



Expect more

Sustainability Roadmap to Circular Economy at HAI Group

Markus Schober, COO HAI-Gruppe,
Sept. 28, 2022

Key figures



Planned turnover 2022
(mio. Euro)

950



Employees

~2.000



Capacity (tonnes)

250.000

Casting

Extrusion

100.000

Locations

HAI Group



RANSHOFEN



GEESTHACHT



SPROCKHÖVEL



ATTENDORN/OLPE



SOEST



SANTANA



CHISINEU-CRIS



GLOGOW





TRANSPORT



INDUSTRY

BUSINESS FIELDS



CONSTRUCTION



CASTING PRODUCTS

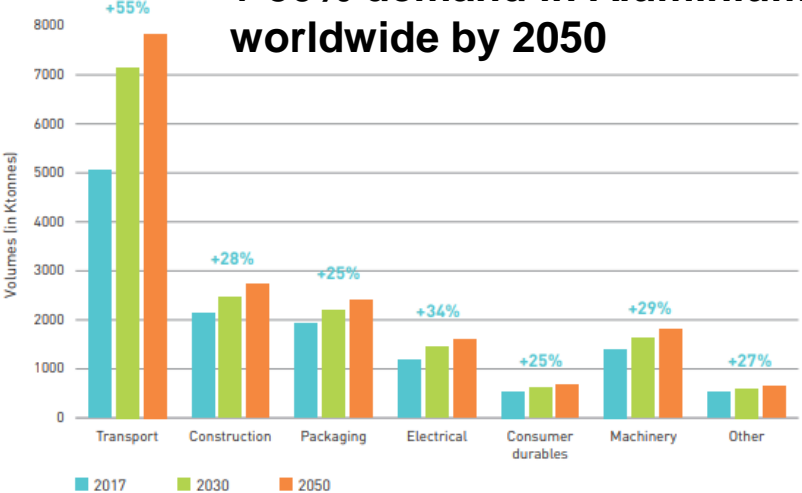


Aluminium – a perfect material
for decarbonisation

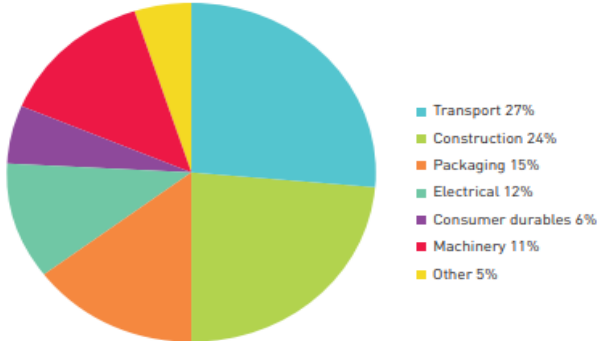


Growing demand in aluminium is driven by low carbon applications

+ 50% demand in Aluminium worldwide by 2050



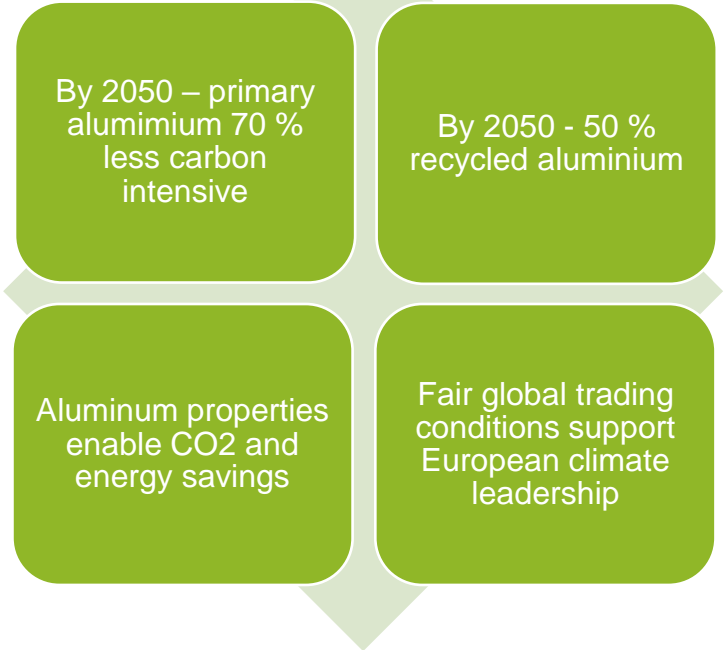
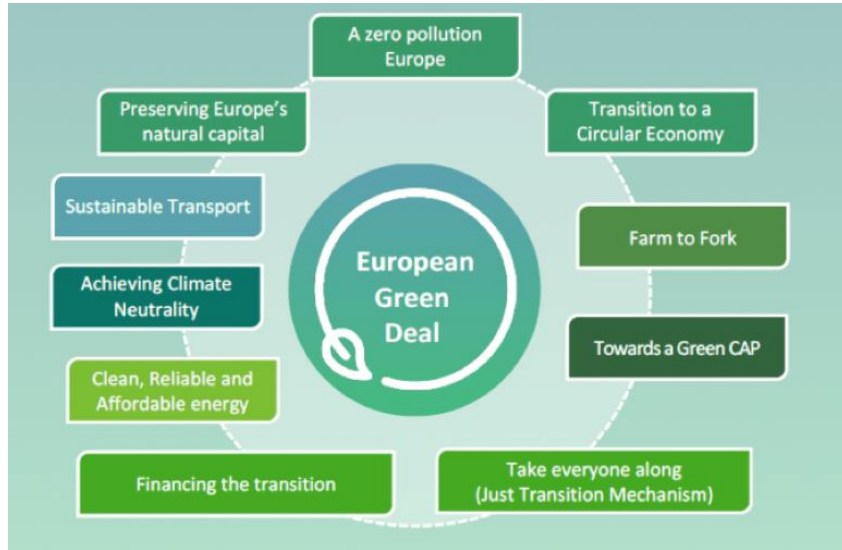
Worldwide end use applications of aluminium (2027)



Source: CRU 2018

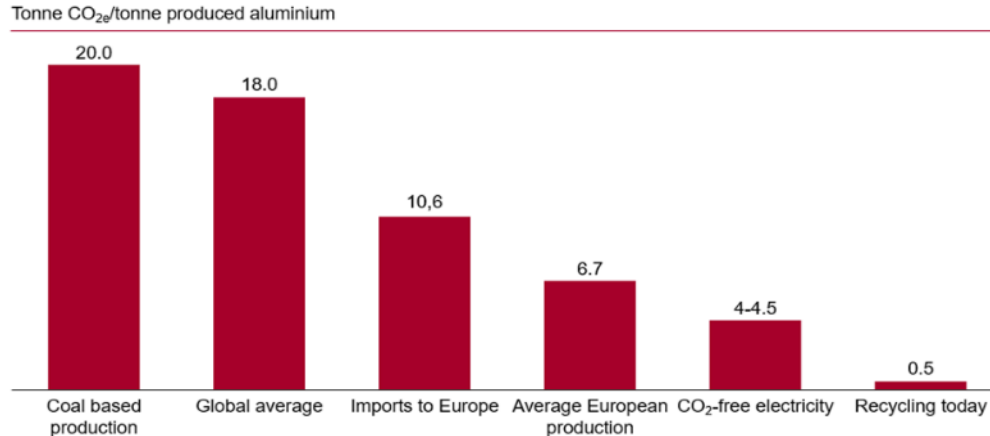
Source: European Aluminium based on CRU Group datasets (2018)

Aluminium: driving the transition to a climate-neutral economy



Carbon footprint of PRIM. & REC. aluminium

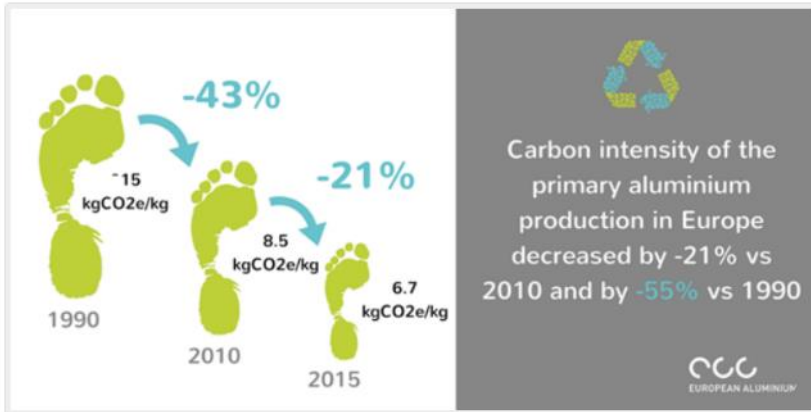
The need to cut greenhouse gas emissions only emphasises the **importance of aluminium recycling**. Aluminium is traded globally and, to meet current demand, the EU imports close to 30 % of required primary aluminium. Depending on its region of origin imported aluminium can have a very different carbon footprint.



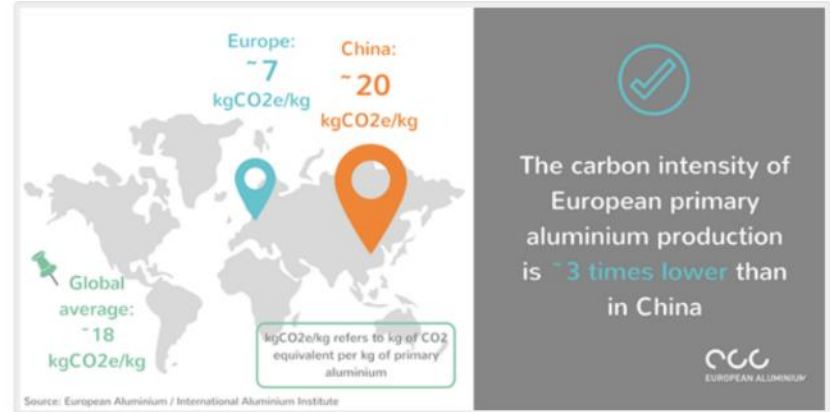
Source: Coal based production and global average: Life cycle inventory data and environmental metrics for the primary aluminium industry, World Aluminum, 2015
Other: Environmental profile report 2018, European Aluminium

Carbon footprint of primary aluminium

European picture



Comparison with other regions

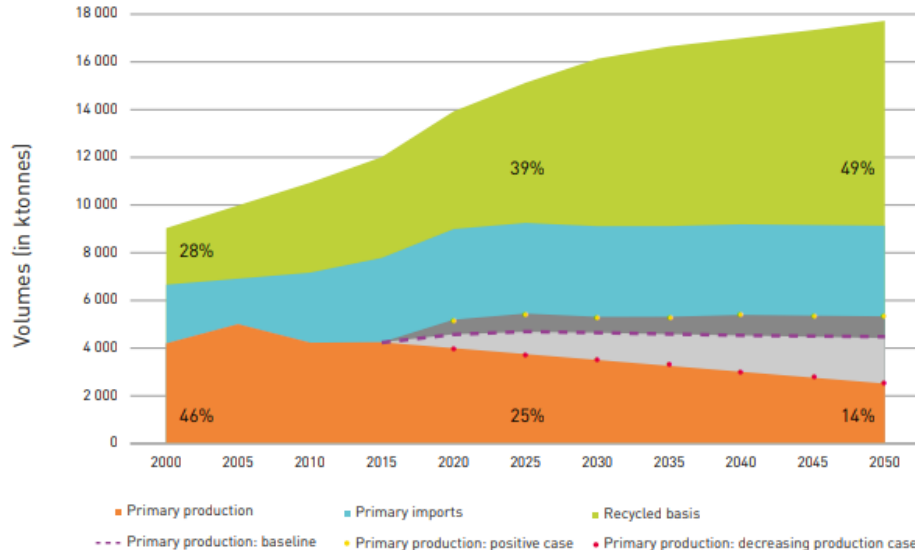


Source: European Aluminium Environmental Profile Report, 2018

Decarbonisation pathways by 2050

European aluminium demand for aluminium ingot (2000 - 2050)

Including a decreasing production case, a positive and a baseline scenario for the primary production in Europe (i.e. EU28+EFTA)

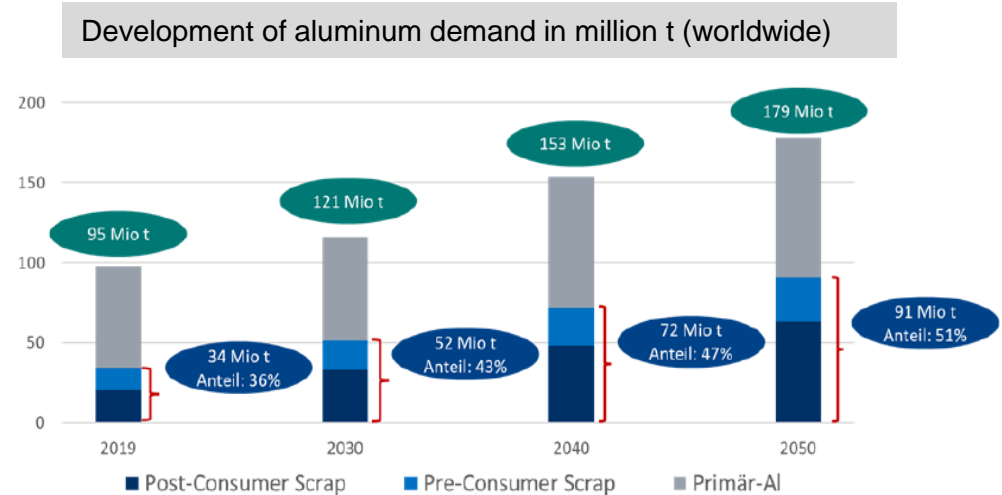


Source: European Aluminium based on CRU data base

- The European demand for aluminium in 2050 will be met by almost **equal shares** of primary and recycled aluminium production.
- Total **CO₂ emission reduction** in the **primary aluminium** production could reach up to 70% by 2050.
- If **domestic primary** production goes down, Europe will increase its dependency on imports from regions with a higher carbon footprint.
- **Recycling** aluminium should be **boosted** through legislation and investment in collection and sorting technologies.

Development of aluminum demand worldwide

- Currently around 36% covered by scrap worldwide
- Long life cycle keeps aluminum in circulation for a long time (15 – 40 years in the automotive and construction sector)
- 75 percent of all aluminum ever produced is still in use
- Of the total input in 2019, 21% was available as **old scrap**. By 2050, the share will rise to 35%

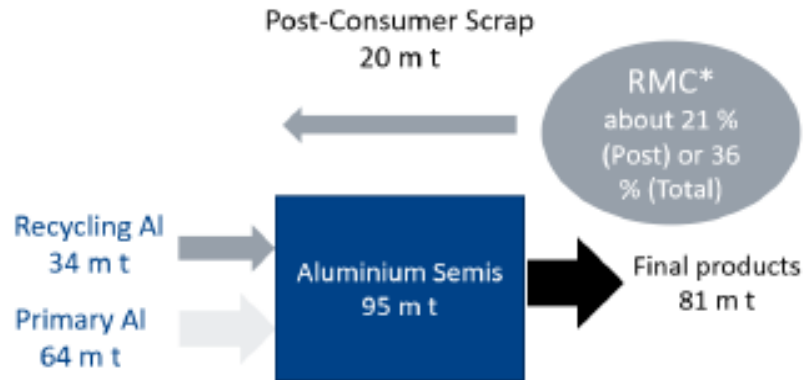


Quelle: <https://alucycle.international-aluminium.org/public-access/>

Availability of aluminum scrap

Scrap Availability (Recycled Metal Content – RMC)

Global aluminium supply in 2019



Scrap availability largely limits the use of scrap in products

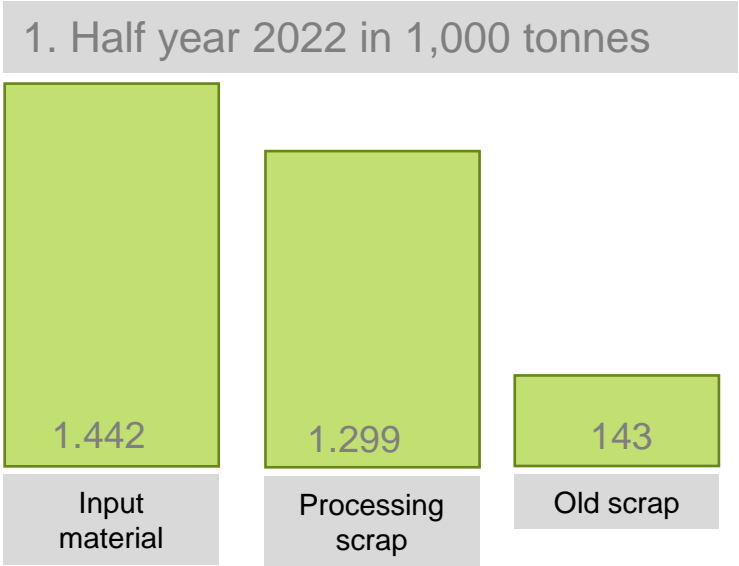
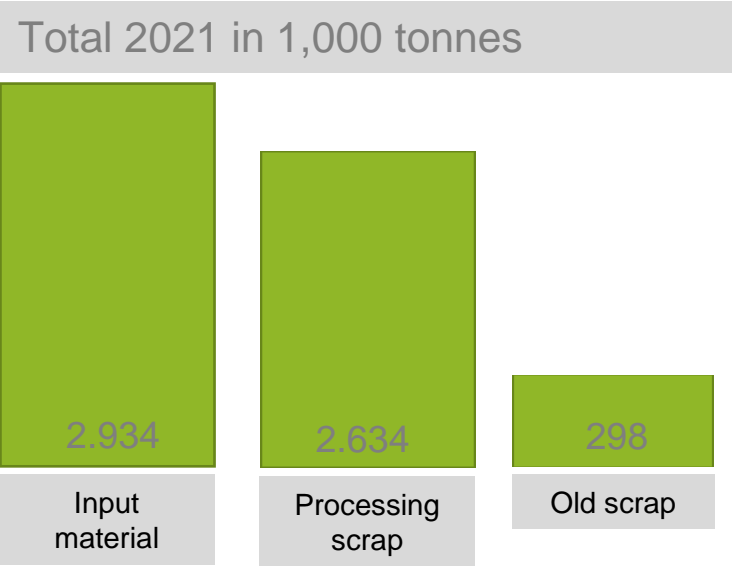
*Basis of calculation: Semis

(Mass balance differences due to reported data and stocks –

<https://alucycle.world-aluminium.org/public-access/> - last accessed 6 December 2021)

Source: alucycle.world-aluminium.org/public-access/ - last accessed December 6, 2021

Shares in recycled materials D-A-CH

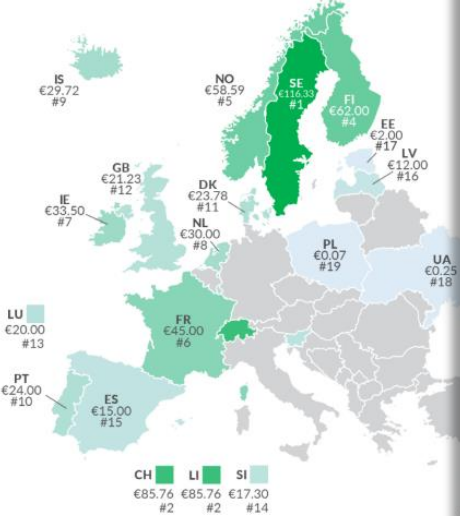


Source: Aluminium Deutschland

CO2 pricing in Europe

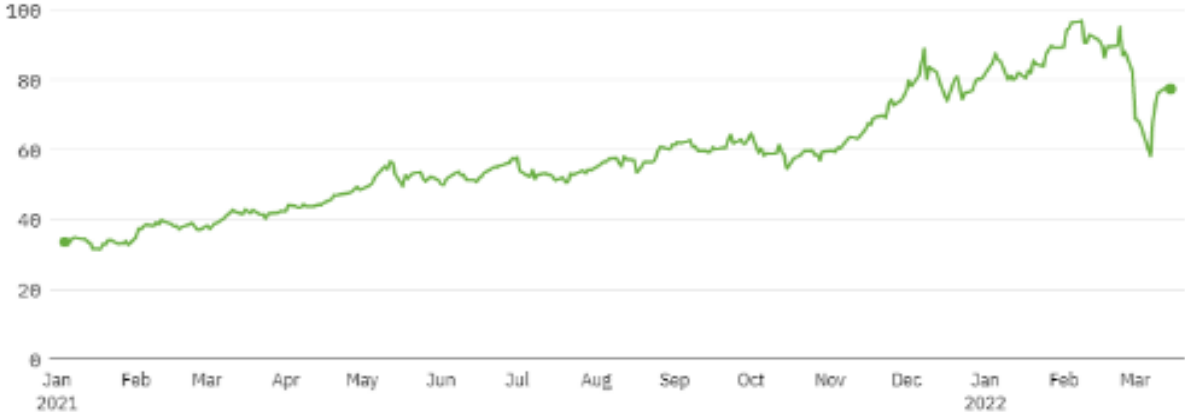
Carbon Taxes in Europe

Carbon Tax Rates per Metric Ton of CO₂e, as of April 1, 2021



Note: The carbon tax rates were converted using the EUR-USD currency conversion rate as of April 1, 2021.
Source: World Bank, "Carbon Pricing Dashboard"

Volatility remains the only certainty for the EU's carbon market EU allowance benchmark futures contract, €/tonne CO₂

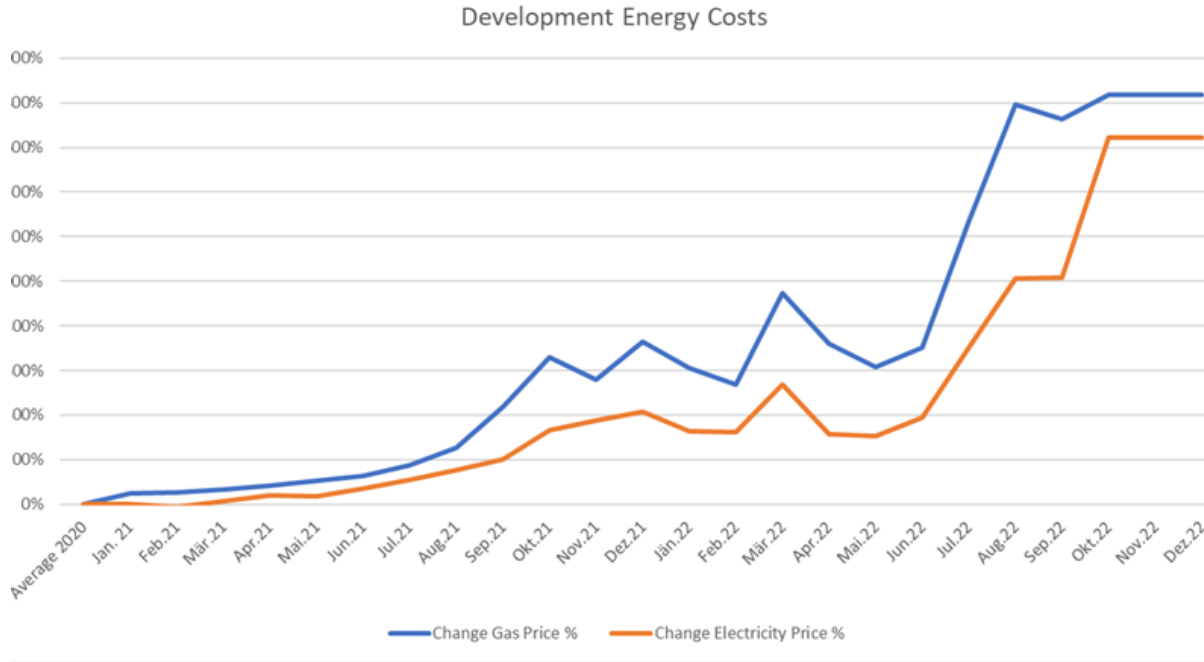


Source: ICE

ENERGYMONITOR

Energy price increase

Price increase compared to the mean value from 2020



The image features a futuristic cityscape with a monorail system and several cars. A large green graphic is overlaid on the left side, containing the text "Sustainability at HAI Group". The background shows a city with mountains and a blue sky.

Sustainability at HAI Group

HAI Group certifications

- ✓ ISO 14001 – Environment
- ✓ IATF 16949 – Quality
- ✓ ISO 45001 – Safety
- ✓ ISO 9001
- ✓ DIN EN 15085-2
- ✓ EN 15088
- ✓ EN ISO 3834-2
- ✓ ISO/TS 22163 – Railway
- ✓ ISO 50001
- ✓ ASI Performance Standard
(HAI Casting AT & RO and HAI Extrusion, AT)
- ✓ ASI certifications on-going for other plants



ASI Standard

PERFORMANCE STANDARD

Governance

1. Business Integrity

2. Policy and Management

3. Transparency

4. Material Stewardship

Environment

5. Greenhouse Gas Emissions

6. Emissions, Effluents and Waste

7. Water Stewardship

8. Biodiversity

Social

9. Human Rights

10. Labour Rights

11. Occupational Health and Safety

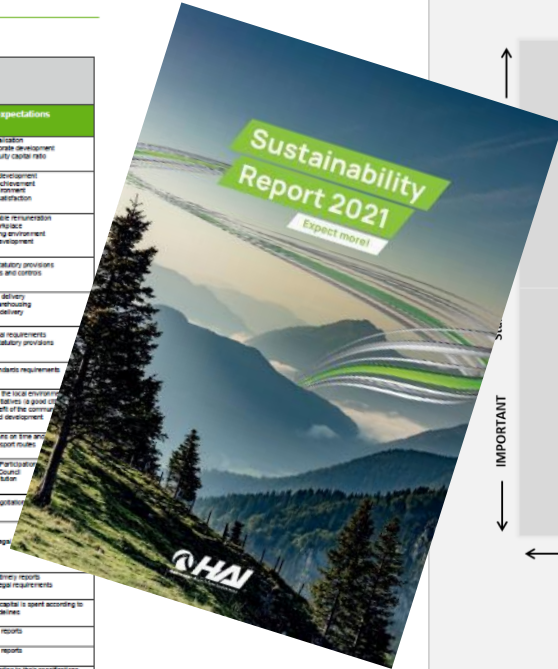
CHAIN OF CUSTODY STANDARD

Verified practices of the supply chain – certified under the ASI Performance Standard – to the products produced by ASI Certified Entities.

Sustainability activities

DEFINING STAKEHOLDER GROUPS

Interested parties – requirements and expectations					
No.	Interested party	Location	Reason for inclusion	Internal/external	Needs and expectations
1	Company shareholders	AT/GERO	Secures resources Defines the business vision	Internal	Profit maximization Safeguarding corporate development Securing the equity/capital ratio
2	Company management	AT/GERO	Resource allocation Responsibilities for managing the company Business strategy	Internal	Sustainable development Objectives achievement Safe environment Customer satisfaction
3	Employees	AT/GERO	Implementation of responsibilities in management decisions	Internal	Fairness and equal remuneration Safe workplace Attractive working environment Individual development
4	Labour/employment authority	AT/GERO	Legal requirement	External	Compliance with statutory provisions Specific reports and contents
5	Material management	AT/GERO	Raw material procurement	Internal	Punctual delivery Efficient warehousing On-time delivery
6	Environmental authority	NO	Waste management	External	Notifying legal requirements Compliance with statutory provisions
7	Certification body	AT/GERO	Obtaining and maintaining conformity certificates	External	Compliance with standards requirements
8	Municipality	AT/GERO	Effects on activities performed	External	No negative effects on the local environment Participation in social initiatives is good conditions for the benefit of the community Support for land development
9	Trucking service provider	AT/GERO	Responsibilities for deliveries and receiving raw material	External	Loading and unloading done on time and efficient transport routes
10	Worker's council	NO	Works council Constitution Collective bargaining agreement	Internal	Information & Participation Works Council Constitution
10	Unions	AT/GE	Collective bargaining agreement	Internal	Annual negotiations
11	Federal Ministry of Agriculture, Forestry, Environment and Water Management	AT	Legal requirements	External	Compliance with laws
12	Financial authorities	AT/GERO	Legal requirements	External	Accurate and timely reports Compliance with legal requirements
13	Financial auditors	AT/GERO	Legal requirements	External	Assurance that shareholder capital is spent according to the guidelines
14	Banks	AT/GERO	Business strategy	External	Monthly reports
15	Insurance companies	AT/GERO	Business strategy	External	Monthly reports
16	Customers	AT/GERO	Basis for our company	External	High-quality products according to their specifications Punctual delivery
17	Suppliers	AT/GERO	Basis for our company	External	Punctual payments Competitive prices Delivery options



Materiality assessment



- 1. Improving safety at work
- 3. Reducing use of harmful substances
- 5. Energy efficiency
- 7. Compensations & Benefits
- 9. Competence and leadership development
- 11. Increasing economic performance
- 13. Complying with public policies
- 15. Preventing child labor
- 17. Recycling
- 19. Customer satisfaction
- 21. Supply chain management
- 2. Preventing pollution
- 4. Reducing GHG emissions
- 6. Waste management
- 8. Labour & Human Rights
- 10. Local communities
- 12. Business ethics
- 14. Enforcing freedom of association
- 16. Transparency
- 18. Being innovative
- 20. Developing products with environmental benefits

Scrap processing
and sorting

Melting/Refining

Casting

Extrusion

Processing

Thermal
and mechanical
processing

Thermal break

Surface

Products

HAI provides innovative aluminium solutions from a single source – from recycled primary materials to sophisticated profiles and complex components.

The one-stop-shop for
aluminium solutions

All-round sustainability

Sustainability has a long tradition for us and is also reflected in our certified production facilities and the traceability of raw materials.

With the high proportion of recycling, we can reduce energy consumption by up to 95% and CO₂ emissions by up to 80%.





Green sourcing
(external billet suppliers)



Green primary aluminium



Recycling competence



Green Energy
Consistent green electricity strategy



Sustainable processes
Using the best technologies to achieve even greater sustainability

HAI sustainability best practices

Convincing life cycle assessment

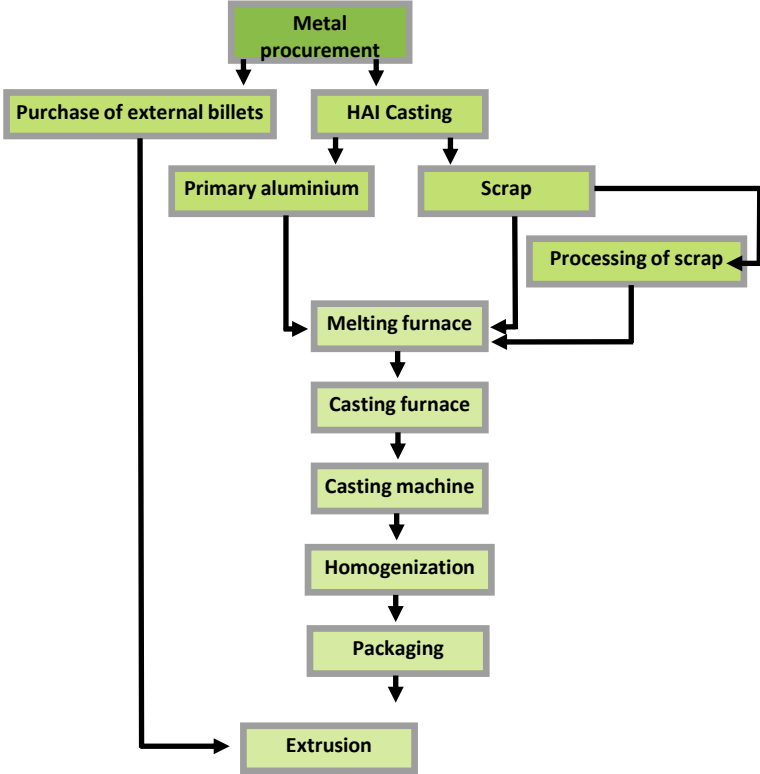


- In 2021 HAI brought to the market new low carbon products – the HAI SustainAl family
- HAI offers high quality alloys with one of the lowest footprints on the market
- The product lines are based on a cradle to gate life cycle analysis - according to the ISO Standards ISO 14040 and ISO 14044
- HAI SustainAl family is available in aluminium grade 6xxx series

HAI SustainAI – Cradle to Gate



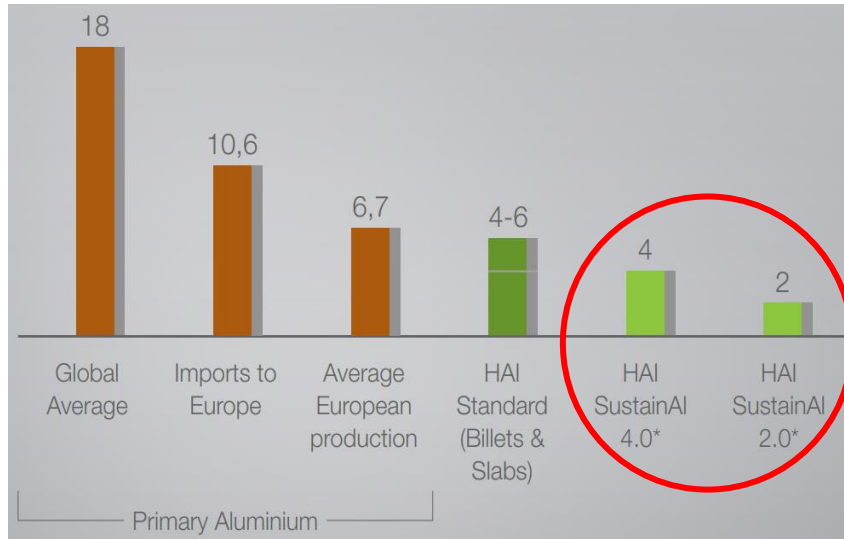
All-round sustainability:
The HAI aluminium cycle



The aluminum industry's carbon footprint



HAI SustainAI family – our contribution to achieving climate targets



Source: Global average: Life cycle inventory data and environmental metrics for the primary aluminium industry, World Aluminium 2018, Other: Environmental profile report 2018, European Aluminium

* Third party certified CO₂-Eqv. (Scope 1-3)

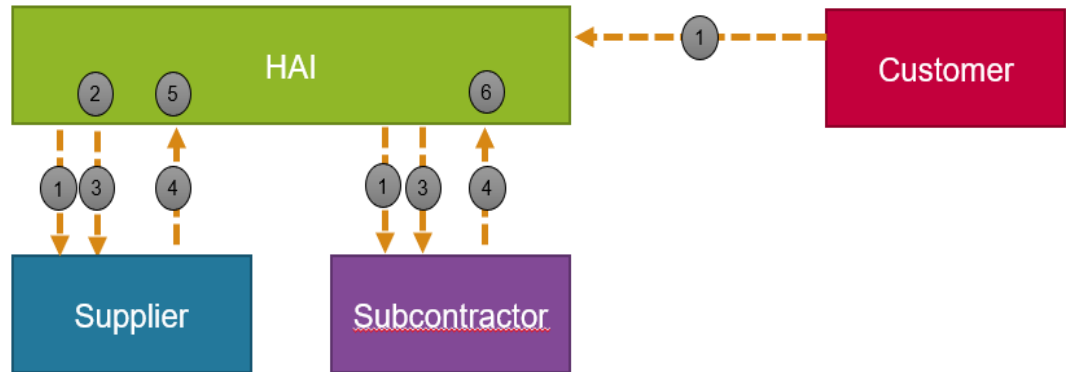
- HAI SustainAI 4.0– with a maximum of 4 tons CO₂e per 1 ton aluminium – a product with an especially low carbon footprint
- HAI SustainAI 2.0 guarantees a carbon footprint of 2 tons CO₂e per 1 ton aluminium at most and a recycled content of up to 80 %

Logistics processes and transport systems

Sustainable SCM at HAI Group

Targets

- Sustainable transport routes
-> e.g. intermodal transport, extensive use of Euro 6 trucks
- Avoidance of unnecessary transport
- Route optimization
- Capacity optimization



Logistics processes and transport systems

Sustainable SCM at HAI Group

Targets

- Avoiding unnecessary use of packaging materials
- Avoidance of waste
- Use of sustainable packaging materials
- Utilization of reusable packaging



Demand management and material flow

Sustainable SCM at HAI Group

Targets

- Proactive planning of requirements and capacities
- Avoiding unnecessary waste of resources
- Optimization of resource utilization
- Avoidance of short-term special offers (e.g. special transports)
- High on-time delivery
--> stability throughout the supply chain



Recycling requirements in the aluminum industry

- Consistent design for recycling together with the customer (avoid complex connections, easy dismantling, ...)
- Reducing the variety of alloys and adjusting the tolerances for the use of alloys
- Further development of sorting technologies and increase in collection rates
- Transparency of material flows - comprehensible data on the CO2 footprint



Go Green –
EXPECT MORE

