Norsk Hydro Sustainability Strategy

26.05.2025

Execute on ambitious decarbonization and technology road map, step up to contribute to nature positive and a just transition

Climate

Forcefully deliver on net-zero roadmap, decarbonizing our value chain from mine-to-components

- Net-zero scope 1 and 2 GHG emissions by 2050 or earlier
- On track to meet 30% reduction in scope 1 and 2 CO2e by 2030
- 30% reduction of upstream scope 3 GHG emissions per tonne aluminium by 2030
- 850-1200 kTonnes post-consumer scrap recycling capacity by 2030

Nature

Contribute to a nature positive future through initiatives on biodiversity, emissions reduction and supply chain management

- No Net Loss of biodiversity for our bauxite mine, from a 2020 baseline
- No Net Loss of biodiversity for new projects
- 1:1 reforestation on track
- 50% reduction in material non-GHG emissions by 2030
- Eliminate landfill of all recoverable waste by 2040

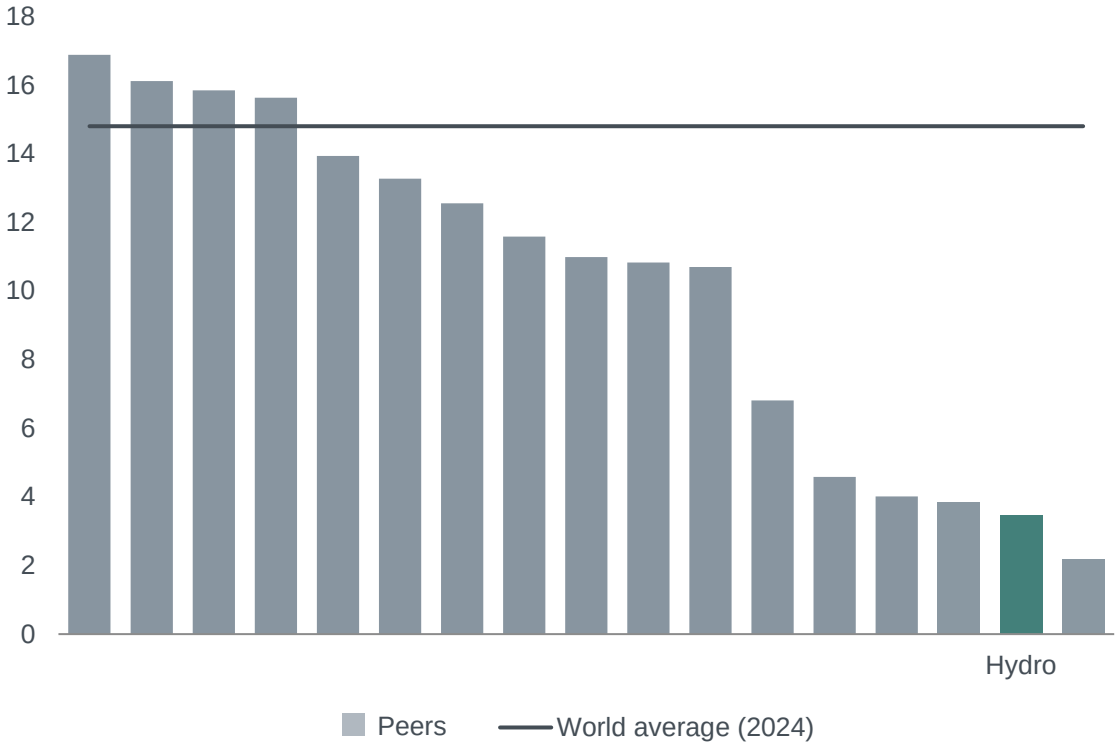
Social

Improve lives and livelihoods wherever we operate by supporting a just transition

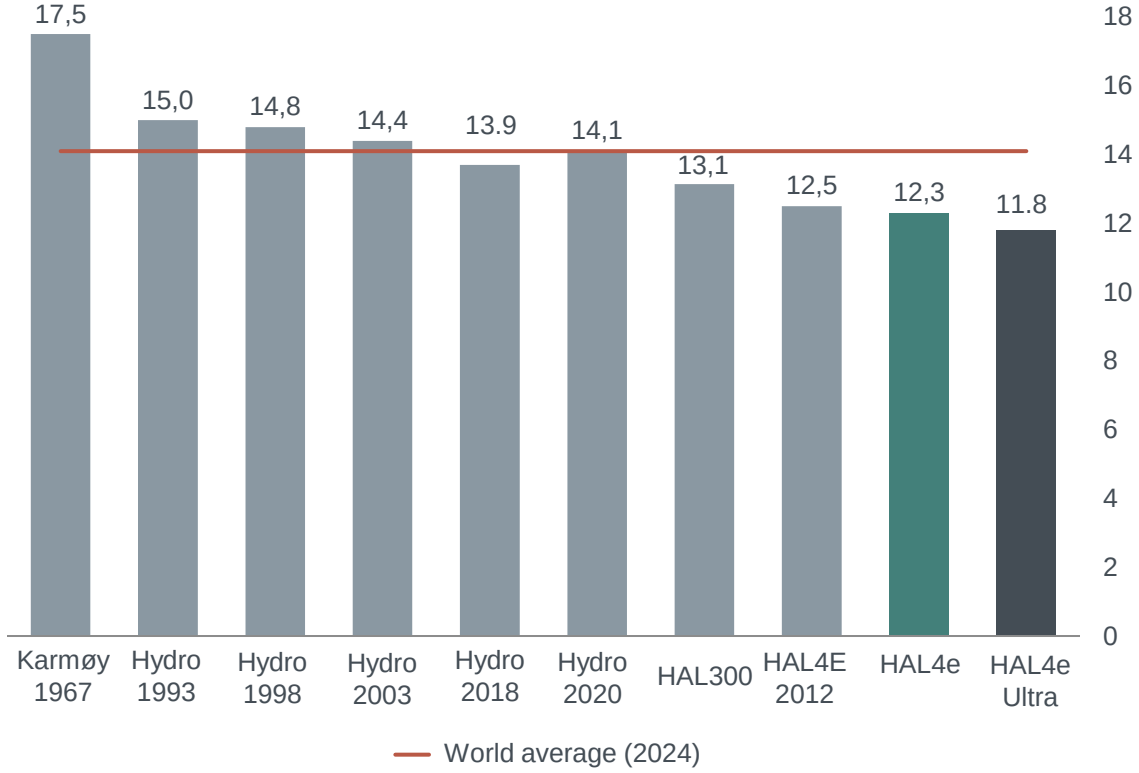
- On track to deliver on target of empowering 500,000 people with skills and education by 2030
- Significant social projects completed in Brazil
- Transparency and traceability of key product sustainability data by 2025 or earlier

Low-carbon footprint due to renewable energy base and industry lowest energy consumption

Total emissions, in tonne CO_2/t al



Energy consumption in Hydro smelters[1)], kwh/kg al



Source: CRU and Hydro analysis
1) Hydro's consolidated share


Hydro
Climate
Decarbonizing our value chain

Decarbonizing across the value chain

Forcefully addressing all sources of GHG emissions in the value chain

2018

2025
10% carbon emission reduction

2030
30% carbon emission reduction

2050 (or earlier)
Zero carbon emissions

Initatives to reach zero

Brazil energy transition

Alunorte fuel-switching to natural gas fully implemented, three electric boilers for steam production in operation

Energy efficiency

Cutting yearly power consumption at Norwegian smelters by upgrading the light grid, electrolysis and casting

Carbon capture and storage

Technologies for decarbonization at existing primary aluminium plants

HalZero

New process technology for decarbonization, relevant for greenfield primary aluminium plants

Casthouse decarbonization

Program to test viable technologies in progress, e.g. bio-methane, plasma, green hydrogen

Recycling

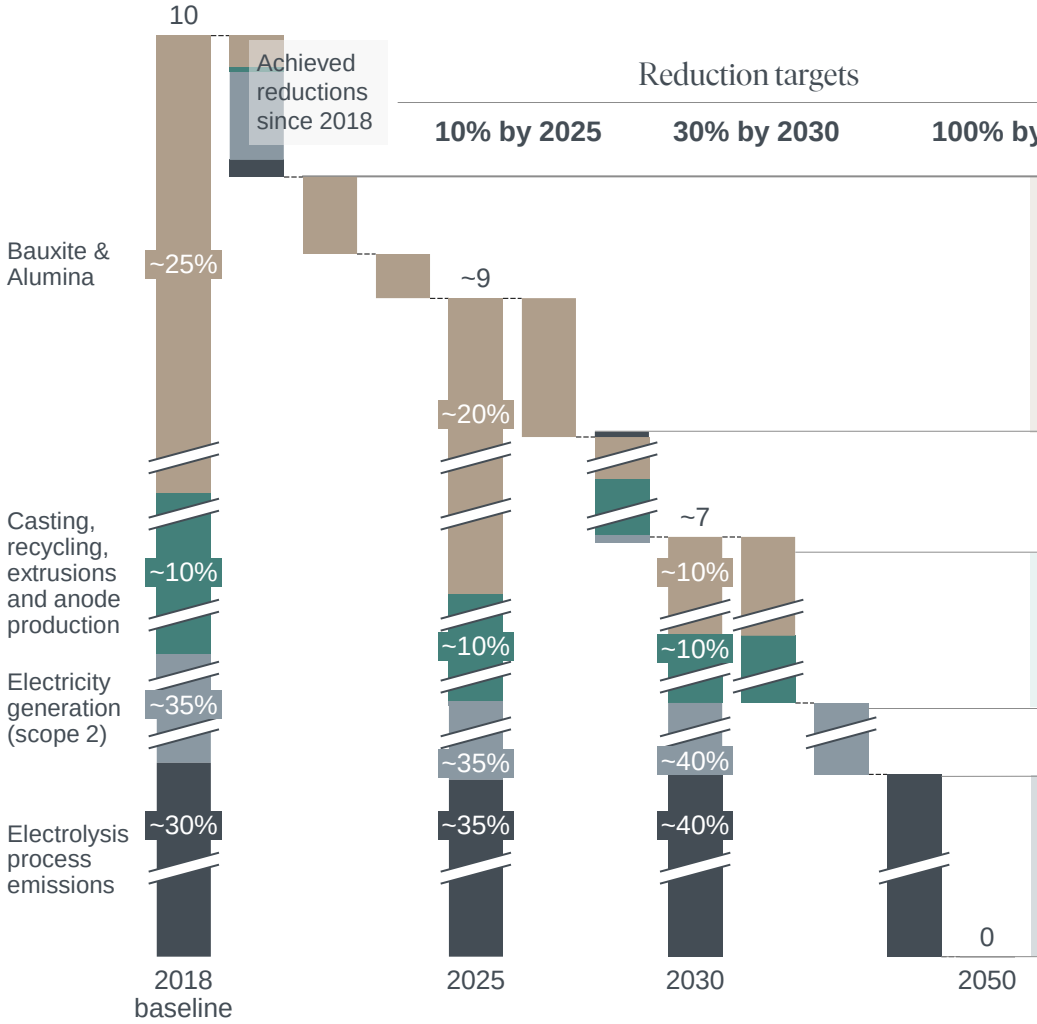
Technologies for increased use of end-consumer scrap while securing access to scrap

Founded on renewable energy

Progressing on the roadmap towards net-zero

GHG emissions – ownership equity[1)]

Million tonnes CO_2e (% of 2018 baseline emissions[2)])



	Status
• **Fuel switch** from heavy fuel oil to natural gas at Alunorte (~434,000 tonnes CO_2e reduction at Alunorte[3)])	**Completed Q4 2024**
• Three x 60MW **electrical boilers** installed (~248,000 tonnes of CO_2e reduction at Alunorte[3)]).	**Completed Q4 2024**
• 2030: **Potential for additional four electrical boilers** to be installed and coal to be substituted with Biomass, achieving a 70% reduction at Alunorte	Verification ongoing
• Renewable PPAs	Ongoing
• Smelter process improvements	Ongoing
• Casting, recycling, extrusion and other improvements	Ongoing
• Biomethane in casting and anode production (at Sunndal)	Implementation
• Emission-free plasma technology for remelting (at Sunndal)	Pilot testing
• Green hydrogen in casting (at Høyanger)	Pilot testing
• Exploring technology to decarbonize calcination in B&A	Exploring
• CO_2-free PPAs across portfolio	Continuous
• Develop HalZero technology with implementation towards 2050	Industrial pilots by 2030
• Develop carbon capture and storage solution to decarbonize existing smelters	
• Develop anodes with biomaterial mix	R&D
• Implement carbon removal to cover any residual emissions	R&D

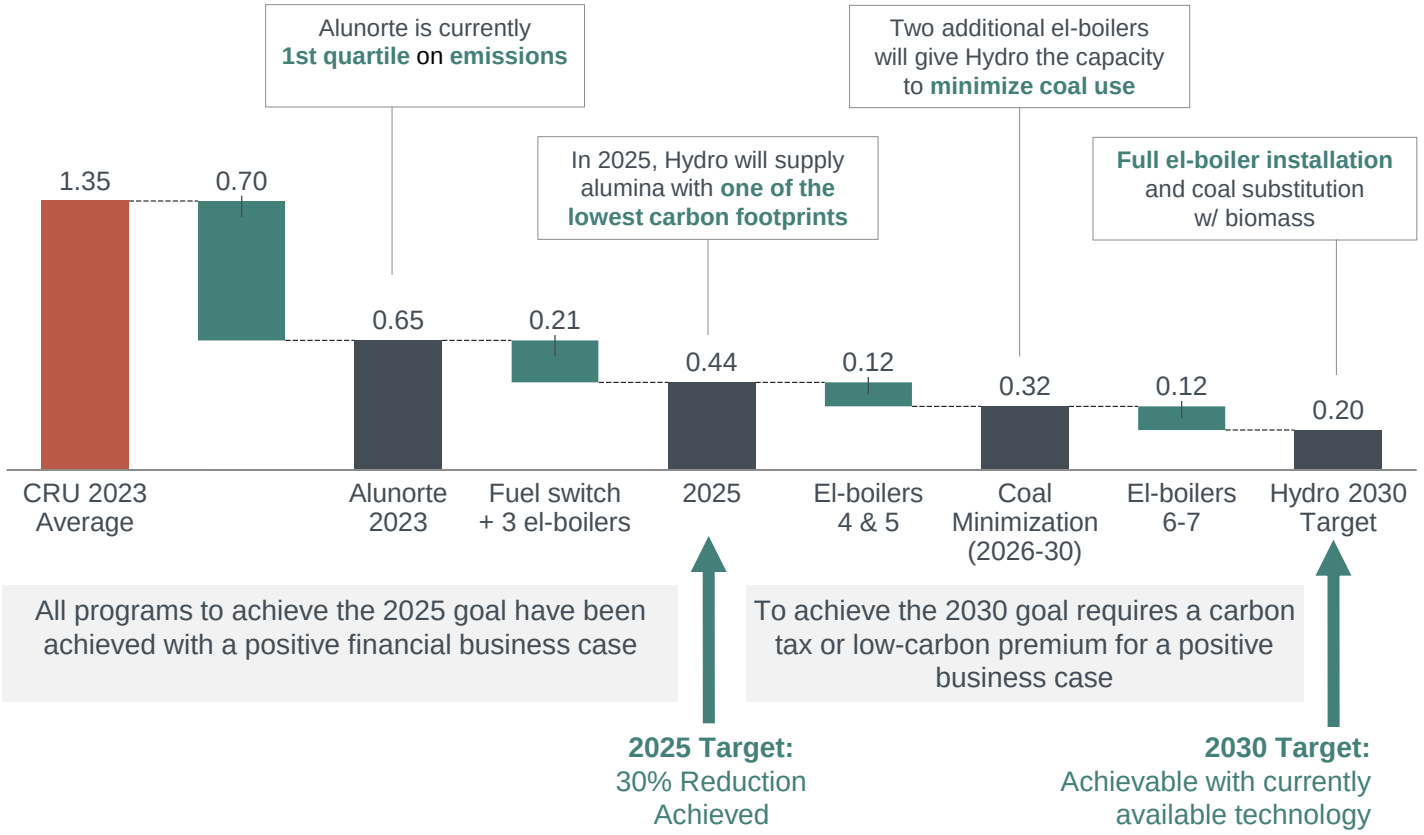
1) Scope 1 and scope 2. 2) 2018 rebased baseline post-Alunorte transaction as of December 1, 2023 3) Hydro equity share Alunorte.

Bauxite & Alumina - Greener alumina roadmap

Alunorte will reduce emissions by 70 percent by 2030 from 2017 baseline

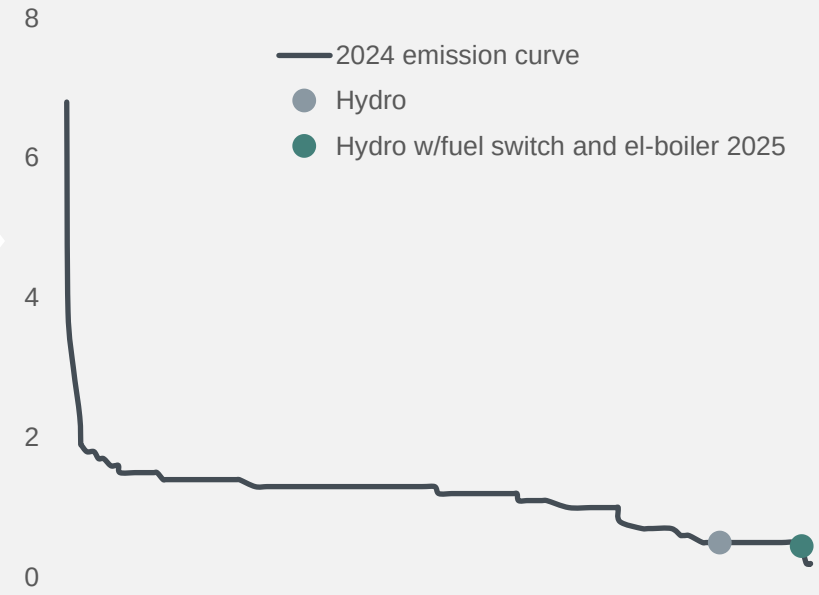
Decarbonization roadmap for Bauxite & Alumina

Tonnes CO_2e per tonne Alumina



Lowering the position on the emission curve from the first quartile to **the first decile**

CO_2e per tonne Alumina (scope 1 and 2)



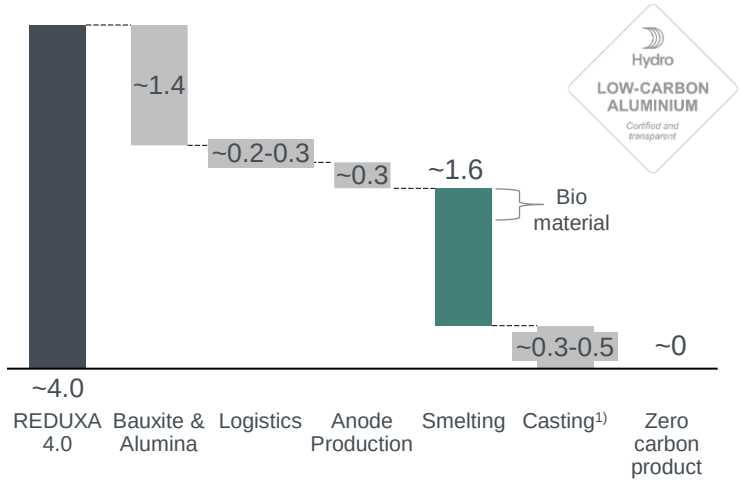
Source: CRU, 2024.

Aluminium Metal - Three paths to net-zero

Clear technology roadmap to deliver industrial volumes of zero carbon aluminium by 2030

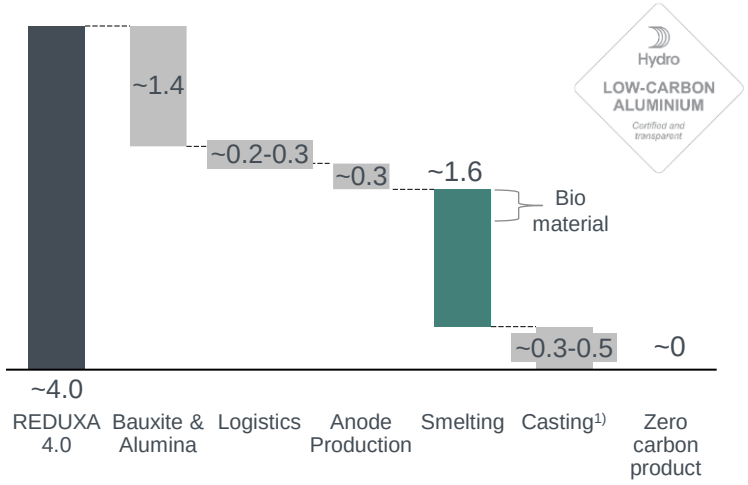
Phase out of fossil fuels

- Alunorte fuel switch
  - Replacing heavy fuel with natural gas
  - Electrification of boilers
- Decarbonizing casthouses
  - Hydrogen pilot Høyanger under construction
  - Plasma pilot Sunndal building started
  - Bio-methane switch in Sunndal casthouse
- Smarter shipping



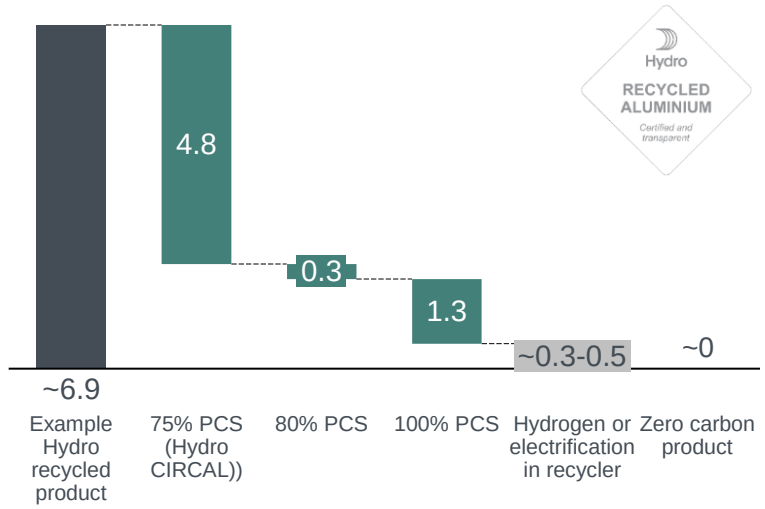
Removal of process emissions

- Carbon capture and storage (CCS)
  - Working with partners to find technical solutions
- Biomaterials in anode production
  - Promising test of bio-based packing coke
- HalZero – emission free electrolysis
  - Construction of test facility in Porsgrunn underway
- Optimization of operations to cut emissions
  - Innovation, digitalization to enhance existing tech



Recycling
Technologies for more PCS use

- Increased recycling capacity through investments in Europe and the U.S.
- Introduction of recycled PCS at Høyanger and Årdal casthouses to lower footprint of casthouse products
- Partnerships to explore the use of PCS in automotive components and other applications, working with customers to ensure quality and qualification of products



Hydro Energy - Supporting industries on the road to net-zero

Partnership with Fritzøe to develop renewables in Norway

- Renewable energy development in an area with large industrial power demand
- Low impact on nature as well as co-existence with existing forestry activities

Decarbonizing Hydro's alumina production in Brazil

- PPAs between Alunorte refinery and Mendubim (solar PV) and Ventos de São Zacarias (wind) projects
- Enabling switch from fossil fuels to electric boilers as part of a large-scale decarbonization

Enabling energy efficiency at Norwegian aluminium plants

- Supporting Hydro on switching to LED lights and smart controls at Vigelands Brug and Sunndal plants
- Reducing lighting energy use by up to 90% while also improving safety and working conditions for employees


Hydro
Nature
Nature-positive ambitions

Contributing to the global Nature Positive goal

Ambition for No Net Loss (NNL) of biodiversity

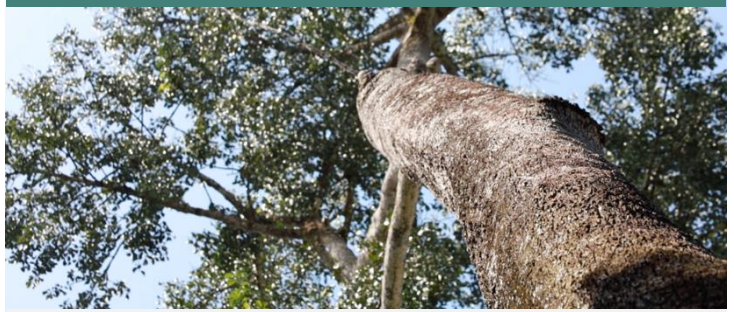
Paragominas bauxite mine:
- Developing KPIs for NNL target from a 2020 baseline, review, and advance current rehabilitation methods and support the development of biodiversity offsets “beyond the fence”

New projects:
- Illvatn pumped storage project to be developed with a NNL biodiversity ambition

Partnering to contribute to nature positive outcomes

Teaming up with Mercedes-Benz:
- Mercedes to join the Corridor project with Hydro, Imazon, IPAM and CEA
- Project ambition to deliver social, nature and climate benefits in the region
- Stretching over 244 km along the bauxite pipeline between Paragominas and Alunorte

Value chain emissions



Direct emissions
- Hydro will significantly reduce its total emissions of SO_2, NOx and dust, supporting Hydro’s 2030 target to reduce material non-GHG emissions by 50%

Indirect emissions
- Hydro published its first estimate of non-GHG emissions linked to electricity consumption in the Integrated Annual Report 2024

Hydro is contributing to a nature positive future ...

… through landscape initiatives and supply chain action

No Net Loss Ambition for Paragominas

- No Net Loss of biodiversity for our bauxite mine, from a 2020 baseline
- Strengthening onsite mitigation and rehabilitation
- Investing in conservation and restoration offsets

Partnerships for Nature Positive Outcomes

- Develop opportunities for positive nature impacts beyond delivering NNL outcome for mine
- Partnership with Imazon and IPAM
- Creating value for nature and society where we operate

Supply chain emissions

- Establish inventories and baselines for material pollutants linked to Hydro's supply chain
- World Economic Forum's Alliance for Clean Air

… through research, partnerships and transparency to deliver system transformation

Biodiversity Research Consortium

- 10-year research partnership
- Developing science-based knowledge on mining impacts in the Amazon
- BRL 15 million invested to date, 60 published articles
- Direct input into how Hydro manages impacts to biodiversity at its mine

Actively engage in cross-sector forums

- Participation in multiple forums to galvanize cross-sector action and collaboration
- Development of cross-sector standards, best practices and commitments towards Nature

Disclosure and Transparency

- Complete and transparent reporting of Hydro's material nature impacts, risks and opportunities

Bauxite & Alumina – Contributing to nature positive in Brazil

Nature:

Ensuring optimal footprint

- Hydro is a world leader in:
  - Reforestation through its deforestation-mining reforestation 3 years cycle.
  - Tailings dry backfill implemented in bauxite mining, which removes the need to create any new tailings dams going forward.
  - Residue press filters/ dry stacking allows bauxite residue storage at up to 80% solid content, reducing the storage area needed and greatly improving the geotechnical stability of the storage area.
- In 2024, Hydro completed a third-party audit of GISTM[1)] to attest conformance of its Bauxite & Alumina assets, delivering on the ICMM[2)] commitment

ELIMININATING WASTE

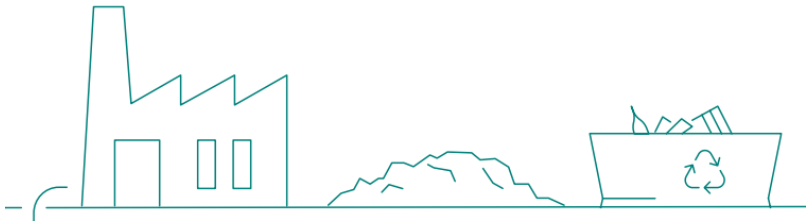
Bauxite Tailings Dry Backfill (ongoing)

Landfill <35% of spent pot lining generated, by 2030

Utilize 10% of bauxite residue generated, by 2030

Eliminate landfilling of all recoverable waste, by 2040

Eliminate the need for new permanent bauxite residue storage, from 2050



1) GISTM = Global Industry Standard on Tailings Management 2) ICMM = International Council on Mining & Metals

Social

Aiming for positive impact

Improving lives and livelihoods wherever we operate, supporting a Just Transition

Hydro

Fundament

Respect and promote human rights

Strengthening of the human rights' due diligence processes for own operations, value chain and affected communities

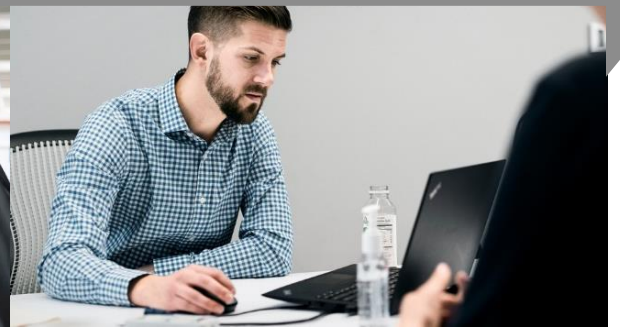
Areas of impact

Support positive local development

Strengthening local engagement in 2024 by launching the Just Transition program

Invest in education

More than 200,000 people reached with enhanced skills and education since 2018[1)]. On track to reach the goal of 500,000 people by 2030



Responsible supply chain

New CEO KPI related to human rights due diligence in the supply chain

1) Number of people benefitting from education and training programs supported by Hydro.

Hydro's Human Rights due diligence consists of four core elements

Policy commitment and governance

Hydro's is committed to respect, support and promote human rights. The commitment is integrated in key procedures, including supply chain management, new projects, portfolio management and risk management.

Stakeholder engagement

We engage and collaborate with stakeholders internally and externally to understand and evaluate the effectiveness of our human rights management. This includes NGOs, unions, local associations, authorities and other relevant stakeholders.

Grievance mechanism and remediation

To help facilitate informed and effective participation with people who are potentially affected by our operations, we establish or facilitate access to grievance mechanisms. We have several grievance mechanisms depending on stakeholder groups

Ongoing due diligence

As part of the due diligence process, we identify actual or potential adverse impacts on human rights, assess these impacts based on their severity and implement mitigative actions to address these. We then monitor and track the effect of the actions we put in place and communicate about the process and its outcome.

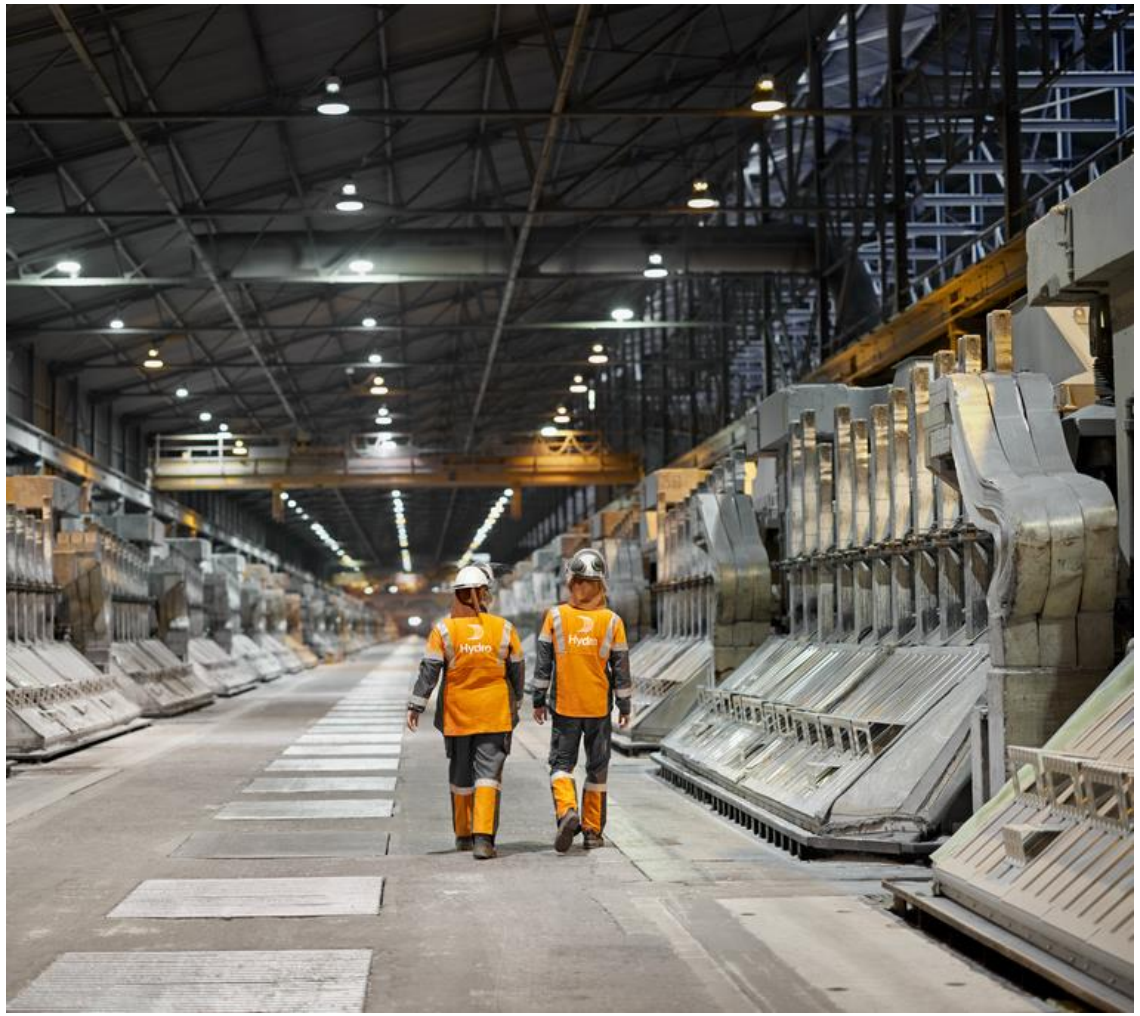
HYDRO'S PRIORITIZED HUMAN RIGHTS AREAS

Hydro

Sustainable regulation

Actively cooperating with institutions

EU agenda supporting Hydro's strategy



Regulatory framework supporting strategic direction

Critical Raw Material Act

- Aluminium defined as a critical and strategic raw material
- Important recognition of aluminium's role for EU strategic autonomy and the green transition

Sustainability legislation

- Stricter regulations on Green Claims and Corporate Sustainability Due Diligence favor sustainability frontrunners. However, a simplification review is expected in 2025 and 2026.
- End-of-life vehicles regulation could support Hydro's recycling ambitions

Renewable energy

- Still high ambitions for renewable energy production in EU. The need for increased grid capacity gets more political attention
- Supports Hydro's internal decarbonization and strengthens demand for aluminium from renewables market segment

Regulatory changes needed to support green transition

CBAM – Carbon Border Adjustment Mechanism

- No carbon cost for imported, remelted scrap creates a large loophole in CBAM
- Unless changed it will undermine intention of CBAM on climate and competetiveness. Potential proposal in Q4 of 2025

Securing a level playing field

Three key challenges and solutions for CBAM to 2040

1. Scrap loophole must be closed

- Imports based on remelted scrap are assigned zero emissions, creating a giant loophole
- CBAM must recognize the emissions from imported, re-melted scrap

2. Product scope must be extended

- Products outside the CBAM scope are at clear risk of carbon leakage
- The product scope must be expanded to more aluminium products and other materials

3. Scope 2 emissions must not be included

- CBAM on scope 2 should not be implemented before the European electricity grid is decarbonized. Methodology on the calculation of scope 2 in imported products is uncertain and will not reflect the CO_2 cost element in European power prices
- Indirect cost compensation is superior both as climate and carbon leakage instrument

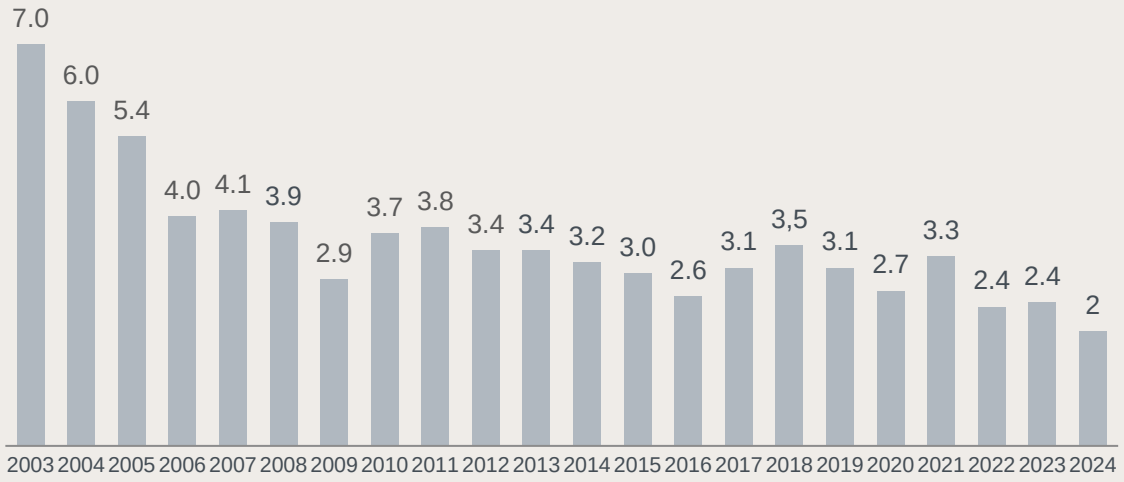
CBAM: Extending carbon pricing to imported products to level out EU ETS costs


Hydro
Rating and Peers
Striving to be at the industry forefront

Safe and responsible operations is a top priority

Leadership in health and safety, social responsibility, and compliance as a license to operate

TRI Rate[1)]



1) Total recordable incidents (TRI) rate defined as cases per 1 million hours worked, for own employees and contractors
2) ESG Ratings as of 01.05.2025

Continuing efforts within ESG performance

- Transparent and consistent reporting approach for more than three decades
- Sustainability is fully integrated in Hydro's strategy
- Work in progress to prepare for implementation of the EU Corporate Sustainability Reporting Directive (CSRD)

SUSTAINALYTICS

15.7 (Low risk)
#3 in sector (3/230)

MSCI

AA rating
"Leading initiatives to achieve carbon-free aluminium"

Member of
Dow Jones Sustainability Indices
Powered by the S&P Global CSA

65%
Europe Index inclusion
DJSI inclusion since 1999

ecovadis

77/100
96th percentile

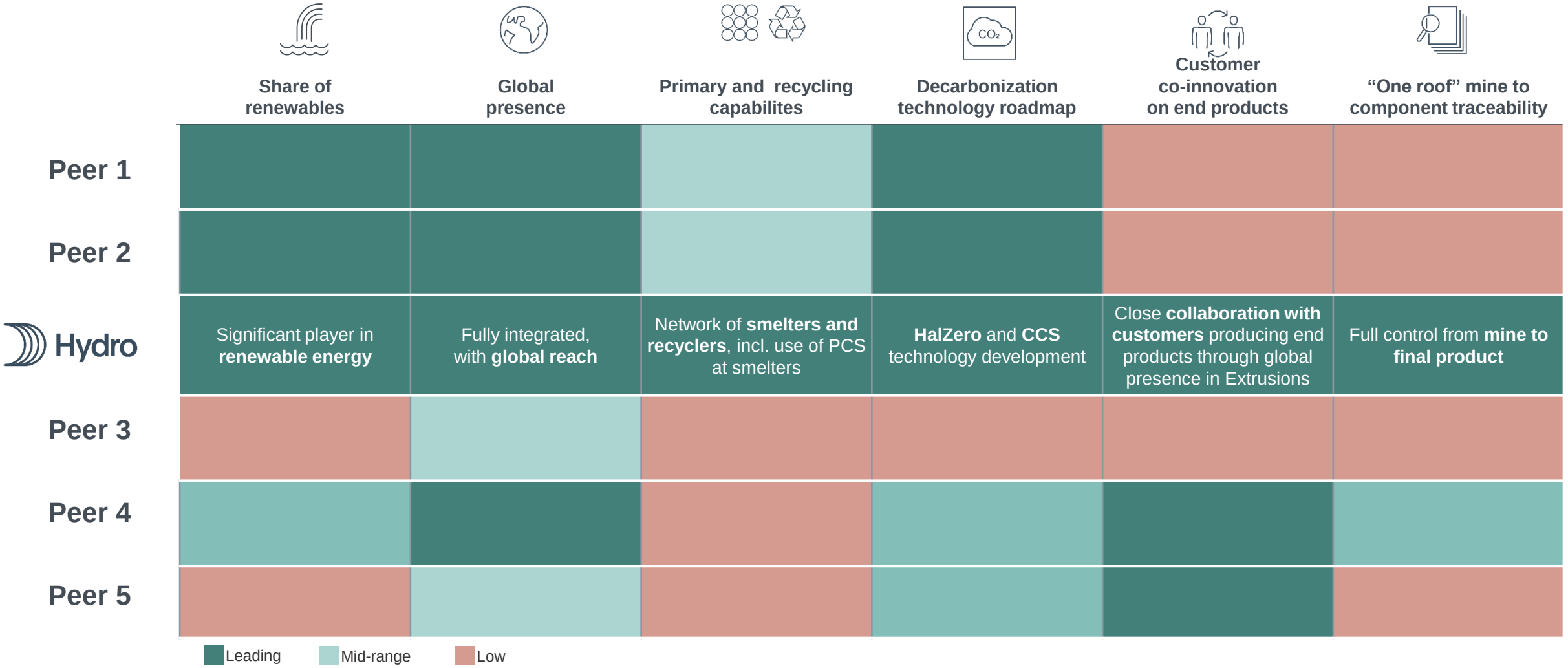
ISS ESG

B rating
Corporate Rating: Prime Status

Many vying to take sustainable aluminium leading positions

Hydro

Only Hydro with integrated advantage



Source: company annual and CMD reports


Hydro