outokumpu

Outokumpu Circle Green® - stainless steel of tomorrow, available today.

Dr.-Ing. Max Menzel

Head of Sustainability & Technical Customer Service

Webinar - 30.08.2023

Outokumpu is the global leader in sustainable stainless steel with 70 % lower carbon footprint

Outokumpu's successful year 2022*

Net sales

9.5

EUR billion

Stainless steel deliveries

2.1

million tonnes

Adjusted EBITDA

1,256

EUR million

Industry innovation

Circle Green®

100% stainless steel. Down to 8% the carbon footprint.

94%

recycled content in production, lowest carbon footprint in the industry

Operations in over

30

countries

Personnel

8,357

*continuing operations

Outokumpu is the leading producer of sustainable stainless steel globally

Own FeCr mine in Kemi ensures access to lowest carbon footprint FeCr

Ambitious climate targets

We are the only stainless steel company with an approved SBTi target aligned with the

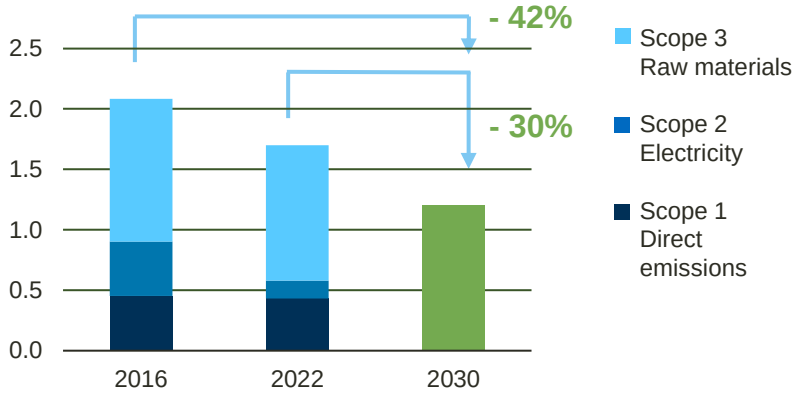
1.5°C

ambition.

SCIENCE BASED TARGETS

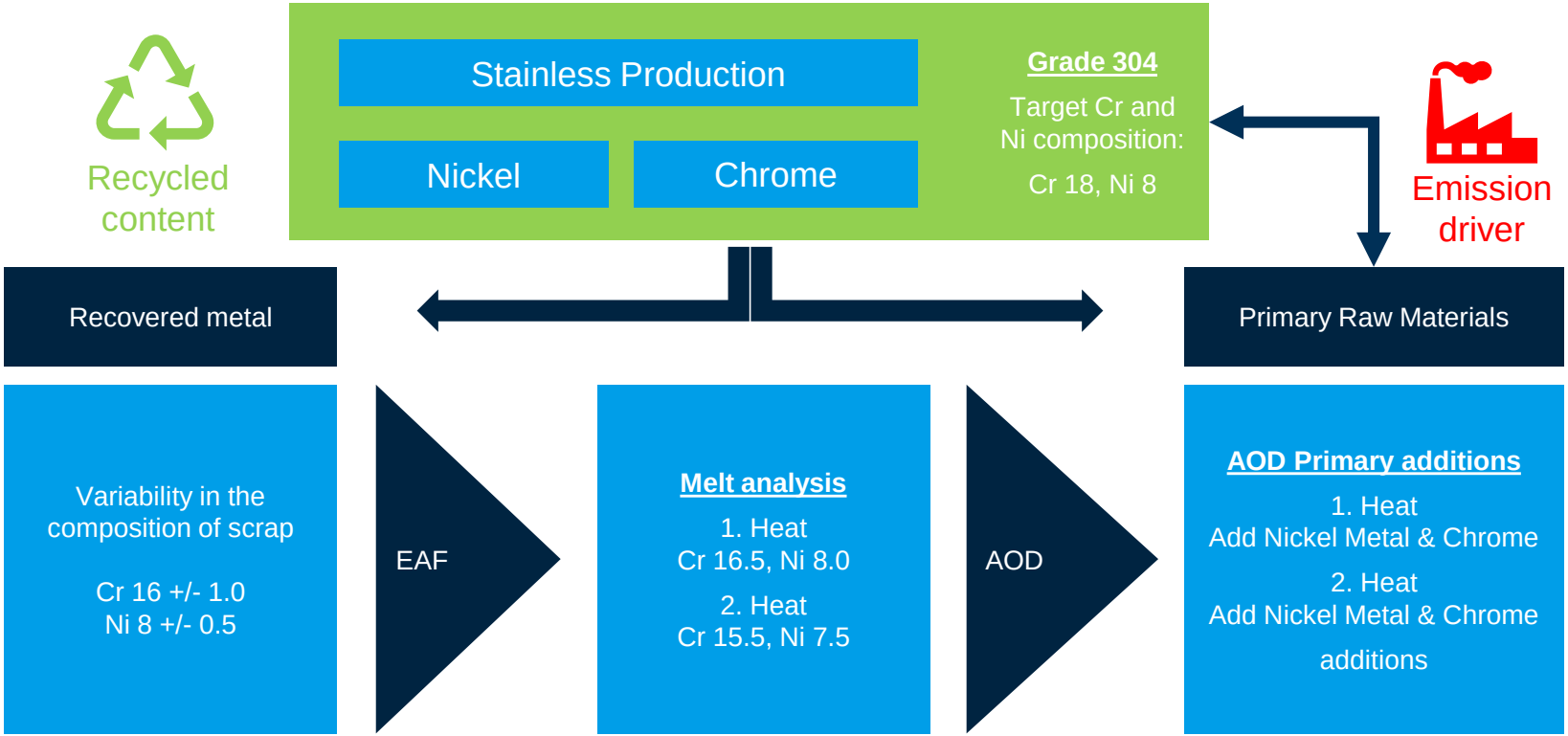
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Emission intensity ($tCO_{2\text{-}eq}$/t of stainless steel)



The Carbon Footprint of Stainless steel

Electric Arc Furnace based Stainless Steel Production



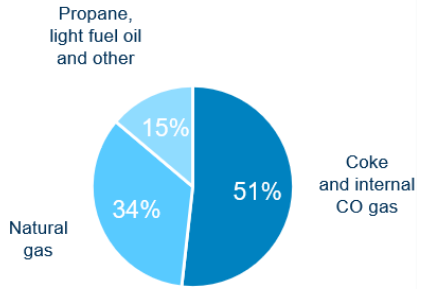
EAF = Electric Arc Furnace
AOD = Argon Oxygon Decarburization

Cr = Chrome
Ni = Nickel

Outokumpu Stainless Steel Carbon Footprint 2022

Scope 1

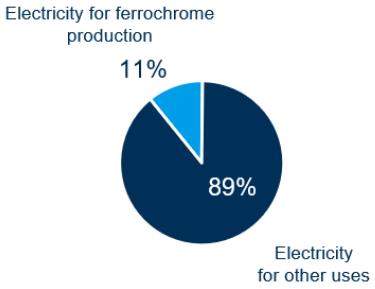
Addressing coke and fuel use has a significant impact on Scope 1 emissions.



Total: 1,043 $ktCO_2$

Scope 2

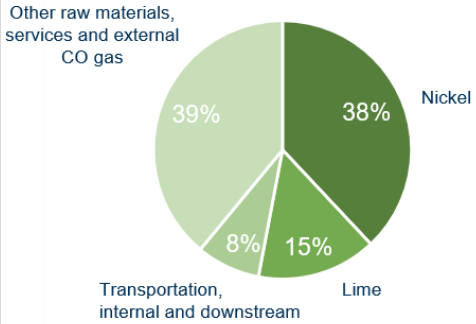
Absolute emissions can be significantly reduced by increasing the share of low-carbon electricity.



Total: 368 $ktCO_2$

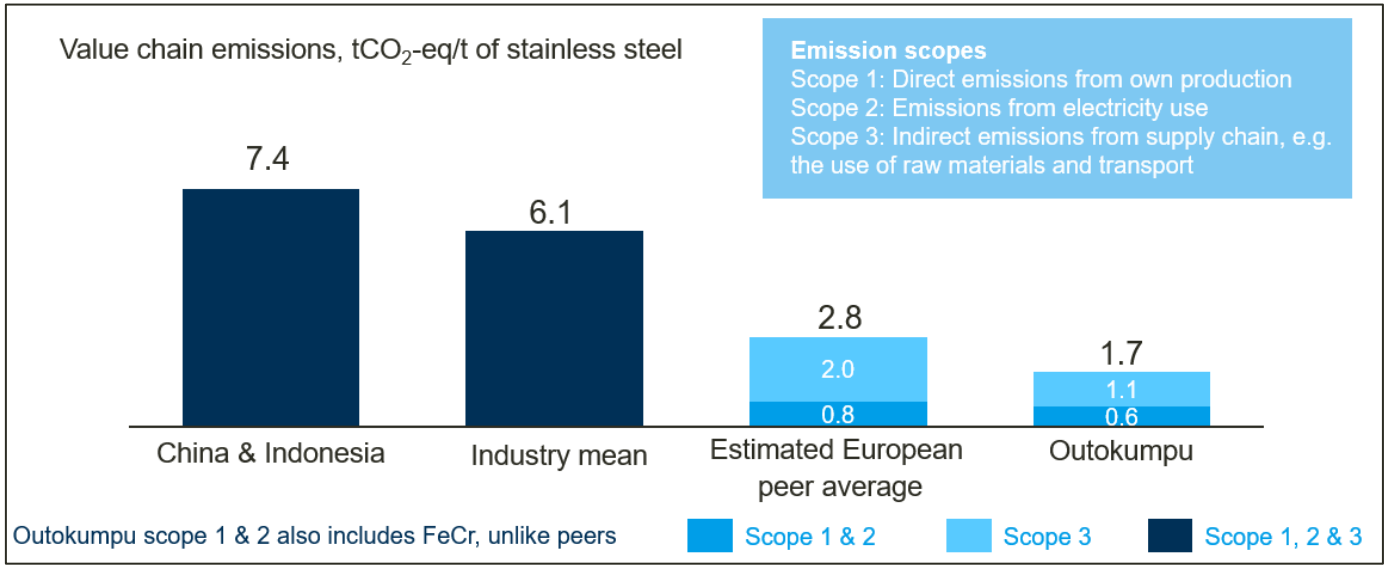
Scope 3

The main four raw materials amount to ~70% of our value chain emissions.



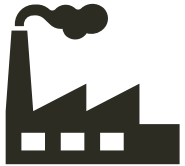
Total: 2,718 $ktCO_2$

Outokumpu is the industry benchmark for stainless steel carbon footprint

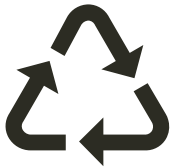


Summary - Stainless Steel Carbon Footprint

Scope 3 is the crucial element for stainless steel carbon footprint due to primary raw material emissions



Solely focussing on the **recycling content** will not solve the problem and take away the pull for sustainable primary raw materials



Transparency is needed to seriously drive decarbonization in the stainless industry

Circle Green® – towards zero carbon stainless steel

Circle Green®

outokumpu

100 years and nothing has changed.

Except everything has.

Outokumpu Circle Green®
is our leading innovation.
We are the Industrial Evolution.

The world's most sustainable stainless steel is here

Circle Green Classic – towards zero carbon stainless steel

Carbon footprint

92%

lower than the global average

Global average CO_2 emissions

6.1

t of CO_2 per tonne of stainless steel

Circle Green Core[a] CO_2 emissions

Down to 0.5[b]

t of CO_2 per tonne of stainless steel

Climate compensating or offsetting has not been used in calculating the emissions

[a] case example

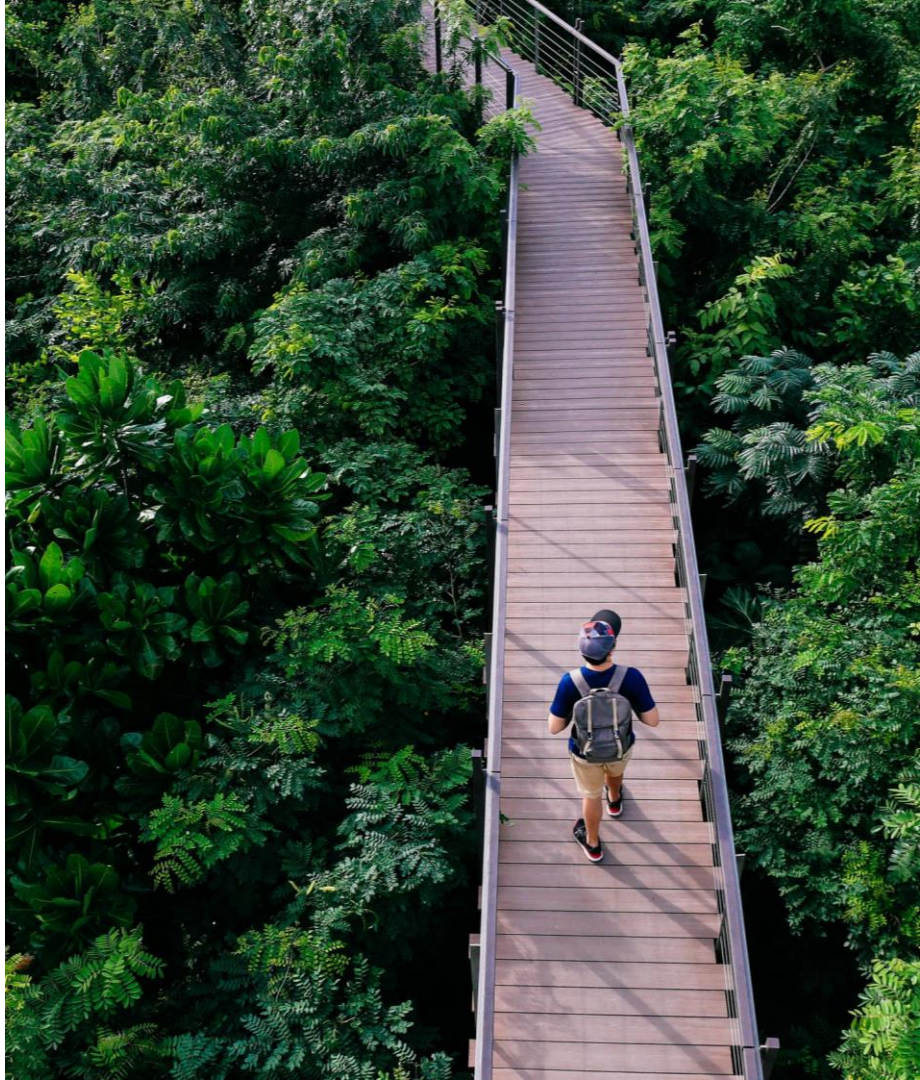
[b] Includes scopes 1, 2 and 3

The world’s most sustainable stainless steel

- Minimum of 50 % emission reduction compared to conventional Outokumpu product (Scope 1, 2, 3)*
- Certified emission results
- No offsetting of emissions

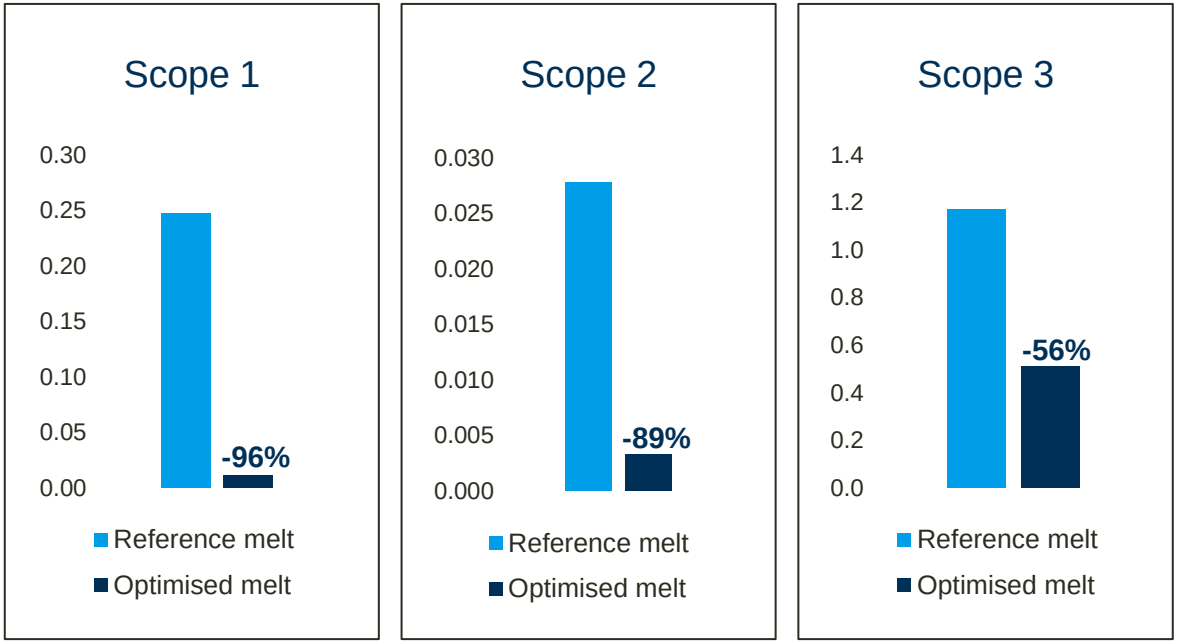
Premium material with significant Scope 3 reduction potential for customers

*Baseline 12 month actual data Oct 21-Sep 22

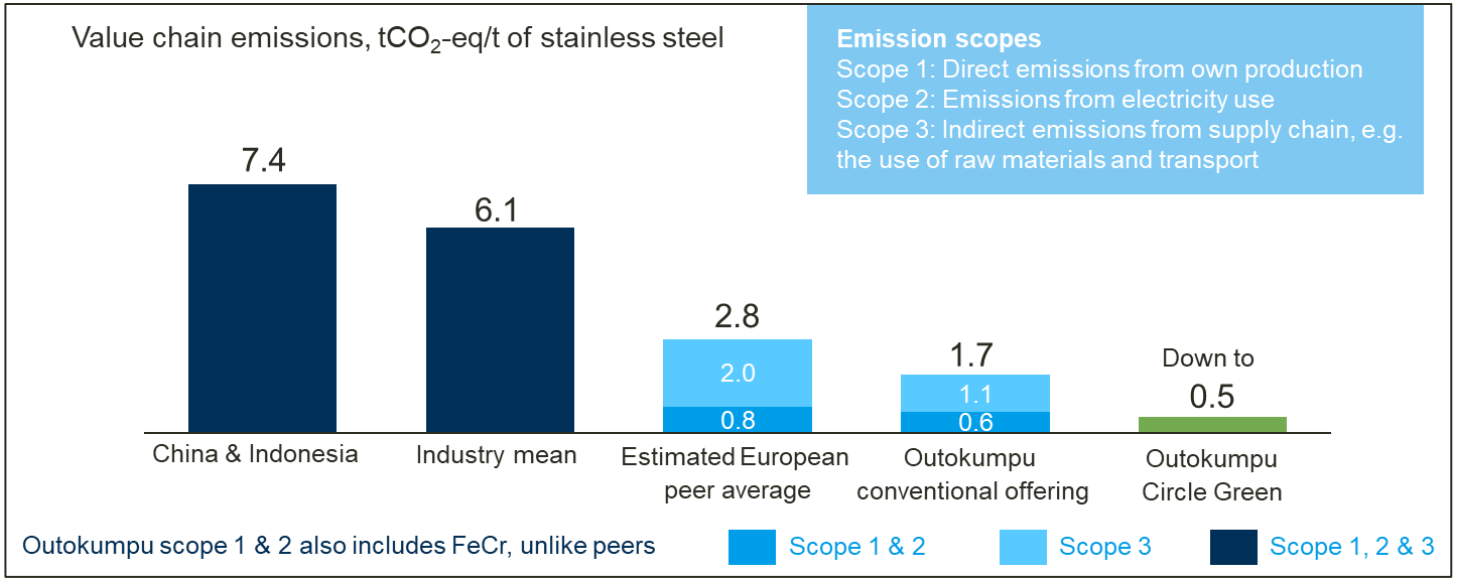


CO_2 reduction reference case 304

- Special raw materials
- Low carbon energies
- Production efficiency



Outokumpu is the industry benchmark for stainless steel carbon footprint



Our Circle Green product portfolio

Circle Green Classic – towards zero carbon stainless steel

outokumpu classic

Circle Green

Moda	Core	Supra
Mildly corrosive environments	Corrosive environments	Highly corrosive environments
EN 1.4003 EN 1.4016	EN 1.4301 EN 1.4307 EN 1.4509	EN 1.4404

outokumpu
high performance stainless steel

Certificate of calculated
Circle Green
Product Carbon Footprint

1 (1)
21.12.22
v1.0
Confidential

Circle Green Certificate

About Circle Green

Circle Green is a CO_2 minimized product from Outokumpu. The focus is on sustainable consumables, a high recycling rate and an optimized production route. Offsetting has not been used in the calculations.

With this certificate we confirm that the delivered product complies with Outokumpu Circle Green standards. The carbon footprint calculation follows ISO 14067 and includes all three scopes, from cradle-to-gate. The calculation model has been critically reviewed by an external party, wsp..

Result

The carbon footprint of your order 0074760644 **and material Certificate nro 966624/001 issued 26.5.2023** was **0,481t CO_2e/t stainless Steel**.

Compared to Outokumpu standard footprint of the grade **1.4301 (1,688 t CO_2e/t stainless steel)** we were able to achieve a reduction of **72%**.

This results in the fact that through this order **25,3t CO_2** were saved.

Petri Mure
VP - Head of Sustainable Products & Operations
Operations - Business Line Stainless Europe

Dr. Max Menzel
Head of Sustainability & Technical Customer Service
Sales – Business Line Stainless Europe

Circle Green

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outokumpu.com

Circle Green Customer voices

FISKARS GROUP EST. 1649

"…from innovative, lower emission raw materials to long-lasting, quality cookware," - **Nathalie Ahlström**, President and CEO at Fiskars Group.

BOYSEN

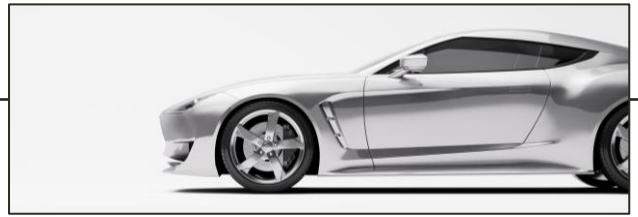
"…We are proud to have found two strategic partners to further advance the important topic of sustainability and CO_2 neutrality in the supply chain. True to our path – without change, no future", **Rolf Geisel**, CEO of Boysen Group.

thyssenkrupp

"…We want to support our customers and partners in developing sustainable solutions – such as using Circle Green with up to 92% lower carbon footprint ..." - **Marcus Wöhl**, CEO of thyssenkrupp Materials Processing Europe.

PUREM by Eberspächer

"…drive innovations for our exhaust gas purification systems in conventional as well as future drive types like the hydrogen engine. This includes the material used in our products. To reduce its carbon footprint is a focal point" - **Uwe Ackermann**, Vice President Global Procurement, Purem by Eberspaecher.



SVERDRUP STEEL

"Sustainable stainless steel has been part of our strategy for many years, and this collaboration is the next phase for us towards a better tomorrow.", **Steffen P.**, Sales Director at Sverdrup Steel.

LEMVIGH-MÜLLER

"…be one of the first wholesalers in Europe to offer stainless grades with the market's lowest CO2 footprint from local stock". **Anders Voldsgaard Clausen**, Senior Sales Director

klöckner & co

"…important step for our company in the right direction. With this we enable even more of our customers to build sustainable value chains already today and strengthen our position as a pioneer of sustainability,"- **Guido Kerkhoff**, CEO of Klöckner & Co.

NORDIC STEEL part of great solutions

"…Together with Outokumpu, we see great opportunities for customers in all types of industries to reduce their CO_2 emissions by choosing the most sustainable alternative," - **Børre Lobekk**, President and CEO of Nordic Steel.

Why now is the time to start managing your CO_2 footprint

Environmental benefits by activly managing CO_2

Example stainless steel consumer

Today		
Tons stainlees steel	**CO_2 Value**	**Sum tCO_2**
2000	China & Indonesia (7.4 tCO_2)	14.800
2000	Outokumpu Average (1.7 tCO_2)	3.400
SUM	CO_2	18.200

Switch to Outokumpu		
Tons stainlees steel	**CO_2 Value**	**Sum tCO_2**
2000	Outokumpu Average (1.7 tCO_2)	3.400
2000	Outokumpu Average (1.7 tCO_2)	3.400
SUM	CO_2	6.800

Switch to Circle Green		
Tons stainlees steel	**CO_2 Value**	**Sum tCO_2**
2000	CircleGreen min. 50% lower CO_2	1.700
2000	CircleGreen min. 50% lower CO_2	1.700
SUM	CO_2	Max. 3.400

Potential to avoid > 14 800 t CO_2 (81 %) by active supplier management

1 tree needs 40 years to decompose 1 ton of CO2

Product carbon footprint cradle to gate (PCF)

Now available on our certificates

Validation

Our calculation model has been verified by WSP Global a Canadian based global engineering and consulting services company.

Followed standards

DIN EN ISO 14067 s
tandard for carbon footprint

&

EN15804
sub-standards/PCRs

Summary

Sustainability Yearbook Member
S&P Global ESG Score 2022

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Responsible Steel standards & certification

RESPONSIBLE CHROMIUM
ACTING NOW FOR TOMORROW 2021