Hydro

Handelsbanken Sustainability Discussion

November 11 2020

Hydro is a global aluminium company

…with a Norwegian heritage

40
Countries

35 000
Employees

Present in 140 locations and communities

30,000 Customers

Hydro is a fully integrated aluminium company with presence along the entire value chain

Raw materials → Energy → Primary Metal → Products → Recycling

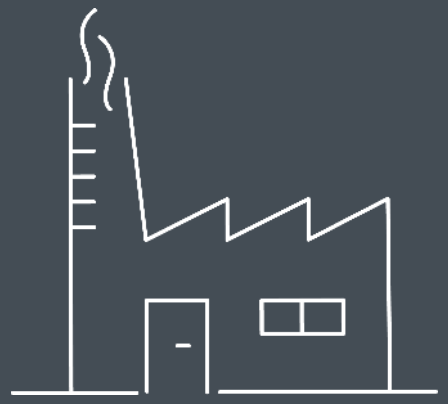
Pioneer:
3 decades of environmental reporting

Cut electrolysis emissions by 70% since 1990

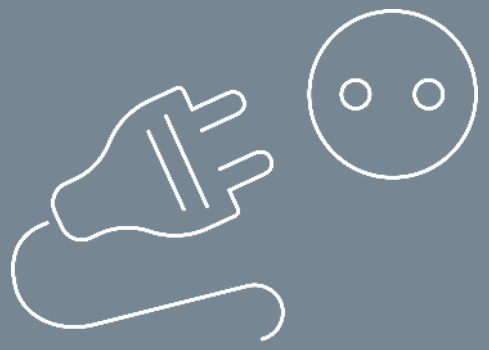
Karmøy technology pilot 15% more energy efficient

Primary production: 70% based on renewable power

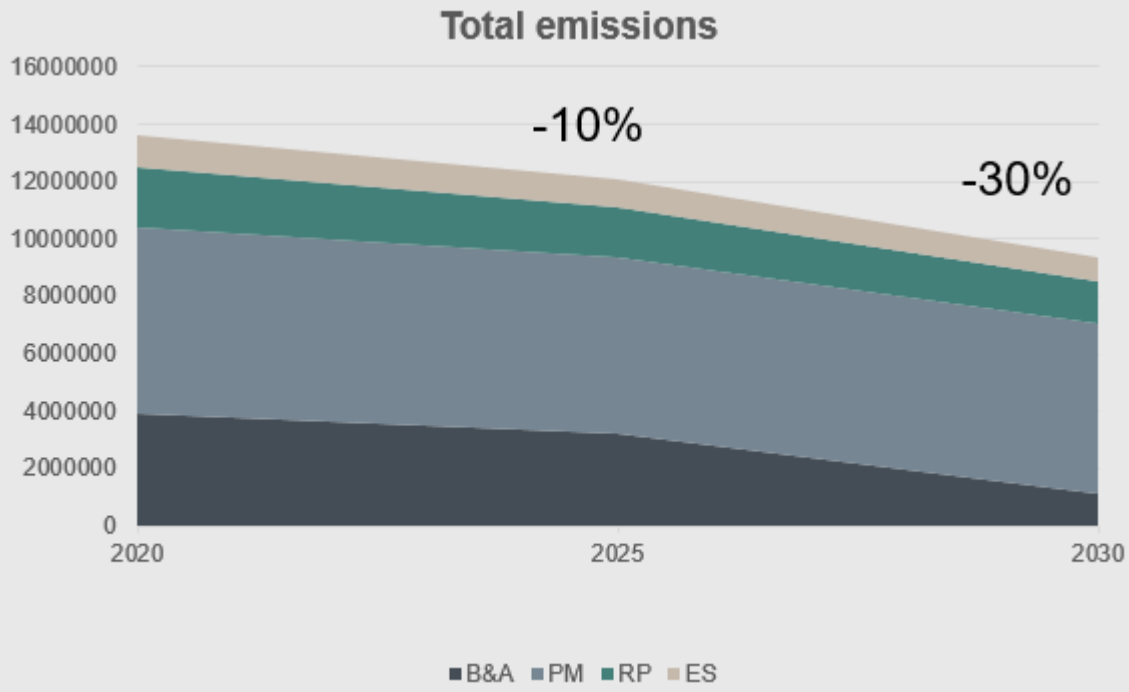
2030 Ambition: Cut CO_2 emissions by 30%



-36%



-22%

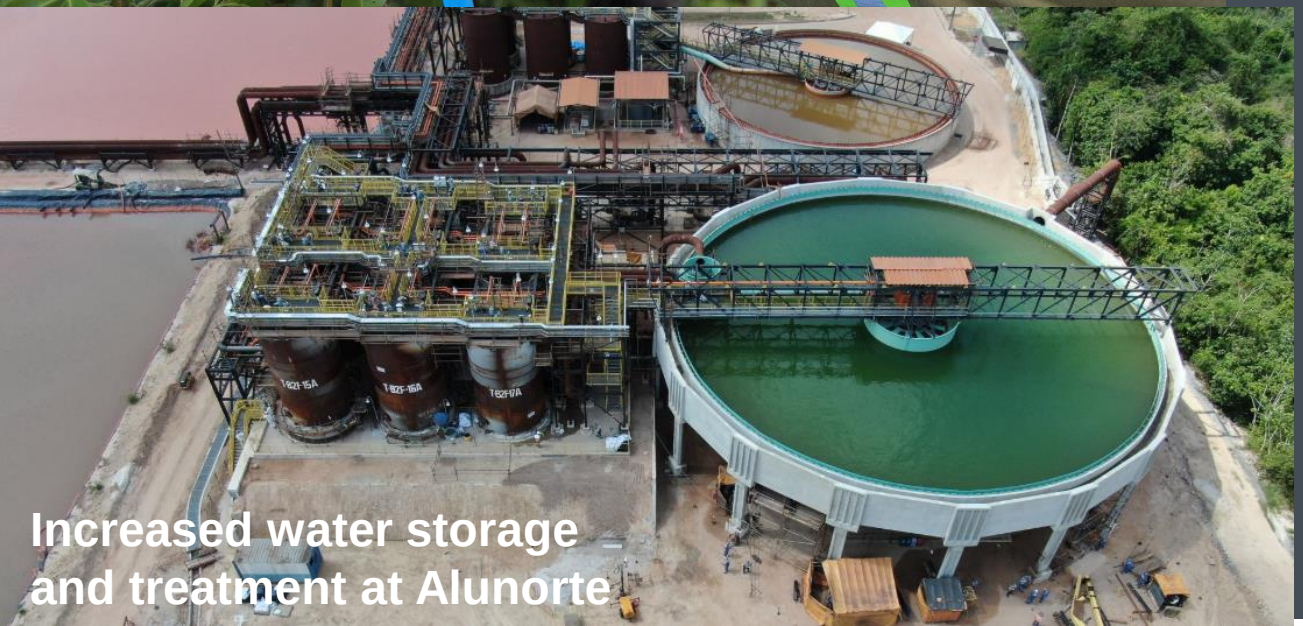


But continued progress requires a technology shift

Investing in R&D for low- or zero-carbon technology toward 2050

New key targets towards 2030

- 1 to 1 rehabilitation of available mined areas (ongoing)
- Utilise 10% of bauxite residue output (2030)
- Recycle 65% of spent pot lining (2030)
- 50% reduction in fossil fuel related, non-GHG emissions (2030 on 2017 baseline)



- Brazil-Norway Biodiversity Research Consortium
- Bauxite residue rehabilitation and dry stacking
- Increased water treatment capacity and storage at Alunorte

Closer to our local communities – building trust

We succeed when the communites around us succeed

Social responsibility

2018 2030

Empowering 500,000 people with education and skills by 2030

26.000 reached in 2019

Human rights impact assessment

Developing master plan to prioritize actions

Partnership with UNICEF signed

Work with education and skills development for children and adolescents

Social projects

10 programs and projects targeting education and income generation

In 7 municipalities
#16. 700 people reached 2018/19

Stakeholder engagement

200+ stakeholder dialogues in 2019

Moved to digital platforms in 2020

Sustainable Barcarena Initiative

12 projects awarded, value 730K BRL

Hydro Sustainability Fund

partnership with US AID

Community Response to COVID-19

Collaboration with local authorities

NOK 500' donation to UNICEF's Emergency Fund.

Donated property for field hospital in Brazil, distributed mineral water, food, test kits, PPE

Supplier development program in Pará

130-hour program covering administrative, commercial and operational topics

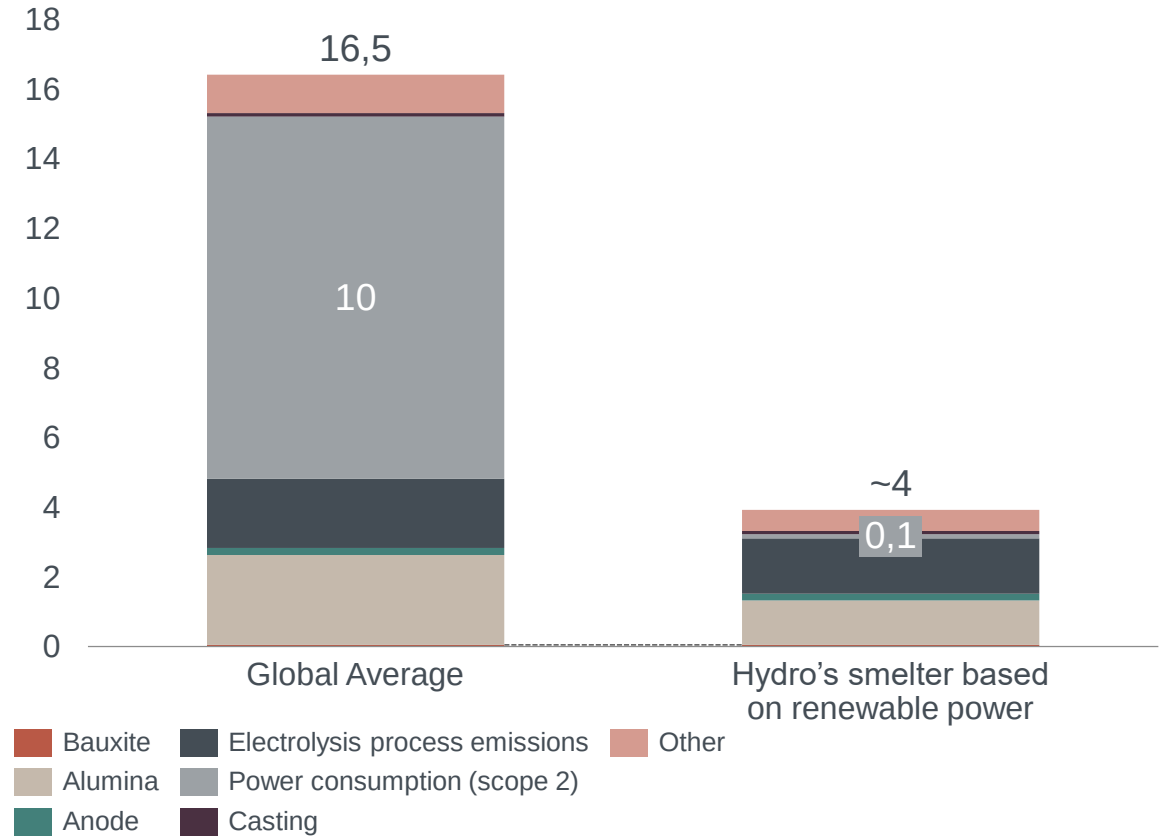
26 suppliers participated in 2019
Launched in Paragominas in 2020

Some social investments efforts during Covid19 are redirected towards humanitarian response

Fuel source most important differentiator for aluminium

CO2e emissions from primary aluminium full value chain

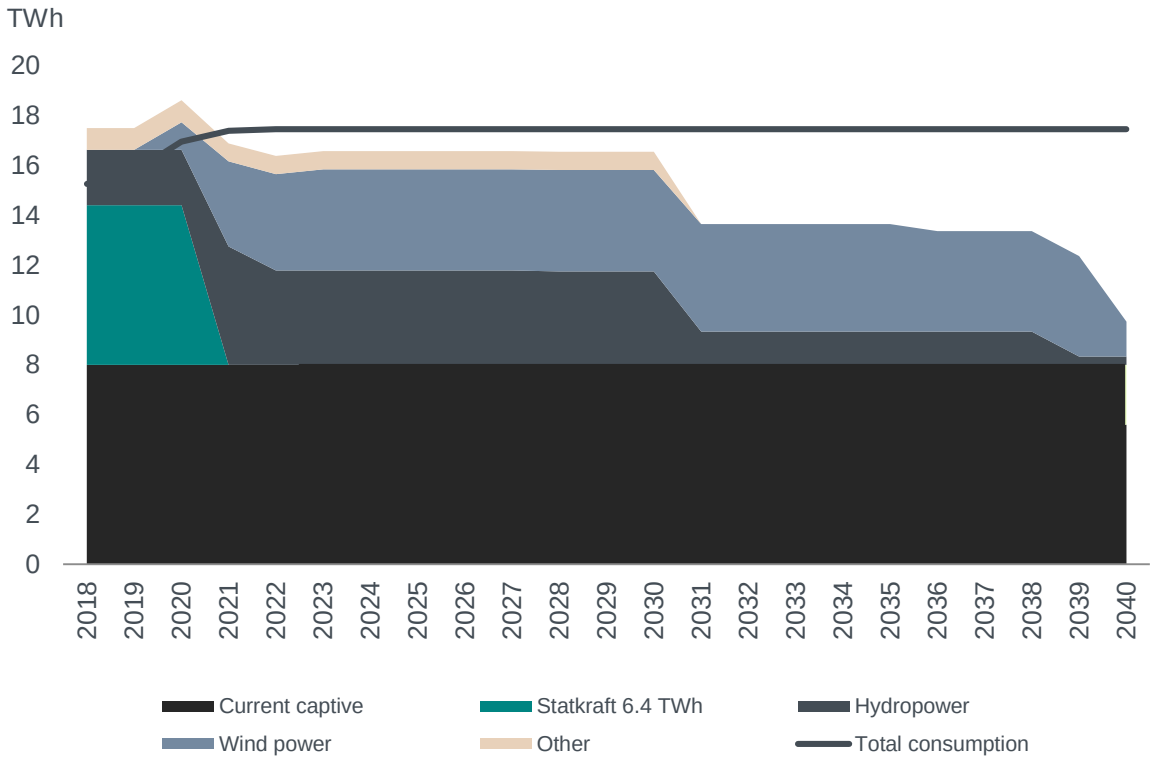
Tonnes CO2e/tonne aluminium, 2020



Source: CRU, IAI, Hydro Analysis

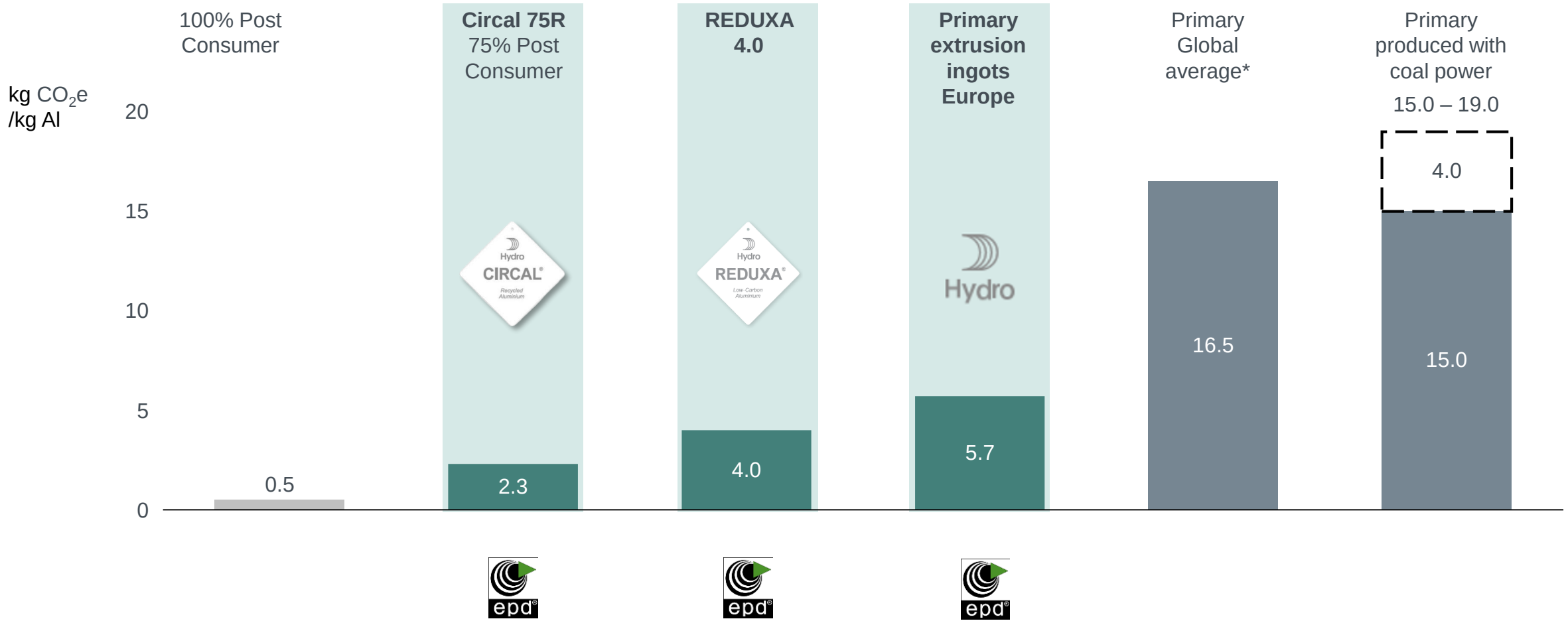
Growing Hydro’s renewable business: Becoming a wind park operator in Norway

Sourcing platform for fully-owned smelters, Norway[1)]



1) Net ~8 TWh captive assumed available for smelters

Aluminium CO2 footprint by origin



*) Including transportation and ancillary products.
Source: CRU, IAI, Hydro Analysis

Greener products: From REDUXA 4.0 to 2.0

New energy mix in Alunorte important enabler to reach 2.0

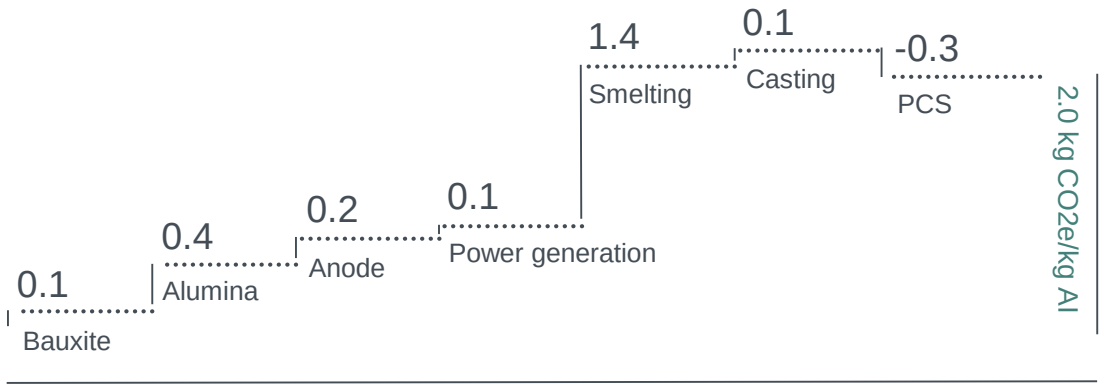
From REDUXA 4.0

Primary aluminium

Typical production values primary aluminium

Towards REDUXA 2.0 by 2030

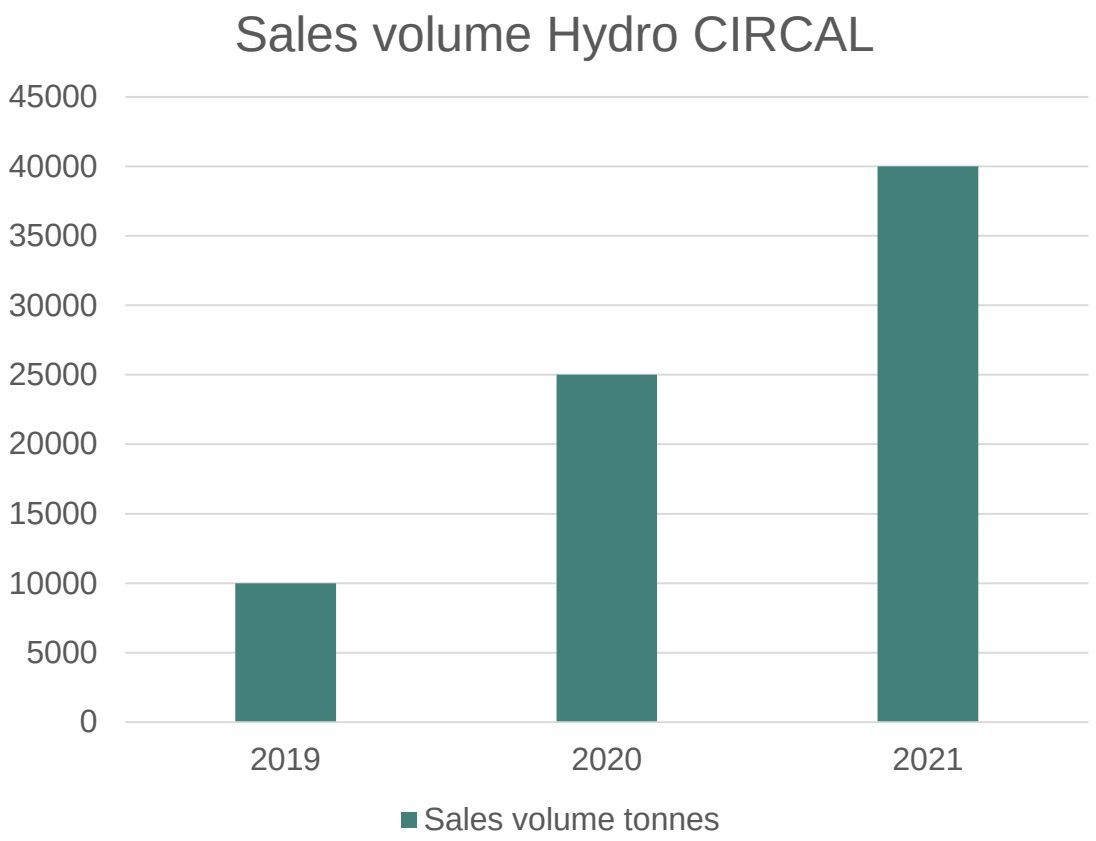
Primary aluminium



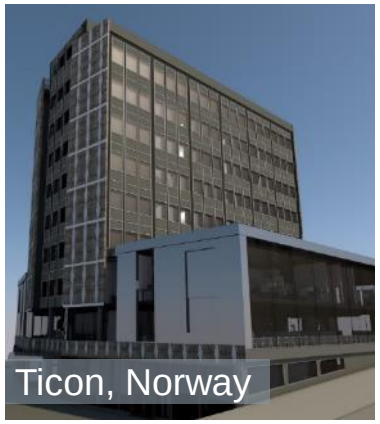
Potential production values primary metal

Growing demand for Hydro's greener facade solutions

60 Hydro CIRCAL-project for 250 MNOK in 16 countries during 1 year



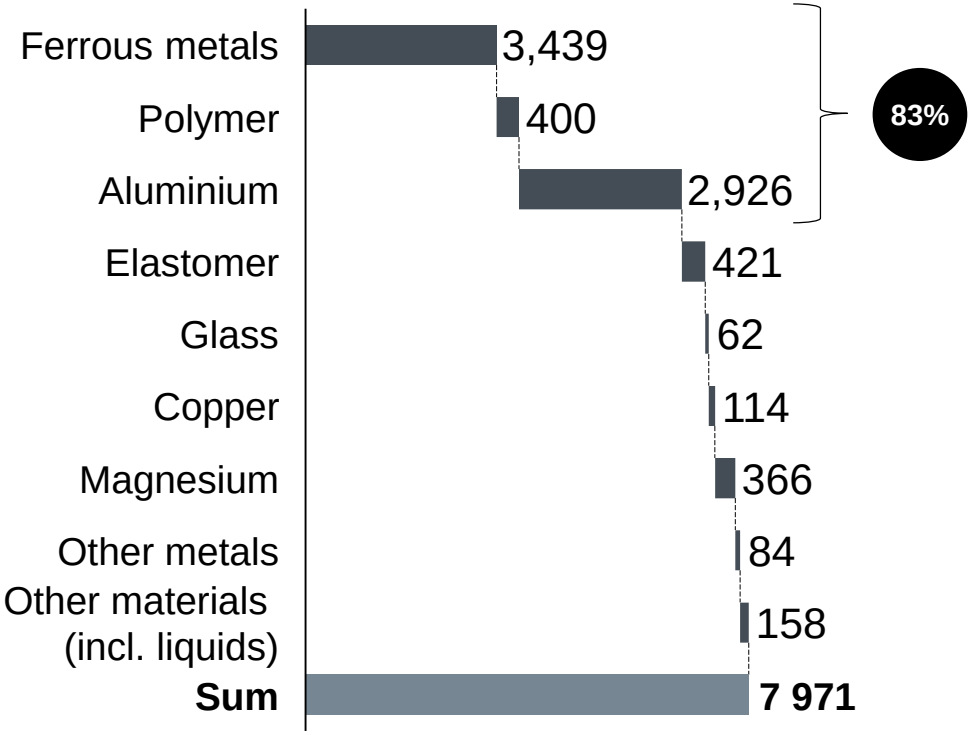
Økern Portal, Norway


Ticon, Norway

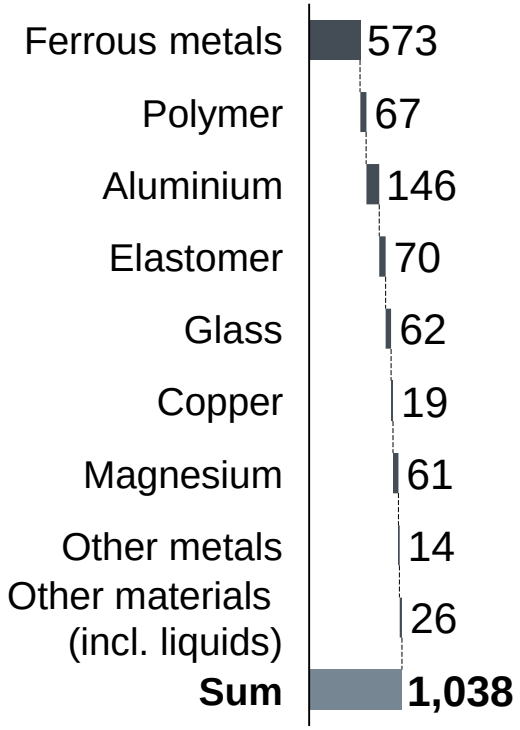

HELL energy drinks

A car made of 100% recycled material would have ~85% reduced CO2 footprint

CO2 breakdown (virgin material)
(XC60 ICE example) kg



CO2 breakdown (recycled material)
(XC60 ICE example) kg

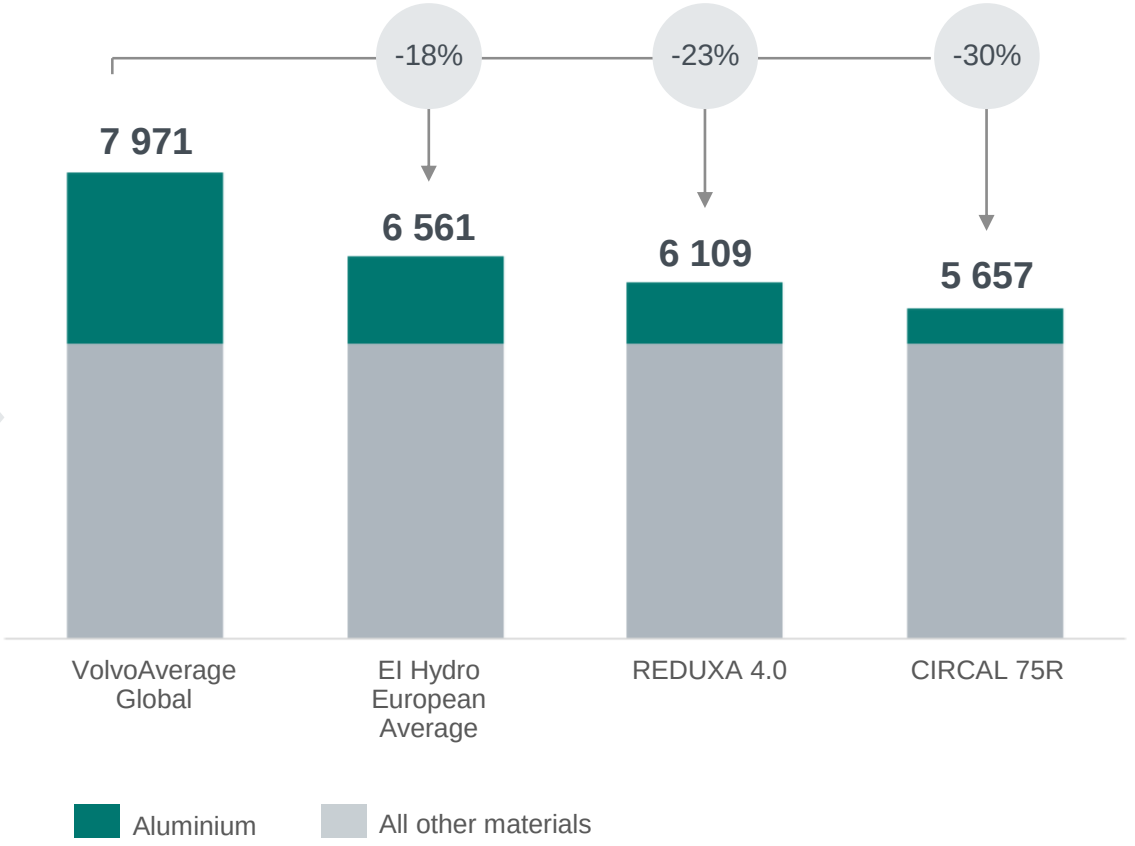


Pre-requisites
Sufficient market for high-quality recycled material, primarily when it comes to **metals** and **plastics**

Source: Volvo Cars, GABI GWP factors, Material Economics

An opportunity for the Automotive OEMs to drastically reduce the CO2 footprint of producing a car

The Volvo case – total CO2 emissions from producing a car would be 30% lower with 75R



Volvo Global Average: 12 kg CO2 / kg Al
EI Hydro European Average: 5.7 kg CO2 / kg Al
REDUXA 4.0: 4.0 kg CO2 / kg Al
CIRCAL 75R: 2.3 kg CO2 / kg Al

Sustainable Finance supporting EU Green Deal

EU Taxonomy initiaitve included as part of sustainable finance workstream

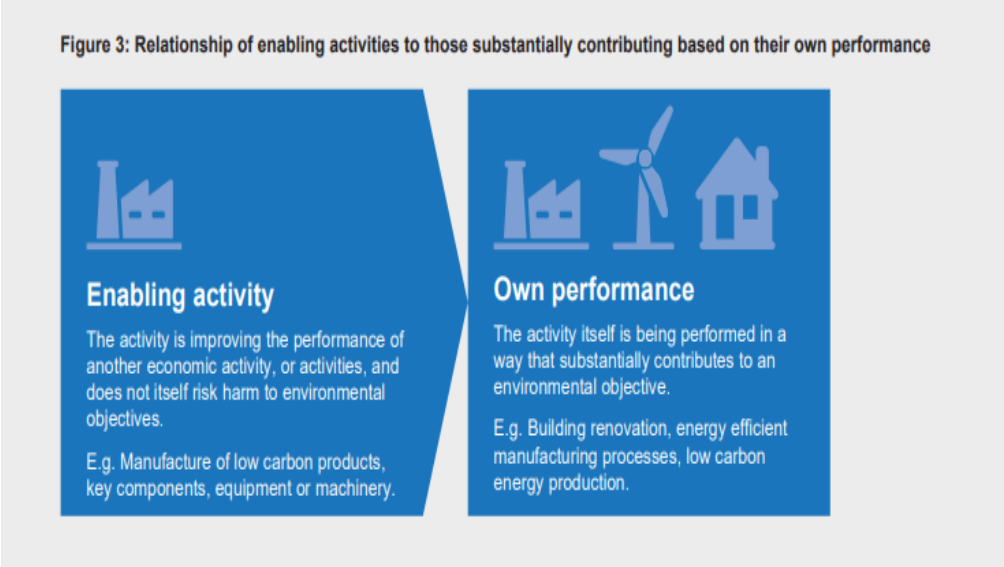
- EU initiative to mobilize investments in sustainable businesses
- A classification (taxonomy) to define economic activities which are sustainable to invest in is being developed.
- Only primary aluminium production is considered, not the entire value chain

Timeline

- Q4 2020: Taxonomy rules and new Sustainable Finance Strategy

Taxonomy regulation: an activity is substantially contributing to climate change mitigation if it

- Has greenhouse gas emission levels that correspond to the best performance in the sector or industry
- Does not hamper the development and deployment of low-carbon alternatives; and
- Does not lead to a lock-in in carbon-intensive assets considering the economic lifetime of those assets



In addition to EU taxonomy, we are operating within a changing regulatory environment

Three key carbon leakage measures…

EU Emissions Trading System (ETS)

CO_2 indirect compensation

Carbon border adjustment measure (CBAM)

…which have implications for Hydro and aluminium

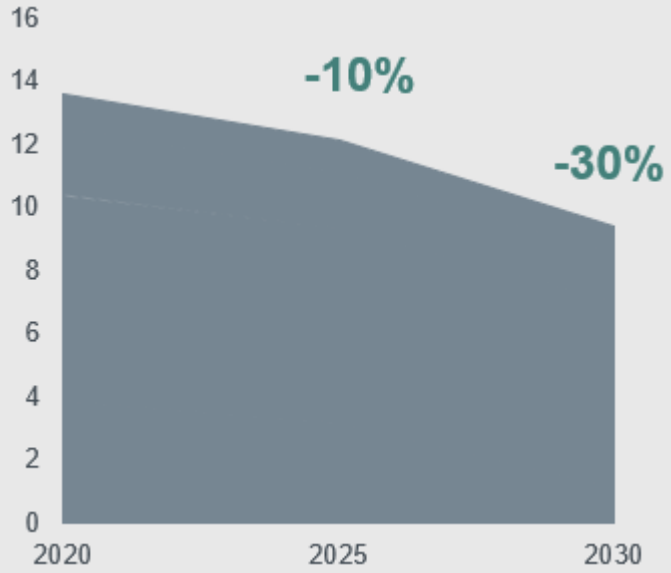
- *Low-carbon competitiveness depends on free allowances to support investments in green transition*
- *Continuation of CO_2 indirect cost compensation fundamental to securing cost competitiveness of aluminium in global markets*
- *CBAM alone – without additional carbon leakage measures such as CO_2 compensation – unlikely to mitigate carbon leakage risk and affect aluminums' global competitiveness*

2030 ambition: roadmap to cut CO2e emissions by 30%

Hydro

Innovation and technology development key enablers toward CO2-free processes

Ambition to reduce own emissions by 10% in 2025, 30% by 2030



Greener energy mix at Alunorte: Key enabler for new climate and environment ambitions

R&D for low- or zero-carbon technology towards 2050

Exploring different paths

- Carbon capture
- Biomass anodes
- Carbon-free process

* Based on 2018 portfolio


Hydro
We are aluminium