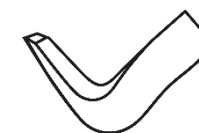


The way to climate neutrality – Carbon footprint in the future

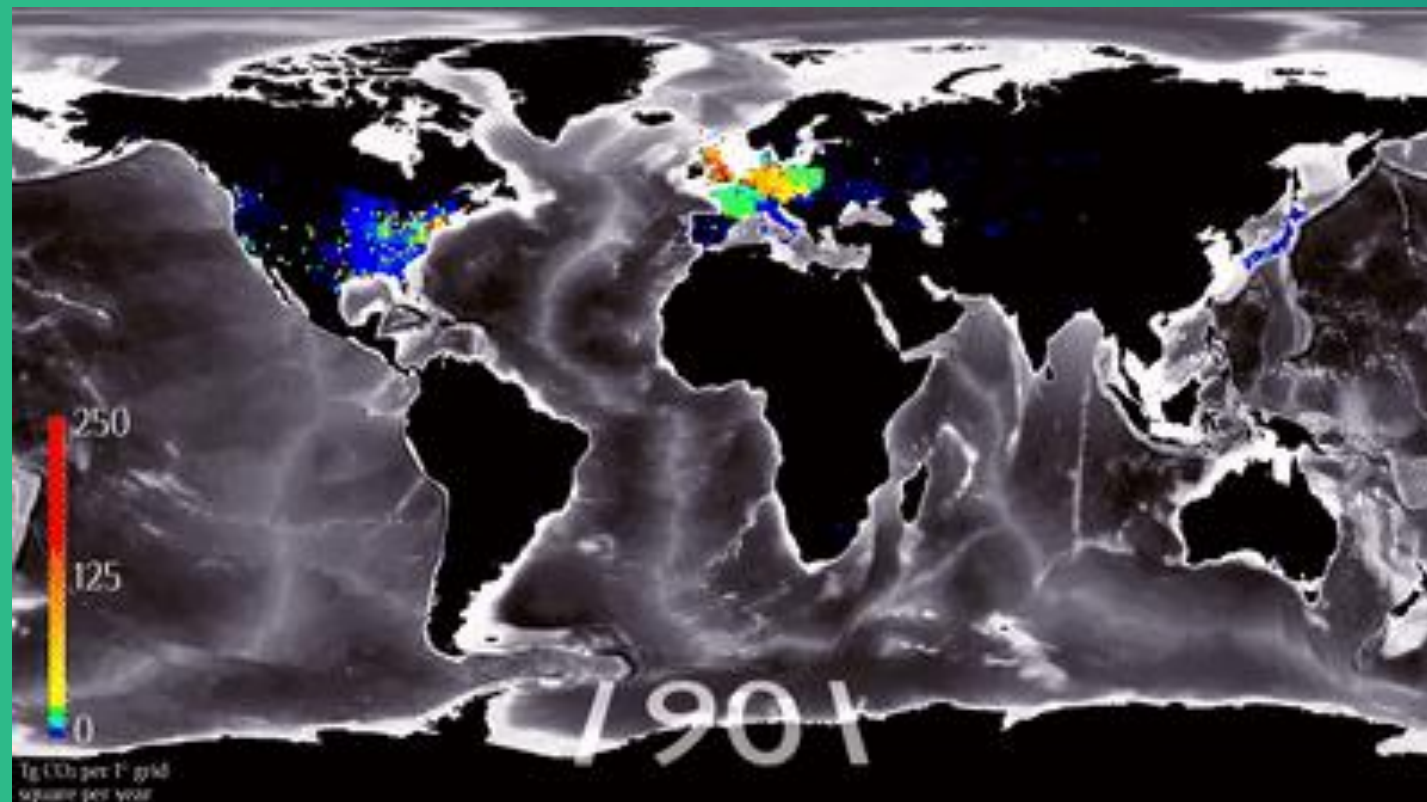
Jonas Adolfsson

Business Development Mobility





SWEDISH
STEEL PRIZE



CO₂ reductions required given Paris Agreement

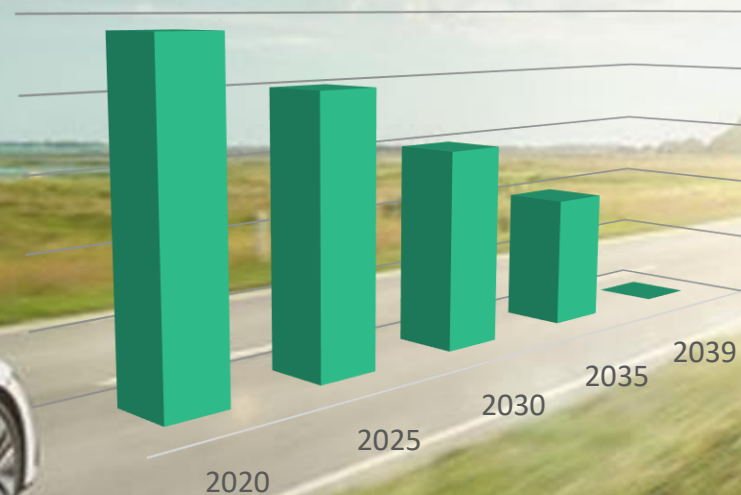
Million tons CO₂



The Mobility
industri have started
the transformation



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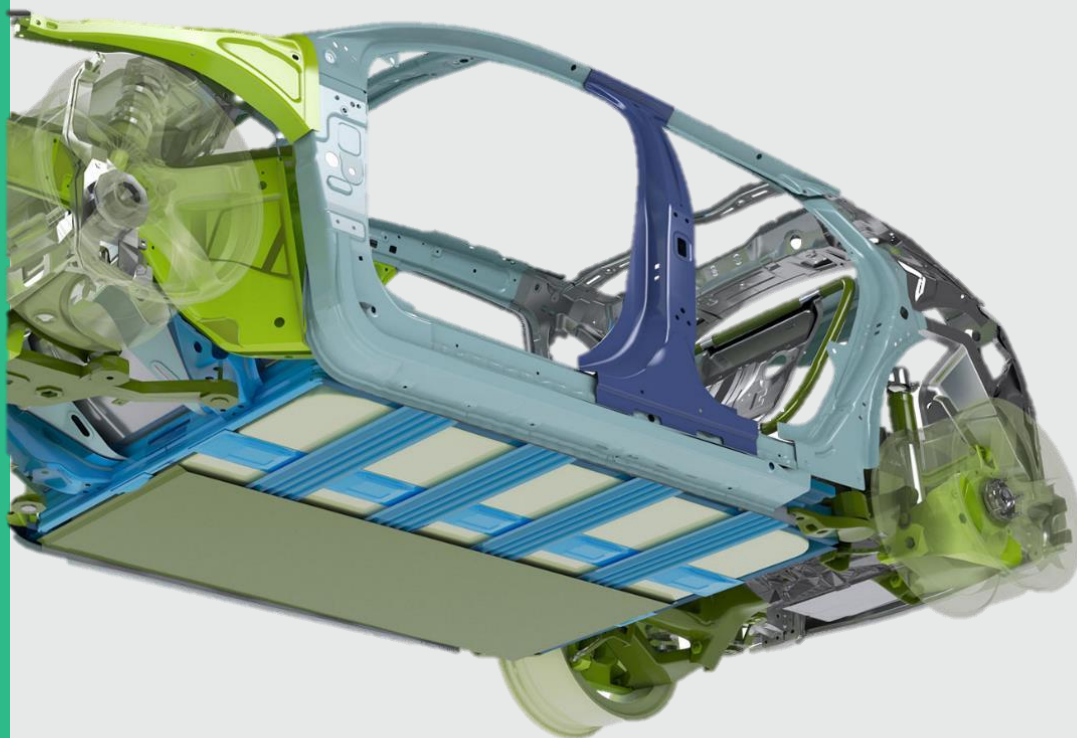


Mercedes-Benz "Ambition 2039" – carbon neutral in 2039

Electric propulsion is the future



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SSAB

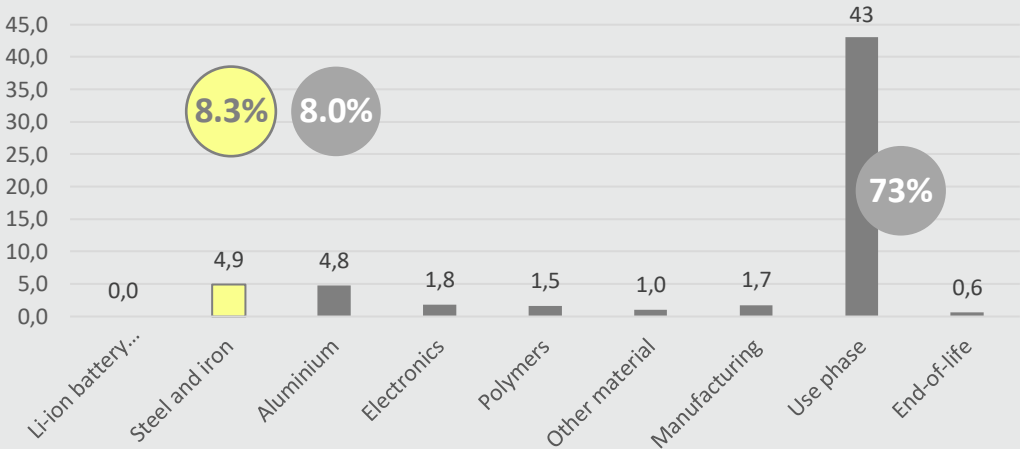
Petrol car vs. electric



Volvo XC40 (2021) with Petrol E5



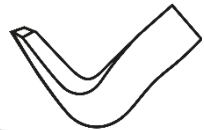
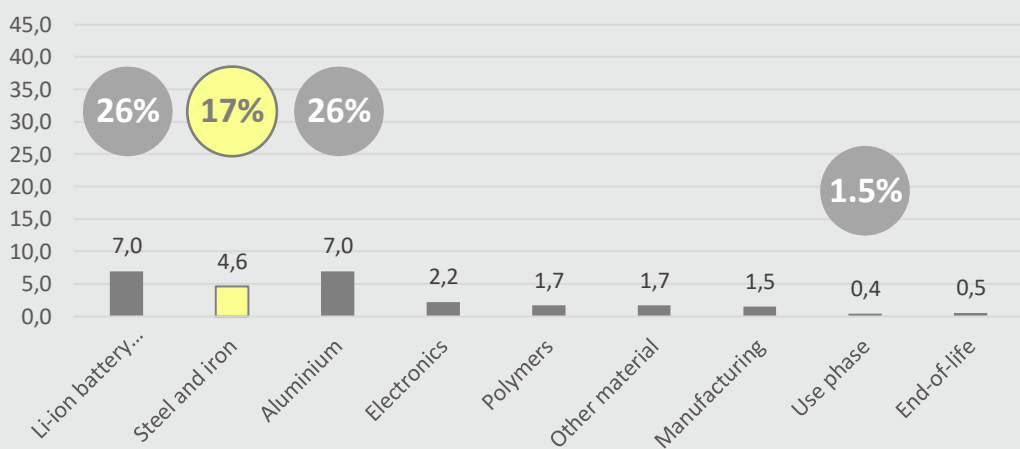
59 tonnes CO₂e
per 200,000 km lifetime range



Volvo XC40 Recharge (2021) with Wind mix



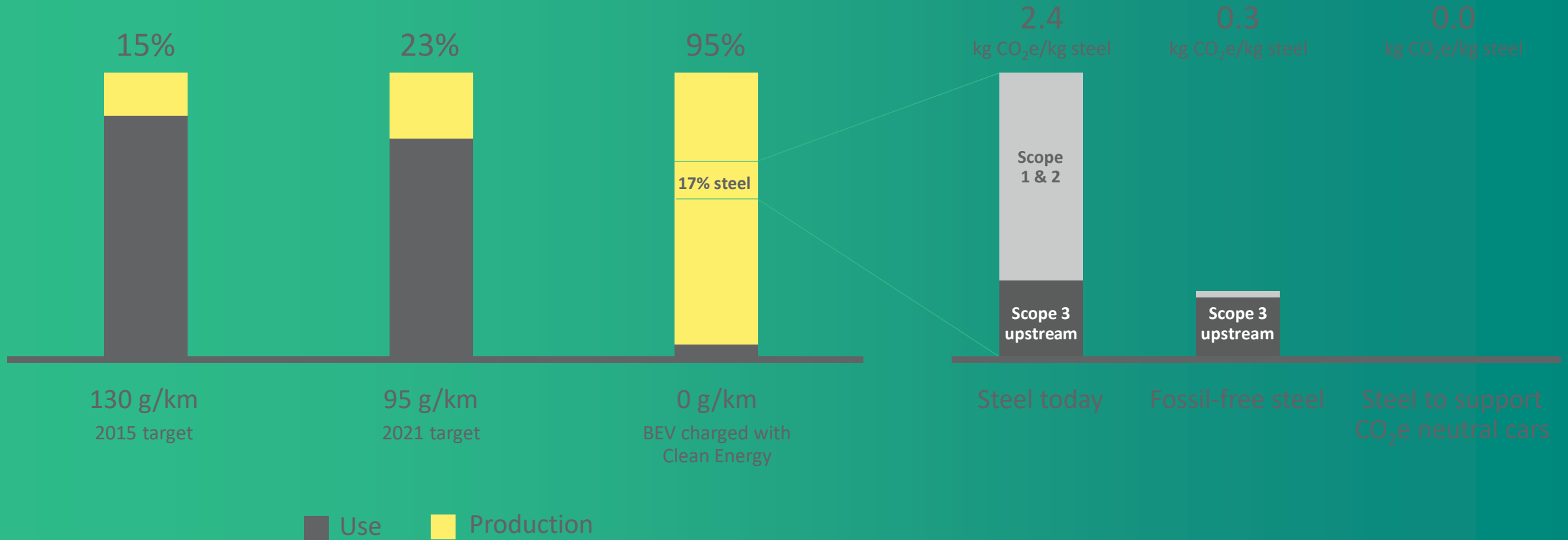
26 tonnes CO₂e
per 200,000 km lifetime range



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ENVIRONMENTAL
PROTECTION AGENCY

24 tons CO2e embodied carbon (material and manufacturing)

Reduced tailpipe emissions → More focus on embedded CO₂e



Estimated time line



Advanced
engineering
starts

2025

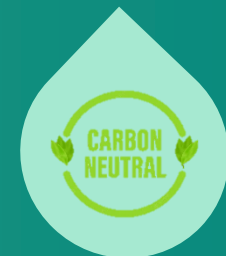
Product
development
starts



1st carbon
neutral cars

2030

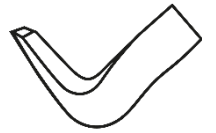
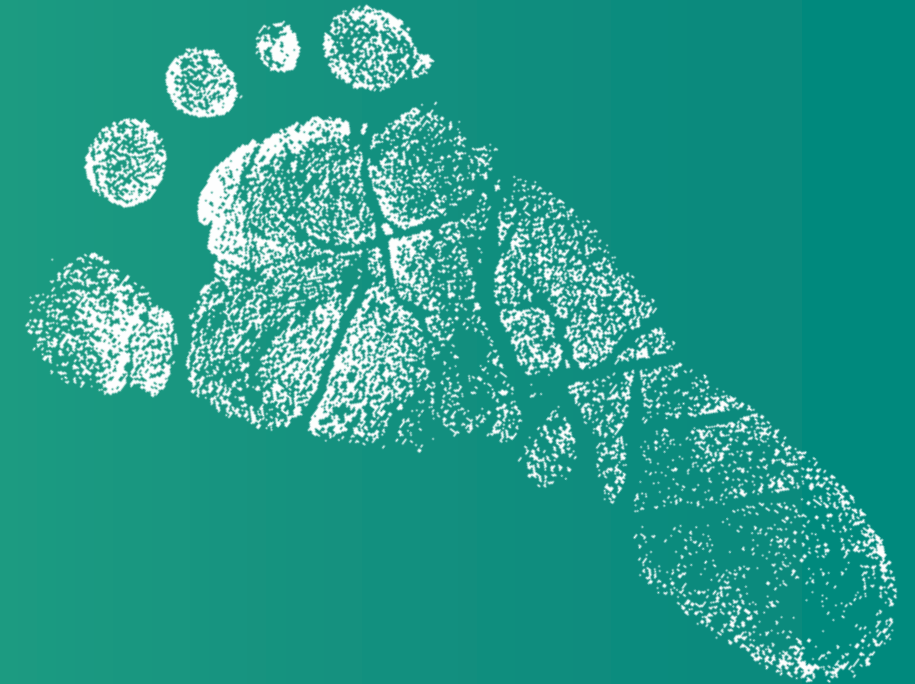
Carbon neutral
company and cars



2039

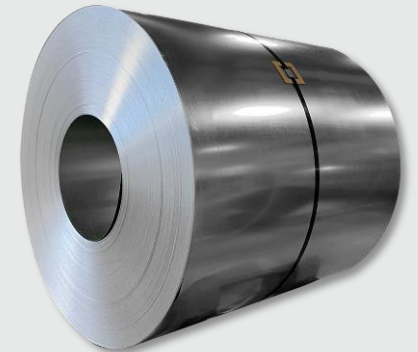


CARBON FOOTPRINT IS A PRODUCT DEVELOPMENT PARAMETER



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Why is embedded carbon footprint important?



Carbon footprint is a design parameter

- ▶ Tensile properties
- ▶ Compressive properties
- ▶ Shear properties
- ▶ Modulus of elasticity
- ▶ Hardness
- ▶ Density
- ▶ Permeability
- ▶ Thermal expansion
- ▶ Shrinkage
- ▶ Specific heat
- ▶ Creep
- ▶ Relaxation
- ▶ Fatigue
- ▶ **Carbon footprint**

It is specific.
It is measurable.
It is relevant.
It is needed to achieve goals.
It is product specific.
It takes an engineer.



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How can you influence the footprint?



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Low CO2e
Material



Material
Efficiency

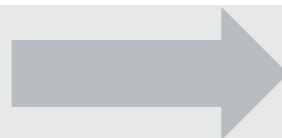


Material
Utilization



Energy
Consumption

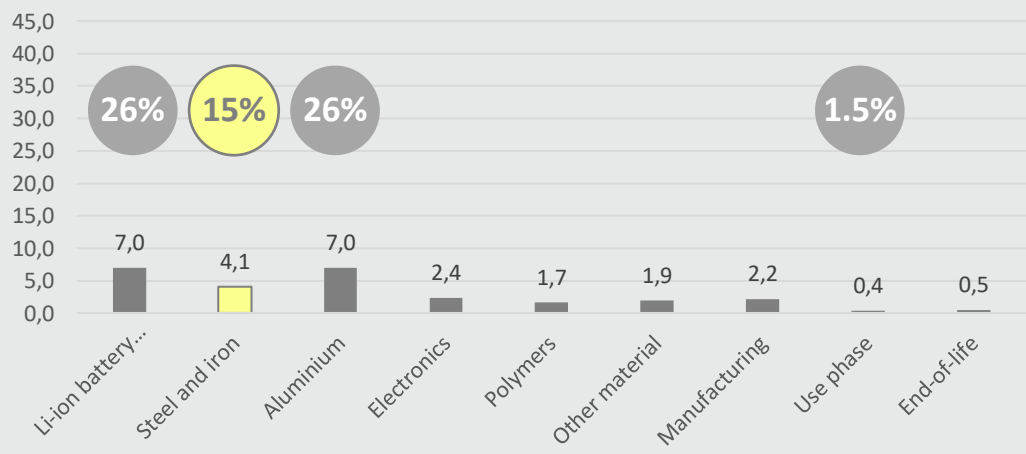
Polestar 2



Polestar 2 Long Range Dual (2020) with Wind Power



27 tonnes CO₂e
per 200,000 km lifetime range



Polestar 0



Polestar 0 Project
0tCO₂e

To eliminate all emissions by 2030.
24 tons CO₂e. Scope 1-3.
Including emissions from
all upstream suppliers.



Carbon emission in operations
including purchased energy (scope 1-2):

0.0

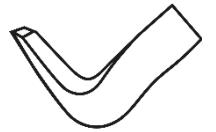
kg CO₂e emissions per kg steel (target).



Carbon emission in operations
including purchased energy and iron ore
(scope 1-2 and iron ore of scope 3 upstream):

0.0

kg CO₂e emissions per kg steel (target).



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Carbon emission cradle to gate
(scope 1,2 & 3 upstream):

0.3

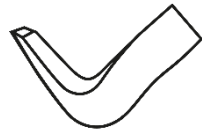
kg CO₂e emissions per kg steel (target).



Carbon emission cradle to gate
(scope 1,2 & 3 upstream):

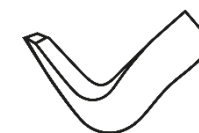
0.3

kg CO₂e emissions per kg steel (target).

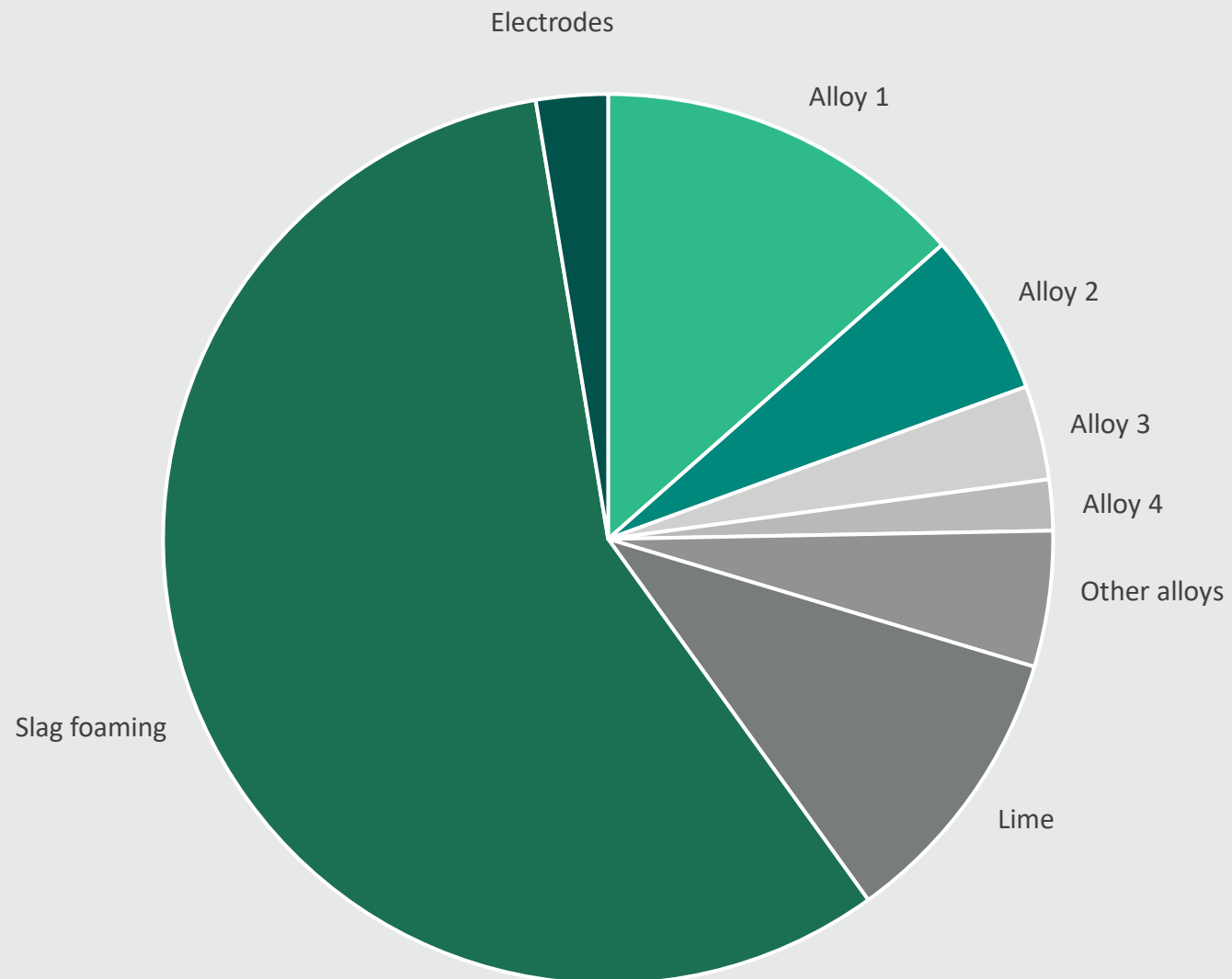


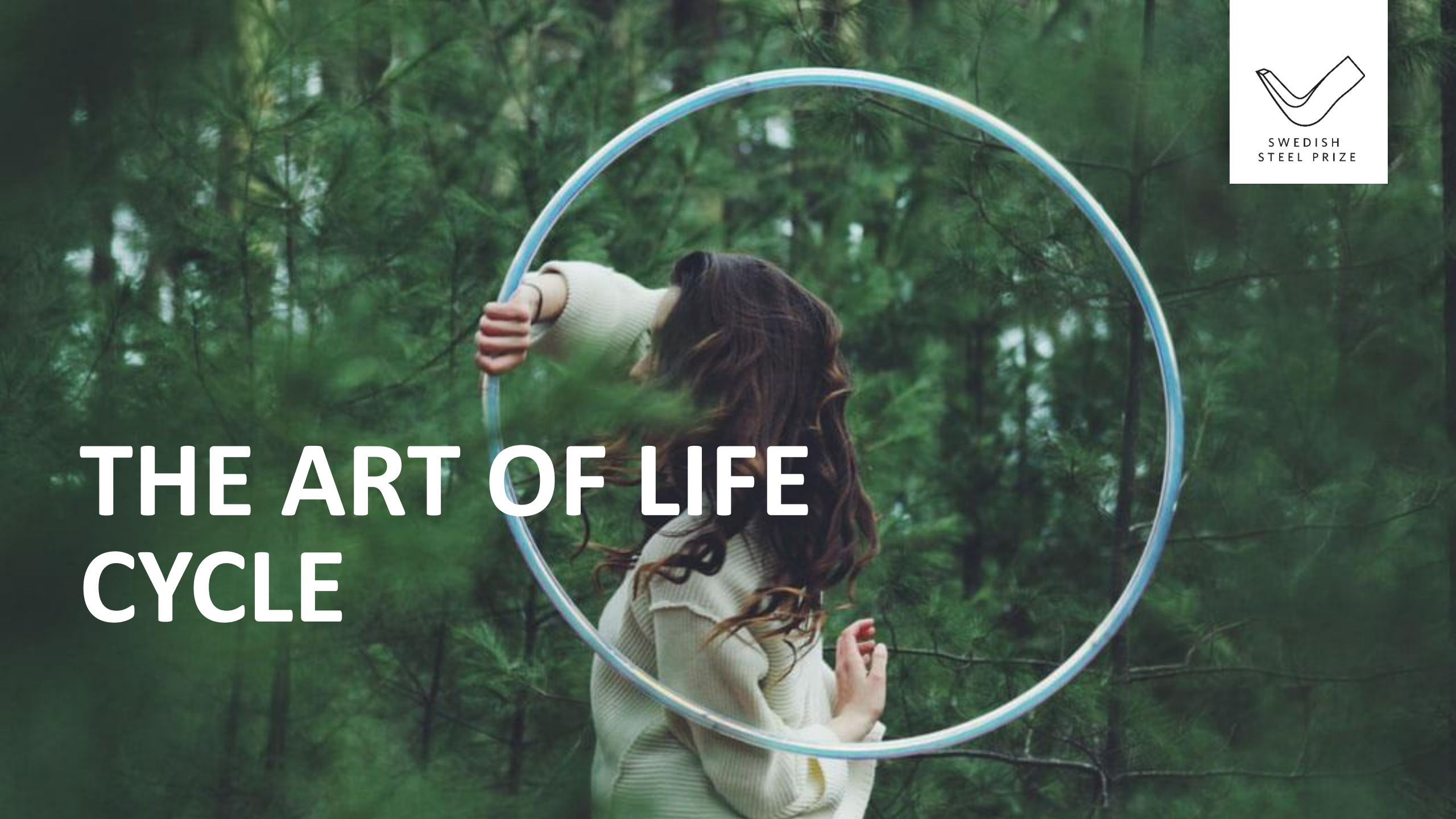
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Remaining carbon footprint



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THE ART OF LIFE CYCLE

DATA IS KING



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STEEL PRIZE

EPD

Hot rolled steel sheets and coils

Environmental Product Declaration (EPD)
In accordance with ISO 14025 and EN 15804+A1
S-P-01910, version 1.0
UN CPC 412

SSAB

EPD

Cold rolled steel sheets and coils

Environmental Product Declaration (EPD)
In accordance with ISO 14025 and EN 15804+A1
S-P-01920, version 1.0
UN CPC 412

SSAB

EPD

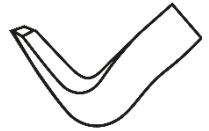
Metal coated steel sheets and coils

Environmental Product Declaration (EPD)
In accordance with ISO 14025 and EN 15804+A1
S-P-01921, version 1.0
UN CPC 412

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Carbon footprint
will be a
design parameter

To reach carbon
neutrality



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SSAB

Resources



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Phone: +46 709 833 060



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Steel selector >
Fossil-free steel >
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> Fossil-free steel > Fossil-free overview

The future is fossil-free! Are you in?

If you think sustainable steel production sounds like a contradiction in terms, you point. But now, it's time for a change.

Explore what a fossil-free future means for you

Not all green steel is fossil-free steel

Get to know our partners

WEBINAR

Answers to the most frequently asked questions about fossil-free steel

AVAILABLE ON-DEMAND
ENGLISH

What are the technical challenges involved in fossil-free steel? Will there be fossil-free steel for all products? There was tremendous interest and a host of questions when we organized a webinar about fossil-free steel this spring. On September 30, we will therefore be hosting a new webinar, in which we will answer the most frequently asked questions and give you an in-depth look at our journey towards fossil-free steel. Don't miss it!

Go to webinar

WEBINAR

What is fossil-free steel and when will production start?

AVAILABLE ON-DEMAND
ENGLISH

SSAB is taking the lead in reducing the carbon footprint of the steel industry and is aiming to launch the world's first fossil-free steel by around 2026. But how does fossil-free steel production actually work? And what's the difference between green steel and fossil-free steel? Welcome to a fact-packed webinar to help you learn more about SSAB's fossil-free steel production.

Go to webinar

WEBINAR

Fossil-free steel and EPD – two important parts of your future sustainability work

AVAILABLE ON-DEMAND
DANSK

Learn how SSAB's environmental product declarations, EPDs for short, work and how you can use them to see the environmental impact your product has throughout an entire life cycle. Plus, expand your knowledge on how the new steel processing technology HYBRIT produces fossil-free steel. Welcome to a fact-packed webinar with SSAB on the topic of sustainability.

Go to webinar