 587 | 591 |
| Au, kg | – | – | – | – | – | – | – | 328 | 647 | 630 |
| Au, troy oz. | – | – | – | – | – | – | – | 10,558 | 20,790 | 20,261 |
| Pd, kg | – | – | – | – | – | – | – | 559 | 1,021 | 1,157 |
| Pd, troy oz. | – | – | – | – | – | – | – | 17,965 | 32,838 | 37,209 |
| Pt, kg | – | – | – | – | – | – | – | 750 | 1,418 | 1,576 |
| Pt, troy oz. | – | – | – | – | – | – | – | 24,118 | 45,573 | 50,683 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | – | – | – | – | – | – | – | 1,210 | 2,680 | 2,922 |
| Operating profit before depreciation | – | – | – | – | – | – | – | 500 | 1,502 | 1,686 |
| Operating profit | – | – | – | – | – | – | – | 166 | 893 | 974 |
| Investments | – | – | – | – | – | – | – | 473 | 939 | 1,221 |
| Cash cost USc/lb. Ni C1, Normal | – | – | – | – | – | – | – | 150 | –150 | –73 |
| Cash cost USc/lb. Ni C1, Pro-rata | – | – | – | – | – | – | – | 340 | 278 | 315 |
| Cash cost USc/lb. Cu C1, Pro-rata | – | – | – | – | – | – | – | 155 | 139 | 146 |
| **Proven and probable Mineral Reserves** | | | | | | | | | | |
| ktonnes | – | – | – | – | – | – | – | 146,800 | 133,800 | 128,600 |
| Cu, % | – | – | – | – | – | – | – | 0.34 | 0.34 | 0.34 |
| Ni, % | – | – | – | – | – | – | – | 0.22 | 0.22 | 0.22 |

1) Comparison figures for 2012 have been restated due to changes in accounting regulations. Investments at Aitik increased by SEK 383 m.

2) Tellurium production started in 2012.

3) Operational acquisitions: Kylylahti in 2014 (SEK 718 m), and Kevitsa in 2016 (SEK 5,961 m).

4) Aitik's figures for 2013 are updated in accordance with the press release published on 6 May 2014.

5) The acquisition of Kylylahti was completed in October 2014.

6) Last year's figure for Ag g/tonne has been corrected from 113 to 133 due to incorrect calculation data.

7) The acquisition of Kevitsa was completed in June 2016.

# Smelters

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Metal production** | | | | | | | | | | |
| Zinc, ktonnes | 434 | 456 | 461 | 467 | 455 | 468 | 469 | 461 | 457 | 486 |
| Copper, ktonnes | 302 | 303 | 336 | 339 | 325 | 347 | 332 | 336 | 353 | 364 |
| Lead, ktonnes | 13 | 17 | 11 | 19 | 24 | 25 | 26 | 28 | 28 | 29 |
| Lead alloys, ktonnes (Bergsöe) | 39 | 42 | 41 | 43 | 45 | 44 | 45 | 46 | 50 | 47 |
| Nickel in matte, ktonnes[1)] | | | | | | | 17 | 31 | 25 | 31 |
| Gold, kg | 15,028 | 14,220 | 12,848 | 16,175 | 16,177 | 17,368 | 17,608 | 17,638 | 17,776 | 16,653 |
| Gold, troy oz. | 483,157 | 457,168 | 413,052 | 520,011 | 520,094 | 558,382 | 566,102 | 567,077 | 571,501 | 535,381 |
| Silver, kg[2)] | 539,564 | 450,280 | 488,147 | 575,959 | 537,941 | 626,767 | 680,600 | 626,331 | 569,474 | 563,051 |
| Silver, '000 troy oz.[2)] | 17,346 | 14,476 | 15,964 | 18,517 | 17,294 | 20,151 | 21,881 | 20,137 | 18,309 | 18,102 |
| Aluminium fluoride, ktonnes[3)] | 33 | 22 | 35 | 36 | 34 | 35 | 31 | 32 | 0 | 0 |
| Sulphuric acid, ktonnes | 1,123 | 1,372 | 1,597 | 1,634 | 1,564 | 1,659 | 1,665 | 1,642 | 1,613 | 1,630 |
| | | | | | | | | | | |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 26,765 | 34,390 | 38,471 | 38,753 | 33,410 | 35,894 | 38,948 | 38,516 | 47,691 | 50,634 |
| Gross profit excl. revaluation of process inventory[4)] | 6,560 | 7,158 | 7,160 | 7,288 | 6,908 | 7,869 | 9,167 | 9,376 | 9,776 | 10,088 |
| Operating expenses | 5,281 | 5,247 | 5,358 | 5,330 | 5,346 | 5,370 | 5,536 | 5,696 | 6,004 | 6,490 |
| Depreciation | 888 | 848 | 823 | 891 | 913 | 1,012 | 1,002 | 1,026 | 1,114 | 1,220 |
| Operating profit excl. revaluation of process inventory[4)] | 451 | 1,134 | 1,051 | 1,095 | 679 | 1,518 | 2,692 | 2,759 | 2,732 | 2,435 |
| Operating profit | 1,724 | 1,946 | 790 | 1,224 | 210 | 1,672 | 2,272 | 3,347 | 2,834 | 2,364 |
| Investments | 473 | 804 | 1,627 | 993 | 1,200 | 768 | 1,248 | 1,372 | 1,862 | 1,656 |
| Capital employed | 13,712 | 14,225 | 16,213 | 15,569 | 15,791 | 15,592 | 15,878 | 17,838 | 18,018 | 18,237 |
| | | | | | | | | | | |
| **RÖNNSKÄR** | | | | | | | | | | |
| **Smelting material** | | | | | | | | | | |
| **Copper, ktonnes** | | | | | | | | | | |
| Copper concentrate | 565 | 544 | 651 | 624 | 605 | 661 | 642 | 626 | 631 | 665 |
| Secondary raw materials | 154 | 155 | 175 | 221 | 209 | 184 | 172 | 171 | 180 | 171 |
| of which, electronics[5)] | | 37 | 64 | 108 | 109 | 82 | 86 | 82 | 77 | 86 |
| Copper, total | 719 | 699 | 826 | 844 | 814 | 845 | 814 | 798 | 811 | 835 |
| **Lead, ktonnes** | | | | | | | | | | |
| Lead concentrate | 14 | 16 | 11 | 27 | 38 | 40 | 38 | 41 | 39 | 43 |
| Secondary raw materials | 7 | 6 | 5 | 2 | 1 | 1 | 1 | 1 | 2 | 2 |
| Lead, total | 21 | 23 | 17 | 29 | 39 | 41 | 39 | 42 | 41 | 45 |
| **Production** | | | | | | | | | | |
| Cathode copper, ktonnes | 206 | 190 | 219 | 214 | 206 | 217 | 206 | 207 | 219 | 224 |
| Lead, ktonnes | 13 | 17 | 11 | 19 | 24 | 25 | 26 | 28 | 28 | 29 |
| Zinc clinker, ktonnes | 39 | 37 | 36 | 36 | 36 | 39 | 36 | 33 | 34 | 31 |
| Gold, tonnes | 13 | 12 | 11 | 13 | 12 | 13 | 13 | 14 | 13 | 13 |
| Gold, '000 troy oz. | 427 | 400 | 341 | 403 | 402 | 419 | 425 | 443 | 421 | 429 |
| Silver, tonnes | 481 | 386 | 415 | 448 | 437 | 479 | 539 | 508 | 485 | 472 |
| Silver, '000 troy oz. | 15,472 | 12,340 | 13,344 | 14,395 | 14,051 | 15,392 | 17,322 | 16,337 | 15,590 | 15,165 |
| Sulphuric acid, ktonnes | 515 | 502 | 571 | 553 | 536 | 564 | 533 | 503 | 505 | 518 |
| Liquid sulphur dioxide, ktonnes | 36 | 43 | 42 | 38 | 39 | 42 | 37 | 45 | 50 | 61 |
| Palladium concentrate, tonnes | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 2 | 2 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 1,669 | 1,799 | 2,226 | 2,398 | 2,029 | 2,417 | 2,678 | 2,759 | 2,883 | 3,045 |
| Operating profit before depreciation | 338 | 441 | 715 | 832 | 374 | 748 | 1,038 | 1,135 | 1,221 | 1,091 |
| Operating profit | 83 | 187 | 470 | 535 | 53 | 405 | 727 | 852 | 900 | 756 |
| Investments | 199 | 270 | 1,074 | 481 | 345 | 147 | 383 | 398 | 356 | 403 |
| | | | | | | | | | | |
| **BERGSÖE** | | | | | | | | | | |
| **Smelting material, ktonnes** | | | | | | | | | | |
| Battery raw materials | 57 | 56 | 57 | 62 | 63 | 63 | 64 | 64 | 70 | 67 |
| **Production, ktonnes** | | | | | | | | | | |
| Lead alloys | 39 | 42 | 41 | 43 | 45 | 44 | 45 | 46 | 50 | 47 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 632 | 793 | 787 | 698 | 715 | 783 | 817 | 882 | 1,221 | 1,172 |
| Operating profit before depreciation | 106 | 99 | 95 | 52 | 57 | 64 | 37 | 126 | 124 | 61 |
| Operating profit | 91 | 82 | 75 | 34 | 39 | 45 | 18 | 109 | 110 | 8 |
| Investments | 12 | 14 | 24 | 10 | 12 | 10 | 11 | 26 | 66 | 49 |

| Ten-year overview – Smelters, cont. | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| **HARJAVALTA** | | | | | | | | | | |
| **Smelting material, ktonnes** | | | | | | | | | | |
| Copper concentrate | 400 | 434 | 456 | 516 | 471 | 551 | 528 | 552 | 543 | 522 |
| Secondary raw materials | 11 | 22 | 14 | 16 | 26 | 21 | 23 | 27 | 24 | 27 |
| Copper, total | 411 | 456 | 471 | 532 | 497 | 572 | 551 | 579 | 566 | 549 |
| Nickel concentrate | 211 | 262 | 259 | 248 | 251 | 239 | 282 | 294 | 259 | 296 |
| **Production** | | | | | | | | | | |
| Cathode copper, ktonnes | 97 | 113 | 116 | 125 | 119 | 130 | 126 | 129 | 133 | 139 |
| Nickel in matte, ktonnes[1] | | | | | | | 17 | 31 | 25 | 31 |
| Gold, tonnes | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 5 | 3 |
| Gold, '000 troy oz. | 56 | 57 | 72 | 117 | 119 | 139 | 141 | 124 | 150 | 106 |
| Silver, tonnes | 58 | 65 | 73 | 128 | 101 | 142 | 126 | 101 | 66 | 73 |
| Silver, '000 troy oz. | 1,876 | 2,077 | 2,350 | 4,122 | 3,244 | 4,577 | 4,042 | 3,247 | 2,134 | 2,351 |
| Sulphuric acid, ktonnes | 501 | 573 | 600 | 639 | 590 | 658 | 667 | 703 | 677 | 671 |
| Liquid sulphur dioxide, ktonnes | 33 | 27 | 35 | 37 | 37 | 37 | 37 | 33 | 35 | 37 |
| Palladium concentrate, tonnes | 0.27 | 0.72 | 0.84 | 0.54 | 1.47 | 1.91 | 2.15 | 2.57 | 2.90 | 2.66 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 1,261 | 1,468 | 1,552 | 1,666 | 1,631 | 1,746 | 2,214 | 2,281 | 2,353 | 2,897 |
| Operating profit before depreciation | 203 | 318 | 373 | 479 | 496 | 485 | 943 | 935 | 953 | 1,315 |
| Operating profit before depreciation, excl. PIR[4] | 62 | 318 | 373 | 479 | 496 | 485 | 943 | 935 | 953 | 1,315 |
| Operating profit | 24 | 154 | 222 | 324 | 316 | 279 | 736 | 704 | 707 | 1,043 |
| Operating profit excl. PIR[4] | –117 | 154 | 222 | 324 | 316 | 279 | 736 | 704 | 707 | 1,043 |
| Investments | 148 | 122 | 229 | 215 | 246 | 225 | 396 | 432 | 808 | 680 |
| | | | | | | | | | | |
| **KOKKOLA** | | | | | | | | | | |
| **Smelting material, ktonnes** | | | | | | | | | | |
| Zinc concentrate | 571 | 587 | 600 | 589 | 602 | 577 | 584 | 547 | 560 | 566 |
| **Production, ktonnes** | | | | | | | | | | |
| Zinc | 295 | 307 | 307 | 315 | 312 | 302 | 306 | 291 | 285 | 295 |
| Silver in concentrate, kg | | | | | | 5,651 | 16,079 | 17,180 | 18,188 | 18,205 |
| Silver in concentrate, '000 troy oz. | | | | | | 182 | 517 | 552 | 585 | 585 |
| Sulphuric acid[6] | | 199 | 302 | 313 | 319 | 314 | 343 | 315 | 326 | 322 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 1,979 | 2,062 | 1,818 | 1,778 | 1,795 | 2,004 | 2,350 | 2,223 | 2,363 | 2,344 |
| Operating profit before depreciation | 558 | 685 | 417 | 432 | 398 | 639 | 943 | 789 | 921 | 711 |
| Operating profit | 362 | 505 | 246 | 261 | 248 | 459 | 739 | 572 | 688 | 461 |
| Investments | 99 | 248 | 237 | 210 | 318 | 216 | 166 | 297 | 322 | 343 |
| | | | | | | | | | | |
| **ODDA** | | | | | | | | | | |
| **Smelting material, ktonnes** | | | | | | | | | | |
| **Zinc concentrate** | | | | | | | | | | |
| (incl. zinc clinker) | 245 | 277 | 283 | 279 | 263 | 302 | 310 | 339 | 338 | 366 |
| **Production, ktonnes** | | | | | | | | | | |
| Zinc | 139 | 149 | 153 | 153 | 143 | 166 | 163 | 171 | 172 | 191 |
| Aluminium fluoride[3] | 33 | 22 | 35 | 36 | 34 | 35 | 31 | 32 | 0 | 0 |
| Sulphuric acid | 108 | 123 | 125 | 128 | 119 | 123 | 123 | 121 | 104 | 119 |
| **Financial data, SEK m** | | | | | | | | | | |
| Revenues | 1,123 | 1,128 | 1,212 | 1,184 | 1,070 | 1,395 | 1,554 | 1,522 | 1,309 | 1,322 |
| Operating profit before depreciation | 161 | 184 | 123 | 184 | 116 | 355 | 522 | 461 | 383 | 338 |
| Operating profit | 6 | 39 | –25 | 31 | –26 | 209 | 390 | 314 | 225 | 168 |
| Investments | 22 | 75 | 44 | 61 | 269 | 166 | 283 | 214 | 298 | 152 |

The operating profit per smelter excludes the revaluation of process inventory, with the exception of Harjavalta, 2008–2009.

1) Included as of 1 July 2015.

2) Silver in concentrate at Kokkola is included in the production figure shown as of 2014.

3) The aluminium fluoride operations at Odda were divested in 2017.

4) Process Inventory Revaluation.

5) Electronic scrap recycling was not reported separately between 2005 and 2009.

6) Investment in sulphuric acid plant, 2010.

# Definitions and industry concepts

## Financial definitions

**Balance Sheet total** The sum of the assets side or the sum of the equity and liabilities side of the Balance Sheet.

**Capital employed** The Balance Sheet total less interest-bearing investments, tax receivables and non-interest-bearing provisions and liabilities.

**Cash flow from operating activities** Cash flow generated via the operating profit, adjusted for items not affecting cash flow, tax paid and change in working capital.

**Cash flow per share** The cash flow for the period divided by the average number of outstanding shares.

**Dividend yield** Dividend per share as a percentage of the share price.

**Earnings per share** Net result for the period divided by the average number of outstanding shares.

**Equity/assets ratio** Equity as a percentage of the Balance Sheet total.

**Equity per share** Equity divided by the number of outstanding shares.

**Free cash flow** **Cash flow from operating activities including cash flow from investment activities**.

**FTE – Full Time Equivalent** A metric that corresponds to one employee working full time for one year.

**Net debt** Interest-bearing current and long-term liabilities (including pension liabilities) less financial assets (including cash and cash equivalents).

**Net debt/equity ratio** Net debt divided by equity.

**Operating profit (EBIT)** Revenues less all costs attributable to the operations but excluding net financial items and tax.

**Operating profit (EBIT) excluding revaluation of process inventory** Revenues minus all costs attributable to the operations but excluding the effects of the revaluation of process inventory, net financial items and tax.

**P/E ratio** Share price divided by earnings per share.

**Return on capital employed** Operating profit divided by the average capital employed. The average capital employed for each year consists of an average of the closing capital employed in the last 13 months. Measured before tax.

**Return on equity** Profit for the year as a percentage of average equity in the last 13 months. Measured after tax.

**Total return** The sum of the share's performance during the year plus dividend paid divided by the share price at the beginning of the year.

Explanations and calculations for the following financial metrics are available at www.boliden.com: Operating profit (EBIT) excluding revaluation of process inventory, Operating profit (EBIT), Free cash flow, Net debt, Return on capital employed, Return on Equity, Net debt/equity ratio, and Equity/Assets ratio. These financial metrics are used by Boliden but are not defined in accordance with IFRS regulations.

## Definition of Cash cost

Boliden uses the Wood Mackenzie's cash cost metrics, C1 Normal costing and C1 Pro rata costing, to measure the mines' cost position in relation to other mines worldwide. The lower a mine's cash cost, the better its cost position. Cash cost is expressed in USc/lb. of metal and can be multiplied by 22.0462 (rounded off) to obtain the price in USD per tonne of metal.

**Normal costing**
In normal costing calculations, the costs are allocated in their entirety to one main metal and then reduced by the net revenue[1] of other metals, known as by-metals.

| | |
|---|---|
| + | Mining operations, concentration and administration costs[2] |
| + | Costs of freighting concentrate to smelters |
| + | Treatment and refining charges (TC/RC) |
| – | Deductions for net revenue of by-metals |
| = | **Cash cost C1 Normal costing** |

**Pro rata costing**
In pro rata cash costing, the costs are divided up between the various metals on the basis of the individual metal's share of the total net revenue.

**Composite costing**
In composite costing, mines are included using either normal costing or pro rata costing on the basis of criteria based on the metals' net revenue. If a metal accounts for 65 per cent or more of the total net revenue, the cash cost is calculated using normal costing, while if a metal accounts for less than 65 per cent of the total net revenue, the cash cost is calculated using pro rata costing.

| | |
|---|---|
| + | Income from payable metal |
| – | The metal's freight cost |
| – | The metal's treatment and refining charges |
| = | **The net revenue of the metal** |

## Definition of Cash margin

Boliden uses Wood Mackenzie's cash margin compilations to measure the smelter's cost position in relation to other smelters. The cash margin is the difference between income and cash cost, expressed in USc/lb. of metal and can be multiplied by 22.0462 (rounded off) to obtain the price in USD per tonne of metal. The income comprises treatment and refining charges, free metals and income from by-products.

The income for zinc smelters includes income generated by sales of surplus energy, while for copper smelters, the income generated by the sales of sulphuric acid and surplus energy is added as a credit when calculating the cash cost.

The calculations for copper smelters are expressed as unit of metal produced from concentrate, while for zinc smelters, it is expressed as unit of finished metal produced. Income is normally included if it is regarded as having been derived from the main process during the production of metal and the product is saleable.

1) Calculating the net revenue of mines' metals
The net revenue is the payable income from the metal, less freight costs and treatment and refining charges.
2) Administrative costs attributable to the mine.

# Industry-specific concepts and definitions

**Alloy** Substance with metallic properties which is composed of two or more chemical elements, at least one of which is a metal.

**Base metals** The most common metals, e.g. zinc, copper, lead, nickel and aluminium.

**Cash cost** Common measurement used to show the costs affecting a mine's cash flow, converted into US dollars (average rate for the measurement period). Usually shown in cents per ounce. To show the cash cost in USD/tonne, multiply by 22. Used to compare the mine's cost position in relation to other mines. See Definitions.

**Complex ore** Ore that contains several metals, e.g. zinc, copper, lead, gold and silver.

**Concentrator** A plant in which ore is processed mechanically and/or chemically to extract and produce a concentrate of the valuable minerals.

**Copper cathode** An end product from copper smelters in the form of 99.99 per cent pure copper plates.

**Free metals** The percentage of metal concentrates bought in that an individual smelter can process over and above the payable metal content. This percentage generates income without incurring a raw material cost.

**Galvanising** An electrochemical process whereby a metal is coated with a thin layer of another metal, such as zinc. Galvanising is commonly used to protect against corrosion (rust).

**Gold doré** A gold/silver alloy cast as a bullion in the refinery. Further processed to pure gold and silver at a smelter.

**Jarosite** A mineral primarily comprising iron sulphate that is a common waste product of zinc production.

**Kaldo furnace** Rotating and tippable furnace for the smelting and process treatment of copper, lead and precious metals, etc., including the recycling of metals from electronic scrap. The plastic present in the scrap is used to smelt the metals, thereby reducing the process' energy requirement.

**LBMA** London Bullion Market Association. International market responsible for the daily pricing of precious metals.

**LME** London Metal Exchange. International market where non-ferrous metals are bought and sold. Trading on the LME is used as the basis for the daily pricing of metals worldwide. The LME also maintains warehouse stocks of the metals traded.

**Metal concentrate** Also known as dressed ore or mined concentrate. Metal concentrate is the result of the concentration processes that separate out the financially valuable minerals present in ore from those with no financial value.

**Metal content** The quantities of, for example, zinc, copper, lead, gold and silver contained in concentrates. Zinc concentrates generally contain approximately 50 per cent zinc metal, while copper concentrates generally contain approximately 25 per cent copper. The lead content of mined concentrate is usually around 65 percent.

**Metal equivalents** Used to describe the environmental impact of emissions and discharges to air and water. The metal equivalent (Me-eq) takes into account the toxicity of each metal (relative to Cu) and provides a better metric of the environmental impact than the combined weight of the metals.

**Metal premium** The price agreed in advance, over and above the LME price, and paid by customers for specifically adapted metal that is free delivered.

**Mineralisation** A concentration of minerals in the bedrock.

**Mineral Reserves** Those parts of a mineral resource that can be mined and processed in accordance with the company's profitability requirements and taking into account factors such as waste rock dilution and the percentage of metal in an ore that can be extracted in the concentration process are transferred to Mineral Reserves and hence eliminated from the Mineral Resources. Mineral Reserves are divided into two categories: probable Mineral Reserves and proven Mineral Reserves.

**Mineral Resources** A concentration of minerals in the bedrock that may become commercially extractable. Mineral Resources are divided into three categories: inferred Mineral Resources, indicated Mineral Resources, and measured Mineral Resources.

**Open pit** A method of mining mineral deposits located near the surface. The waste rock is stripped and the ore mined directly at the surface.

**Ore** Economic term for minerals, rock types or other bedrock components that can be profitably mined to extract metals or other valuable substances.

**Ore grade** The average quantity of valuable metals in a tonne of ore, expressed as grams per tonne for precious metals and as a percentage for other metals.

**Payable metal content** The percentage of the metal content of the concentrate for which the smelters pay when purchasing concentrate.

**Precious metals** Metals that are less commonly present in the earth's crust than base metals and which are regarded, to a greater extent, as a type of investment asset by financial sector players. The most common precious metals are gold, silver, platinum and palladium.

**Price escalators (PP)** Also known as price-sharing clauses. The clauses in the agreements for zinc smelting charges that distribute changes in metal prices between mines and smelters. There have been no price escalator clauses in copper treatment and refining charges for many years now.

**Raw materials feed** A smelter's raw material input, i.e. the amount of metal concentrate or secondary materials processed and refined.

**Recovery** The percentage portion of the quantity of a given metal in an ore extracted during the concentration process.

**Secondary material** Various types of recycling materials from which metals can be recovered, e.g. electronic and metal scrap, metal ashes, slag, dust and scrap lead batteries.

**Smelter** A plant in which metal raw materials, metal concentrates or secondary materials are processed to separate metals from impurities.

**Treatment and refining charges (TC/RC)** The price of concentrate is defined as the LME price less treatment and refining charges, which comprise the remuneration received by the smelter for refining the smelting material (concentrate and secondary materials) and extracting metals. Copper smelters' processes can be broken down into a treatment phase and a refining phase, while zinc smelters' processes only involve a treatment phase, and hence zinc smelters' remuneration only comprises a treatment charge (TC).

**Underground mine** Mine where the ore is mined using underground tunnels. The mining methods used in Boliden's underground mines include the cut-and-fill method and sub-level stoping.

**Waste rock** Economic term for rock which, unlike ore, contains no valuable material.

**Zinc ingot** An end product from zinc smelters with detailed specifications with regard to degree of purity, weight and size.

**Abbreviations**

Lb = pound = 0.4536 kg
Troy ounce = 31.1035 gram
USD = US dollars
USc = US cents
c/Lb = cent per pound = 1/22 USD/tonne
SEK = Swedish kronor
NOK = Norwegian kroner
EUR = euro
Ag = silver
Au = gold
Cu = copper
Ni = nickel
Pb = lead
Zn = zinc

# Annual General Meeting

Boliden's Annual General Meeting will be held on Friday, 3 May 2019 in Boliden.

**Participation**
Shareholders wishing to participate in the Annual General Meeting must both be registered in the shareholders' register kept by Euroclear Sweden AB on Friday, 26 April 2019 (for details of the re-registration process for nominee shareholders, please see below) and have notified the company of their intention to participate, either via Boliden's website, www.boliden.com, by calling the company on tel. +46 8 32 94 29, or by writing to the company at the following address: Boliden, c/o Euroclear Sweden AB, Box 191, SE-101 23 Stockholm, Sweden. All such notifications must be received by the company no later than Friday, 26 April 2019.

Shareholders' notifications of their intention to attend the Annual General Meeting shall include the shareholder's name, Civic ID no. or corporate ID no., address and telephone number, and the number of assistants who will accompany them. The information provided will be computerised and used exclusively in connection with the Annual General Meeting.

**Nominee shareholders**
In order to be entitled to participate in the Annual General Meeting, nominee shareholders must, no later than Friday, 26 April 2019, have their shares temporarily re-registered in their own names with Euroclear Sweden AB. All such requests for registration in the shareholder's own name must be submitted to the relevant trustee well ahead of this date.

**Complete convening notice**
A complete notice convening the Annual General Meeting, as well as financial and other information, can be found on Boliden's website at www.boliden.com. Printed financial information may also be ordered via the website or from Boliden AB, Box 44, SE-101 20 Stockholm, Sweden.

**Financial information**

| | |
|---|---|
| 3 May 2019 | Interim Report for the first quarter 2019 |
| 19 July 2019 | Interim Report for the second quarter 2019 |
| 24 October 2019 | Interim Report for the third quarter 2019 |
| 12 February 2020 | Fourth quarter Interim and Year-end Report 2019 |

**Questions**
Any questions concerning the content of Boliden's financial information can be submitted to:
Boliden's Investor Relations
Tel. +46 8 610 15 00 or
e-mail: investorrelations@boliden.com

Find out more at www.boliden.com

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**Boliden 2018 Annual and Sustainability Report**
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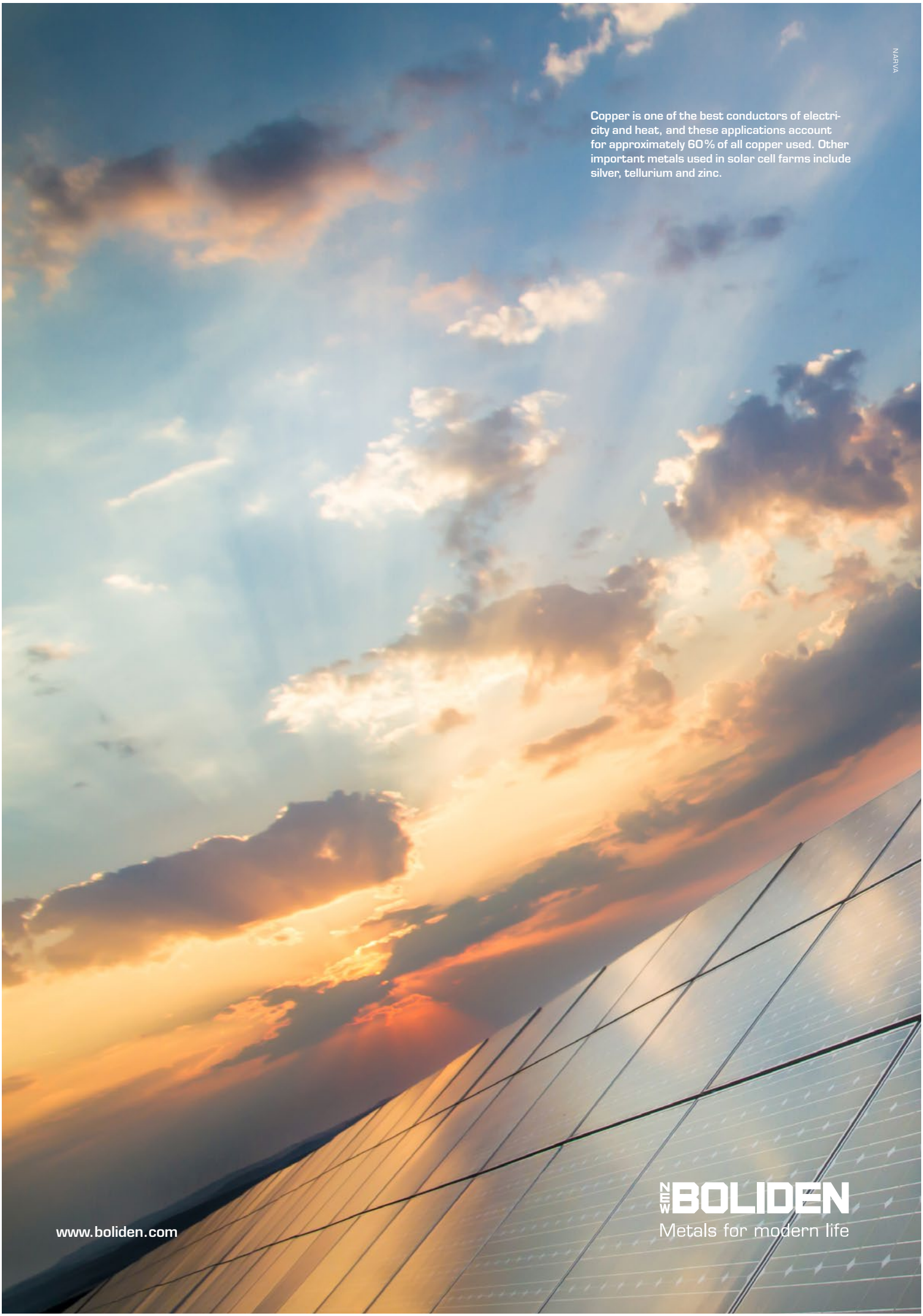
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