



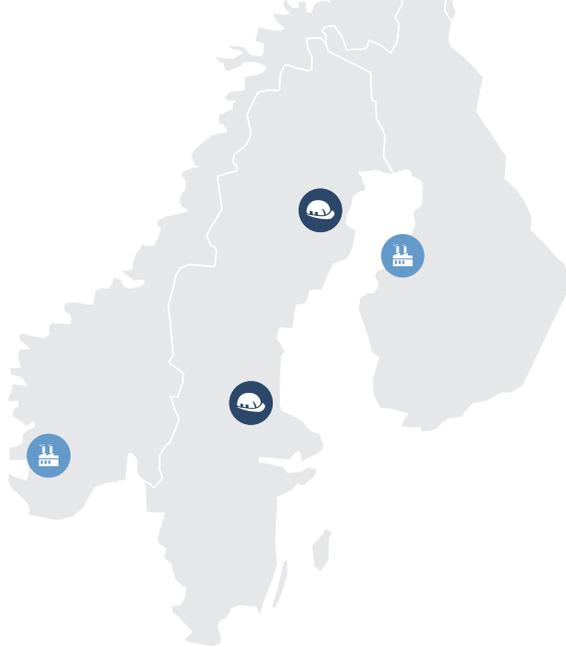
**NEW BOLIDEN**

**THE WORLD'S  
FIRST LOW  
CARBON ZINC**

Zinc from Boliden's own mines with  
the lowest carbon footprint in the world

### Boliden zinc production:

- Tara, Ireland (mine)
- Odda, Norway (smelter)
- Garpenborg, Sweden (mine)
- The Boliden area, Sweden (mine)
- Kokkola, Finland (smelter)



# THIS IS LOW-CARBON ZINC

One of our initiatives to contribute to our vision – to be the most climate friendly and respected metal provider in the world.

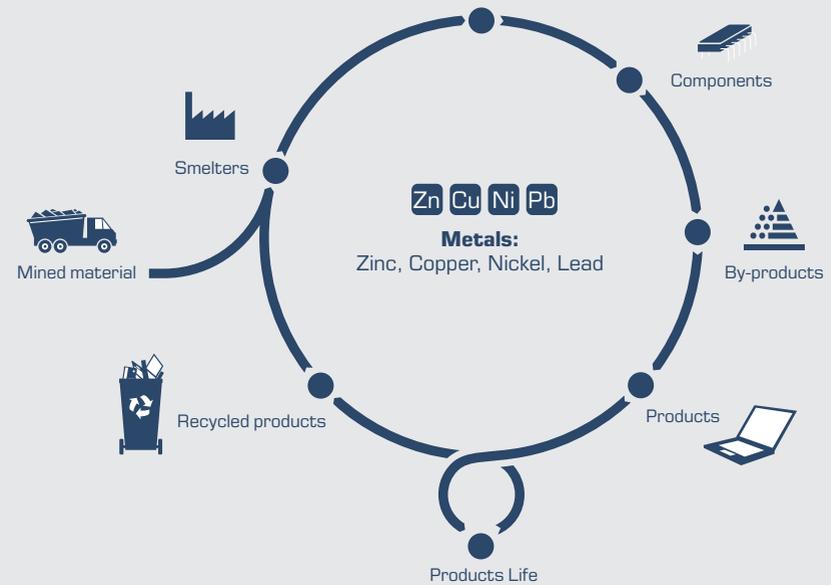
**Z**inc will play an important role in the sustainable transition to achieve the goal of the net zero CO<sub>2</sub> emissions by 2050 set by the EU. Thanks to the unique properties of zinc, it can be used in a wide range of areas such as infrastructure, consumer goods, batteries, and industrial products – all of which play an important role in the transition to renewable energy, energy efficiency and circular economy.

Zinc mining and smelting are known to generate significant amounts of greenhouse gas emissions. However, as a leading

sustainability metals and mining company, Boliden is well positioned to produce zinc with a low carbon footprint.

Over time, Boliden has consistently reduced its climate impact in zinc production which, along with our favourable integration of highly efficient mines and smelters, located in Sweden, Finland, Norway and Ireland, enables the company to produce zinc with a carbon footprint well below the global average. The offering forms an important part in providing the metals we need to build a better society for generations to come.

## THE CIRCULAR LIFE OF METALS



### BOLIDEN'S LOW CARBON SHG ZINC OFFERING



#### Low-carbon Zinc

< 1 kg

CO<sub>2</sub>eq/kg Zinc



#### Recycled Zinc

< 4 kg

CO<sub>2</sub>eq/kg Zinc



### THE WORLD IN 2030

250%

Rise in production of mined metal.\*

8 billion tons

Natural resource gap.\*\*

+50%

Global energy demand.\*\*\*

\* Accenture, 2020 \*\* World Economic Forum & Accenture, 2018 \*\*\* Accenture, 2020

# SUSTAINABLE PRODUCTION

Long-term responsibility, high technical know-how and a high level of safety and productivity are priority areas in Boliden's operations.

## Boliden and the future

Boliden's purpose is to create a more viable society by providing the metals essential to improve society for generations to come. Boliden seeks to play a strong role in the energy transition movement by providing the metals needed to disconnect from fossil fuels, enable renewable power and electric mobility that supports a lower carbon economy.

Our long-term climate target is to produce metals with a low carbon footprint. Supporting the Paris Agreement, Boliden has targeted to reduce its CO<sub>2</sub> intensity with 40% until 2030. Substantial investments are made to reach the target, striving to increase energy efficiency and to decrease the usage of fossil fuels.

Boliden wants to set an example for the mining and metals industry to produce metals with a low impact on nature and climate. Our ambition is to provide the metals essential to improve society for generations to come.

**Care and consideration for people, society and the environment are themes throughout Boliden's entire value chain – from exploration to customer deliveries.**

## Materials and circular economy

Boliden produces high-quality metals, which are mainly sold to industrial customers in Europe. Care and consideration for people, society and the environment are themes throughout Boliden's entire value chain – from exploration to customer deliveries. Boliden's recycling of materials, e-scrap and batteries are also an important contribution to the circular economy.

## The world's most climate effective zinc production

Boliden is building the world's most climate effective zinc smelter in Odda, western Norway.

The expansion enables Boliden to almost double the zinc production in Odda, and at the same time, reducing the carbon dioxide intensity by 15% from already a world leading position. Most of the facilities will be expanded and alongside we will modernize our processes, increasing digitization



Boliden is expanding the world's most climate effective zinc smelter in Odda, in western Norway.

and automation. Also, a unique solution for waste handling will be expanded. After completion Boliden will be able to provide more zinc to be used in buildings, infrastructure and the automotive industry in the most climate effective and sustainable way possible.

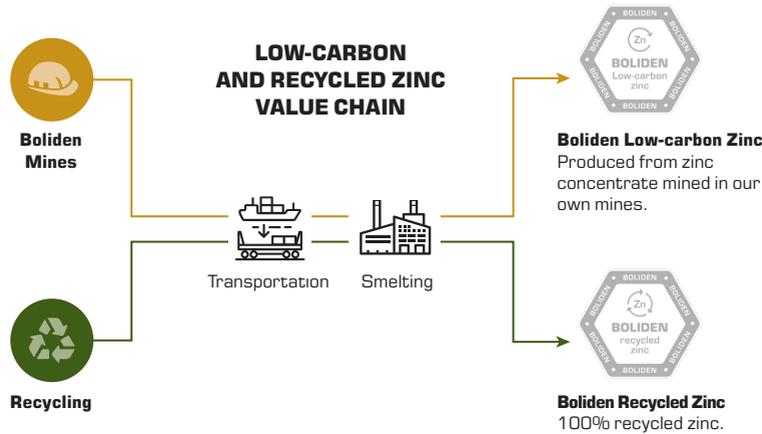
## Energy

Metal production is energy intensive, both in the mining phase and in refining processes. All Boliden's Business Units have implemented energy management systems in accordance with ISO 50001, which are integrated into the Boliden Management System. All units are obliged to work continuously to make improvements in energy

efficiency. Boliden shall reduce its dependence on fossil fuels by using renewable and/or recycled energy wherever possible.

## Biodiversity

Boliden's overall goal is to contribute to increased biodiversity by 2030 in all regions where it operates. Boliden has developed a biodiversity approach to long-term land management – from exploration to rehabilitation and long-term management. The ambition is to be net positive on biodiversity in all new projects and developing ecological rehabilitation plans. The continuous work with ecological compensation is also a natural part of the work to achieve this ambition.



**Recycled zinc**

At Boliden we are at the heart of the circular economy by recycling various metals and secondary materials from different industries. By efficiently recovering all the metals that have been circulated in society the need for new mines can be held at a minimum, and so we are happy to present Boliden Recycled zinc – a zinc metal from 100% recycled raw materials.

**Low-carbon zinc**

Zinc mining and smelting activities are known to generate significant amounts of greenhouse gas emissions. However, as a leading sustainability metals and mining company, Boliden is well positioned

to supply a zinc with a low carbon footprint. Our favourable integration of own mines and smelters, located in Sweden, Finland, Norway and Ireland enables the company to produce zinc with a carbon footprint significantly lower than the global average presented by the International Zinc Association (IZA).

**Low-carbon and recycled zinc alloys**

With the majority of our end-users in the construction and automotive industries, Boliden’s zinc must comply with the highest industry standards. To meet demand, we focus on developing alloys that reinforce the end product’s qualities.

As a step in becoming the most climate friendly and respected metal provider in the world, we have expanded our low-carbon

**We have expanded our low-carbon zinc offering to also include our zinc alloys – a vital part to meet market needs and enable customers to reduce their carbon footprint.**

**Boliden’s vision is to be most climate friendly and respected metal provider in the world.**

zinc offering to also include our zinc alloys – a vital part to meet market needs and enable customers to reduce their carbon footprint. Curious to find out the carbon footprint of your Boliden zinc alloy? Please scan the barcode on the back of the brochure.

**Full transparency**

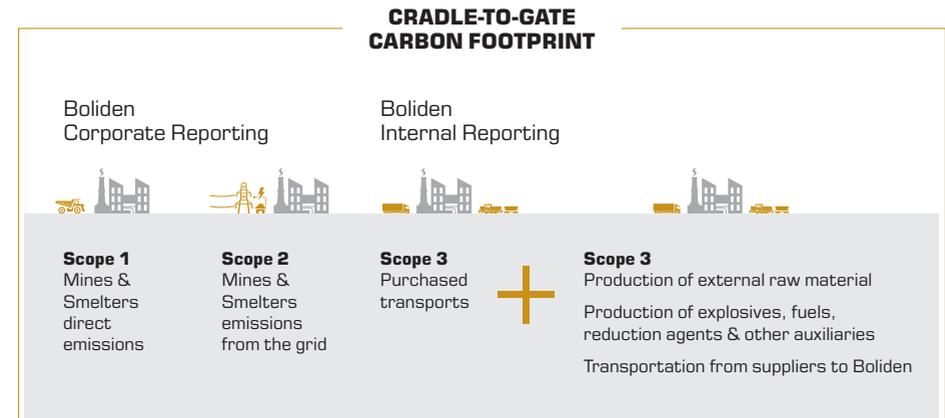
Boliden’s extensive calculation model gives a transparent view of the emissions throughout the value chain. The calculation model is verified by Intertek and assures that the numbers presented are correct.

**A global producer with roots in the Nordics**

Boliden is one of the most efficient zinc producers in the world. We produce around 500 ktonnes of zinc annually at our smelters, making us one of the largest producers in the world. We produce zinc from concentrates from our own mines, external mines and recycled material at our zinc smelting plants in Odde, Norway, and Kokkola, Finland.

**All emissions from cradle-to-gate**

Boliden follows the principles of ISO 14064-3 and the GHG Protocol Produce Life Cycle Accounting Reporting Standard, a comprehensive methodology for calculating the CO<sub>2</sub>e emissions. In addition to the scope 1, 2 and 3 emissions, it also extends scope 3 to include the emissions that are generated by third parties, such as for the production of explosives and transportation from external suppliers to Boliden’s sites.





## ABOUT BOLIDEN

Boliden is a metals company with a focus on sustainable development. Our roots are Nordic, our market global. Our core competence lies within the fields of exploration, mining, smelting and metal recycling. Boliden has around 6,000 employees and an annual turnover of SEK 50 billion. The share is listed in the Large Cap segment on NASDAQ OMX Stockholm.

[www.boliden.com](http://www.boliden.com)

### **Boliden Low-carbon Zinc contacts:**

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