



# Future is here – Outokumpu sets benchmark for sustainable stainless steel

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Head of Sustainability & Technical Customer Service

Green Steel World

# We are the global leader in sustainable stainless steel

- Operations in close 30 countries and mills in Finland, Sweden, Germany, the US and Mexico
- Strong market position: #1 in Europe, #2 in Americas
- Main raw material is recycled steel
- Own chrome mine in Kemi, Finland
- Listed on Nasdaq Helsinki

Sales, EUR

**9.5**

billion

Adjusted EBITDA, EUR

**1,256**

million

Net debt free with a net debt of EUR

**-10**

million\*

Recycled content

**94%**

**8,357**

employees

CO<sub>2</sub> emissions

**-18.4%**

from 2016

# Ambitious climate targets

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

## 1.5°C

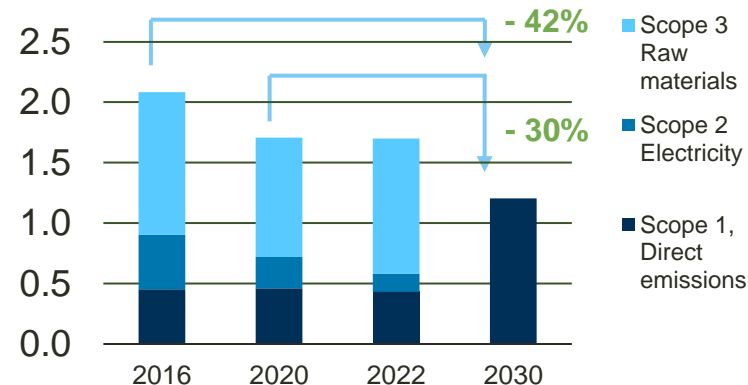
ambition



SCIENCE  
BASED  
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Emission intensity (tCO<sub>2</sub>/t crude steel)



## Key levers for emission reduction

Efficiency &  
yield improvements

Decarbonize fuel mix

Systematic  
sustainability evaluation

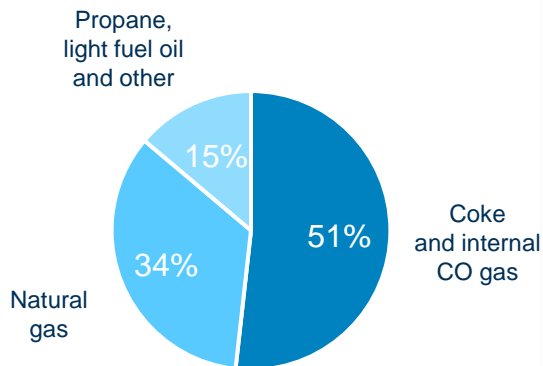
Investments within  
overall strategy

# Full transparency on CO<sub>2</sub> Emissions

## Emissions per scope in 2022

### Scope 1

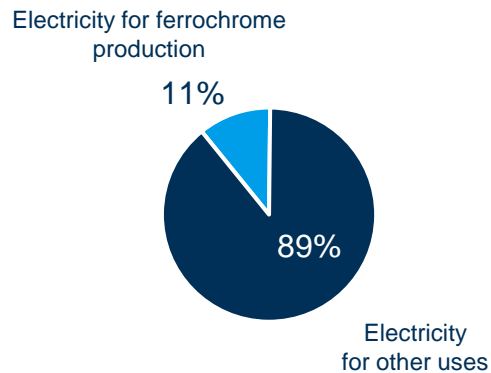
Addressing coke and fuel use has a significant impact on Scope 1 emissions.



**Total: 1,043 ktCO<sub>2</sub>**

### Scope 2

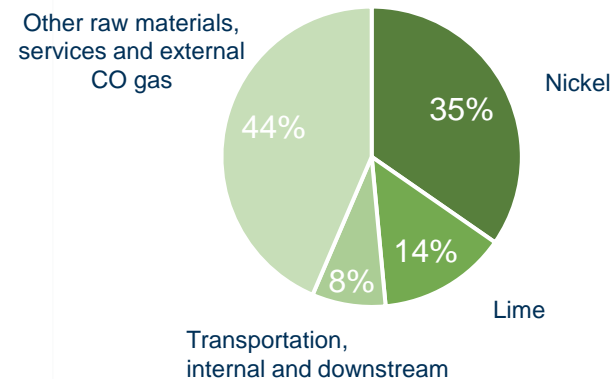
Absolute emissions can be significantly reduced by increasing the share of low-carbon electricity.



**Total: 368 ktCO<sub>2</sub>**

### Scope 3

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



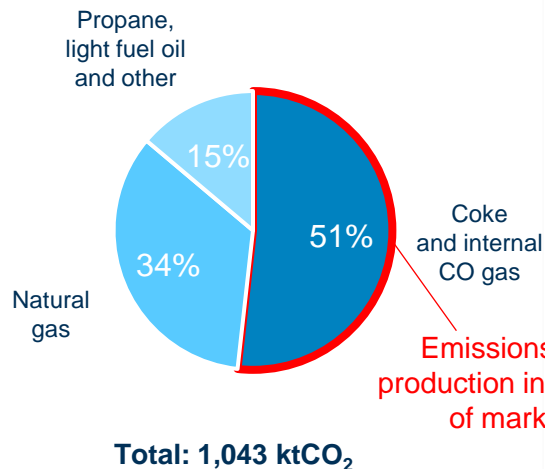
**Total: 2,931 ktCO<sub>2</sub>**

# Full transparency on CO<sub>2</sub> emissions

## Emissions per scope in 2022

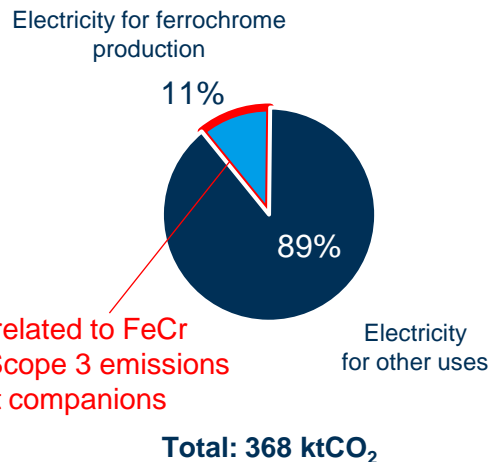
### Scope 1

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



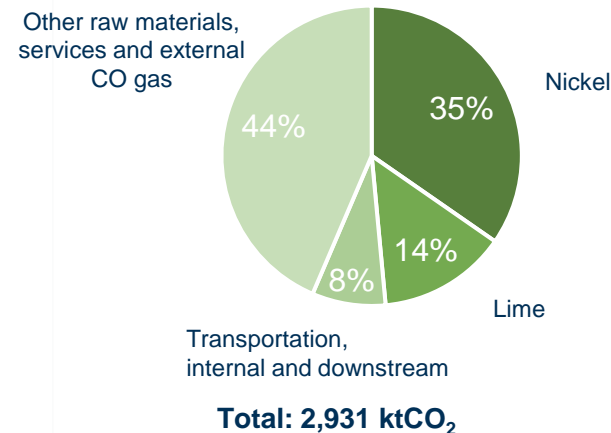
### Scope 2

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



### Scope 3

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



# Outokumpu is the industry benchmark for stainless steel carbon footprint

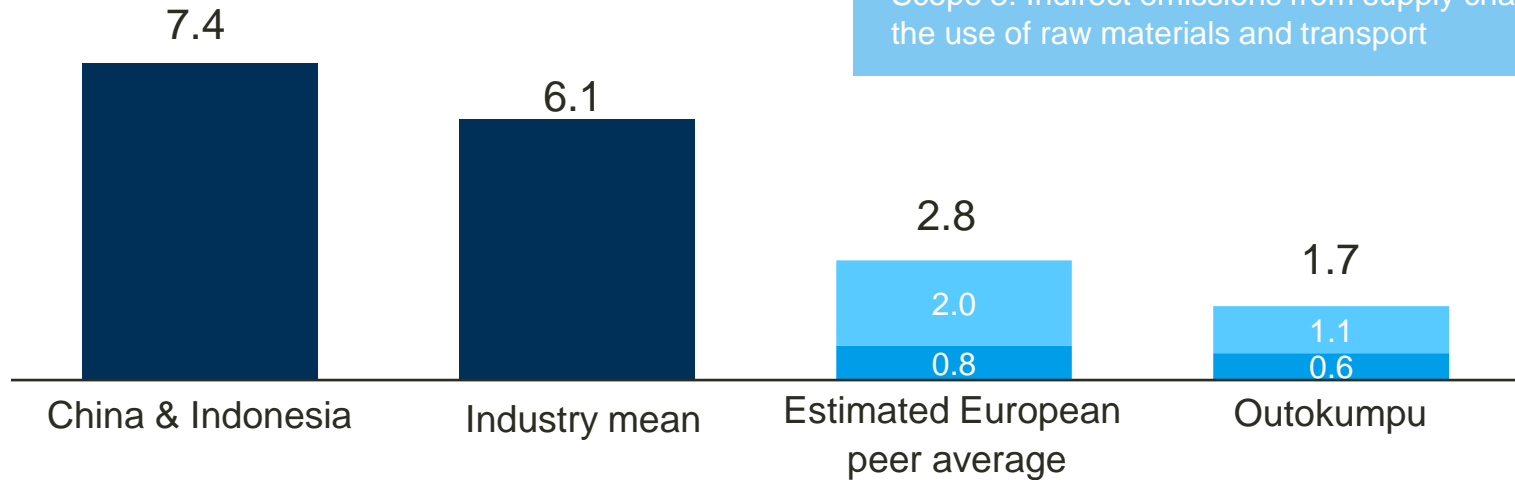
Value chain emissions, tCO<sub>2</sub>-eq/t of stainless steel

## Emission scopes

Scope 1: Direct emissions from own production

Scope 2: Emissions from electricity use

Scope 3: Indirect emissions from supply chain, e.g. the use of raw materials and transport



Outokumpu scope 1 & 2 also includes FeCr, unlike peers



Scope 1 & 2



Scope 3



Scope 1, 2 & 3

# Outokumpu has the lowest carbon footprint in the stainless steel industry

Industry leading recycled content globally

**>90%**

Low ferrochrome carbon footprint:

**42%**

of industry average

High usage of carbon neutral electricity in Europe

**+80%**

# From CO<sub>2</sub> reporting to management

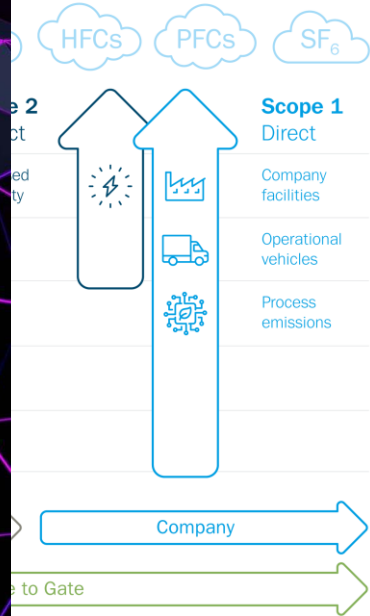
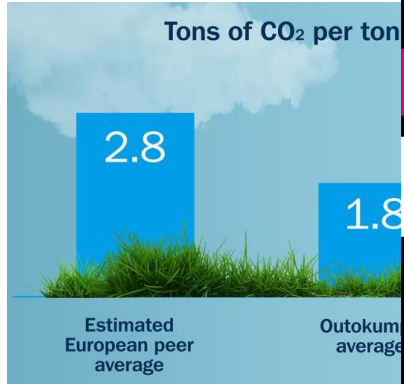




# Product carbon footprint (PCF) cradle to gate

Material specific CO<sub>2</sub> footprint  
November 2022:

- Tonnage-weighted average across production routes
- Differentiation by product (BHB, WHB) and cold chain
- Calculation verification



\*Including Scope 1, 2 and 3





Circle Green™

# The world's most sustainable stainless steel is here

## Circle Green Classic – emission minimized stainless steel

Global  
average  
CO<sub>2</sub> emissions

**6.1**

t of CO<sub>2</sub> per tonne  
of stainless steel

Circle  
Green Core<sup>a</sup>  
CO<sub>2</sub> emissions

**Down to  
0.5<sup>b</sup>**

t of CO<sub>2</sub> per tonne  
of stainless steel

Carbon  
footprint

**92%**

lower than the global  
average



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

<sup>a</sup> case example

<sup>b</sup> 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**

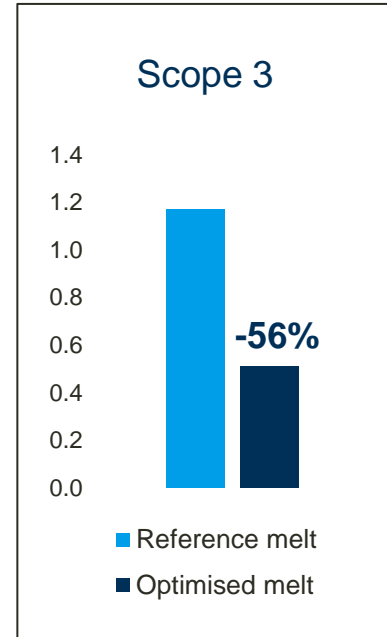
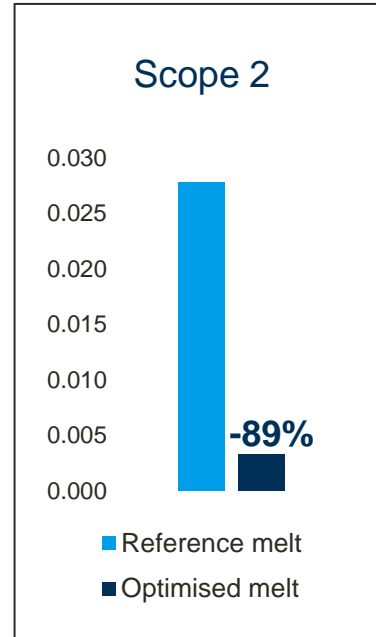
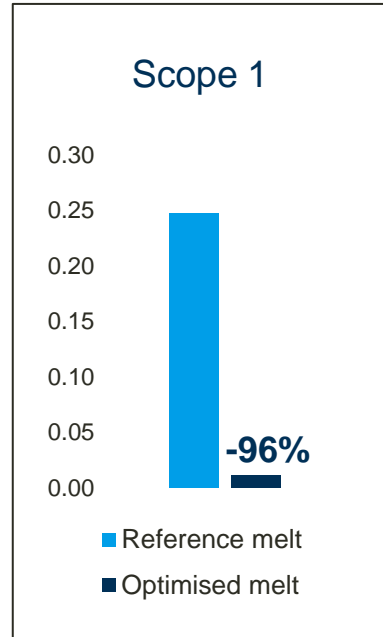
\*Baseline 12 month actual data Oct 21-Sep 22



# CO<sub>2</sub> reduction reference case 304



- Special raw material selection
- Low carbon energies used in production
- Production efficiency



# Outokumpu is the industry benchmark for stainless steel carbon footprint

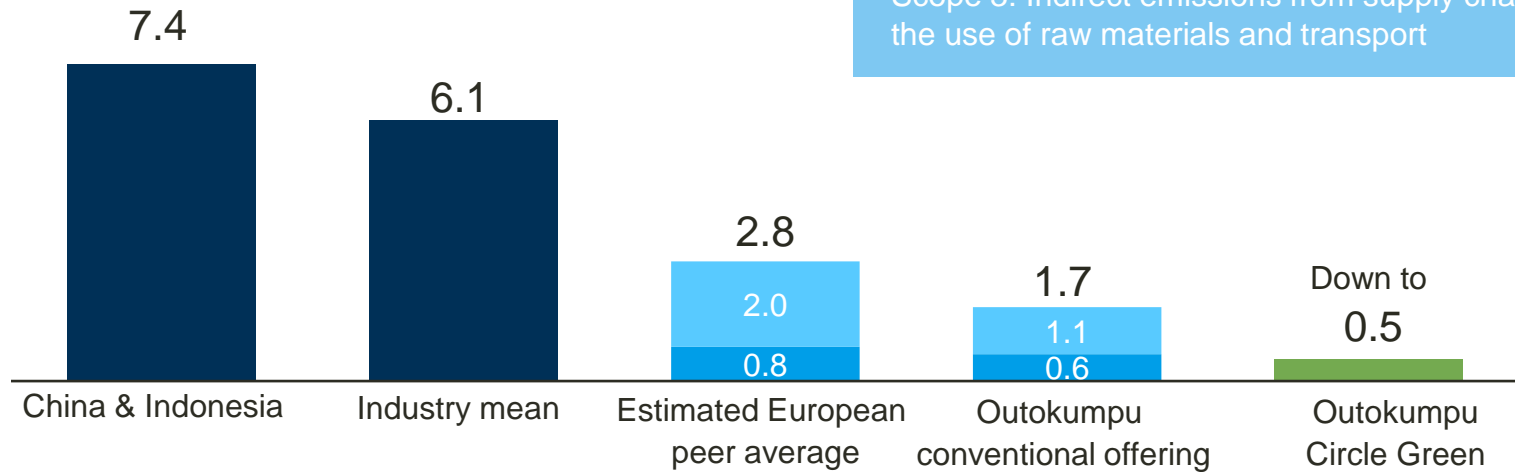
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Scope 1 & 2



Scope 3



Scope 1, 2 & 3

# Our Circle Green product portfolio

Circle Green Classic – emission minimized stainless steel

outokumpu classic	<b>Moda</b> Mildly corrosive environments	<b>Core</b> Corrosive environments	<b>Supra</b> Highly corrosive environments
	EN 1.4003 EN 1.4016	EN 1.4301 EN 1.4307 EN 1.4509	EN 1.4404





# Summary

# Leading producer of sustainable stainless steel

Industry leading recycled content

**>90%**

Carbon footprint

**70%**

lower than the global industry average

**1st**

in the industry to offer products-specific carbon footprints

- We are the only stainless steel company with an approved SBTi target aligned with the 1.5°C ambition
- We impact the following United Nations Sustainable Development Goals:
- We are a member of the industry's first sustainability standard ResponsibleSteel



Stainless steel is a superb material for sustainable solutions as it is 100% recyclable, efficient and long-lasting.

An industry-first: emission minimized stainless steel commercially available

Carbon footprint up to

**92%**

lower than the global average



“The best time to start building the circular future for the next generation is today. Not only because we can, not just because we have to, but because we want to. Are you ready to join industrial evolution?”

– Heikki Malinen, President & CEO at Outokumpu

# Thank you!

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**S&P Global**

**Sustainability  
Yearbook Member**  
S&P Global ESG Score 2022

