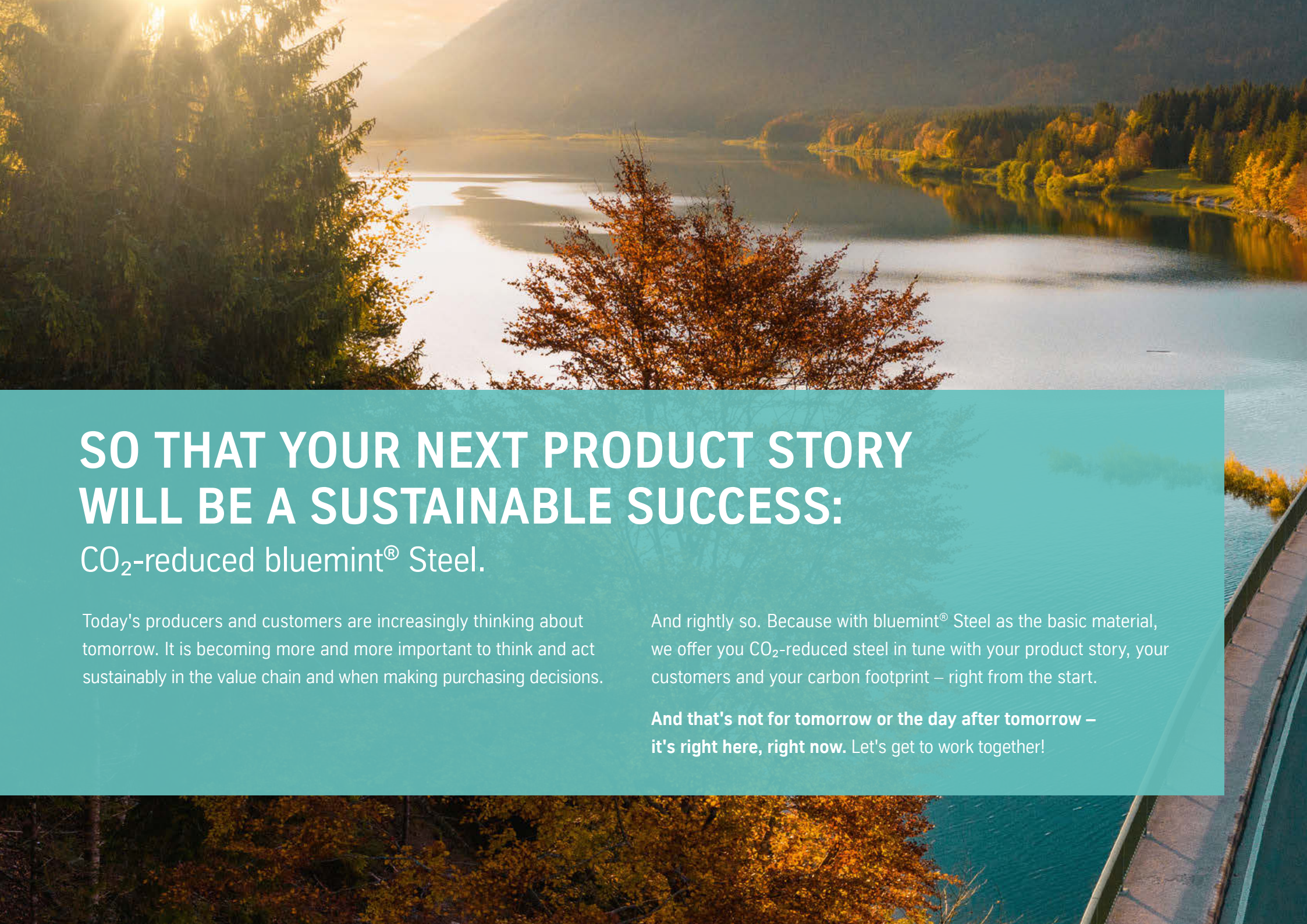

RIGHT HERE.
RIGHT NOW.
Less CO_2, more reasons to attract sales.
bluemint® Steel
High quality. Less CO_2.
thyssenkrupp



SO THAT YOUR NEXT PRODUCT STORY WILL BE A SUSTAINABLE SUCCESS:

CO_2-reduced bluemint® Steel.

Today's producers and customers are increasingly thinking about tomorrow. It is becoming more and more important to think and act sustainably in the value chain and when making purchasing decisions.

And rightly so. Because with bluemint® Steel as the basic material, we offer you CO_2-reduced steel in tune with your product story, your customers and your carbon footprint – right from the start.

And that's not for tomorrow or the day after tomorrow – it's right here, right now. Let's get to work together!

OUR CLIMATE GOALS

2030

>30 % reduction in CO_2 emissions[1] (6 mt)

2045
KLIMANEUTRAL
CLIMATE-NEUTRAL

-100 % reduction in CO_2 emissions (20 mt)

[1] "30 % CO_2 emissions in 2030" refers to Scope 1 and Scope 2 emissions (reference year 2018).

CO_2-REDUCED STEEL
at the cutting edge.

As Germany's largest producer of high-quality flat steel, we bear a great deal of responsibility. Consequently, we are resolutely pursuing our goal of producing our steel using a completely carbon-neutral pathway by 2045 at the latest.

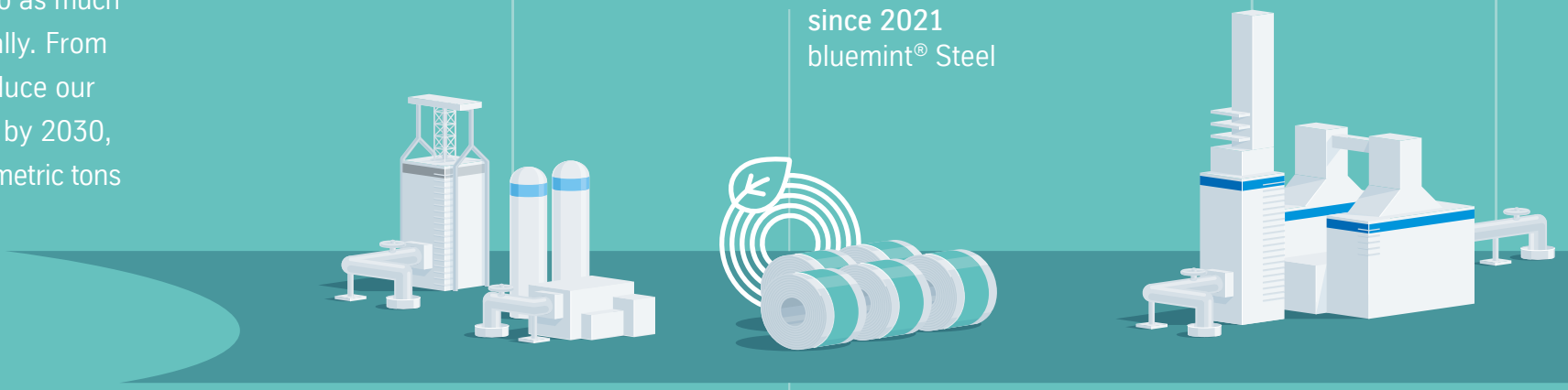
How we see the near future: Following the planned commissioning of our new direct reduction plant in 2027, we are going to increase the available supply of CO_2-reduced bluemint® steel to as much as 3 million metric tons annually. From that point on, we intend to reduce our emissions by more than 30 % by 2030, and produce around 5 million metric tons of bluemint® steel annually.

2019
Trialling H_2 use
in the blast furnace

since 2021
bluemint® Steel

from 2027
First DR plant with melting units (SAF)
and removal of the first coal-based blast furnace

up to 2029
Hydrogen ramp-up
of the first DR plant to 100 %

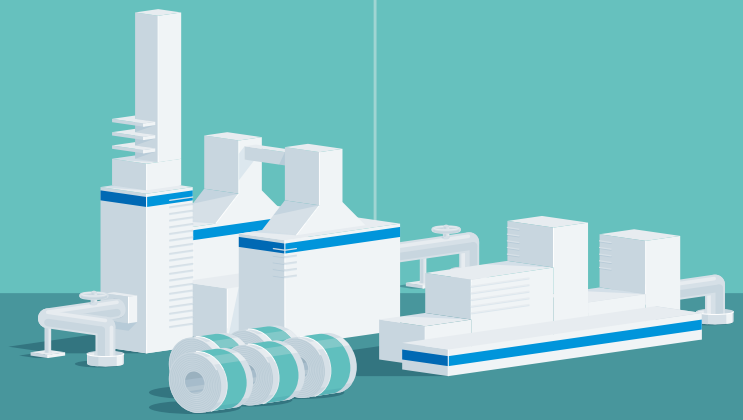


Available quantities of bluemint® Steel per year

2022–2026 ~ 50-500 kmt/a — from 2027 ~ 3 mt/a

up to 2030
Removal of the second coal-based blast furnace and replacement by DR-based technology

before 2045
Complete implementation of the transformation, carbon-neutral steel production without coal-based blast furnaces incl. decarbonization of the downstream systems



2030

-30 % CO_2

2045

-20 mt CO_2

Avoidance of residual CO_2 emissions, e.g. through Carbon2Chem® (CCU)

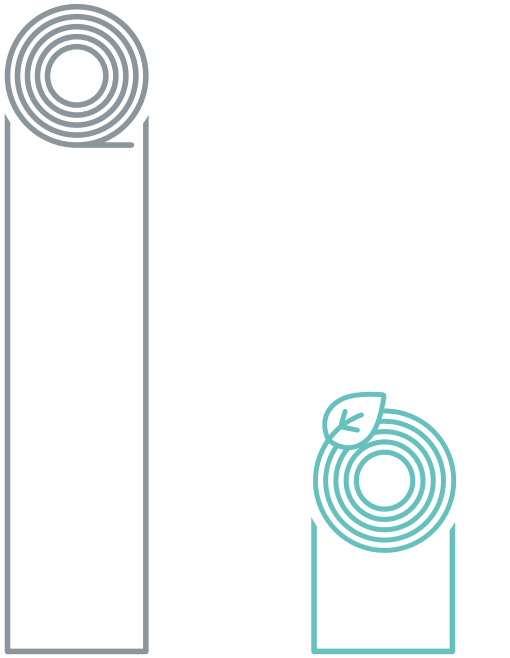
from 2030 ~ 5 mt/a

2045 onward ~ 11 mt/a

REDUCING CO_2 TODAY

with bluemint® recycled.

The concept of steels manufactured with reduced CO_2 is of significant interest to many processing and end-use industries. With bluemint® recycled, we are already offering precisely the right product.



2.1 t CO_2/t

Conventional hot strip

0.75 t CO_2/t

bluemint® recycled

The features and benefits for our customers in detail:

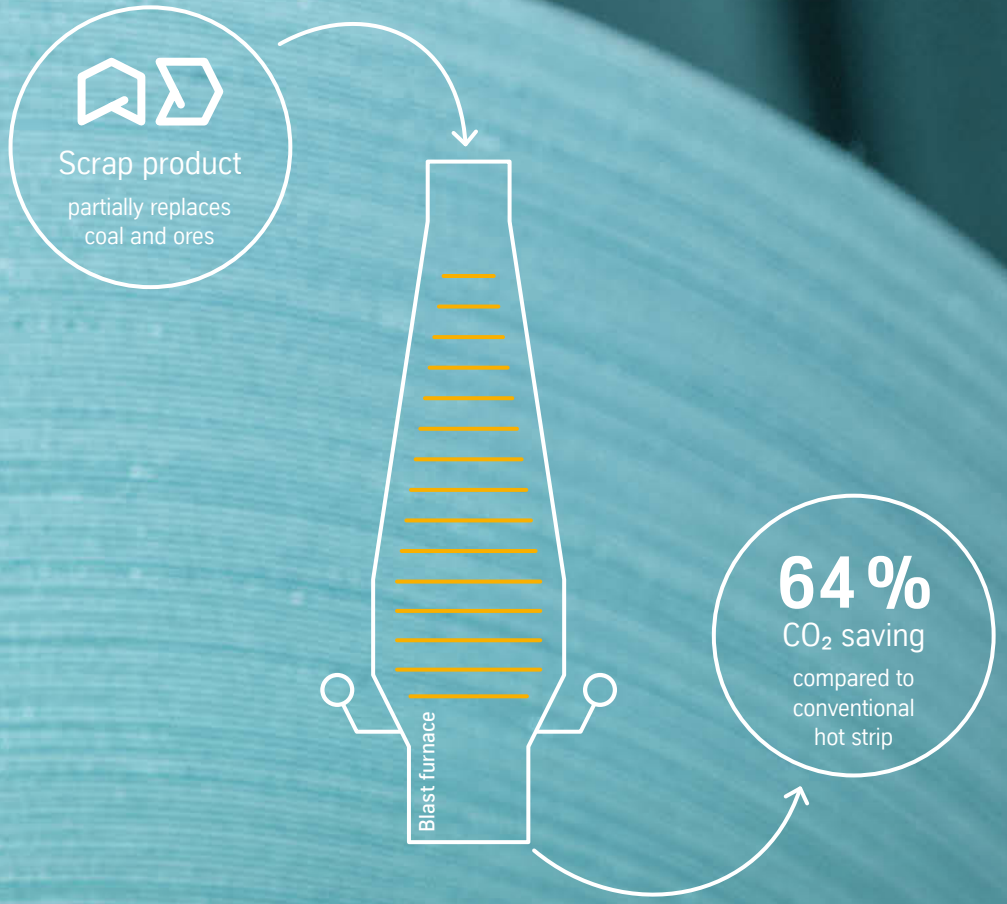
- CO_2 emissions reduced by as much as 64 %
- Primary steel, all qualities can be produced
- Can be directly credited toward your Scope 3 emissions
- CO_2 is reduced directly at the Duisburg site
- Balance-sheet recycling product
- CO_2 reduction by 1.35 tons of CO_2 eq per ton of hot strip
- Specific CO_2 emissions of 0.75 tons of CO_2 per ton of hot strip
- Standard: DIN EN ISO/IEC 17029 and TÜV SÜD VERIsteel Standard
- Certified by TÜV SÜD

Certified quality.

bluemint® recycled stands for the entire diversity of our grade portfolio. This means: you can have confidence that your regular selection of materials will be available. In terms of material and processing properties, our bluemint® Steel products are in no way inferior to our existing grades. The opposite is the case: already high premium quality is complemented by a considerable reduction in CO_2.

This is also confirmed by our certificate:
bluemint® recycled is certified by TÜV SÜD for the use of our material in your products.

You can view the certificate here



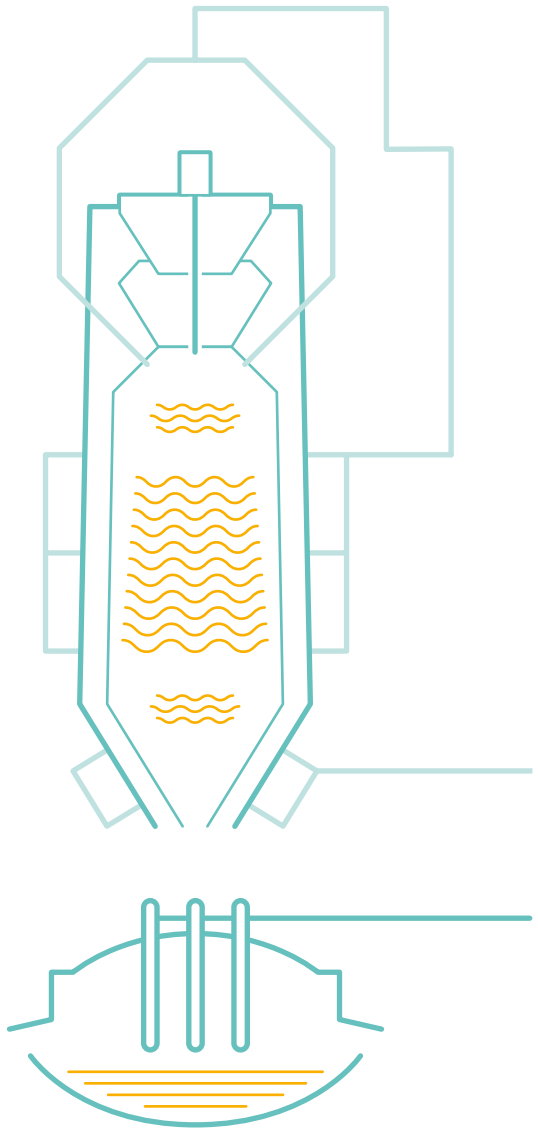
Increasing the scrap input to the converter and new, innovative process variants also with scrap input to the blast furnace reduce both CO_2 emissions and the burden on the environment, at the same time as contributing to recycling management.

The properties and processing of the CO_2-reduced steel products remain unchanged.

RETHINKING THE PRODUCTION OF STEEL.

bluemint® Steel from the direct reduction plant.

- New environmental technology: Innovative direct reduction with downstream melters replaces the conventional blast furnace
- Clean primary steel, CO_2 saving with no losses in quality
- Complete steel portfolio – all grades, all surfaces available
- No adaptations needed to your production or manufacturing processes
- High-volume production quantities will available after ramp-up of the direct reduction plant in 2027



With the construction of our new direct reduction plant, one of the biggest industrial decarbonization projects worldwide, we will significantly expand the role of bluemint® Steel as a series product to an annual volume of approx. 3 million metric tons. In the long term, and by 2045 at the latest, we will then produce exclusively carbon-neutral steel by using hydrogen.

We have already been able to sell around 50 % of the bluemint® Steel volumes from the first DR plant through preliminary contracts and MOUs.

Direct reduction (DR) plant

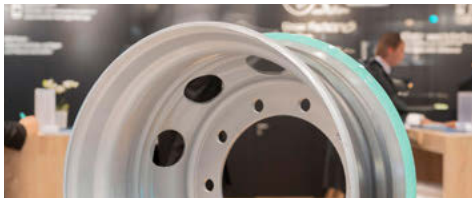
Iron ore in the form of pellets is reduced to sponge iron in the DR plant, using hydrogen (natural gas during the transition).

Melting unit (SAF)

In the melting unit, sponge iron is processed into molten hot metal and then transferred to the established converter process in the steel mill.

RIGHT HERE. **RIGHT NOW.**

Where bluemint® Steel is already making its mark – selected examples from practice.



Low-CO_2 steel picks up speed

As one of the pioneers, **Accuride** is launching truck wheels with their input stock entirely consisting of CO_2-reduced bluemint® steel. As a result, the manufacturer from Solingen is cutting its greenhouse gas emissions by around two thirds compared to conventional steel.

Building sustainably and tastefully

The facade material of the warehouse refurbished by **Heinrich Schütt** in Hamburg needed to offer high performance and sustainability. **Wurzer Profiliertechnik GmbH** supplied the trapezoidal profiles made of bluemint® pladur®. Optimum for the facade – and the customer: Corrosion protection and significant CO_2 savings.

Cleaner with CO_2 savings too

Franz Kaldewei GmbH and Co KG intends for all of its products to be recyclable. With bluemint® Steel, the company is improving its environmental footprint and is also presenting discerning buyers of the "Kaldewei nature protect" product series with a certificate for the CO_2 emissions saved. More well-being is impossible.

On the tip of everyone's tongue

Ricola is launching its first food can made from CO_2-reduced bluemint® Steel on the shelves thanks to the manufacturer **Hoffmann Neopac AG.** After all, the brand's focus on nature does not stop with herbal sweets. It is also only natural for the Swiss company to generate 100 % of its electricity from renewable sources.

Find out more about our cases online

bluemint-steel.com

Electrical steel as a driver of the energy turnaround

The Regensburg-based company **SGB-SMIT GmbH** was one of the first partners to place its trust in bluemint® Steel. And with its CO_2-reduced transformers, it is already delivering sustainable efficiency to its key account **E.ON.**

A guiding star for climate protection

We are supporting **Mercedes-Benz's** goal of "carbon-neutral production" with bluemint® Steel. The parties have agreed to expand their cooperation. It is planned for CO_2-reduced steels to be integrated into the new car fleet – steels produced in and supplied from our direct reduction plant. This is how decarbonization gets up to speed.

FEASIBILITIES? PILOT PROJECTS?

We can talk about everything.

Let's find a way to make climate-friendly innovation possible in your company too. We will be happy to advise you on top grades, possible applications and certified CO_2 savings with bluemint® Steel.

Your point of contact:

Dr. Carmen Ostwald
Head of Business Development bluemint® Steel
Phone: +49 (0)203 52-24458
carmen.ostwald@thyssenkrupp.com

Find out more about
bluemint® Steel at
bluemint-steel.com

thyssenkrupp Steel Europe AG
Kaiser-Wilhelm-Strasse 100
D-47166 Duisburg
T: +49 203 52 - 0
F: +49 203 52 - 25102

info.steel@thyssenkrupp.com

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