



SETTIMANA DELLA SOSTENIBILITÀ

19-22 MARZO 2024



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VENETO EST**

Area Metropolitana
Venezia Padova Rovigo Treviso

Niche Fusina Rolled Products

Carbon accounting e calcolo della CO2 della filiera (da produzione della materia prima al prodotto finito): un'applicazione ad un "laminatoio di alluminio".

21-Marzo-2024



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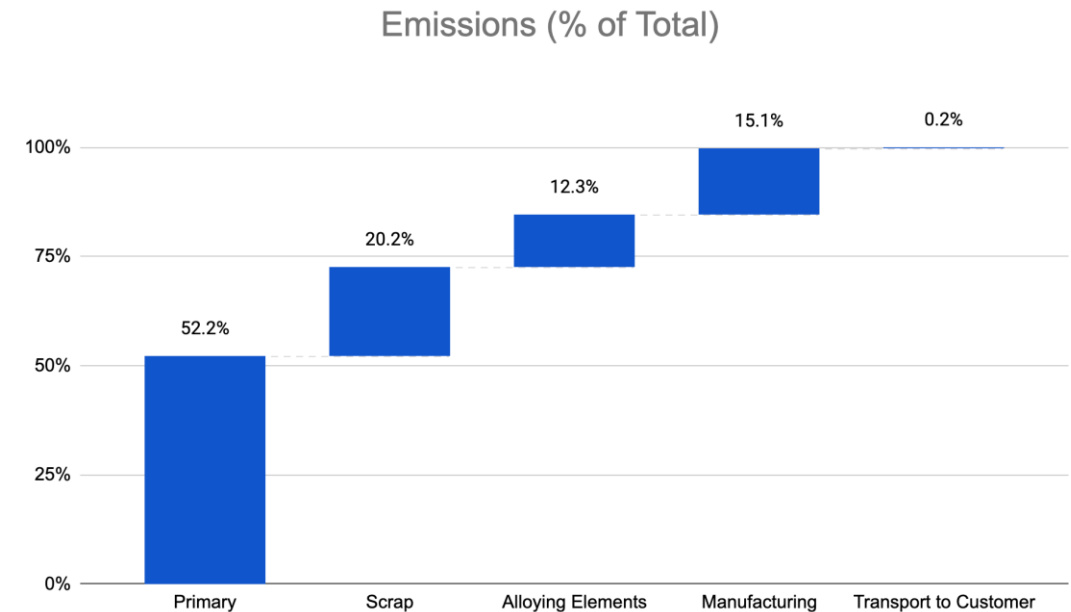
Who are we and what we do?

- Aluminium rolling mill in Venice:
 - Cast-house
 - Rolling Mill
- Aluminium is a “Critical Material” essential to the eco-transition
 - 30% lighter than steel
 - Similar strength
- ... but “Primary Aluminium” production is carbon intensive... so our aim is to reduce the CO₂ emission of our “Products”.. hence the importance of tracking our impact

Co2 lifecycle and carbon accounting

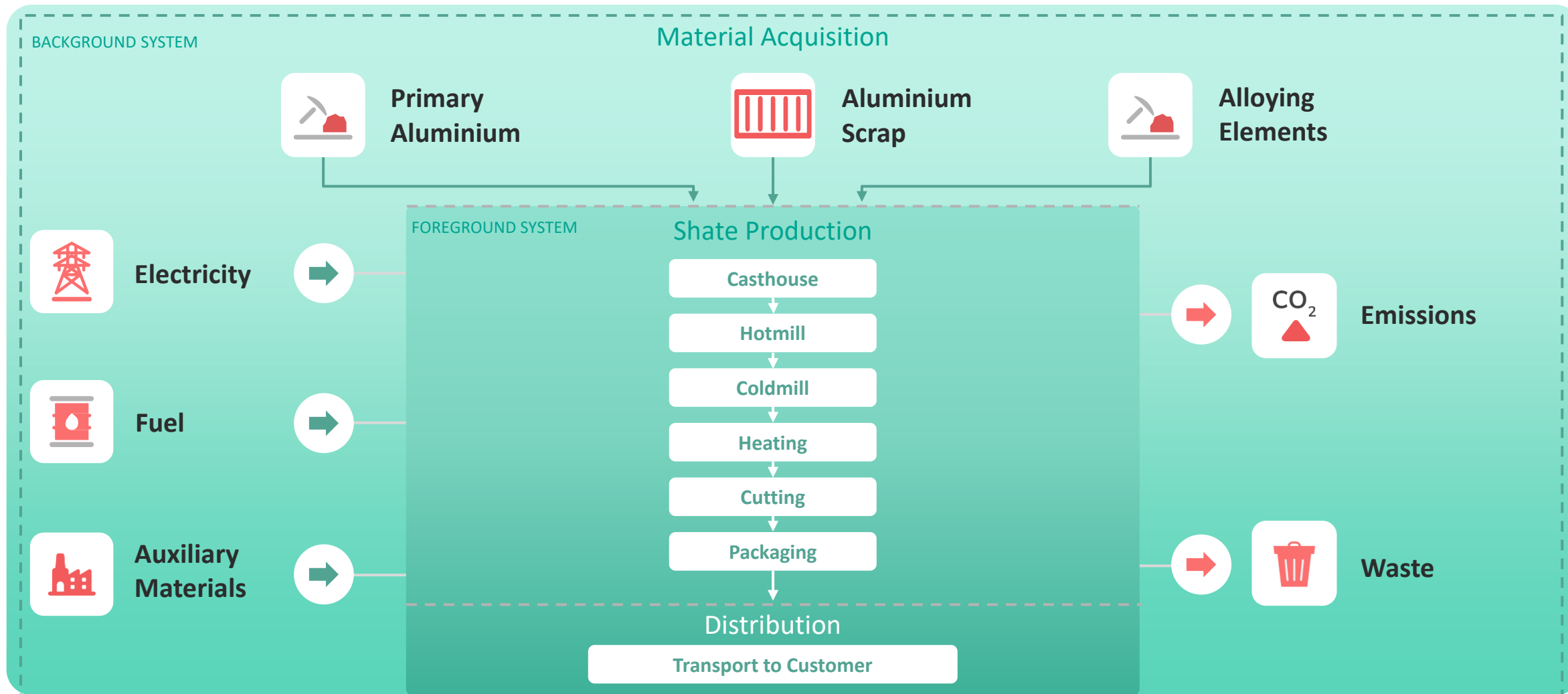
Typical Co2 pattern

- The process of Aluminium production is carbon intensive, but most of the carbon emission is generated on the processes of:
 - Refining
 - Smelting
- Re-melting and rolling generates lower Co2
- Aluminium is a “live mineral” so can be recycled infinitely
- In our process the delivery to customers of final products and the sourcing of scrap material are key to reduce emissions



Cradle-to-customer: Shate (example of CO2 lifecycle)

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What is carbon accounting?

Carbon accounting is the process of quantifying greenhouse gas (GHG) emissions relating to organizations, products or services.

The standard unit in carbon accounting is CO₂e (carbon dioxide equivalent).



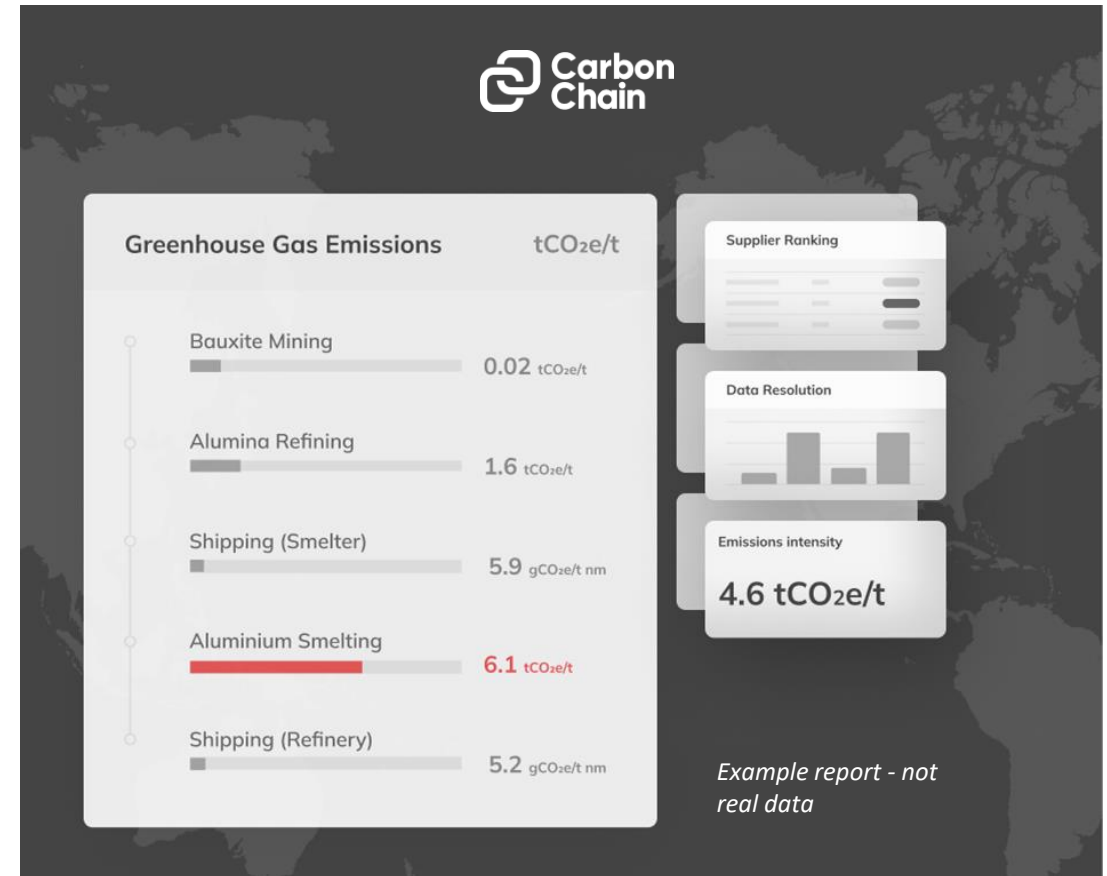
What are we measuring?

Product Carbon Footprint (PCF)

A carbon intensity for each custom-made product, calculated using CarbonChain's software.

This adds up all of the greenhouse gas (GHG) emissions generated in the supply chain of a specific product, allowing customers to align their procurement with net-zero goals and regulations.

Typically, PCFs are not broken down into Scopes 1, 2, 3 or categories





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Certifiable, highly accurate reports that customers can trust

CarbonChain's Fusina data collection process is audited by Bureau Veritas.

The carbon accounting methodology is verified by Bureau Veritas and validated by SGS.



FUSINA



[Learn More](#)

Total Emission Intensity

3.80 tCO₂e/t

Product

example

Invoice Date

2023-12-19

Customer

Weight (t)

0.22

Total Emissions

0.84 tCO₂e

Order Number

example

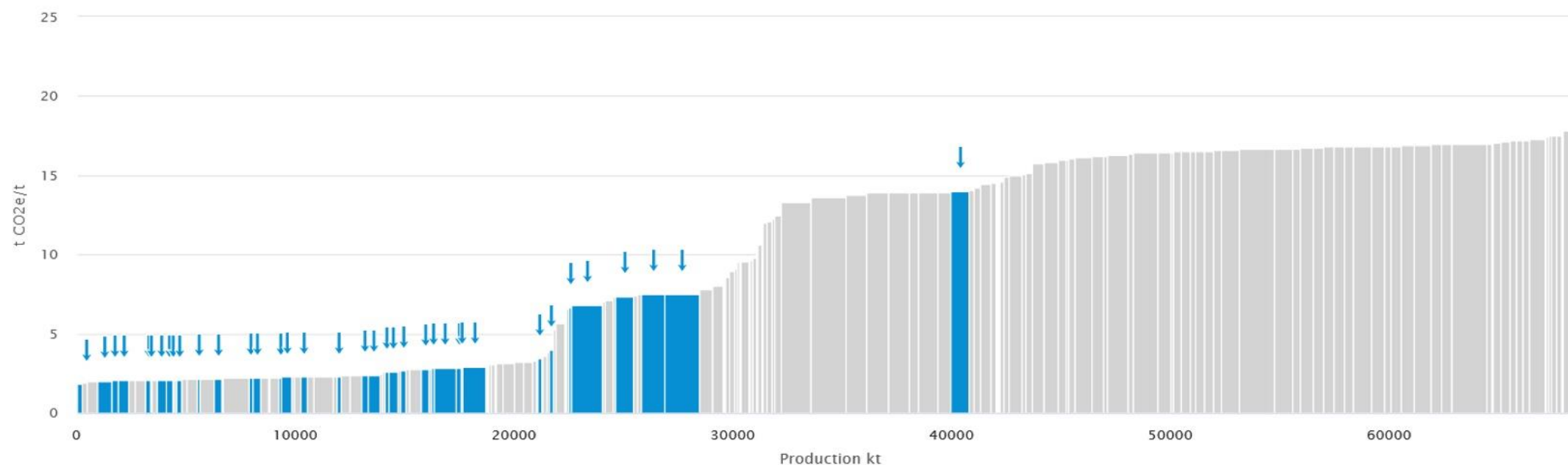
GHG Emissions Inventory

Life Cycle Stage	tCO ₂ e/t	tCO ₂ e	% Total
Material Acquisition			
Al Cr 75 Mining, Refining, Smelting	0.01	example 0.01	0.36
Al Mn 90 Mining, Refining, Smelting	0.04	example 0.03	1.13
Aluminium Scrap Processing	0.03	example 0.01	0.72
Electricity Energy Upstream, Electricity Generation, Electricity T&d	0.44	example 0.10	11.50
Magnesium Mining, Smelting, Refining	0.27	example 0.06	7.09
Natural Gas Energy Upstream	0.07	example 0.02	1.98
Pre Consumer Recycled Aluminium Recycling	0.01	example 0.00	21.39
Primary Aluminium Mining, Refining, Smelting	1.63	example 0.36	42.96

How can we reduce Co2 and what is Fusina doing?

Aluminum production / smelting

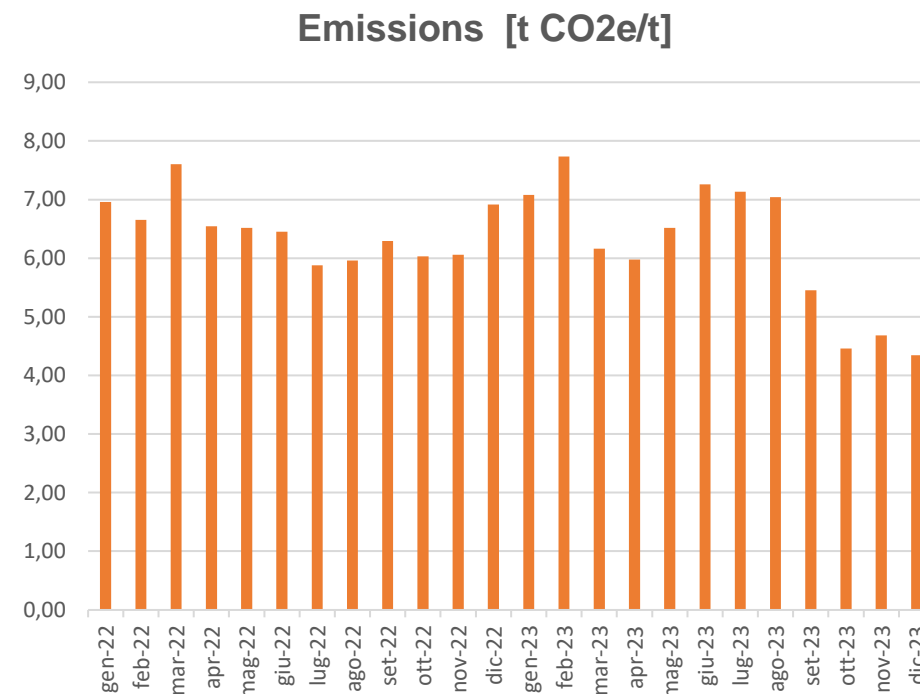
2021



Production and emissions intensity for all 2021-operating aluminium smelters. Source: <https://aluminium-stewardship.org/low-carbon-aluminium>

Buy only “Low Carbon Primary Aluminium”

- In September 2023, Fusina announced that we will only use “Low Carbon Primary Aluminium”
- Low Carbon Primary Aluminium is defined as aluminium produced using renewable source of energy
- Low Carbon Primary Aluminium is not formally defined, generally a carbon footprint of less than 4 Co2e/t is commonly used
- The Co2 reduction is evident since the beginning of September 2023 (see chart on the RHS)

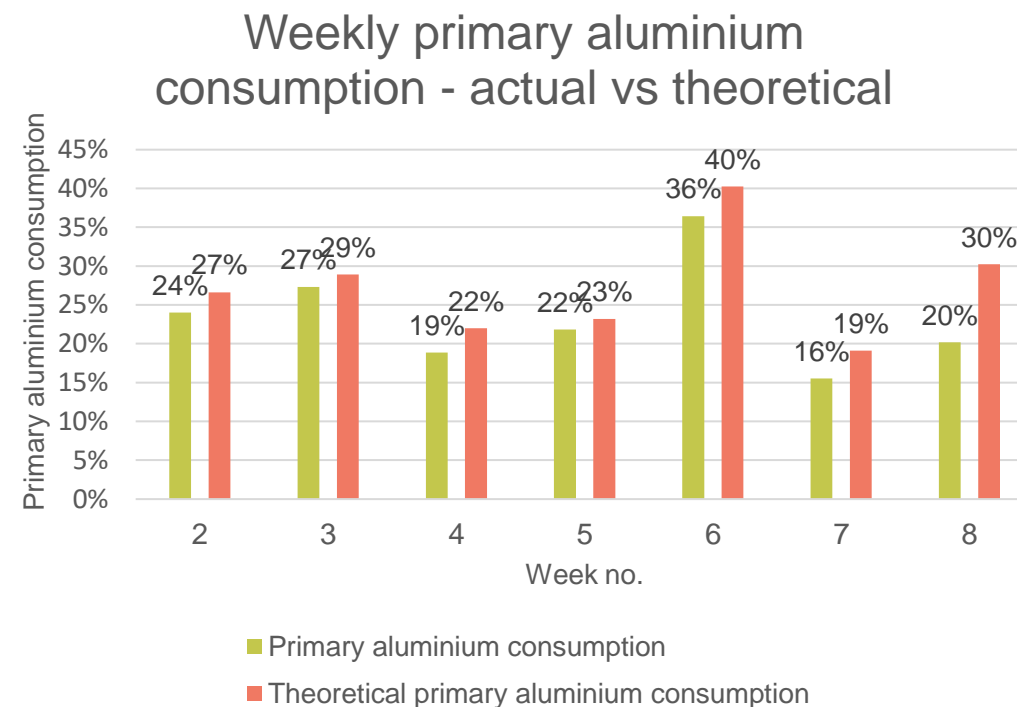


Reduce Prime / Increase Scrap usage

Comparison of monthly and weekly consumption of primary aluminium to the theoretical consumption for the same production, based on average content of primary aluminium for each alloy over the last 12 months.

January 2024: 24% (actual) vs 28% (theoretical)

February 2024: 22% (actual) vs 26% (theoretical)

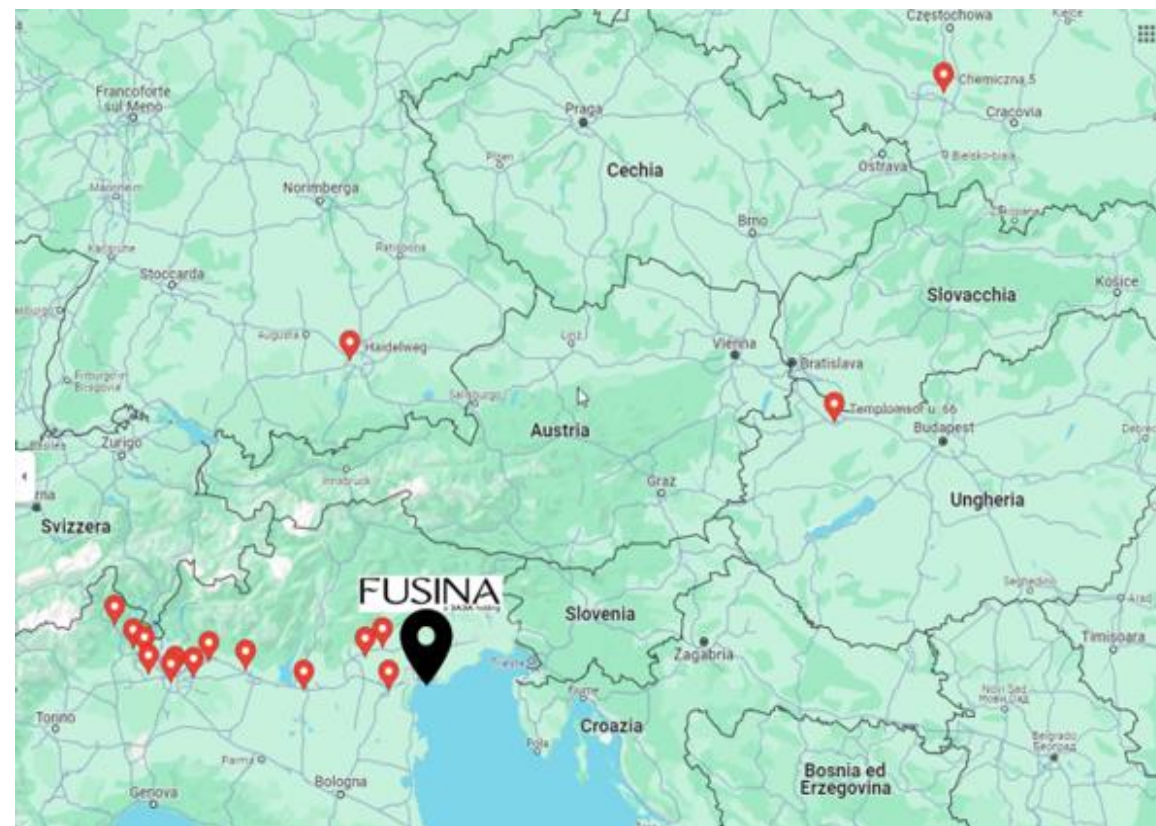


Actions to reduce primary aluminium use

- More careful sorting of in-house scrap
- Stricter requirements to and control of our external scrap suppliers and the scrap they provide
- Increase our internal upper limit for silicon in one of our alloys to allow for a higher fraction of scrap
- Improving the tracking of Primary Aluminium consumption (per alloy

Buy Scrap “locally”

- 90% of the purchased scrap sourced from North-Italy (remaining 10% is split between Germany-Hungary-Poland)
- Significant reduction on road transportation impact
- Ongoing efforts to buy the scrap with chemical composition as close as possible to the final alloy determined by the order (to reduce using Primary for correction)
- Investment planned to build a new melting furnace with the latest technology to further reduce Co2 impact





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Grazie per l'attenzione!



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