

Eramet Norway

# Towards a greener future





## ERAMET NORWAY

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# The Eramet family

Eramet Norway AS is fully owned by the French mining and metallurgical group Eramet SA.

We are part of the Group's manganese alloy business which also includes three plants in the USA, France and Gabon.

The Group want to become a reference for the responsible transformation of the Earth's mineral resources for "living well" together.

 **EMPLOYEES**  
**10 700**  
 26% female managers and specialists

 **TURNOVER**  
**€ 3,8 bn**  
**EBITDA**  
**€ 772 mill**

## Eramet's strategic pillars



**Grow in metals supporting global economic development**  
**Resilient markets**

Mangan ore & alloys,  
 Nickel og Mineral sands



**Sustainably develop critical metals for the energy transition**

**Fast-growing markets**  
 Lithium, nickel/Cobalt for batteries and Battery recycling

## Our role in the Mn Alloys business unit



**Marietta**  
 Ref. FeMn  
 HC FeMn  
 SiMn

The spring-board to the North American market.



**Sauda**  
 Ref. FeMn  
 HC FeMn

The massive refiner of FeMn. The slag supplier to Kvinnesdal.



**Porsgrunn**  
 Ref. FeMn  
 HC FeMn  
 SiMn

The refined FeMn specialist with internal slag balance.



**Kvinnesdal**  
 LC SiMn  
 SiMn

The tailor-made high value added SiMn specialist.



**Dunkerque**  
 SiMn

The provider of low-cost Low B/Low P SiMn to Europe.



**CMM**  
 SiMn  
 MnO

The Mn ore transformer in Gabon.

# About us

Eramet Norway AS has a world leading market position on refined manganese alloys with one of the industry's lowest carbon footprints.

We work purposefully to implement improvements and further develop the smelters, and our processing plants maintain a high level of stability and good capacity utilisation.

At Eramet Norway, we believe a positive working environment is created through involvement, innovation and a high level of job satisfaction, and that this is a requirement for success. Our values are important to us:

**Involvement** – We operate with a flat organisational structure, and we have a culture based on participatory leadership. We want our employees

to get involved, and as one of us, you have opportunities to influence.

**Innovation** – We believe skilled and knowledgeable colleagues introduce better solutions, and we offer opportunities for personal and professional development through both internal and external programmes.

**Job satisfaction** – It is important to enjoy your work. At our company, well-being is created through a clear management style, solid division of responsibilities and trust in the individual employee.



EMPLOYEES

**562**

26% female managers og  
30% female specialists



TURNOVER (NOK)

**6408 mill**

EBITDA (NOK)

**583 mill**

# Eramet Norway's vision: A world leading producer of manganese alloys

**Involvement | Innovation | Job satisfaction**

## **The safe workplace, with zero harm**

Our employees shall be as healthy when they go home as when they went to work, and in an even better mood after a good day in an innovative working environment.

## **The lowest climate & environment footprint**

We must lead the way in the green shift to be our customers' first choice and achieve good framework conditions for our smelters.

## **Value creator based on operational excellence and growth**

We must earn the right to grow through high customer focus and continuous improvement of our achievements and results.

## **A learning organisation & home for the best talents**

We must be a "learning organisation" and an attractive workplace for motivated and talented people who seek challenges.

## **A responsible & innovative business partner**

We shall create trust among our stakeholders and form the basis for a good collaboration with the communities we are part of, and with suppliers, research institutions and government agencies.

**Eramet Norway's goals correspond directly to the Group's CSR guidelines, which remain at the heart of the decision-making process.**

# We contribute!

Eramet Norway aims to be a driving force for social development in the local communities where we operate. As part of the Eramet Group, we have a clear focus on all aspects related to social responsibility and sustainability.

We carry out regular analyses to ensure that we have a good balance between what we contribute to our stakeholders and what we want to receive in return.



- We produce metals that are essential for the success of the green shift and helps to meet Europe's need for critical metals.
- We have the lowest climate footprint in our industry, and we lead the way in the development of solutions that will lead us to net-zero emissions.
- We refine renewable energy in a way that creates jobs and economic value.
- We develop and implement solutions that reduce the industry's climate and environmental impact.
- We purchase goods and services in Norway for approximately NOK 2.5 billion, of which approximately NOK 800 million in the regions where we are located.
- We have an average of more than 60 apprentices and actively contribute to development of the school and education system.
- We support teams, organizations, and events in our communities.
- We are engaged in business and infrastructure development in our regions

# A Norwegian story

The Norwegian process industry mainly competes internationally, and it is therefore crucial to maintain and further develop our national competitive advantages.

The Government's push for industry, "Green Industrial Initiative", will aid in the transition of Norwegian business and industries to a low-emission society and contribute to the creation of attractive future oriented jobs all over the country.

## Prerequisites for success:

- Access to renewable energy at competitive prices
- Framework conditions and risk relief that reflects Norway's transition goals
- Commitment to innovation based on circular economy solutions
- Flexible educational pathways that meet the skill sets needed in the future
- Infrastructure that contributes to further development of attractive local communities



# What is manganese?

Manganese is used to increase steel's strength, toughness and heat treatment properties.

Manganese is a metallic element, and it is the most common heavy metal after iron.

The steel mills account for 90% of manganese consumption on worldwide. Refined ferromanganese is used especially in steel for the automotive industry, while silicomanganese is widely used in the manufacture of steel for construction.



# Essential in the zero-emission society

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Steel is the world's number one construction material in everything from infrastructure, buildings and cars to consumables. Steel, and thus also manganese alloys that make the steel tough and durable, is therefore an important factor in the restructuring of important sectors such as energy production and transport.

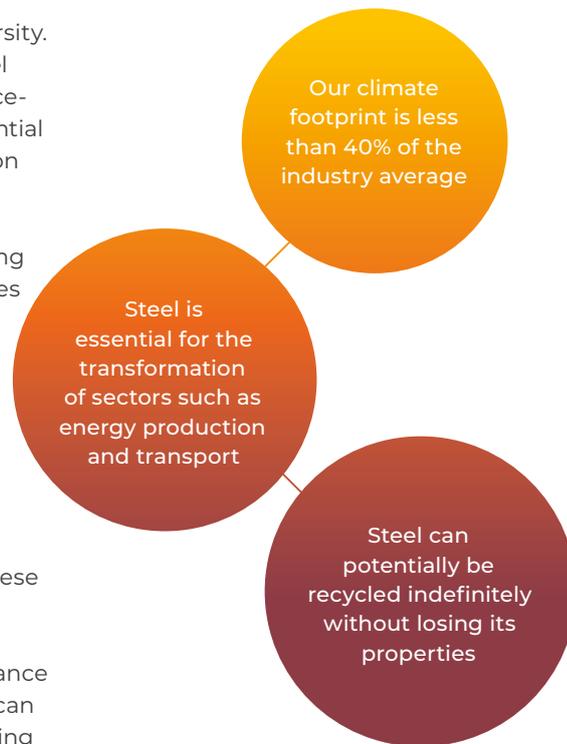
Robust infrastructure with a long lifespan is also crucial for creating economic development and prosperity in order to meet the many challenges that accompanies population growth, urbanisation, poverty reduction and measures to reduce the negative the effects of natural disasters.

The world needs a drastic reduction of emissions to air and water to prevent major changes in the world's

climate and environmental diversity. Although the production of steel and manganese alloys is resource-intensive, the products are essential to achieve society's zero-emission vision.

Eramet Norway is actively seeking cooperation with steel companies that have concrete plans on how to reduce their emissions. The climate footprint of Eramet Norway's manganese alloys, measured by Scope 1 and 2, currently account for less than 40% of the industry average.

About ten kilograms of manganese alloys are needed to one tonne of steel, and the proportion of manganese increases in accordance to the quality of the steel. Steel can recycled indefinitely without losing its properties.



# Eramet Norway Porsgrunn

The smelter, established in 1913, is part of the leading industrial environment at Herøya. This localization gives us good opportunities to further develop our processes and working methods, including aspects related to the circular economy. The plant is the most flexible in terms of product qualities of all of Eramet's manganese alloy smelters.



- 174 employees
- 14 apprentices



- Two furnaces 38 and 32 MW
- Ferromanganese refining plant (Manganese Oxygen Refining - MOR)



- Ferromanganese: HC FeMn, MC FeMn 1,0-1,5%, LC FeMn 0.5% \*
- Silicomanganese: SiMn Standard
- By-products for external sale: MOR dust, Silica Green Stone (SiGS), energy-rich oven gas. In addition, large quantities of by-products are circulated internally

\* High Carbon, Medium Carbon, Low Carbon



# Eramet Norway Sauda

The smelter in Sauda, established in 1915, is today the largest plant measured in tonnes produced in Eramet's manganese alloy business unit, and it has the highest production of refined ferromanganese. The by-product ferromanganese slag is an important input factor in the production of silicomanganese in Kvinesdal. The construction of Eramet's first pilot plant for carbon capture is now underway in Sauda.



- 175 employees
- 28 apprentices



- Two furnaces, each with a capacity of 42 MW
- Ferromanganese refining plant (Manganese Oxygen Refining - MOR)



- Ferromangan: HC FeMn, MC FeMn 1,0-1,5%, LC FeMn 0.5%\*
- By-products for external sale: MOR dust, recycled electrical and thermal energy, including district heating of public buildings, city centre streets and sports facilities. In addition, large quantities of by-products internally are circulated internally

\* High Carbon, Medium Carbon, Low Carbon

# Eramet Norway Kvinesdal

The smelter, which started production in 1974, can produce several special grades and uses HC FeMn slag from Sauda as a raw material in its production. Energy is recovered in the plant's thermal power plant, which produces about 80 GWh of electrical energy per year, and the surplus heat from the thermal power plant is used both internally and by external customers.



- 208 employees
- 19 apprentices



- Three furnaces, each with a capacity of 30 MW



- Silicomanganese: Standard SiMn and LC SiMn
- By-products for external sales: Silica Green Stone (SiGS), recycled electrical and thermal energy. In addition, large quantities of by-products internally are circulated internally

# Our R&D Department

**The R&D department for Eramet's manganese alloy activity in Norway, France, the USA and Gabon is located at NTNU in Trondheim. The department develops technological solutions and innovations to produce more efficiently and to reduce our climate and environmental footprint further. The R&D department supports the smelters' long-term goals by developing expertise in seven key areas:**

## **Manganese Oxygen Refining (MOR)**

- Low Carbon Silicomanganese (LC SiMn)
- Carbon materials, including biocarbon and electrodes
- Control of fugitive emissions
- Climate solutions
- Circular economy
- Digital transformation

The department collaborates with Eramet Ideas, the Group's technology centre in France, and with leading universities, research institutes, expert groups and other companies. The collaborative projects have a total annual cost framework of almost NOK 500 million. Several of the projects are supported by the Research Council of Norway, Enova, Gassnova, Innovation Norway and the EU.



# Climate and environment – our goals



## Climate

We shall reduce our CO<sub>2</sub> emissions by at least 43% before 2030 and 80% before 2050 against the reference year 2005.

## Energy

We shall increase our energy recovery by at least 27% before 2030 against the reference year 2005.

## Environment

We shall avoid negative environmental impact in the local communities in which we operate.

## Circular economy

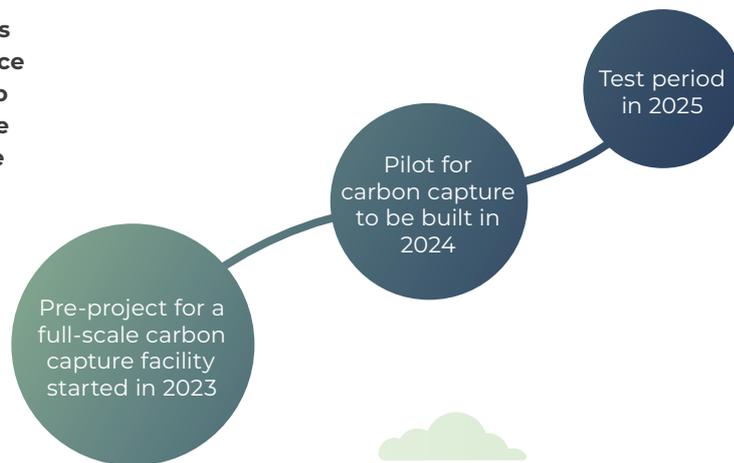
We shall increase our resource efficiency through value creation associated with by-product and waste materials, as well as reduce waste deposition of materials by 50% before 2030.

# Climate

**Our most important measure to reach Eramet Norway's and the Group's objectives in 2030 and 2035 is to replace fossil reducing agents with biomass-based carbon, also known as biocarbon. The net zero target of greenhouse gas emissions will be achieved through carbon capture and storage (CCS).**

We are also working on solutions for carbon capture and utilisation, as well as projects to increase process efficiency and lower specific consumption of energy and reducing agents. In a longer time perspective, we study new technological concepts with very low carbon consumption and disruptive technologies.

**CCS project:** We have started the installation of the pilot facility for carbon capture in Sauda which will be ready for a test period in early 2025 and will provide the basis for developing a full-scale facility which will be operational before 2030.



# Energy

**We collaborate with several different companies with the aim to find new applications for our energy-rich furnace gas, and the sites' Energy Management Teams continuously work to identify and realize potential for reduction of energy consumption and increased utilization of available energy.**

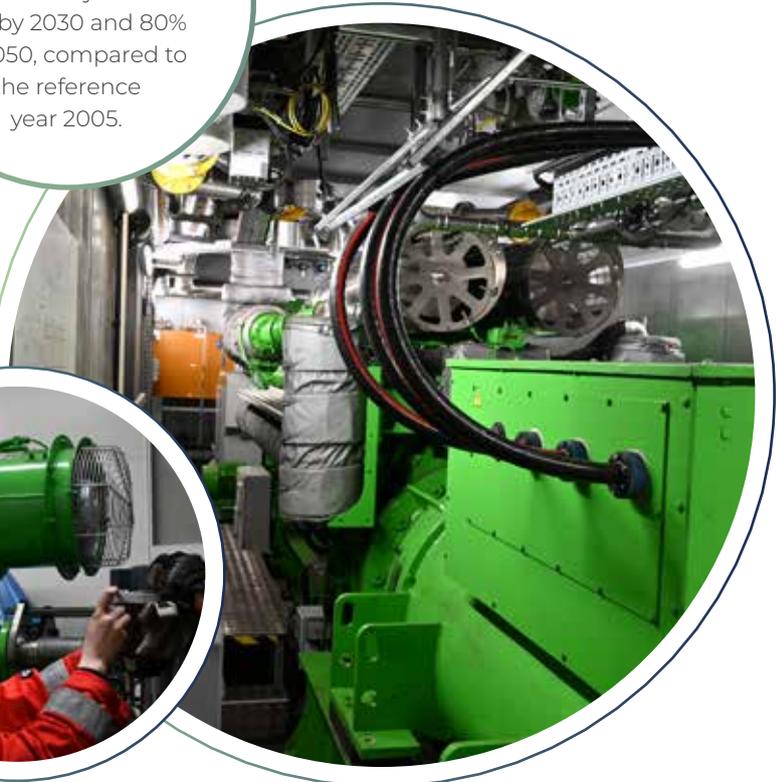
The construction of our full-scale recovery plant in Sauda is on track and will be completed in 2024. The goal is to be fully operational in 2025.

A large step towards our long-term goal! In 2023, we recovered overall historically high amount of energy, close to 700 GWh, equal to the electrical energy need at one of our smelters.

## **Eramet**

### **Norway's Goal:**

To reduce our CO<sub>2</sub> emissions by at least 43% by 2030 and 80% by 2050, compared to the reference year 2005.



# Environment

**Our smelters are located in vibrant communities in close proximity to neighbors and beautiful nature which places great demands on our environmental behaviour.**

At our smelters, a number of activities are ongoing to achieve continuous improvement of production methods and optimisation of the cleaning facilities. In addition, we regularly conduct studies, research and development projects to acquire new knowledge and adopt new and more effective treatment methods.

Our current emission permits were last updated in 2020 and contain up to 100 limit values per production site to regulate emissions to air, sea and ground. To ensure that we operate within our limits, we conduct frequent testing and extensive auditing by accredited and independent third parties. All results are reported to the Norwegian Environment Agency, publicly available on the Directorate's Web pages.

## **Eramet Norway's Goal:**

We must avoid negative environmental impact on the local communities where we operate, and we must not breach the emission permits.



# Circular economy

**Circular economy is about resource utilisation. Annually, Eramet Norway handles large amounts of energy and several million tons of materials through our production processes.**

We collaborate with established and new industry partners, the authorities, as well as educational and research institutions to achieve economic and environmental sustainability both in the short and long term.

Our development team in Kvinesdal is working to develop several new uses for our by-product, «Silica Green Stone».

## **Eramet Norway's Goal:**

We shall increase our resource efficiency through value creation associated with by-product and waste materials, as well as reduce waste deposition of materials by 50% before 2030.





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