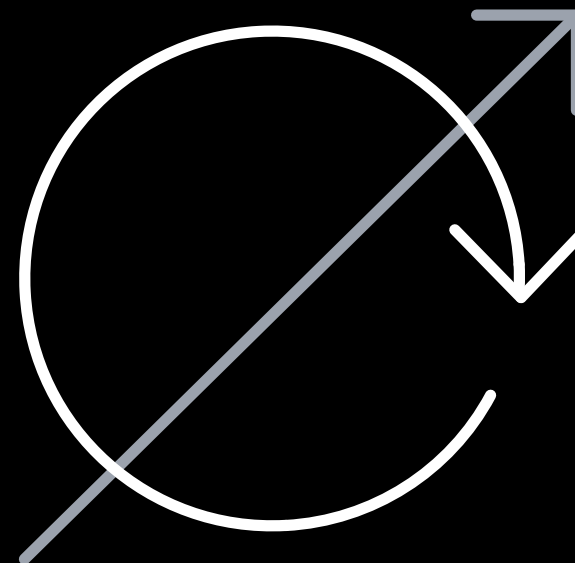




# Capital Markets Day

Lifting profitability, driving sustainability

Hydro 2025



Oslo, December 13, 2021

# Cautionary note



Certain statements included in this announcement contain forward-looking information, including, without limitation, information relating to (a) forecasts, projections and estimates, (b) statements of Hydro management concerning plans, objectives and strategies, such as planned expansions, investments, divestments, curtailments or other projects, (c) targeted production volumes and costs, capacities or rates, start-up costs, cost reductions and profit objectives, (d) various expectations about future developments in Hydro's markets, particularly prices, supply and demand and competition, (e) results of operations, (f) margins, (g) growth rates, (h) risk management, and (i) qualified statements such as "expected", "scheduled", "targeted", "planned", "proposed", "intended" or similar.

Although we believe that the expectations reflected in such forward-looking statements are reasonable, these forward-looking statements are based on a number of assumptions and forecasts that, by their nature, involve risk and uncertainty. Various factors could cause our actual results to differ materially from those projected in a forward-looking statement or affect the extent to which a particular projection is realized. Factors that could cause these differences include, but are not limited to: our continued ability to reposition and restructure our upstream and downstream businesses; changes in availability and cost of energy and raw materials; global supply and demand for aluminium and aluminium products; world economic growth, including rates of inflation and industrial production; changes in the relative value of currencies and the value of commodity contracts; trends in Hydro's key markets and competition; and legislative, regulatory and political factors.

No assurance can be given that such expectations will prove to have been correct. Hydro disclaims any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

# Agenda

09.00 – 09.05	Welcome
09.05 – 10.30	Hydro
10.30 – 10.45	Break
10.45 – 11.30	Financial priorities
11.30 – 12.30	Q&A





# Sustainable value creation

Capital Markets Day 2021

Hilde Merete Aasheim

President & CEO

# Delivering on our key strategic priorities

Lifting profitability, Driving sustainability

Deliver on three value-creation levers

- Improvement program, commercial ambition, strategic growth areas

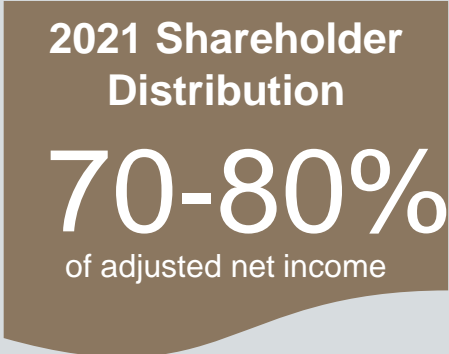
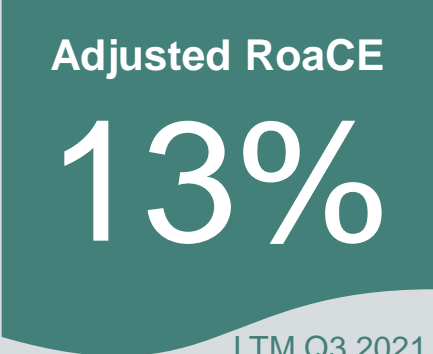
Finalize strategic review Hydro Rolling

Achieve 10% RoaCE target over the cycle

Reduce CO<sub>2</sub> emissions by 30% by 2030

Meet and shape demand for greener products

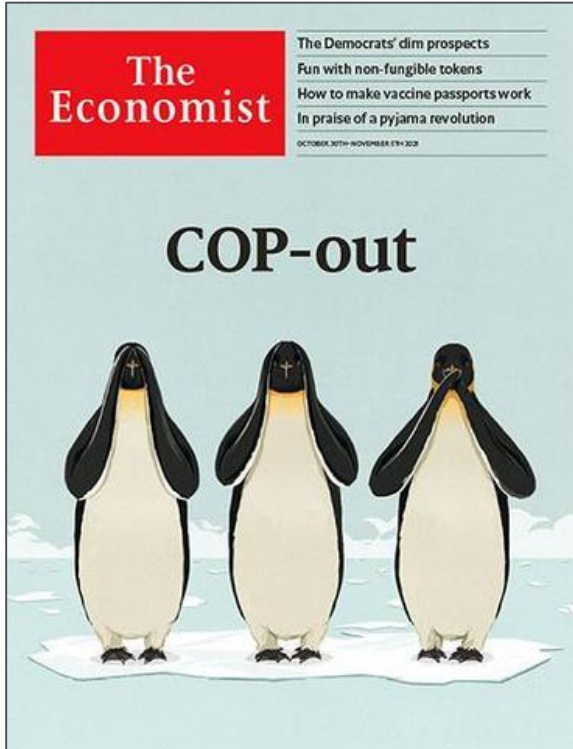
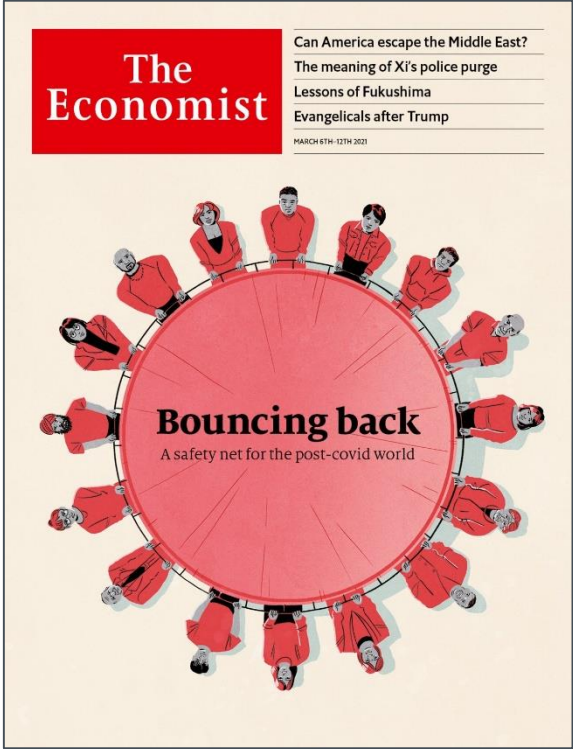
Status



# A year of strong markets but also uncertainty



Long-term global agenda focusing on climate crisis



# Aluminium part of the solution to the global climate crisis



Rising demand across all segments

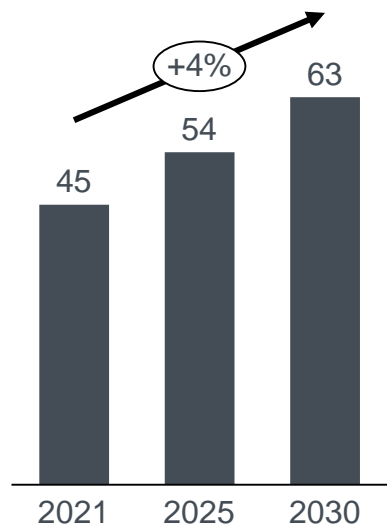
Sustainable and smart mobility

Renovated, energy efficient buildings

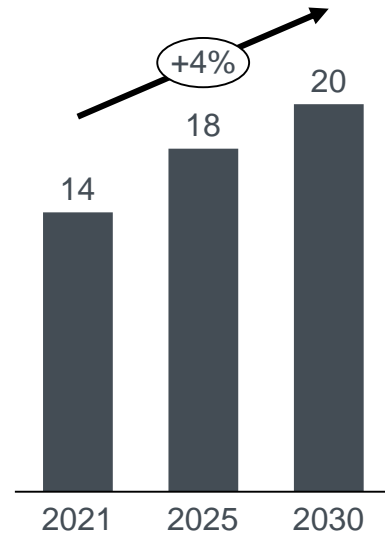
Cleaner energy and cutting-edge clean technological innovation

Longer lasting products that can be repaired, recycled and re-used

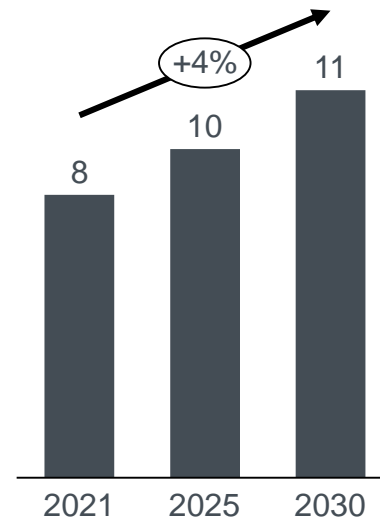
Semis demand<sup>1)</sup>  
Tonnes millions



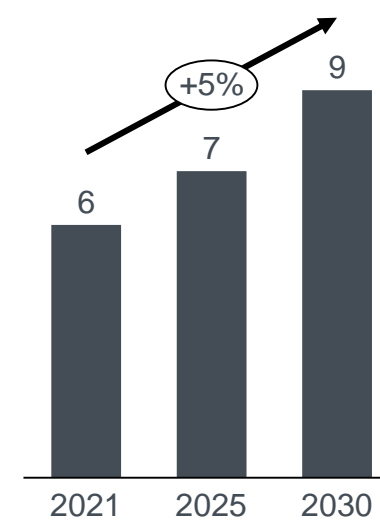
Semis demand – Auto<sup>1)</sup>  
Tonnes millions



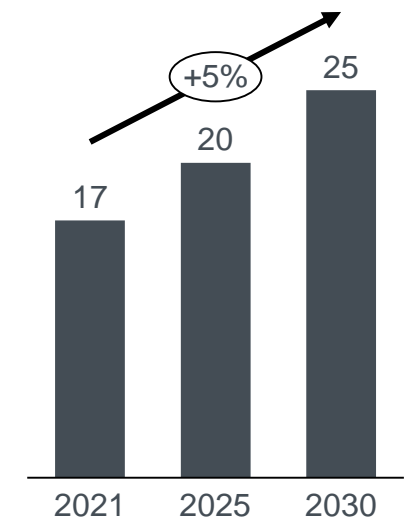
Semis demand – B&C<sup>1)</sup>  
Tonnes millions



Semis demand – Energy/electricity<sup>1)</sup>  
Tonnes millions



Recycled aluminium production<sup>1)</sup>  
Tonnes millions



1) All figures World ex-China  
Source: CRU

Grand Opera House. Shanghai, China



Times Square. New York City, USA



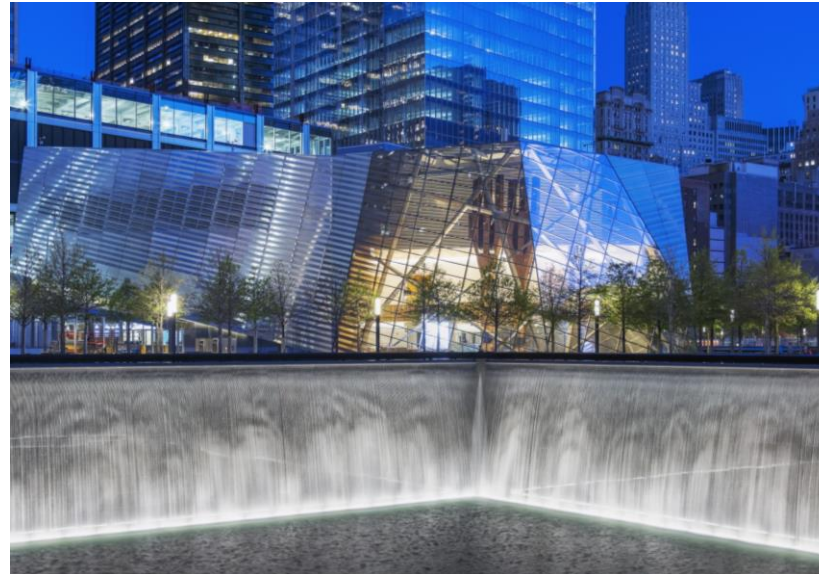
Bibliotheca Alexandrina. Alexandria, Egypt



# Snøhetta



Norwegian National Opera and Ballet. Oslo, Norway



National September 11 Memorial Museum Pavilion. New York City, USA



"Under" – Europe's First Underwater Restaurant. Lindesnes, Norway

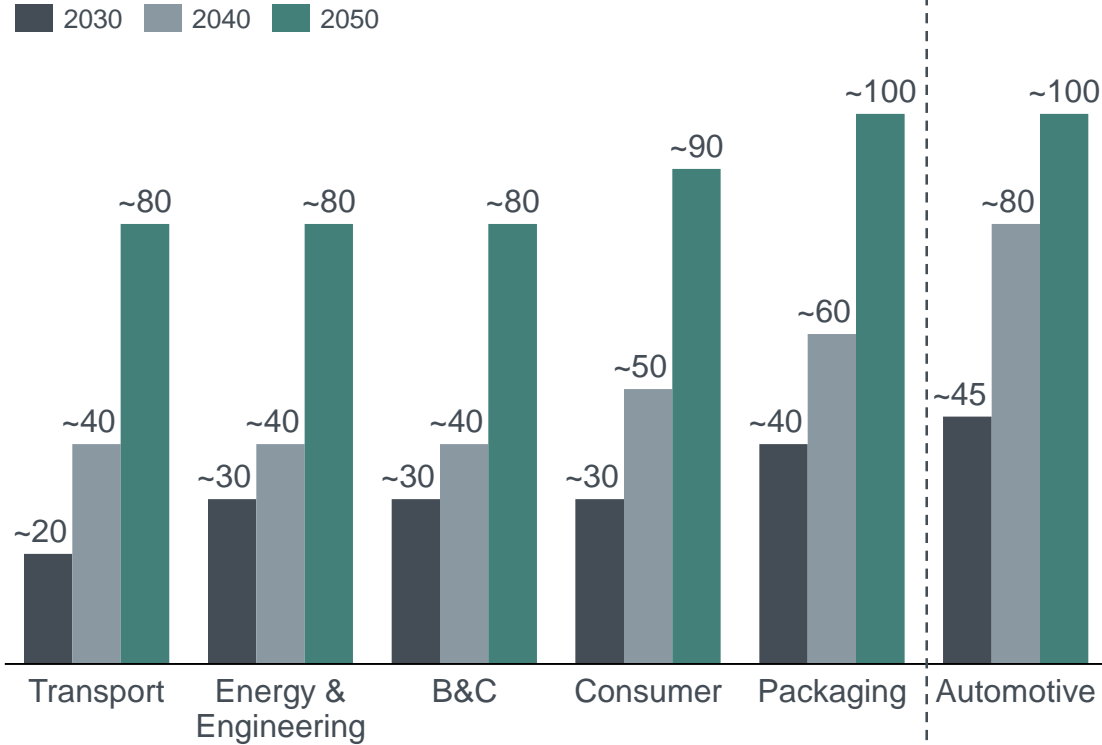


# Expecting strong demand for greener aluminium

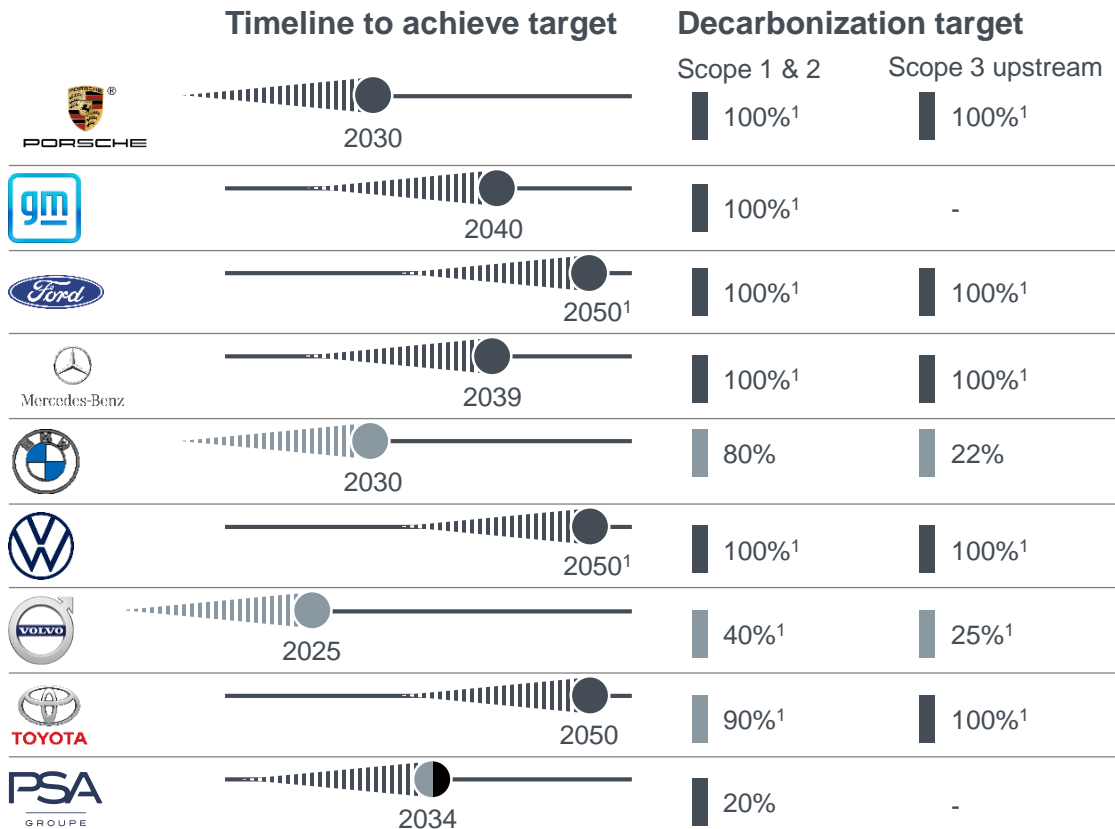


Ambitious abatement targets driving demand in all sectors but especially Automotive OEMs

Share of greener<sup>1)</sup> aluminium demand per segment  
% greener of total aluminium demand



OEMs are pushing for ever more ambitious lifecycle decarbonization targets



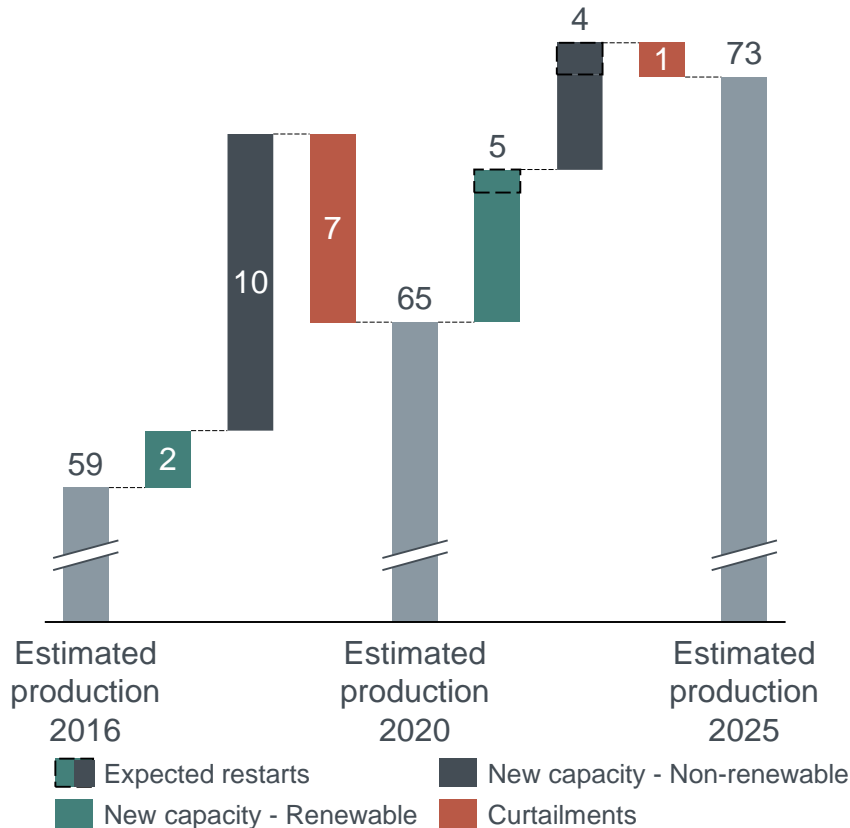
<sup>1)</sup> Greener aluminium includes "near zero" tCO<sub>2</sub>/t, <2 tCO<sub>2</sub>/t and 50%+ PCS-aluminium  
Source: McKinsey market analysis (high level estimate)

# Supply side impacted by climate megatrends

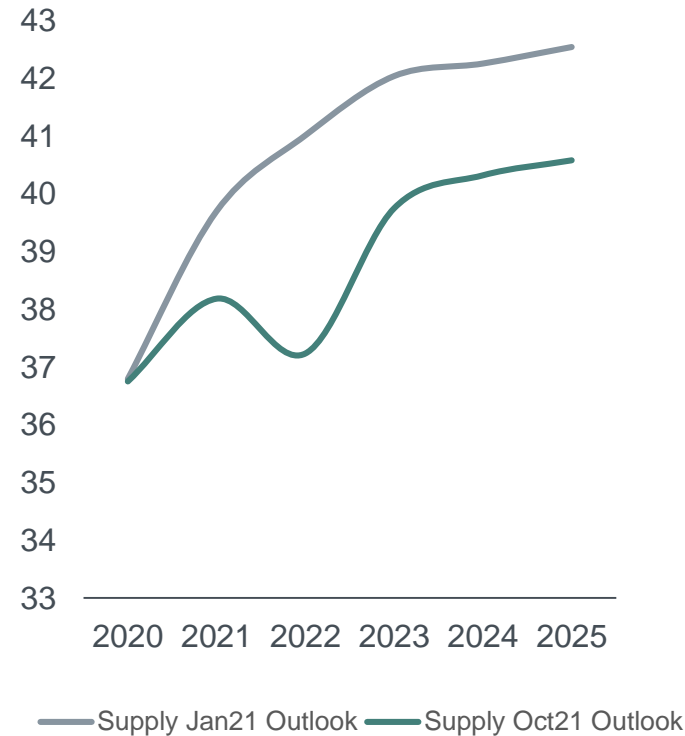


Energy policy impacting Chinese supply and driving deficit in coming years

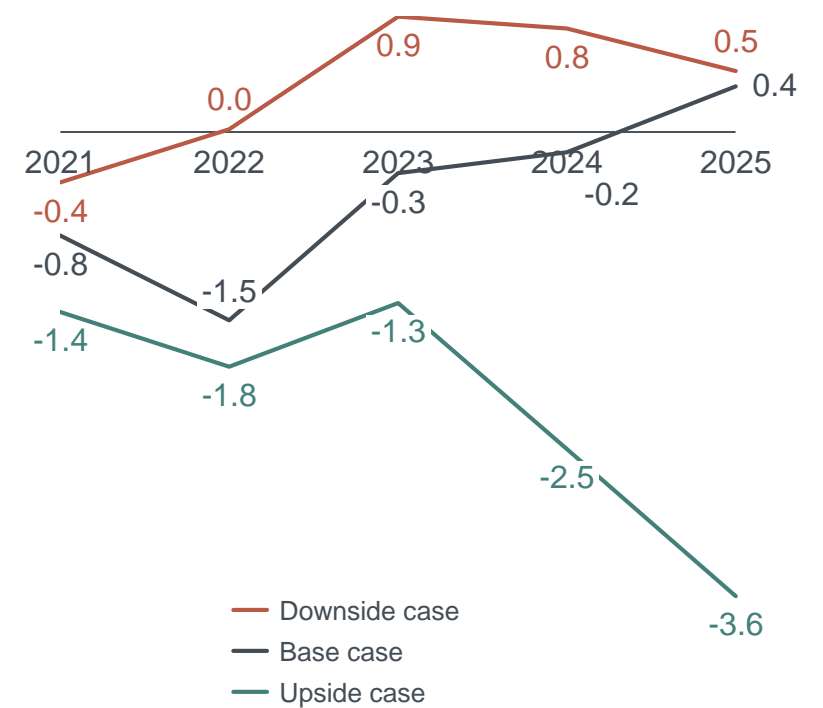
Global production estimates  
Million tonnes, primary aluminium



China annual supply  
Million tonnes, primary aluminium



Global balance estimates<sup>1)</sup>  
Million tonnes, primary aluminium



1) Downside, base, and upside cases are lowest, median, and highest balance selected from cited consultancies  
Source: CRU, Woodmac, Harbor, Citi and Goldman Sachs

# Hydro well positioned for future value creation



## Technology and people

Leading innovation and competence throughout entire aluminum and energy value chain



## Market position

World leader in global aluminium industry, working closely with customers



## Sustainability

Leading low-carbon position enabling value creation from decarbonization trend



# Sustainability: the basis for future position and profitability



## Climate



Net zero products, net zero company, net zero society

## Environment



Protect biodiversity and reduce our environmental footprint

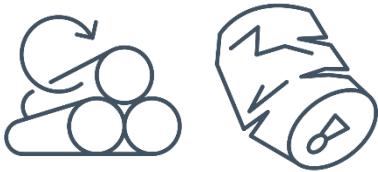
## Society



Improve the lives and livelihoods wherever we operate

# Climate: Solutions for eliminating emissions from our products, our operations and society

## Net Zero Products



Deliver zero carbon aluminium products and solutions to customers

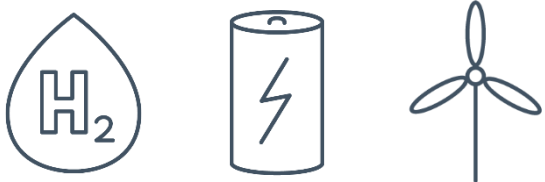
Circular and primary pathways

## Net Zero Hydro



Remove emissions from own operations

## Net Zero Society



Reduce and avoid emissions in society through climate-friendly solutions

Renewables – energy storage – green hydrogen

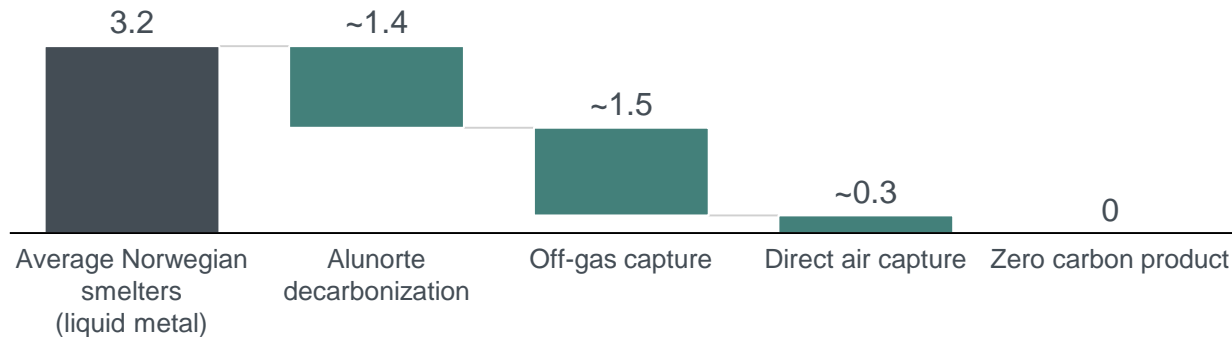
# Primary path: HalZero and CCS



Technologies ready for pilot phase

## Carbon capture and storage decarbonizing existing smelters

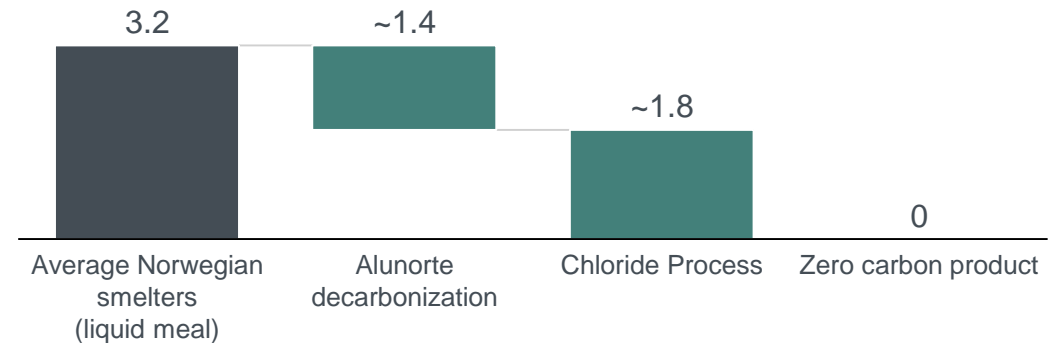
Tonnes CO<sub>2</sub>e / tonne aluminium, scope 1 and 2 emissions, liquid metal



- Can reduce electrolysis emissions by 100% through a combination of off-gas capture and direct air capture
- Suited for decarbonization and securing value of existing smelters
- Access to infrastructure (transport and storage)
- Public/private partnership for industrialization

## HalZero chloride process technology for decarbonizing greenfield developments

Tonnes CO<sub>2</sub>e / tonne aluminium, scope 1 and 2 emissions, liquid metal



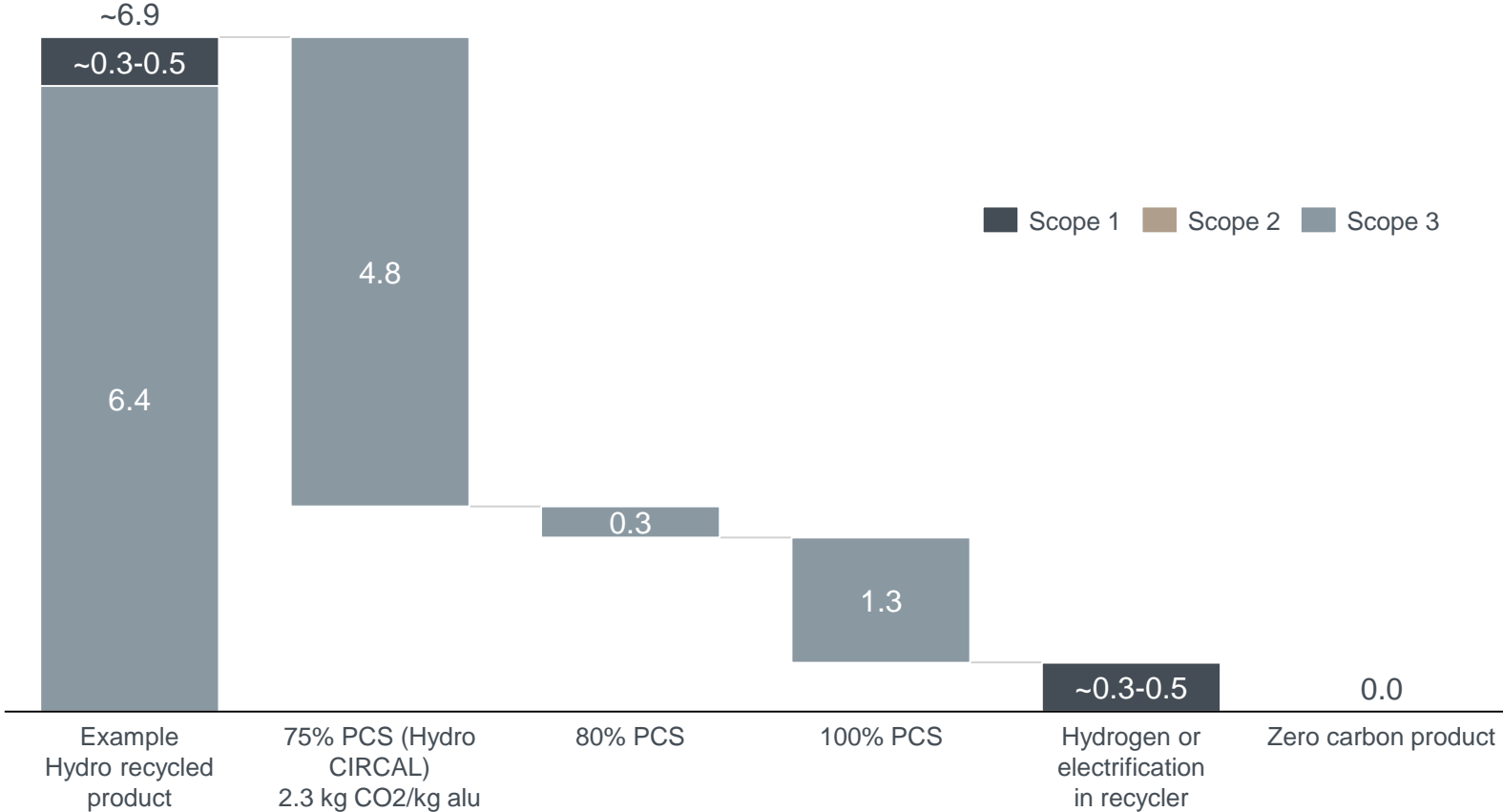
- Full decarbonization of smelting process
- Eliminating emissions for both electrolysis and anode baking
- Relevant application for new capacity post 2030
- Public/private partnership for industrialization

# Circular path producing near zero volumes by 2022



Post Consumer Scrap (PCS): scaling up volumes in line with market demand

PCS Decarbonization  
Tonnes CO2e / tonne aluminium

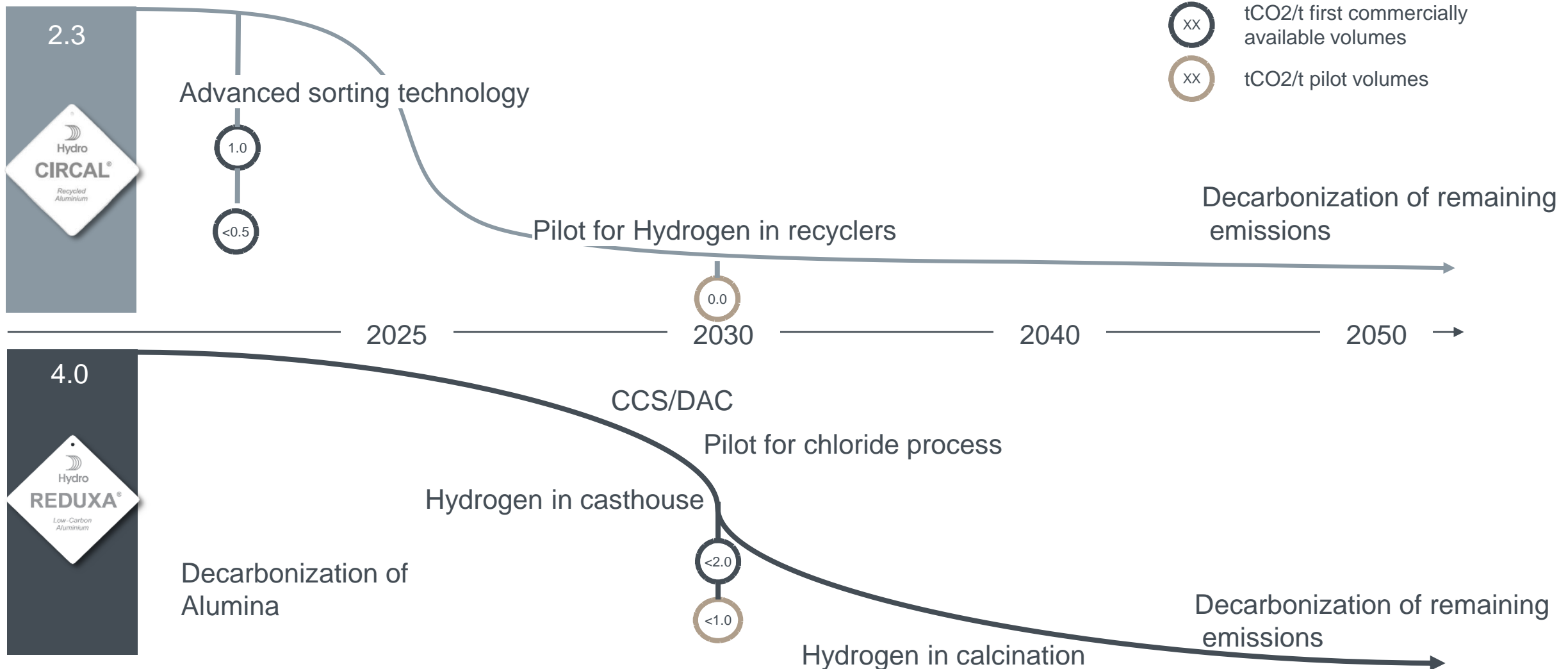


- Going deeper in the scrap pile to lift profitability
  - Laser-based sorting (LIBS)
  - Screw extruder
- Recycling friendly alloys
- Renewable fuel for scrap melting
- Scrap sourcing
- Customer collaboration

# Net zero products: Market-paced approach



Capitalize on market demand through circularity while decarbonizing primary value chain



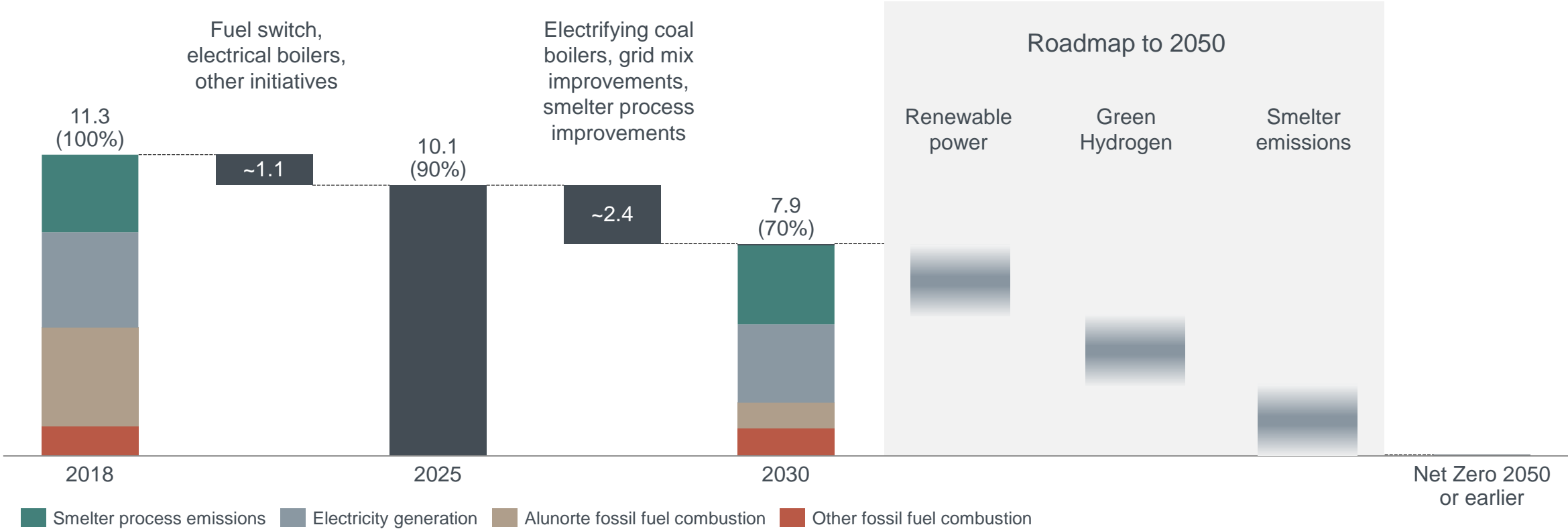


# Net zero Hydro: The roadmap



On track to achieve 30% carbon emissions reduction by 2030 and net zero by 2050 or earlier

GHG emissions – ownership equity  
 Million tonnes CO2 (% of 2018 baseline emissions)



# Well positioned to deliver on our climate ambition



Hydro's unique position to capture commercial value from decarbonization

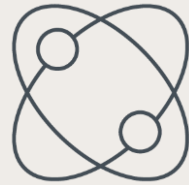


## Circular solutions

Fastest way to near-zero carbon products at scale

Profitable growth – Recycling RoACE above Hydro average

EBITDA uplift



## Technology leadership

PCS technology ready for industrialization

Solutions to remove process emissions ready for piloting



## Customer collaboration

Leading position in high growth market segments

Shaping demand for greener products

Co-developing lower carbon and circular solutions with customers



## Partnerships and funding

Strong track record of partnering

Credibility to seek public funding and partner for industrialization

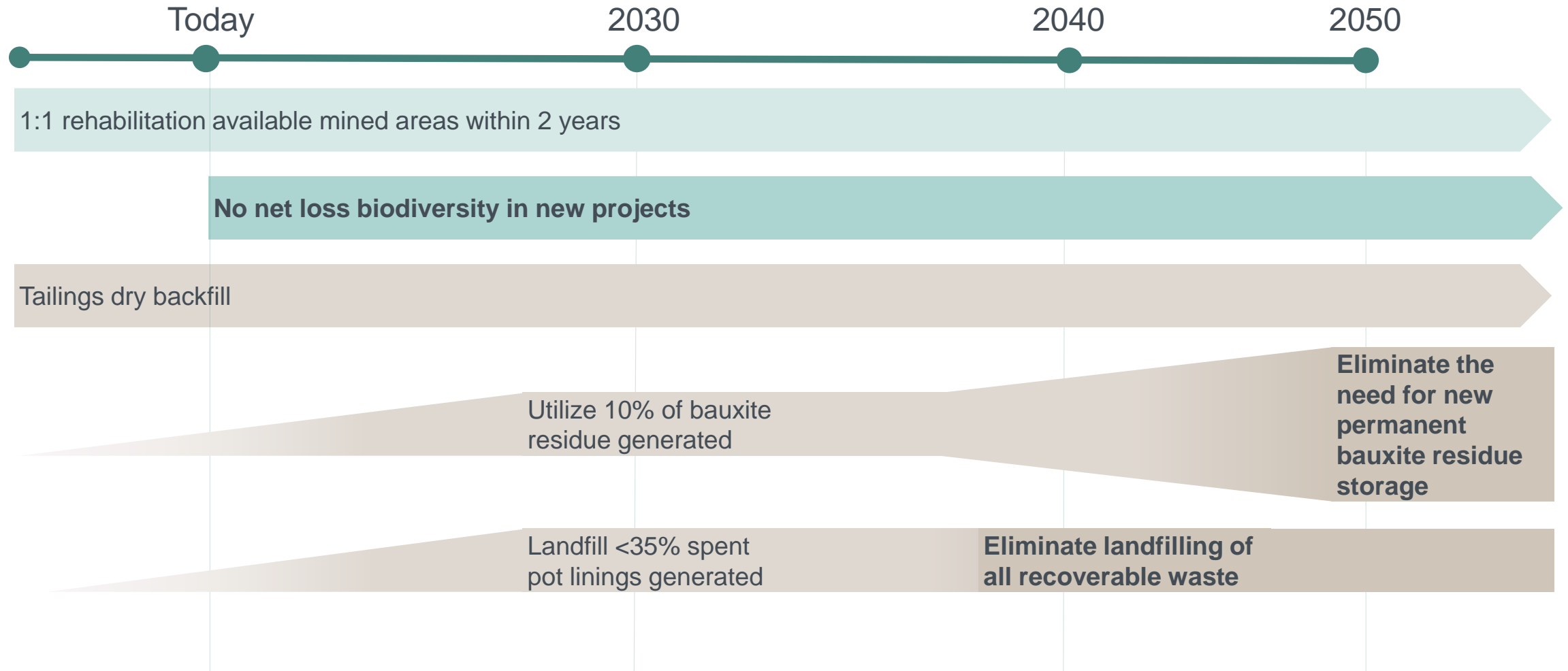
Green finance



## Policy and regulations

Create a global level playing field – Incentivize electrification and decarbonization of industries and markets

# Environment: Protect biodiversity and eliminate waste



# Social: Improve lives and livelihoods wherever we operate



## Invest in education



Equip people with essential skills for future economy



Empower 500,000 people with education and skills development by 2030

## Support just transition

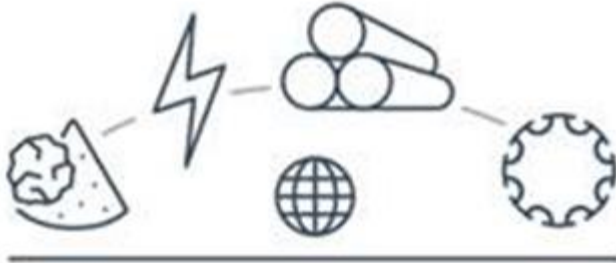


Contribute to economic and social development in communities where we operate



Business-specific targets

## Responsible supply chain



Ensure transparency and responsible business practices in our supply chains



Transparency and traceability of key sustainability data for our products



# Hydro 2025

# Progress made on the 2025 strategy



Seizing opportunities where our capabilities match the megatrends

## 1 Strengthen position in low-carbon aluminium



## 2 Diversify and grow in new energy



# Strengthen position in low-carbon aluminium



Improvement program, commercial ambition and recycling investments key strategic levers

## Cost-competitive asset base



- Safety and operational excellence
- 1<sup>st</sup> quartile cost positions upstream
- Continuous improvement and optimization of portfolio

## Commercial uplift



- New products, including greener brands
- Market share in attractive segments
- Margin expansion in customer projects
- Substitution potential

## Recycling growth



- Double post-consumer scrap use by 2025
- Develop recycling value chain from sourcing to products and customers
- Strong market position across value chain



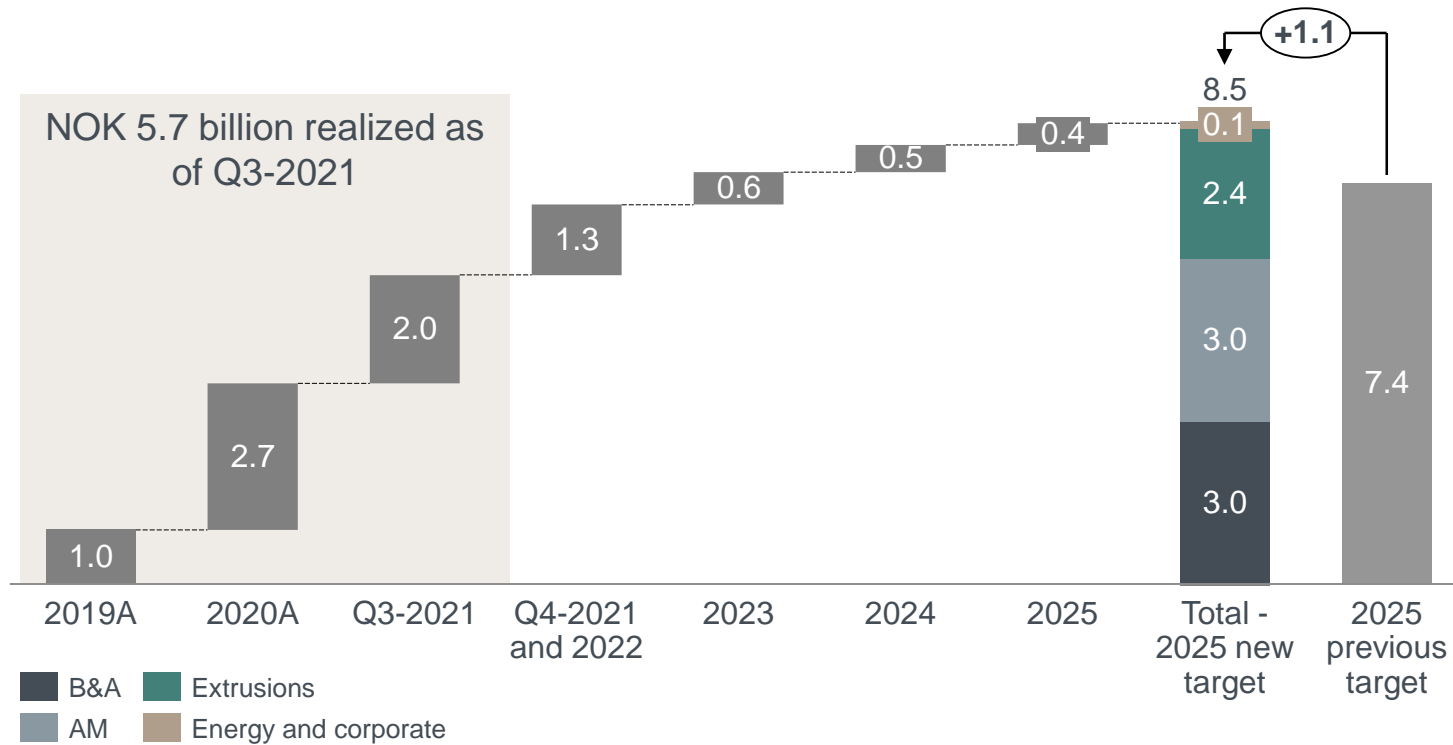
Profitability & Sustainability

# Increasing 2025 improvement program

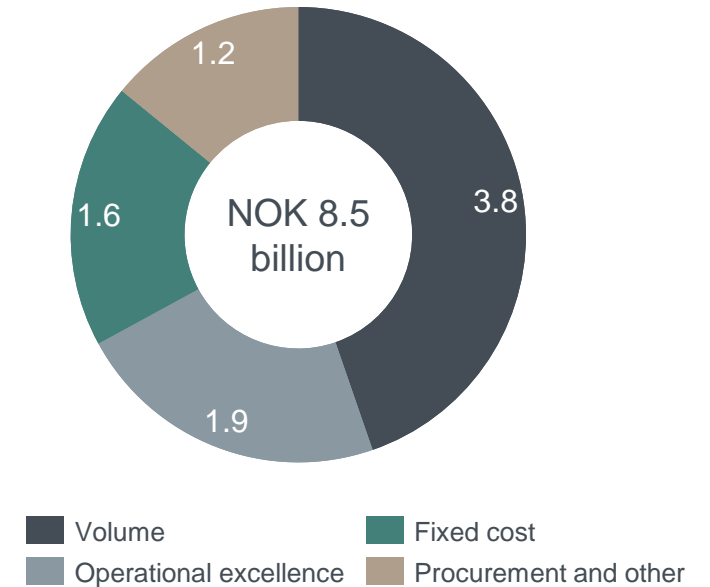


Target NOK 8.5 billion in improvements by 2025

2025 accumulated improvement potential by year  
NOK billion



2025 accumulated improvement  
NOK billion



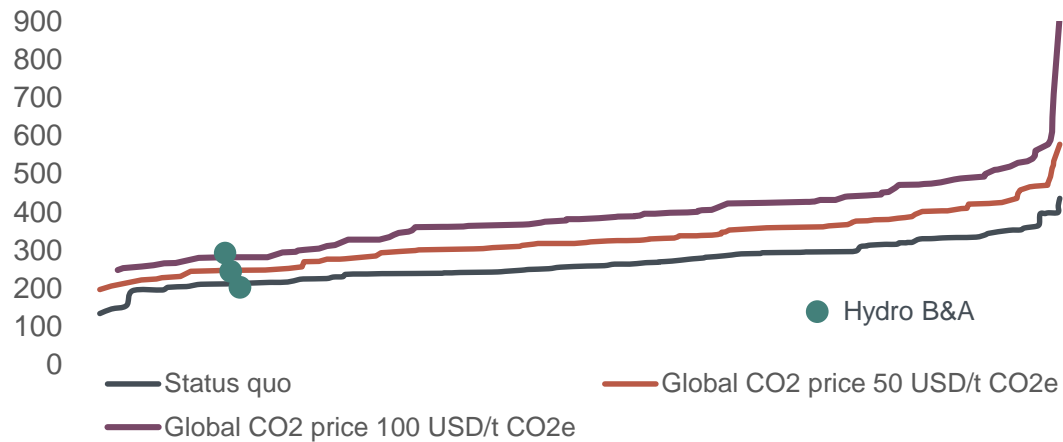


# First quartile cost positions upstream



## Bauxite & Alumina

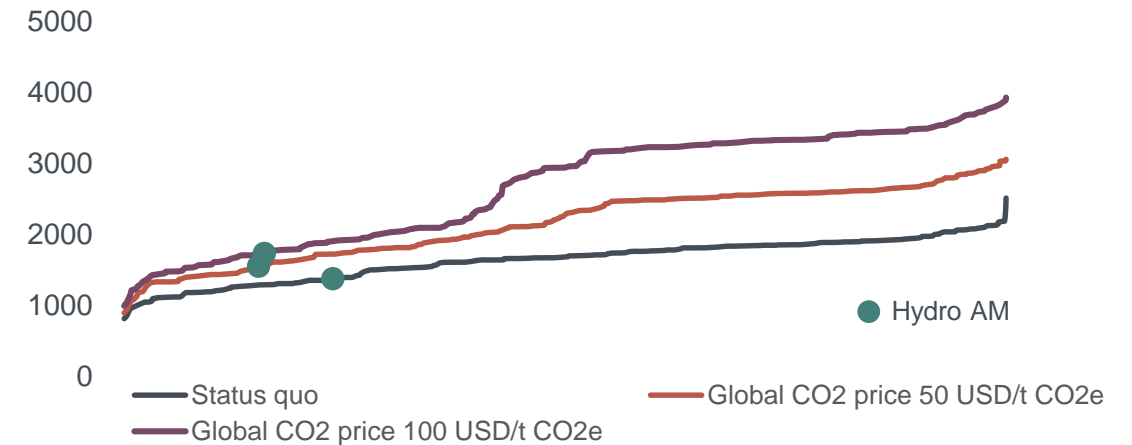
Alumina Business Operating Cost curve (2021)



- Competitively positioned on the global cost curve at the 20<sup>th</sup> percentile
- Increased Alunorte and Paragominas production reaching nameplate capacity

## Aluminium Metal

Smelter Business Operating Cost curve<sup>1)</sup> (2021)



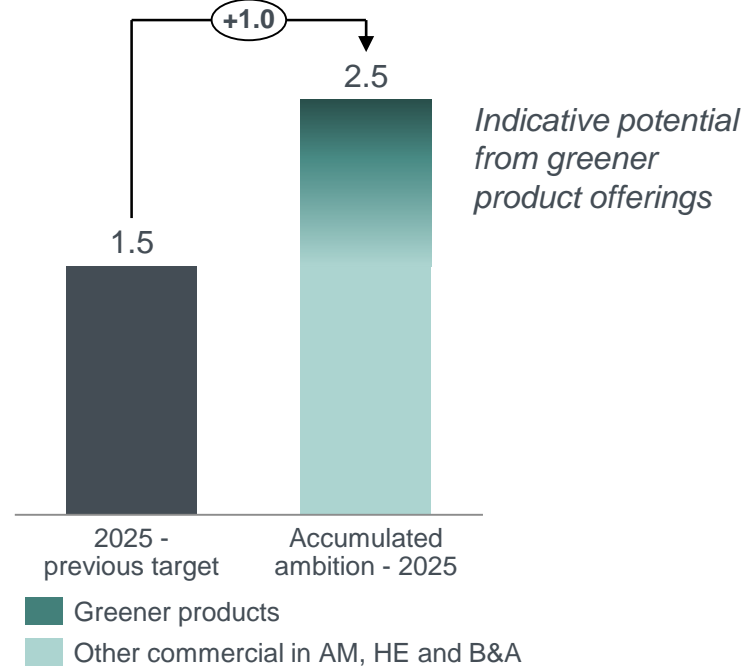
- Competitive relative position on the global cost curve at the 25<sup>th</sup> percentile
- Strong portfolio of low carbon smelters
- Global carbon price would improve relative competitive position in Aluminium Metal

1) Assumptions: LME 3m 2,458 USD/t, Alumina 293 USD/t, SHFE cash 2,909 USD/t, NOK/USD 8.79  
Source: CRU cost model

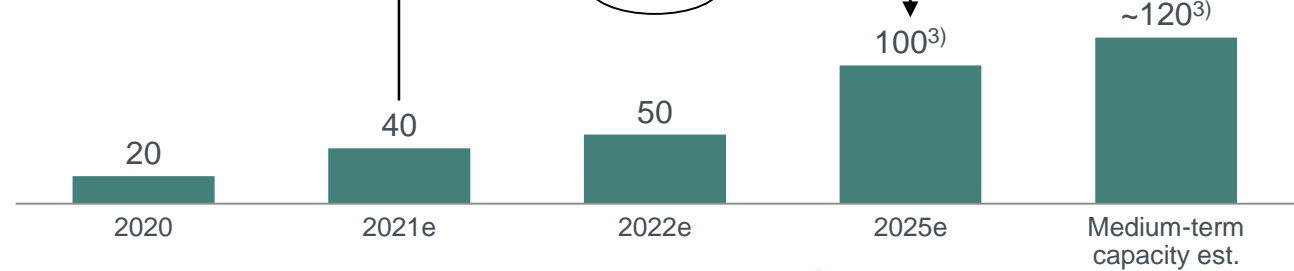
# Increased Commercial ambition to NOK 2.5 billion

Total sales of greener products to double by 2025

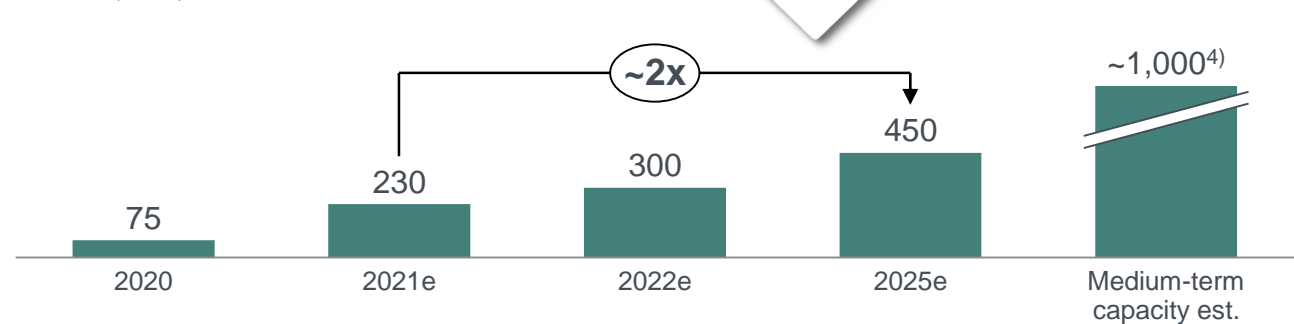
Commercial ambition 2025<sup>1)</sup>  
NOK billion



Sales volumes<sup>2)</sup>  
Tonnes (000s)



Sales volumes<sup>2)</sup>  
Tonnes (000s)



1) Gross uplift not including effects of inflation  
 2) Sales in Aluminium Metal – internal and external (rounded to nearest 5)  
 3) Capacity level requires upgrades and investments in recyclers; Some upgrades will be dependent on market conditions  
 4) Norwegian smelter portfolio currently Hydro REDUXA certified



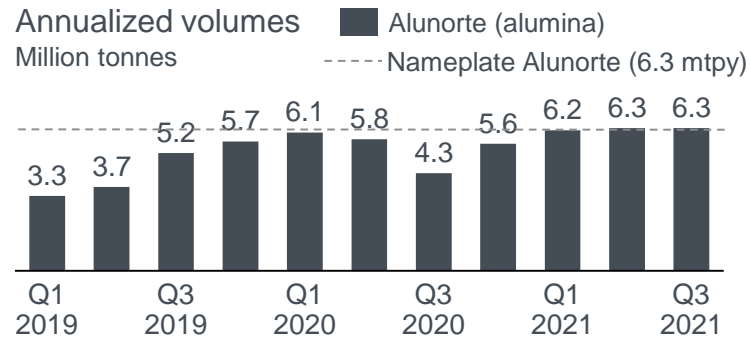
# Hydro Bauxite & Alumina

# Bauxite & Alumina the basis for greener aluminium



Focusing on operational robustness and sustainability

Alunorte at nameplate capacity in 2021



Robust maintenance plans



Eliminate landfilling of waste in the long term



Reducing emissions: Switch from fuel oil to natural gas, electrification



Protecting biodiversity



Community engagement and human rights



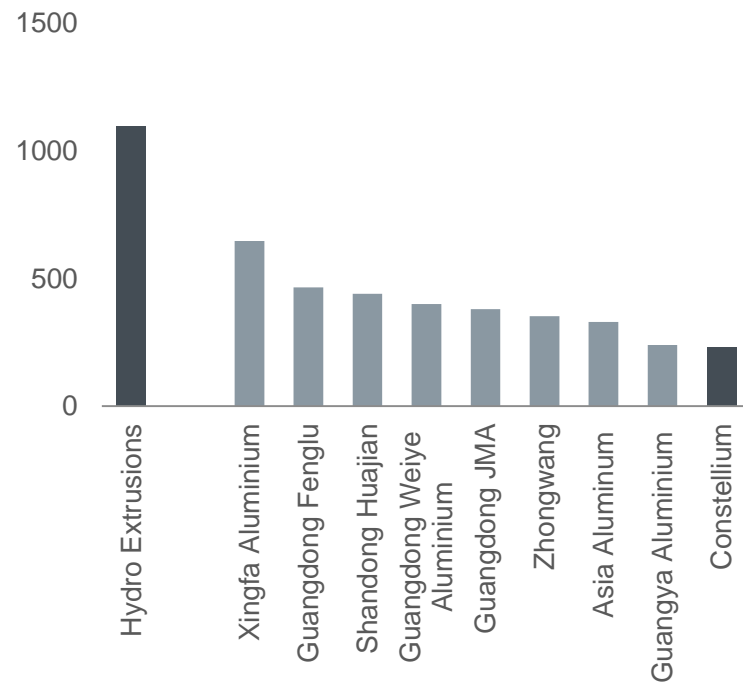


# Hydro Extrusions

# Extrusions with unrivalled position as largest extruder globally with a strong and diversified segment footprint

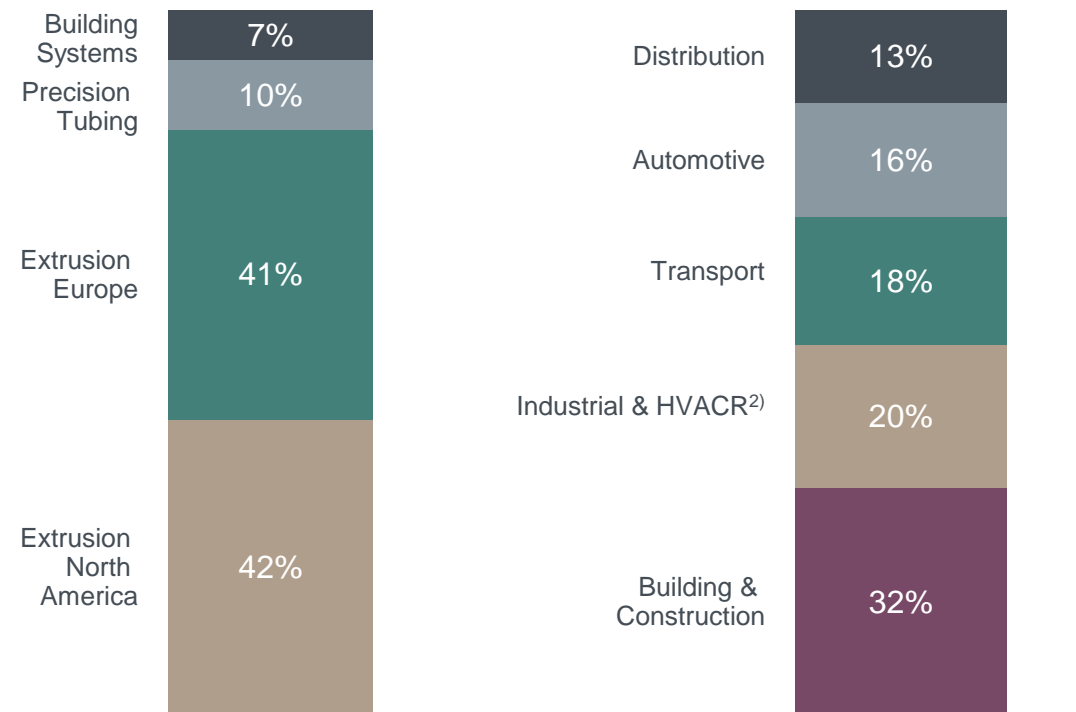
## Unrivalled position as #1 extrusions provider globally

Extrusion sales volume (2020), tonnes (000s)



## Four distinct Business Units, all with strong segment presence

Total volume 2020: 1.1 million tonnes<sup>1)</sup>



1) Total volume estimate in 2021: ~1.3 million tonnes 2) HVACR: Heat, ventilation, air condition & refrigeration  
Source: Company filings, CRU

# Extrusions well positioned for further growth

~200,000 tonnes announced in new capacity across portfolio in 2021

## Key trends



- Products with low carbon footprint
- Recyclability and keeping materials “in the loop”



- E-mobility
- Light-weighting of vehicles



- Customer collaboration: high level of service, tailored solutions, short lead times
- Proximity as clear competitive advantage

## Capacity additions to support growth

**+160,000** tonnes recycled aluminium capacity



Navarra, Spain



Sjunnen, Sweden



The Dalles, USA



Székesfehérvár, HUN

**+12,000** tonnes directed toward the automotive industry



Suzhou, China

**+30,000** tonnes in press capacity in Europe and North America



Cressona, USA<sup>1)</sup>



Nenzing, Austria

1) Incremental press capacity driven by press upgrade

# More than 500 Hydro CIRCAL projects since 2018



IAAPS – University of Bath, UK | TECHNAL



Neue Balan - Munich, Germany | WICONA



Photo: John Kees

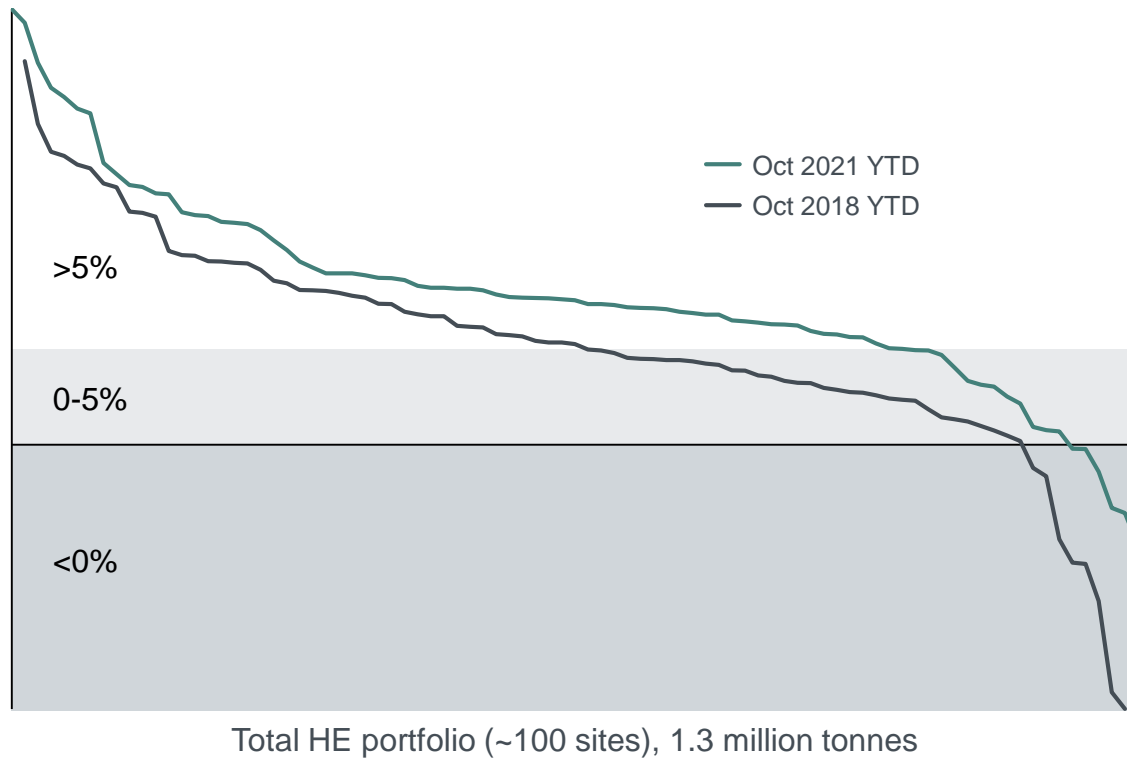
LUSEP - Loughborough, UK | TECHNAL



# In Extrusions, improvements and restructuring have increased profitability, closing gap to peers

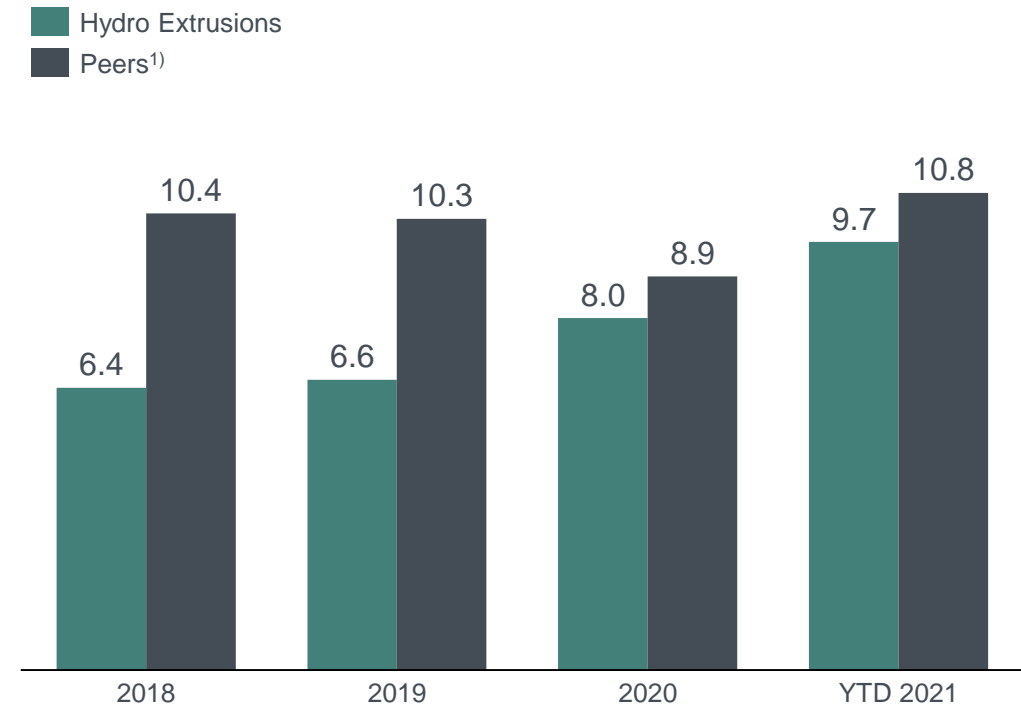
## Hydro Extrusions

EBITDA-margin per unit in Hydro Extrusion (%)



## Hydro Extrusions and peers

Annual reported EBITDA margins (%)

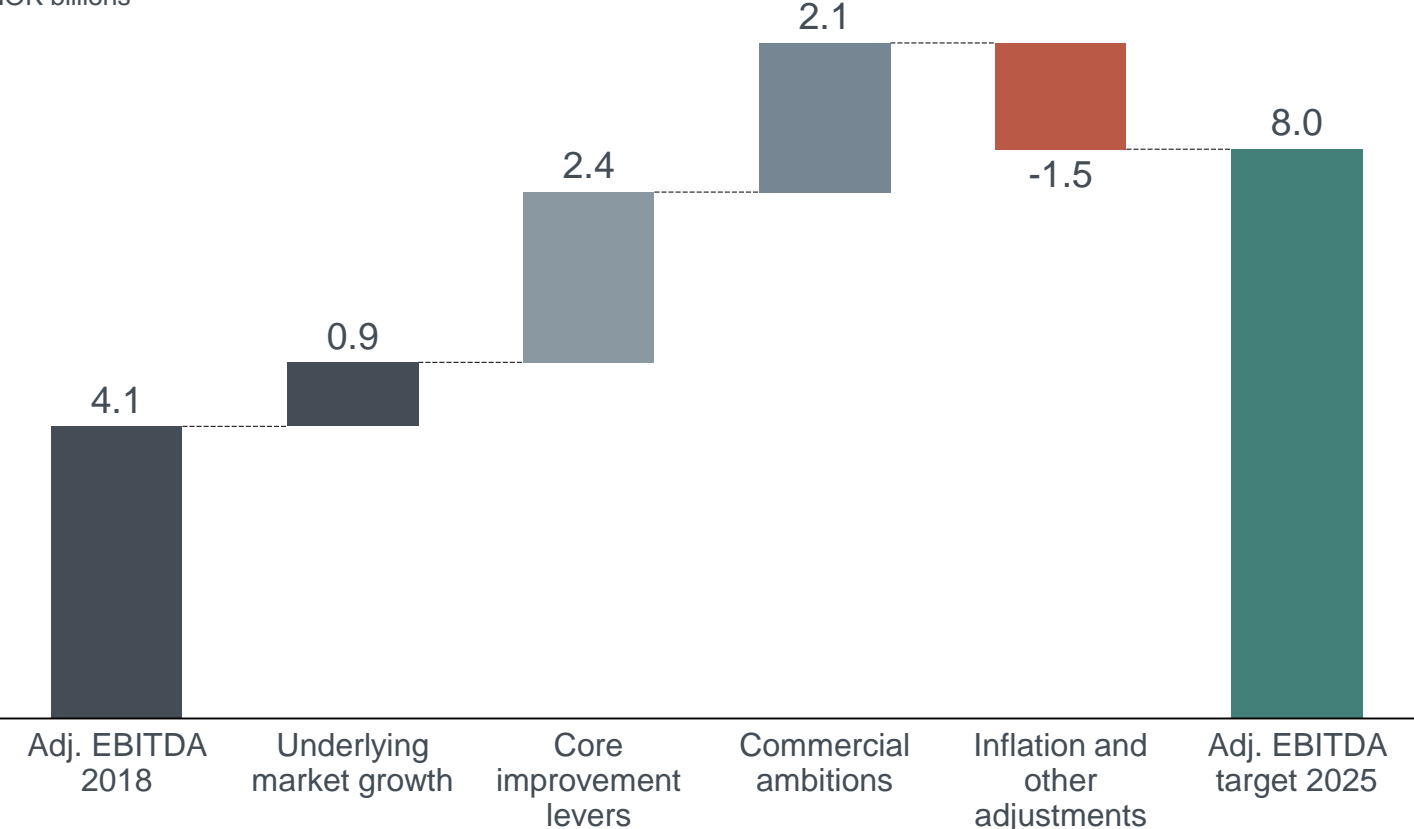


1) Non-weighted average EBITDA-margin of Constellium AS&I, Bonnell, and Profilgruppen  
Source: Company filings

# Further improvements and growth agenda providing attractive uplift toward 2025



Extrusions EBITDA  
NOK billions



## Key improvement levers towards 2025

### Underlying market growth

- Capitalize on underlying growth in extrusion demand in key regions and segments

### Dedicated cost reduction programs

- Procurement
- SG&A cost
- Restructuring
- Operational improvements through our way of working, Extrusion Business System (EBS)

### Commercial ambitions

- Market share growth
- Margin uplift through commercial excellence and dedicated segment focus
- Stronger market positions through greener products offering



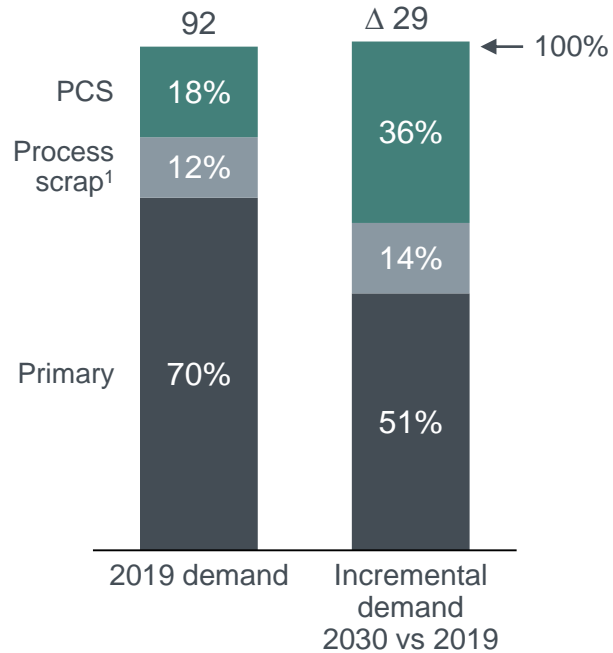
# Recycling

# Recycling becoming an increasingly important source of metal

Increasing customer awareness and regulatory push driving circular economy

**Market:** Post-consumer scrap to take larger share of future metal demand

Global semis demand (Mt)

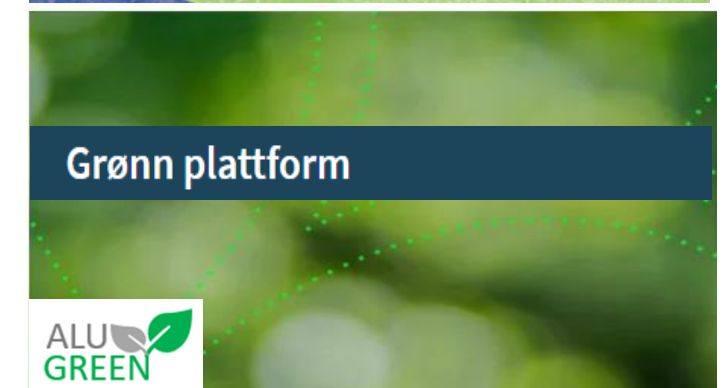


1) Traded process scrap, not including run-around scrap at plants  
Source: CRU, IAI

**Customers:** Increased awareness and desire to use recycled aluminium



**Regulatory:** Green deal, Grønn Plattform; reduce waste & CO<sub>2</sub> footprint, promoting circularity



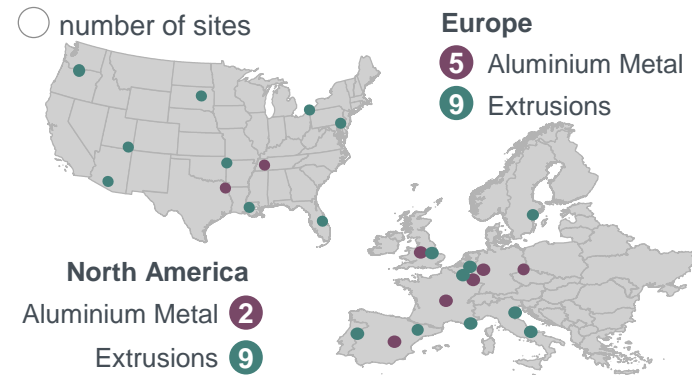
# Unique capabilities for further profitable growth in Recycling

## Unique flexibility in scrap sourcing, developing advanced sorting technology



- Multiple product outlets allowing to sort and utilize complex, lower priced scrap of product outlets across company
- Developing LIBS<sup>2</sup> sorting technology in-house

## Large recycling asset base covering North America<sup>1</sup> and Europe



- In total 25 recyclers across North America and Europe, with a total capacity of ~2 Mt
- Large smelter portfolio (total capacity 2.3 Mt) with potential to blend in complex scrap types

## Customer closeness to lead adaptation of innovative greener products



- Strong metallurgical, technical and commercial competence
- Customer closeness, both through integrated value-chain and innovative processes, driving adaption

1) Incl. 40kt capacity in Brazil

2) Laser induced breakdown spectroscopy

# Several projects supporting the Recycling strategy in 2021

Announced projects	Capacity increase
Greenfield recycler Cassopolis, Michigan	+120 kt
Høyanger Recycling, Norway	+36 kt <sup>1)</sup>
Expansion project Rackwitz, Germany	+25 kt
Expansion project Deeside, UK	+7 kt
LIBS sorting pilot	N/A
Greenfield recycler Székesfehérvár, HUN	+90 kt
Expansion project Sjunnen, Sweden	+20 kt
Expansion project Navarra, Spain	+23 kt
Expansion project The Dalles, Oregon	+27 kt

Project pipeline

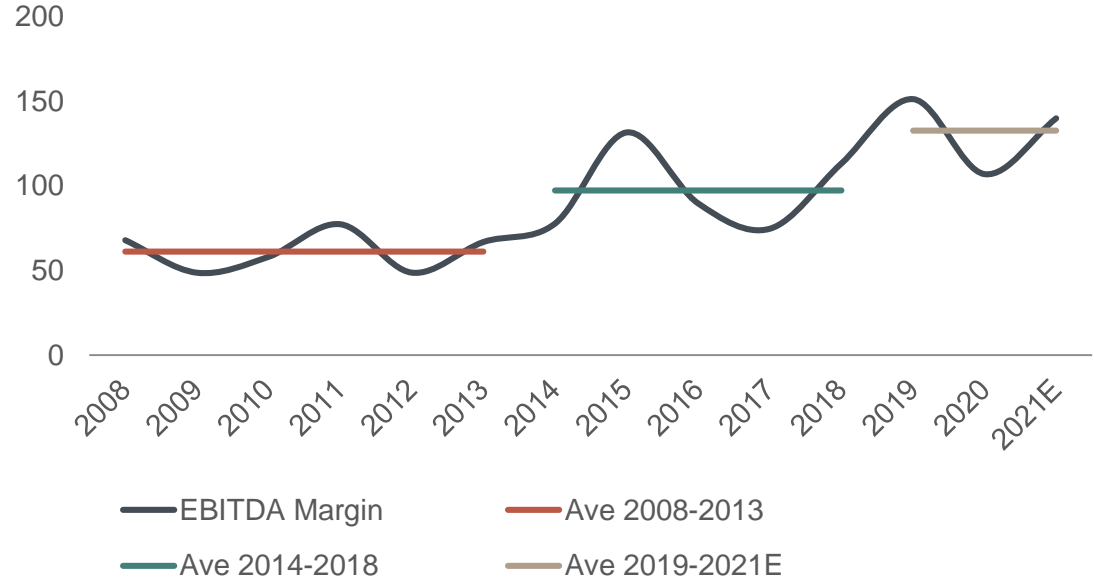


1) New RSI production capacity, will not increase smelter output as it replace primary ingot

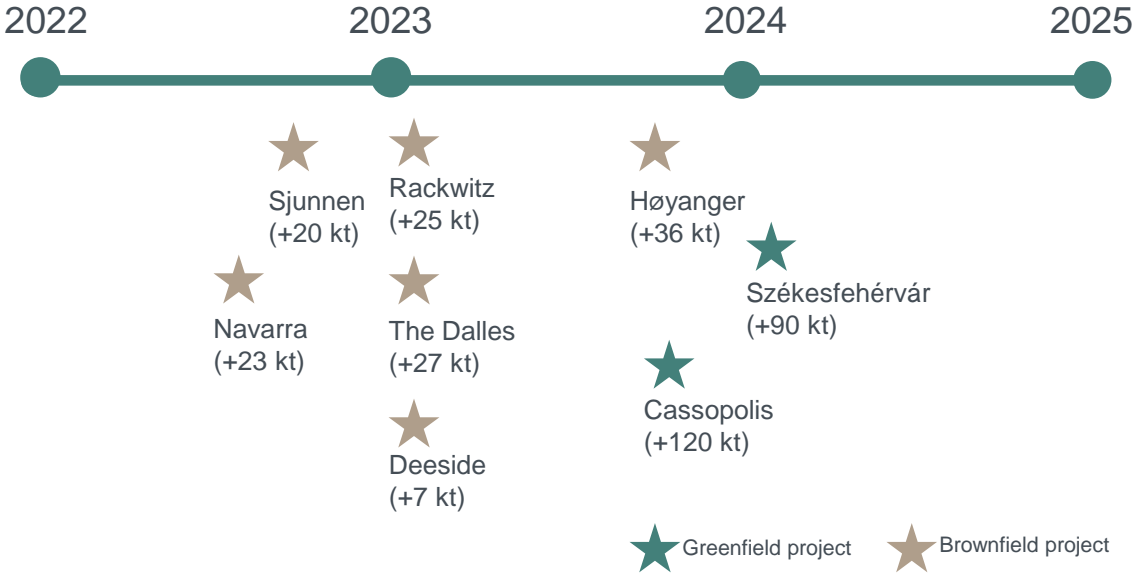
# Strong basis for profitable growth in Recycling



AM Recycling EBITDA margin  
USD/mt



Estimated first metal from announced projects



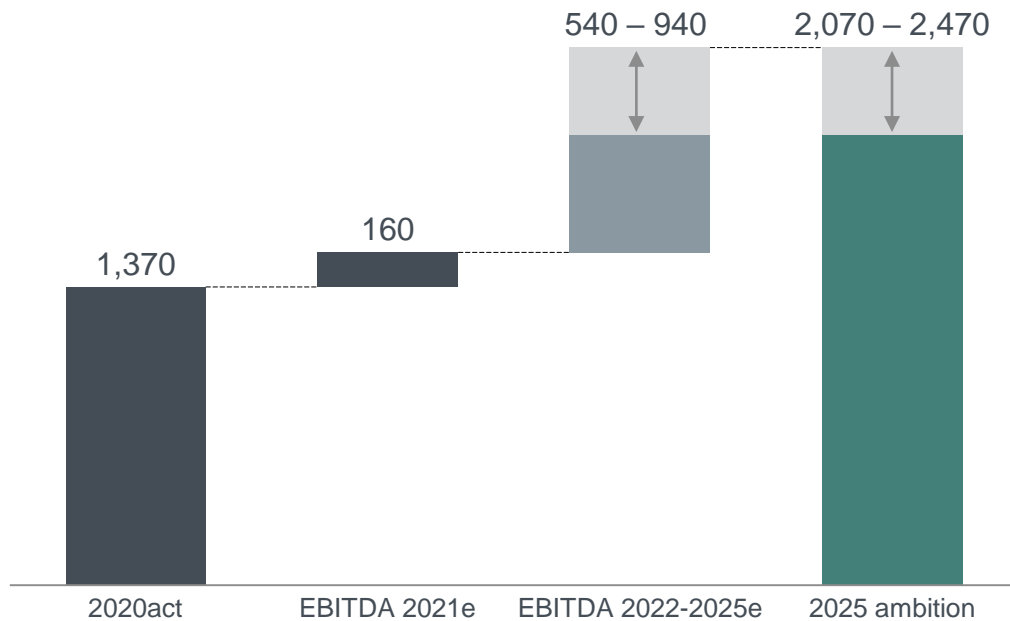
- AM Recycling improving margins by optimizing raw material input mix
- Historical AM Recycling RoaCE higher than Hydro average over the cycle

- Volume and EBITDA impact for announced projects coming already in 2022
- Solid returns expected

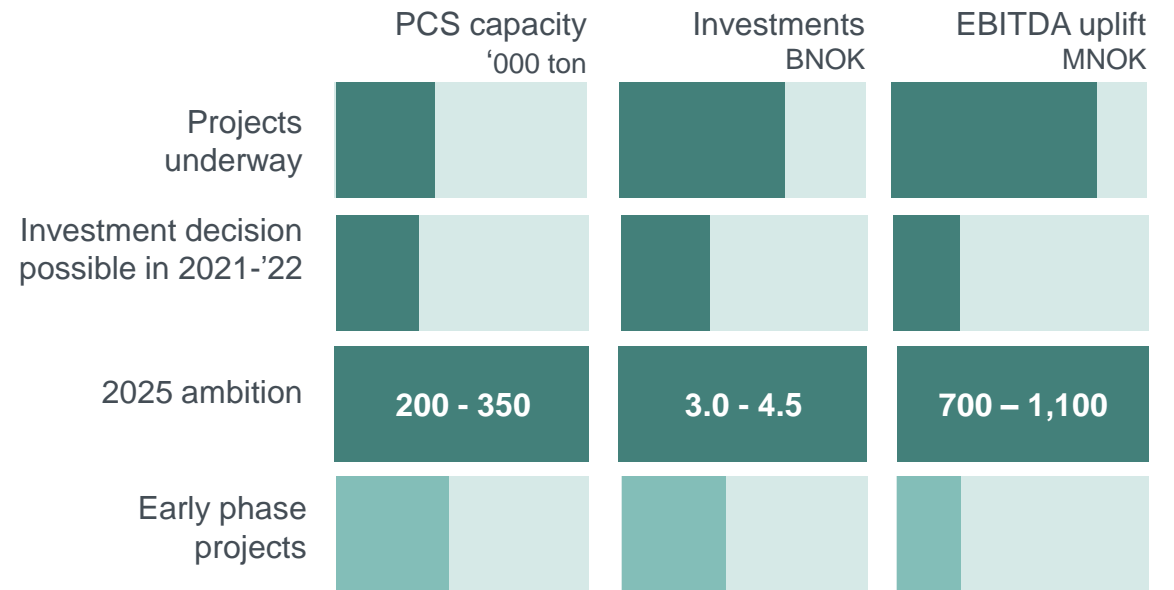
# 2021 est. EBITDA uplift of 160 MNOK, well underway to reach 2025 ambition



Recycling EBITDA<sup>1)</sup>  
NOK millions



Strong recycling project pipeline under execution



1) Aluminium Metal and Extrusions





# Hydro Energy

# Sustainability trends creating strategic opportunities



Containing global warming only possible through massive electrification and decarbonization of industries

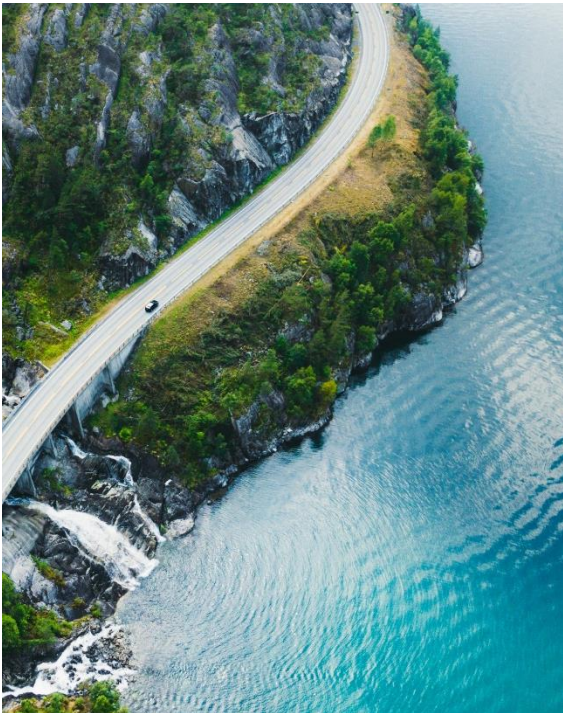
**COP 26 concluded with nation state pledges towards contain global warming**



**Will require massive amounts of affordable renewable clean energy**



**Confirms the need for sustainable and smart mobility**



**Urgent need for industrial solutions to reduce emissions from operations**

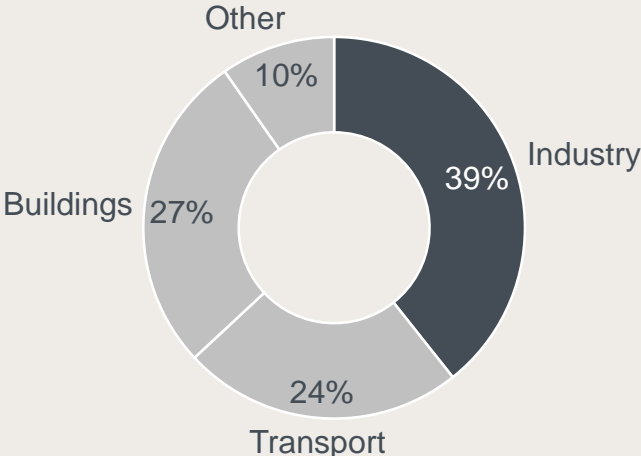


# Industrial sector will require new solutions



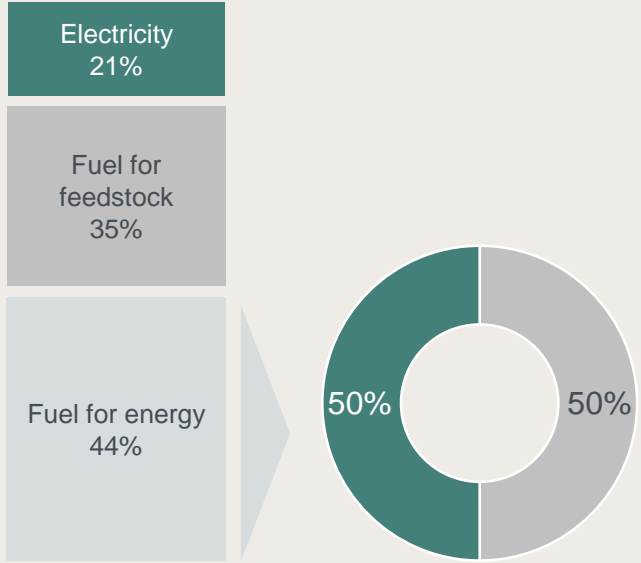
## Industrials represent ~40% of global emissions

Scope 1 and 2



## ~50% of fuel used for energy by industrials can be electrified using existing technology

Breakdown of global industrial energy consumption



## Eliminating industry carbon footprint requires a combination of solutions and technologies



Renewable energy



Industrial solutions to replace fossil fuel

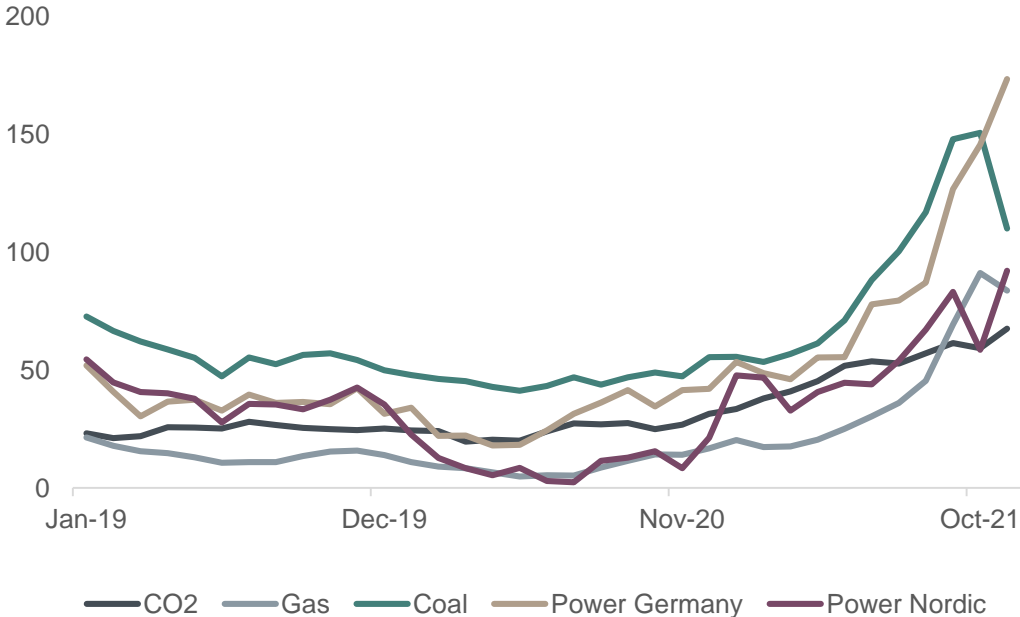


Energy storage and improved efficiency

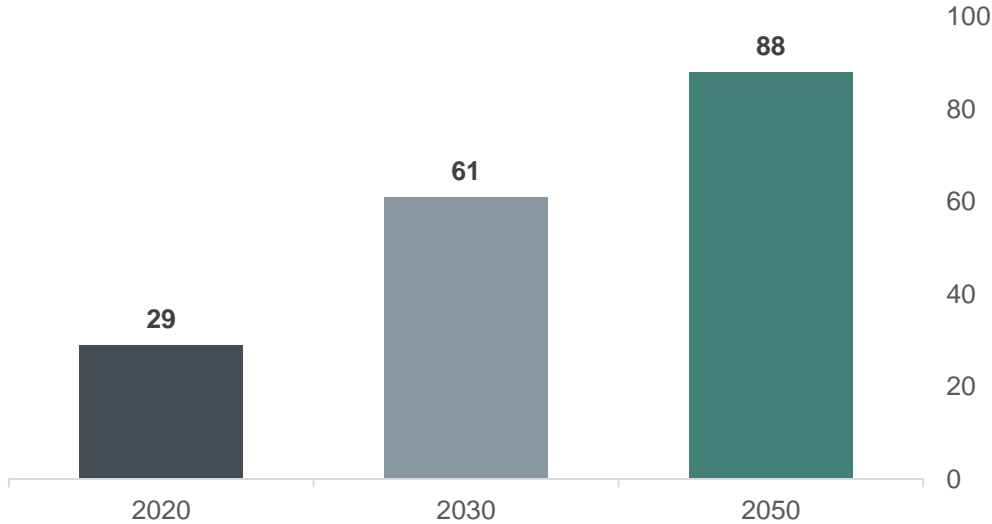
# Soaring energy prices underline the need to accelerate the energy transition



Electricity and energy price commodities price development since 2019  
 €/ton and €/MWh



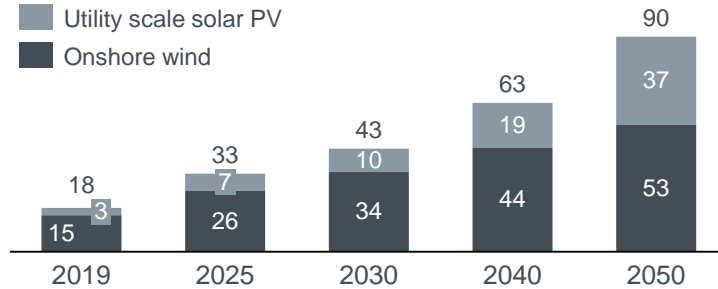
Net-zero in 2050 relies on decarbonizing energy generation  
 % share



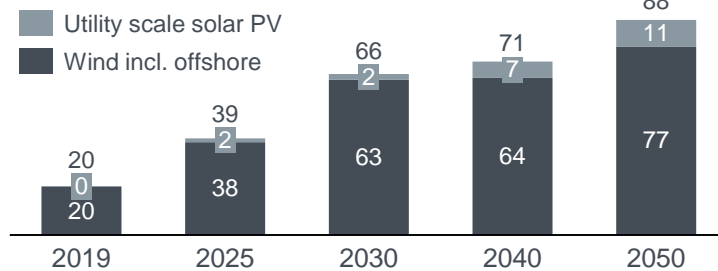
In IEA's pathway to net zero, almost 90% of global electricity generation in 2050 comes from renewable sources

# Strong demand for renewables and storage/energy carrier solutions

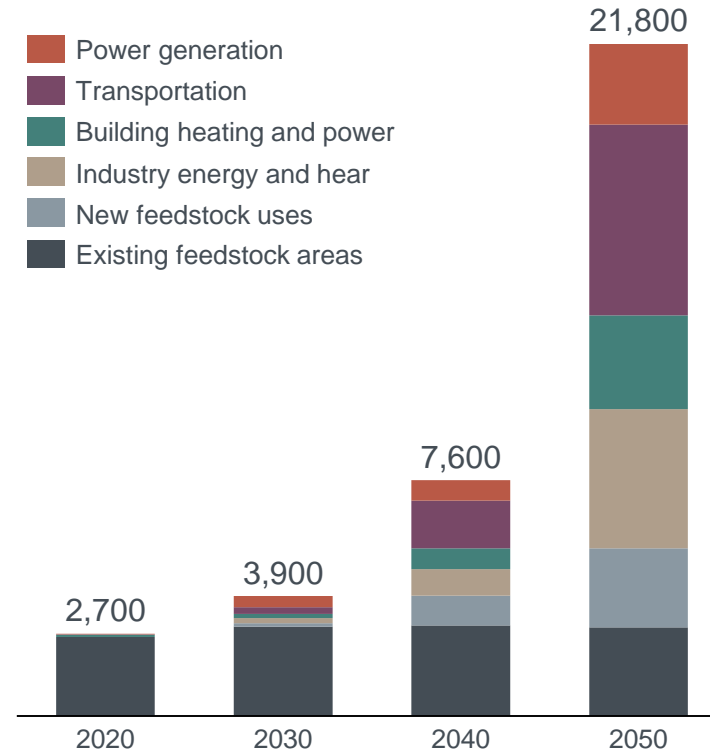
Brazil renewable capacity forecast  
GW



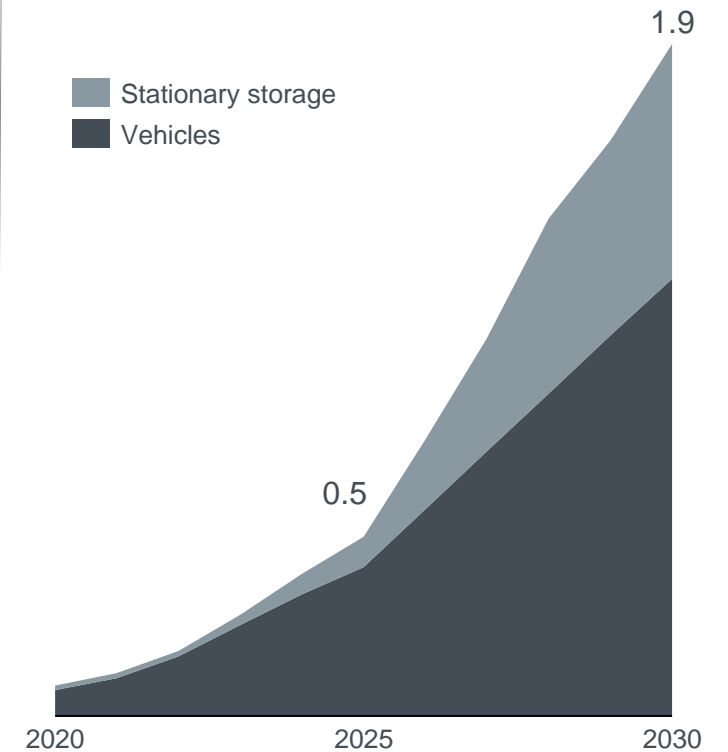
Northern Europe<sup>1)</sup> renewable capacity forecast  
GW



Global hydrogen demand  
TWh



European battery demand  
TWh



1) Northern Europe includes Norway, Denmark, Sweden, Finland, Estonia, Lithuania and Latvia  
Source: BloombergNEF, IRENA – Corporate sourcing of renewables: Market and Industry Trends, Statnett, Rystad Energy 1,6 scenario IPCC for batteries

# Hydro Energy aims to be the renewable energy leader enabling decarbonization of industry



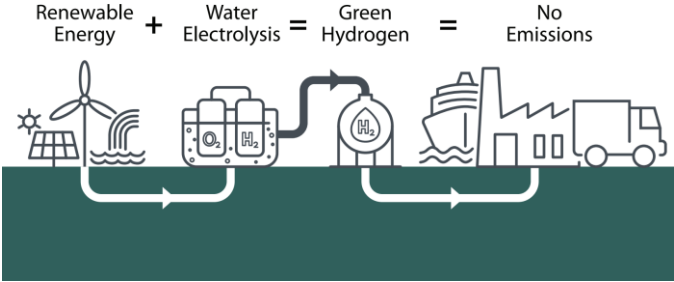
**1** With renewables, energy efficiency and electrification we can tackle 70% of global emissions

**2** Green hydrogen to address 30% from 'hard to abate' sectors

World-class energy competence center



Batteries



The renewable energy leader enabling the decarbonization and energy transition for industries

# Large execution capacity due to strong platform



Business area with supporting competence as foundation for speed and de-risking

## Energy Operations & Energy Markets



## REIN



## Batteries



## HAVRAND



## Projects



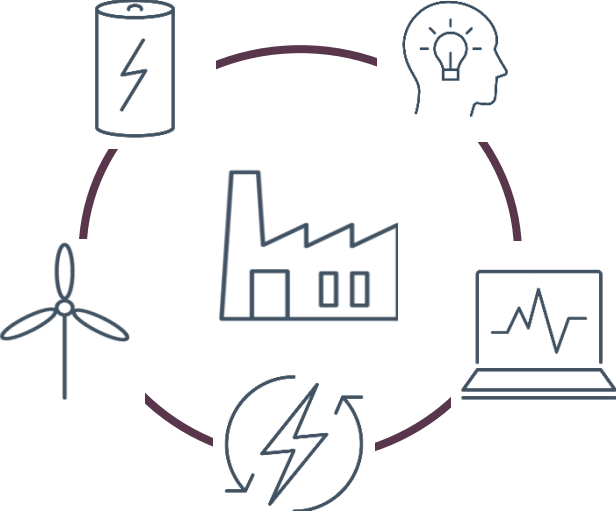
Operational scale, commercial competence

Strong industrial partners

Deliver on project pipeline in renewable energies and technologies  
Area specific competencies: technologies, business models, geographies

Project development and implementation

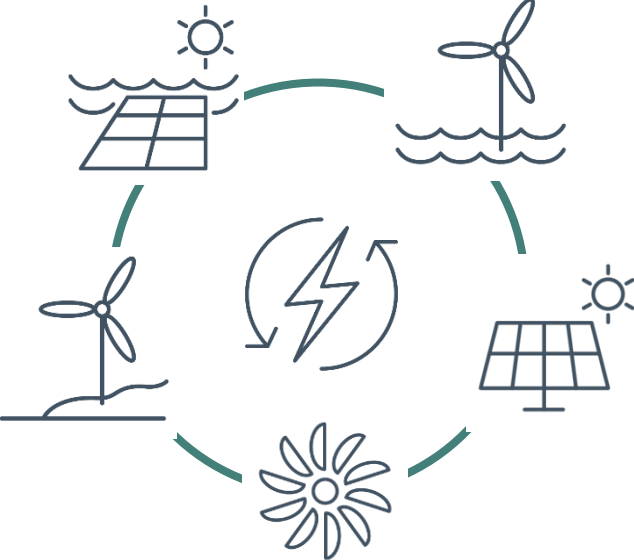
# Hydro REIN: the one-stop-shop energy partner for industrials



Help the industry succeed in the energy transition



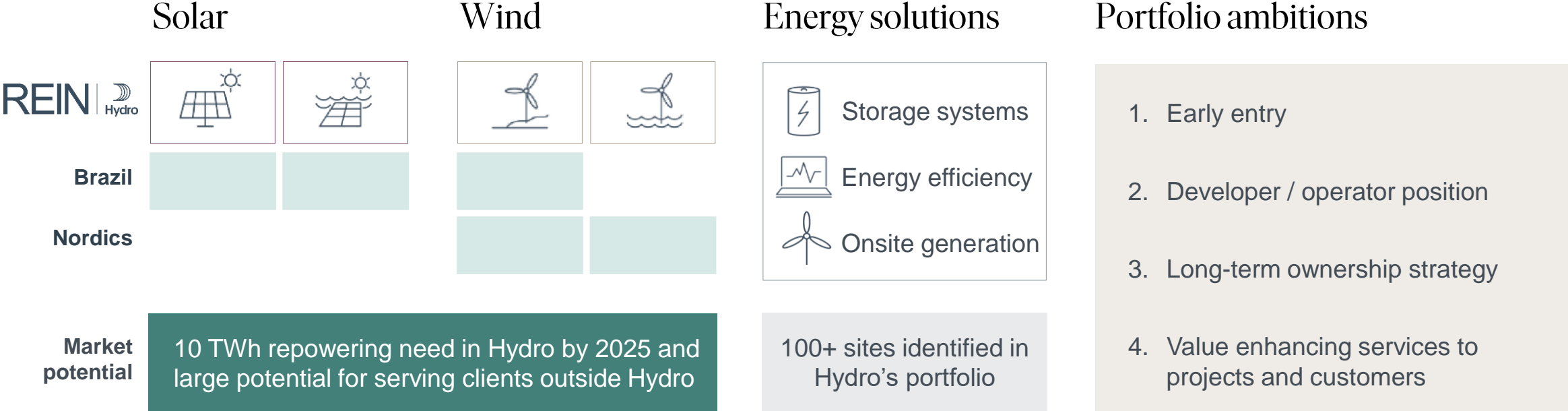
Utilize Hydro's position and extensive experience in power systems



Source power from captive portfolio of renewable assets



# Building a substantial portfolio of renewables assets and services in attractive growth markets



# Executing on portfolio strategy: Maturing several large-scale projects in the Nordics and Brazil

## Green sourcing

### Stor-Skälsjön, Sweden



260MW ready-to-be-built wind power plant in Sweden (SE2) to be developed together with Eolus

Operations expected to start during second half of 2023

Covered by a long-term PPA with Hydro Energy

### Brazil



Maturing several large-scale attractive opportunities in Brazil, both within solar and wind power

Projects in late-stage development, getting close to completing signing

### Sørlige Nordsjø II



Joint application with Equinor and RWE for the upcoming licensing round in the North Sea

Large-scale bottom-fixed offshore wind farm

## Energy solutions

### North York, Canada



First battery project to be installed in Hydro Extrusions plant in North York, Canada

Battery energy storage system (BESS) owned and operated by Hydro REIN

Set up to perform peak shaving during constrained periods in the grid

# Hydro Havrand – creating a global green hydrogen leader



A green hydrogen producer and industrial integrator

Owned by Hydro, a global energy & aluminium player company



Hydrogen's future is fossil-free: we do **green-only**



Hydro potential offtake gives platform for growth

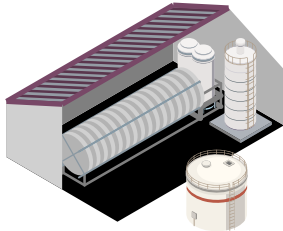
4 GW  
potential offtake<sup>1)</sup>

80+  
potential locations



Global reach

Fully integrated – owner, developer and operator



- Maturing projects in Norway and Europe
- 2025: First mover portfolio realised
- 2030: Global footprint

Delivering across industries supported by partnerships



1) Potential long-term offtake includes Speira, previously Hydro Rolling

# Key enablers for a shift to green hydrogen



We need an ambition loop between industry and governments



Hydrogen demand

Industrial fuel switch capabilities

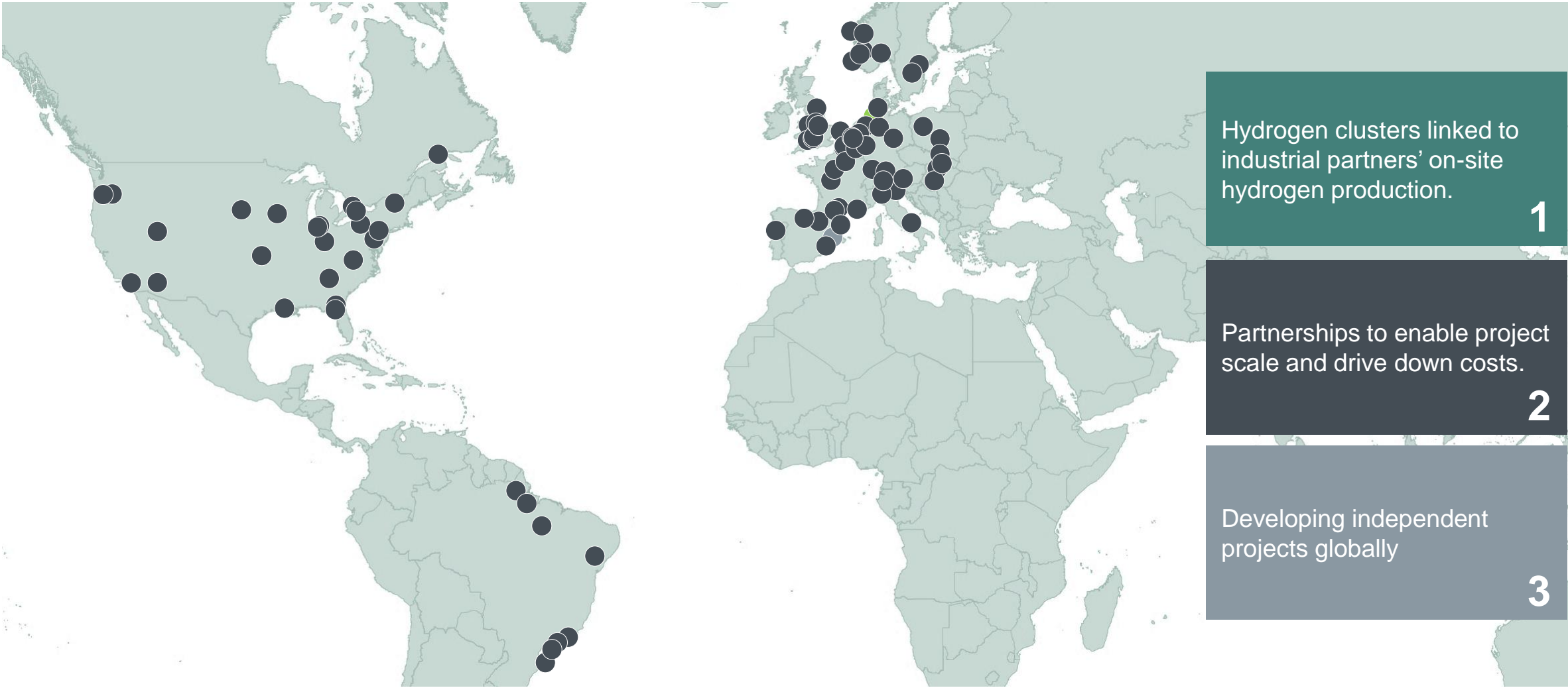
Renewable energy development

Incentives bridging the cost gap

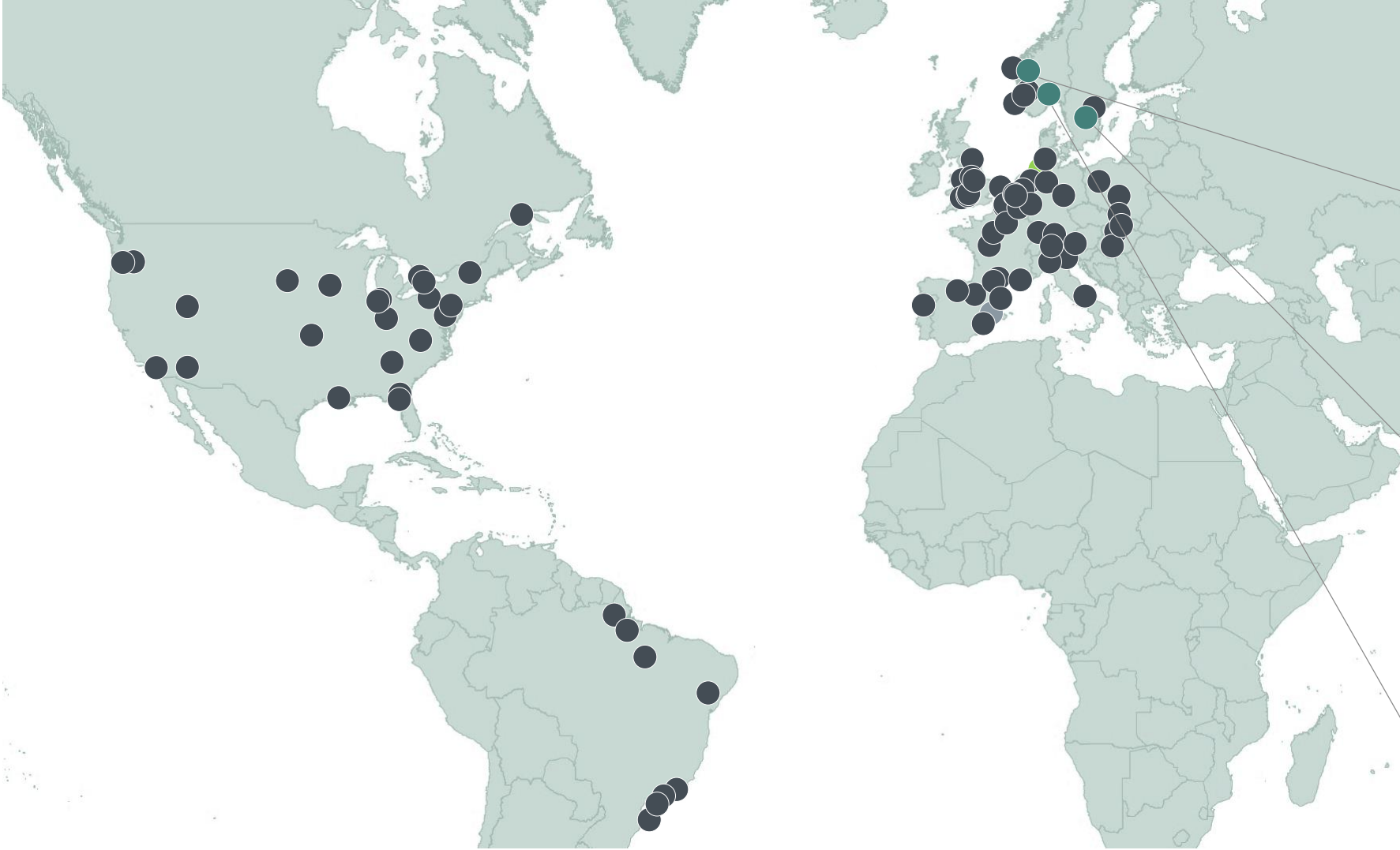
A large potential for decarbonization and economic development

Images (1) Hydro Karmøy plant (2) casting at a Hydro site (3) Hydro operated Tonstad wind farm (4) The German National Hydrogen Strategy

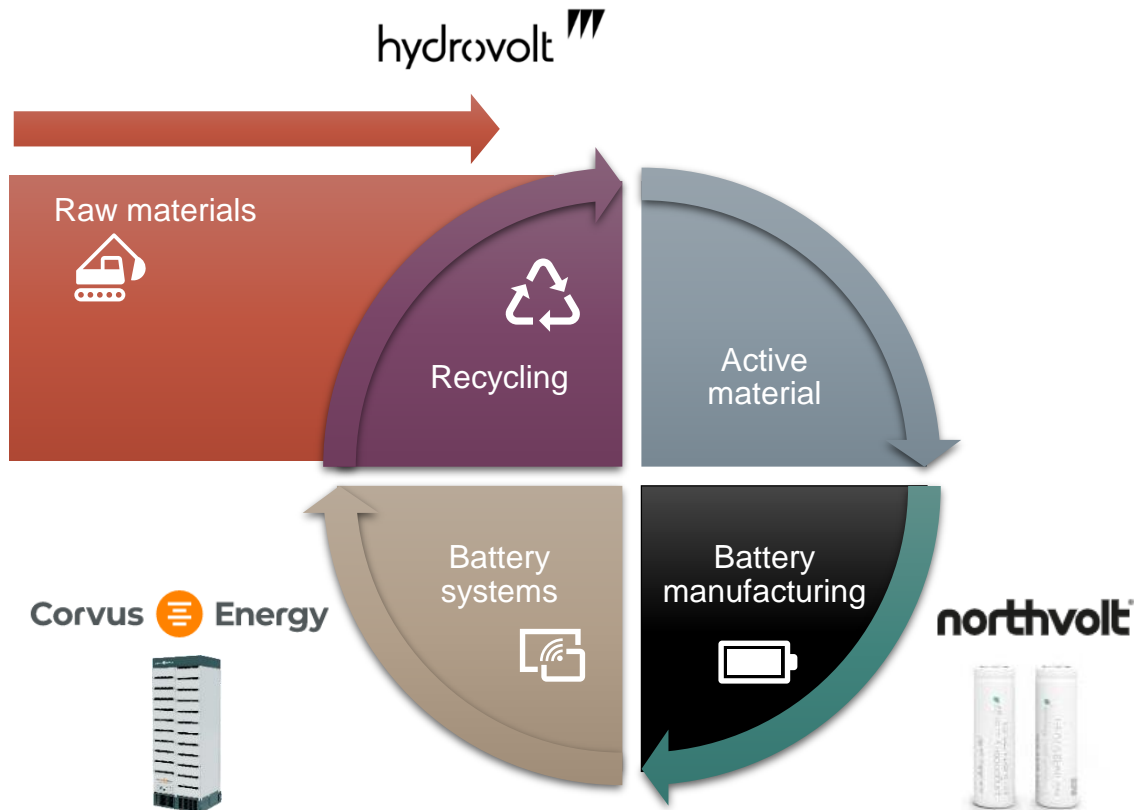
# A clear and scalable approach



# Hydrogen fuel switch projects



# Building a sustainable and substantial battery business



## Expanding battery footprint through partnerships

Strong project pipeline in selected parts of the battery value chain

- Recycling and second life
- Cell and pack solutions
- Anode material and technology
- Selected next generation technologies

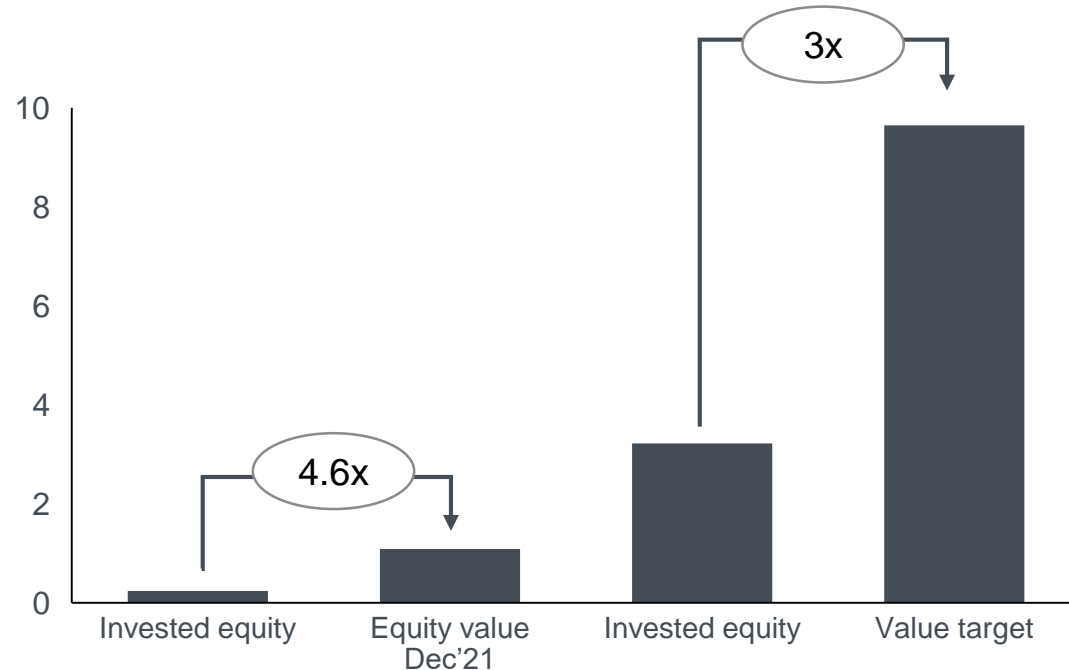
## How we create value

- Leading sustainability competence
- Active industrial developer and owner – use Hydro core capabilities to industrialize innovation
- Growth and scaling potential required, also strong team and owners with distinct contributions
- Early entry for impact and value creation
- Investing with strong, complementary partners

# Strong track record and excellent pipeline

Targeting 3x value uplift on invested equity

Invested equity value - Batteries  
NOK billions



- Achieved value uplift **4.6x** of invested equity based on valuation in transactions to date
- Value uplift from revaluation of Northvolt and Corvus Energy
- Exploring further opportunities in selected parts of the battery value chain
- Aim to invest NOK 2.5 – 3.0 billion until 2025
- Target of 3x value uplift on invested equity
- Portfolio capital uplift likely to dip below target in first years after new investments are made

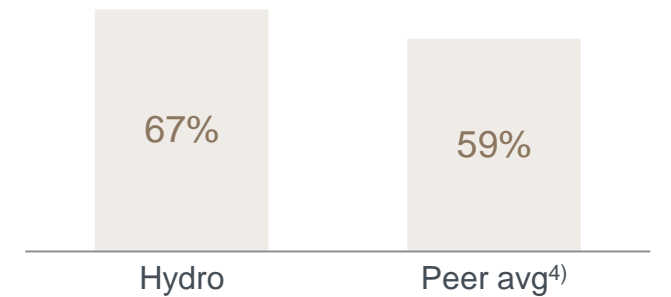
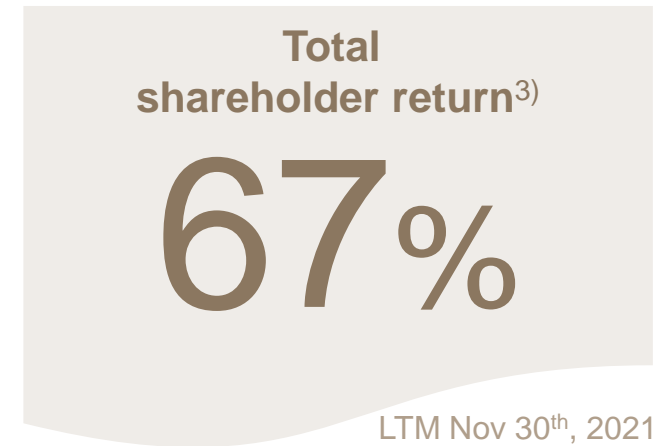
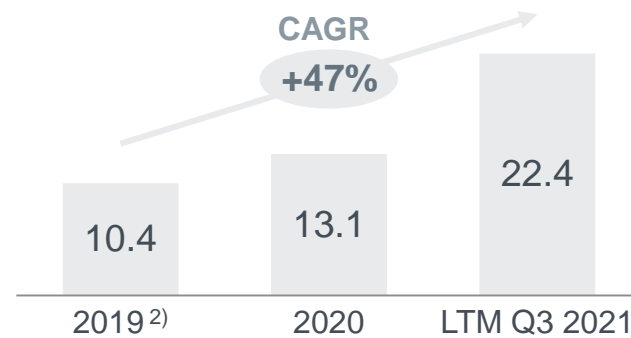
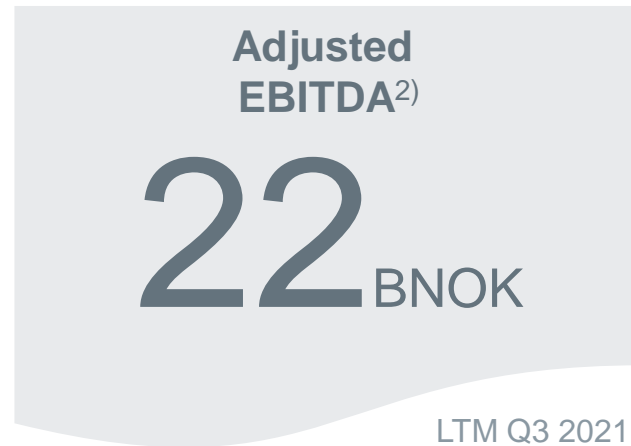
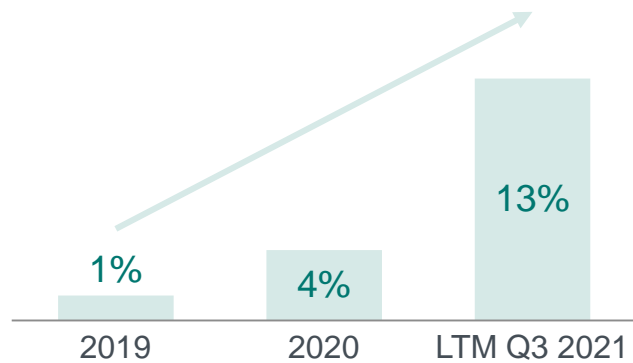
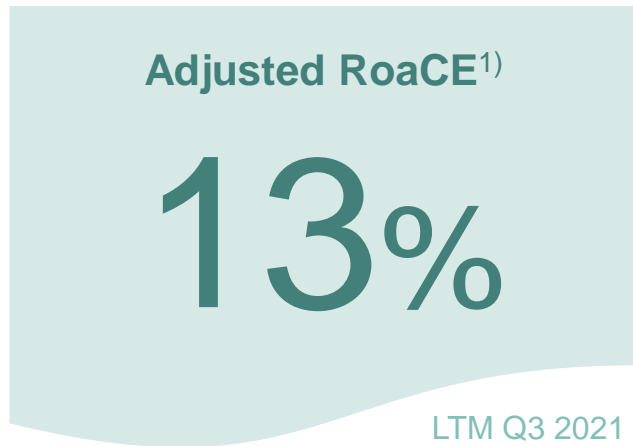




# Lifting cash flow, delivering higher returns

Pål Kildemo  
EVP and CFO

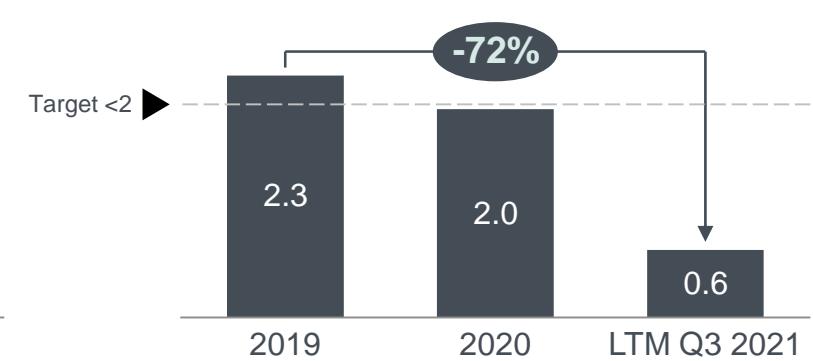
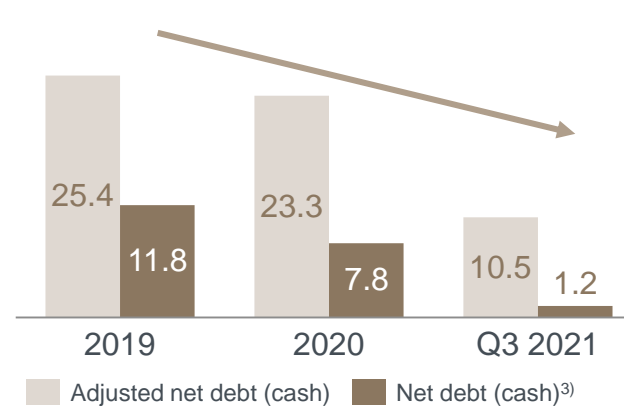
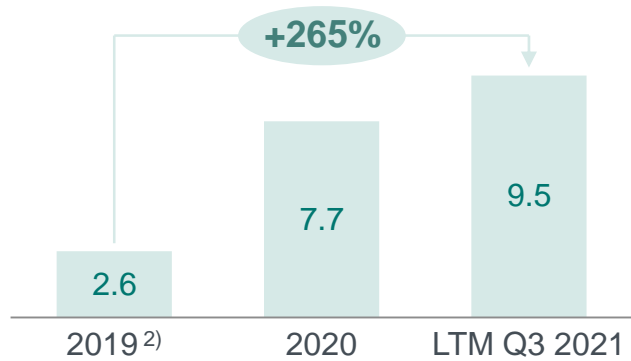
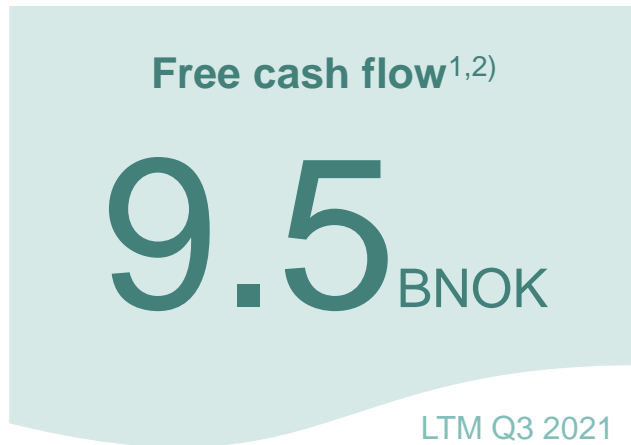
# Strong financials in a record year



1) RoaCE figures as reported, where rolling is excluded in 2021. LTM Q3 2021 includes rolling in Q4 2020, while Q1-Q3 2021 excludes rolling.  
 2) Adjusted EBITDA figures as reported and excludes Rolling, except for 2019 which is estimated to exclude Rolling  
 3) TSR calculation (Share price Nov 30 2020 – Share price 30 Nov 2021 + Dividends paid in 2021)/Share price Nov 30 2020  
 4) Peers (in random order) include Alcoa, Rusal, Rio Tinto, Constellium and Chalco

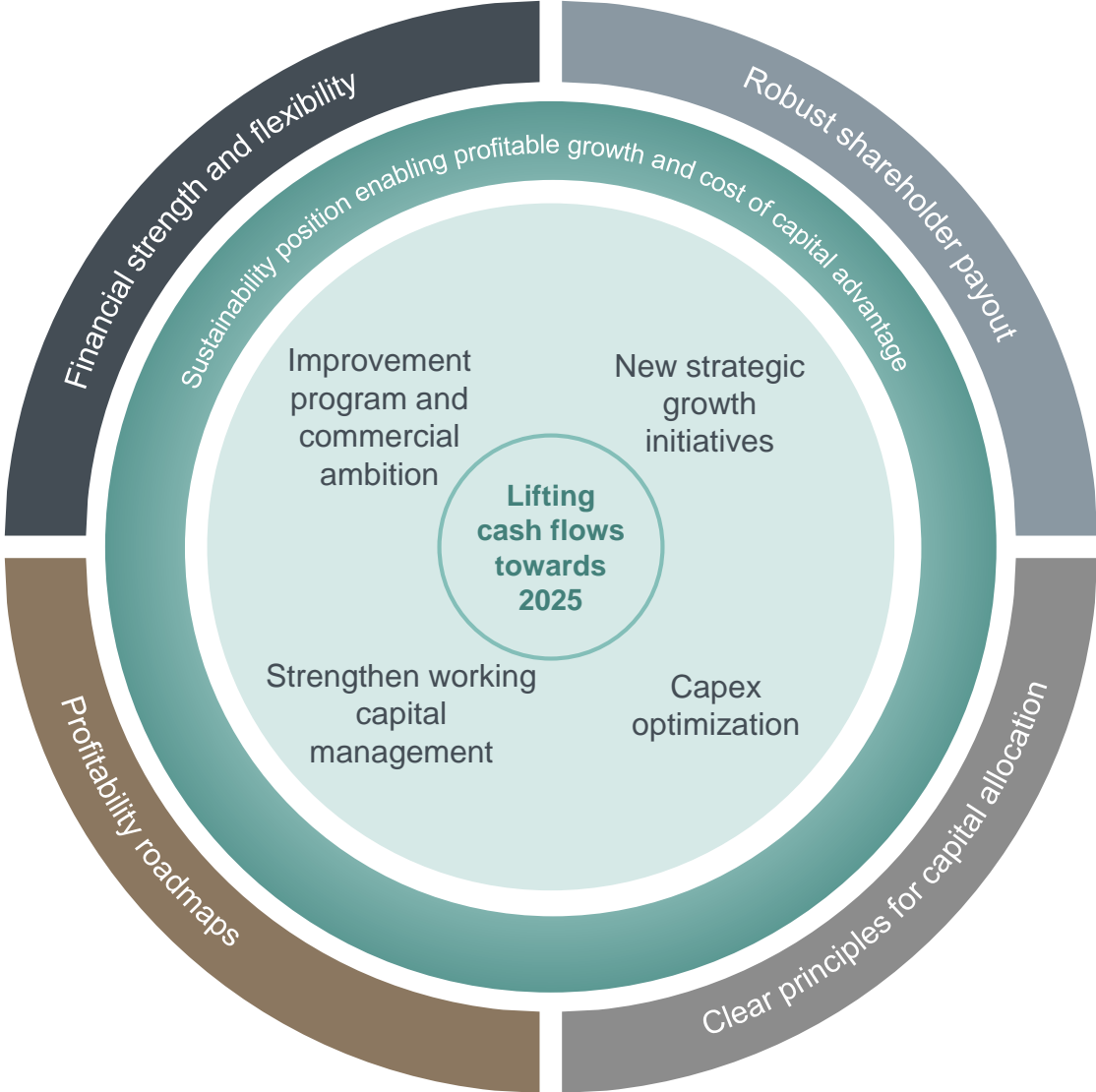
# Backed by robust balance sheet

Hydro is well positioned to keep delivering going forward



1) Free cash flow defined as net cash provided by operating activities plus net cash used in investing activities less purchases of short term investments, less proceeds from sales of short-term investments  
 2) Figures are as reported and excludes Rolling, except for 2019 which is estimated to exclude Rolling  
 3) Net debt figures are as reported. Net debt changed definition from and including 2020. 2019 as reported with old definition.  
 4) Adjusted EBITDA from 2019-2020 includes Rolling (as reported), no rolling in 2021

# Solid framework for lifting returns and cash flow



# Hydro is recognized as an industry leader

## Continuing efforts to further improve reporting and increase transparency

- Transparent and consistent reporting approach for more than three decades
- Sustainability is fully integrated in Hydro's strategy
- Continue to seek improvements to be even more transparent

Member of  
**Dow Jones  
Sustainability Indices**

Powered by the S&P Global CSA

**65%**  
Europe Index inclusion  
DJSI inclusion since  
1999



**71/100**  
#1 rank in sector (1/43)  
#15 rank in universe (15/4963)



**AA rating**  
Industry leader  
Among top 10% performers

**BloombergNEF**

**Top mining company**  
Climate Transition Ranking  
for Extractive Industries

**ecovadis**

**68/100**  
96<sup>th</sup> percentile



**20.6 (Medium risk)**  
#3 in sector (3/161)  
Limit for low risk is 20

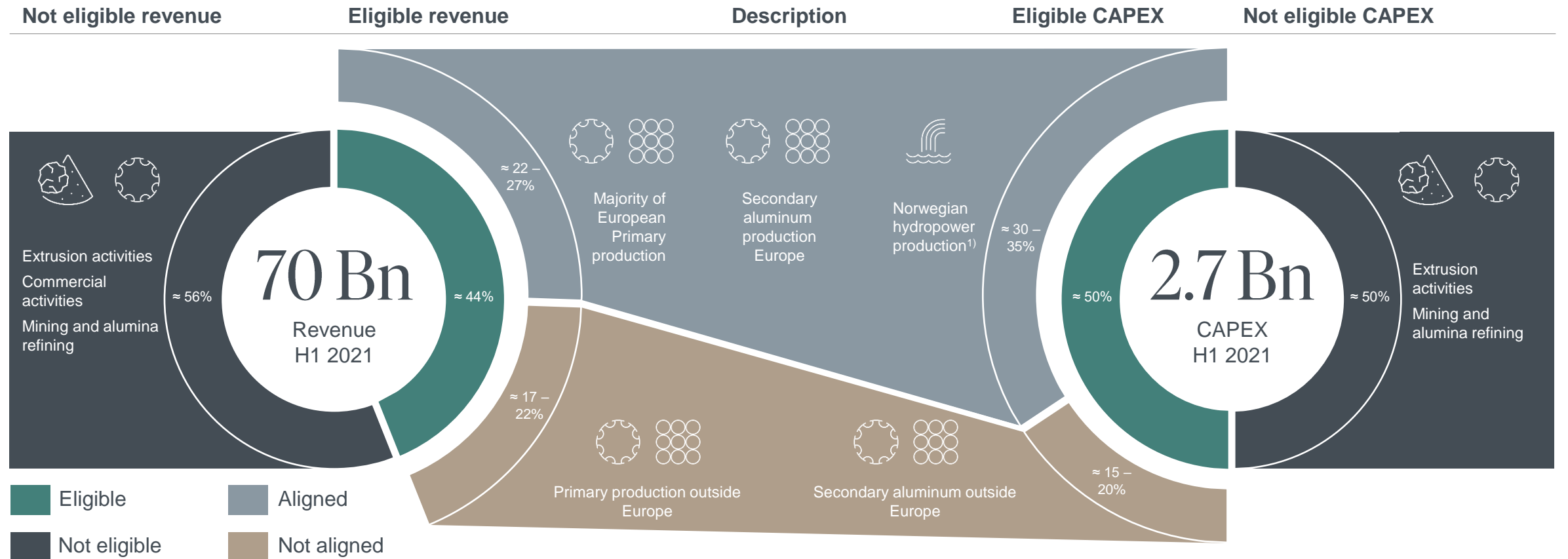


**A+**  
Top out of 100 Norwegian  
listed firms

# Hydro expects strong taxonomy position among peers



Aligned share estimated to be 22 – 27% of revenue and 30 – 35% of CAPEX



1) Uncertainties remain regarding share of hydropower that is aligned

# ~40% of capex expected to align with the EU taxonomy

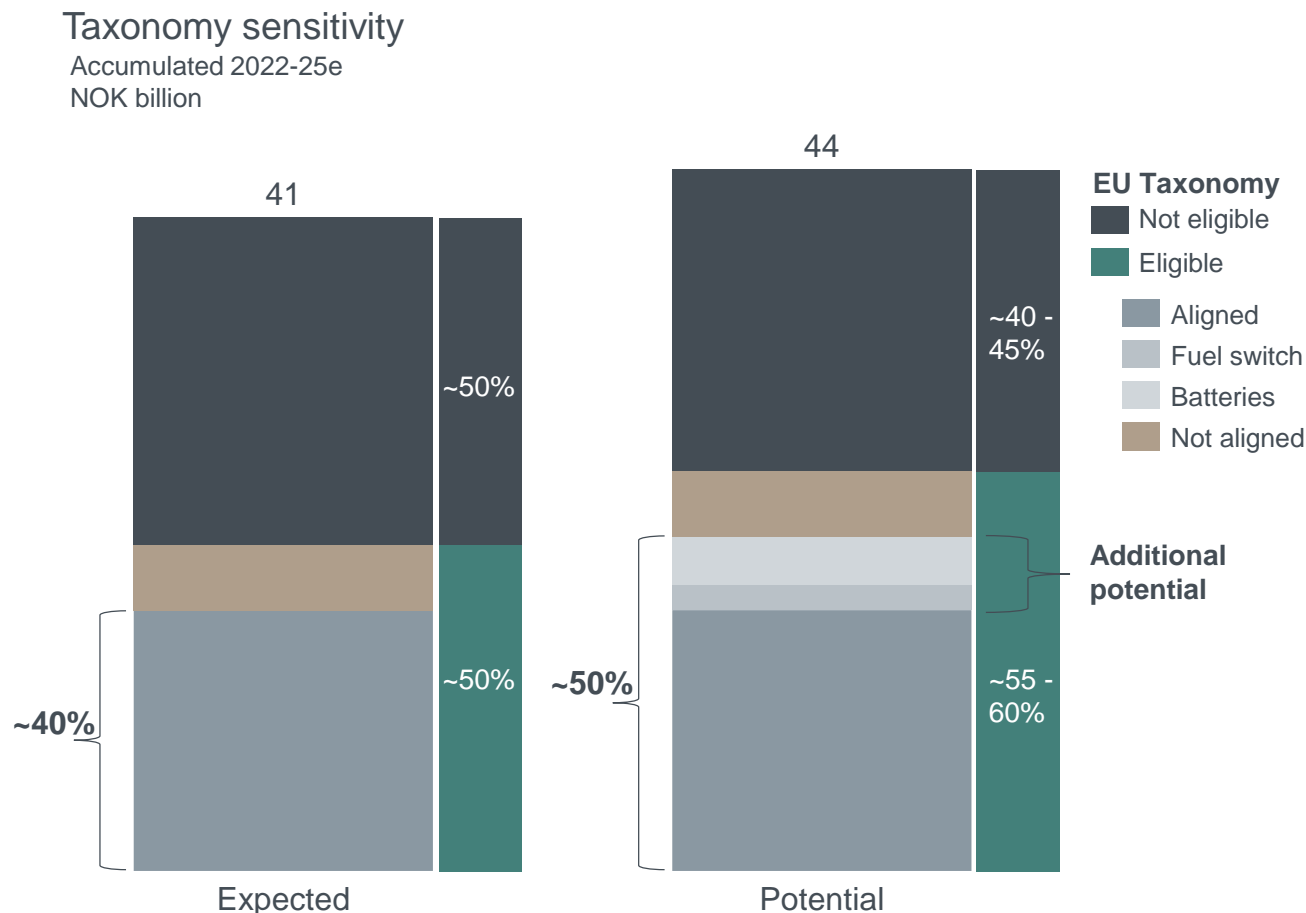
An additional ten percentage points may align with the EU Taxonomy

## The EU Taxonomy aims to incentivise

- Switching to low carbon electricity
- Reducing production emissions

## 2022-25 CAPEX

- Expected to align
  - Smelter investments, excluding anode plants
  - CO<sub>2</sub> technology investments
  - Recycling adhering to EU emissions standards
  - Hydropower in Norway<sup>1)</sup>
- Investments not reflected in the taxonomy
  - Activities not defined: Alunorte fuel switch
  - Capex definition differences<sup>2)</sup>: Investments into minority-owned assets
- REIN and Havrand are not included in this assessment



1) Uncertainties remain regarding share of hydropower that is aligned

2) EU taxonomy definition does not include capital injections to equity accounted investments

# Continuing to develop our sustainable financing framework

Access to favorable financing and positive impact on the cost of capital

## Current positions

- Sustainability linked Revolving Credit Facility (2019-2026)
- Green Loan water treatment facility at Alunorte (2019)
- Sustainability linked club loan for financing the Fuel Switch at Alunorte (ongoing)
- Green bank deposits
- Public funding

## Potential new transactions

- Green/sustainable loans
- Green/sustainable bonds
- New banking products
- Public funding

## A comprehensive sustainable financing framework

- ✓ Access to capital
- ✓ Cost of capital advantage
- ✓ Transparent reporting
- ✓ Clear link to Hydro's sustainability strategy



# Capital allocated according to strategic modes

Strategic modes reflect global megatrends and high-return opportunities

## Safe, compliant and efficient operations – The Hydro Way

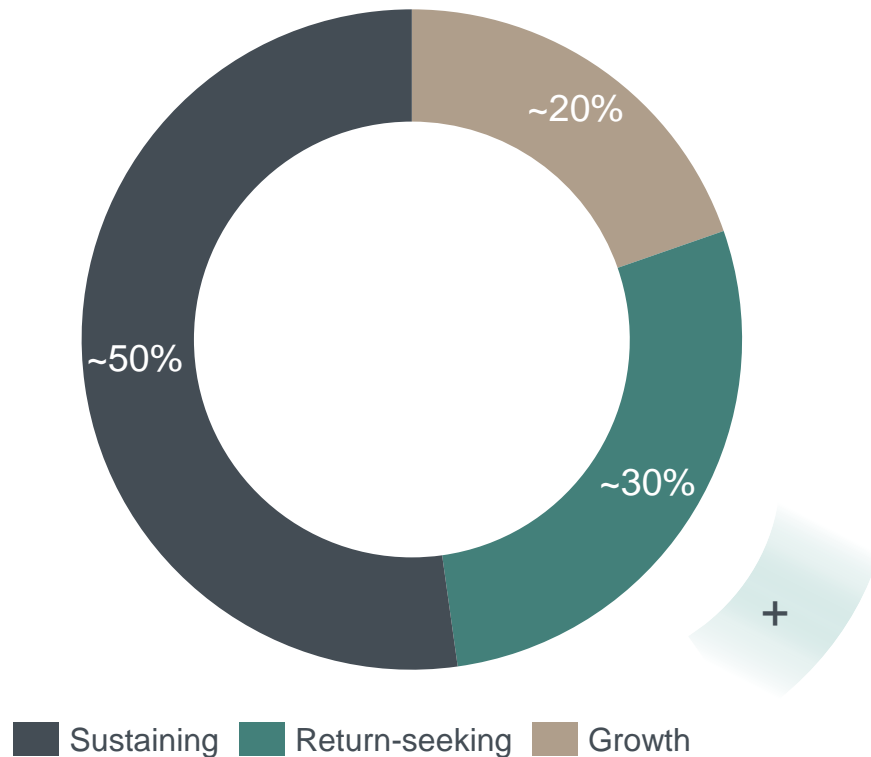


Businesses	 <b>Bauxite &amp; Alumina</b>	 <b>Aluminium Metal</b>	 <b>Recycling</b>	 <b>Energy</b>	 <b>Extrusions</b>
Strategic mode	Sustain and improve	Sustain and improve	Selective growth	Selective growth	Selective growth
Towards 2025	Reduce risk, improve sustainability footprint, improve on cost position	Robust and greener, increase product flexibility, improve cost position	Substantial shift in conversion of post-consumer scrap	Grow in renewables, hydrogen and batteries	Platform strategy executed, selective growth

# Investments based on strategic priorities

~50% of capex 2022-25 is related to return seeking and growth capex

2022-25e CAPEX outlook  
NOK billion



## Growth & Return-seeking

- Capacity investments in Extrusions with new presses in USA, Europe and China
- Recycling investments including greenfield investments in Michigan (USA) and Hungary, capacity increases in Sweden, Spain and Germany
- Investments in batteries
- Alunorte Fuel Switch project
- CO2 reduction technology in AM

## Sustaining investments

- Opening of the new M5 mine in Paragominas
- Maintenance of the bauxite pipeline between Paragominas and Alunorte
- Operational robustness investments at Alunorte (incl. water management)
- Lifetime extension of the SU3 line at Sunndal

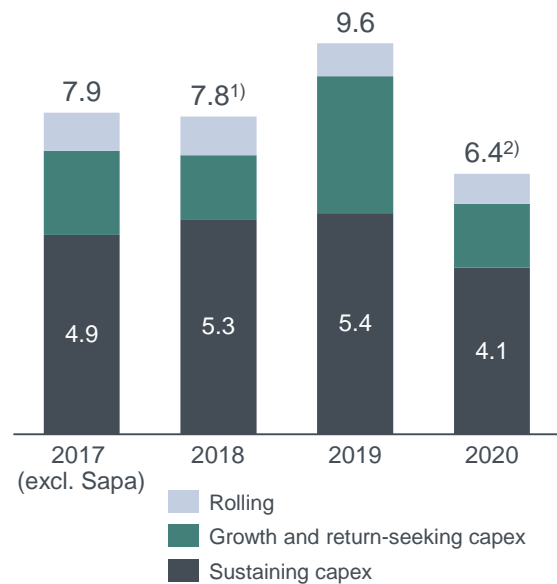
## REIN & Havrand

- Not included in CAPEX guidance
- Limited Hydro cash spend; investments based on external equity injection in respective companies
- Debt financing using special purpose vehicles (SPVs)

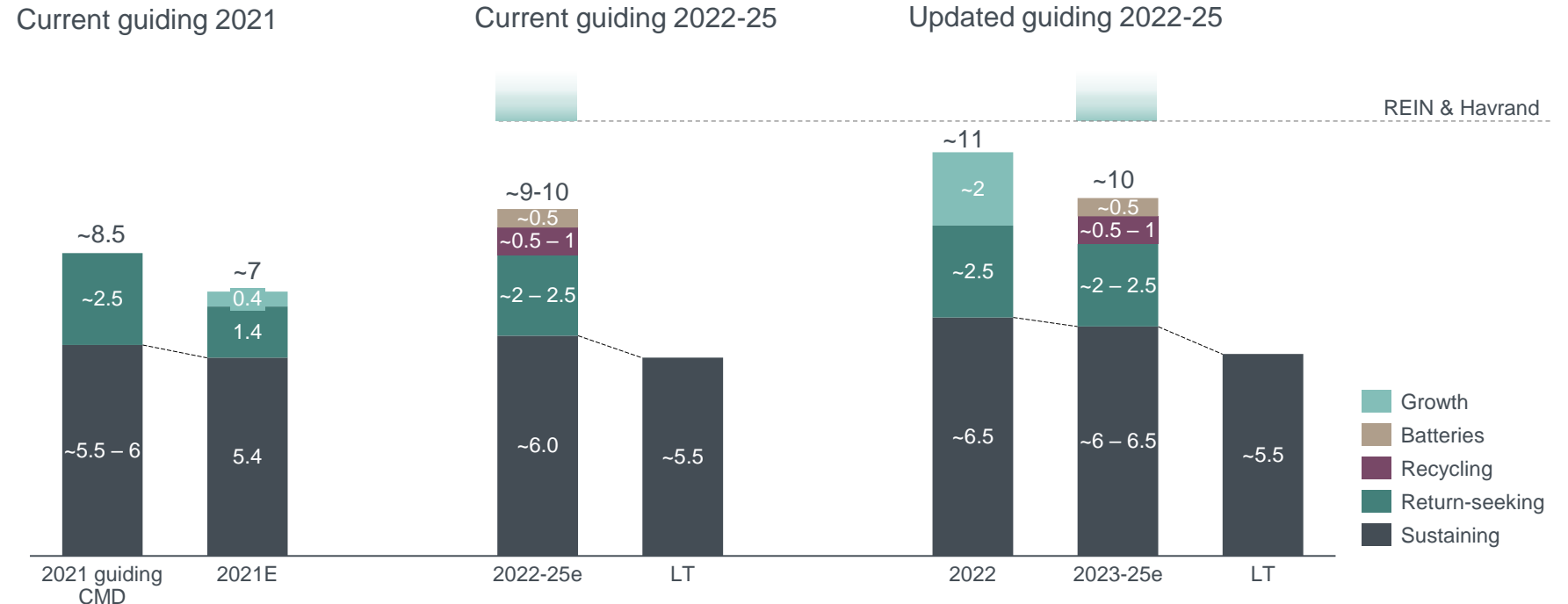
# Annual capex guidance of BNOK ~10 for 2023-2025

Inorganic growth in line with strategic modes could come in addition

Historical capex  
NOK Billion



Capex 2021E and guidance  
NOK Billion



Capex including Extrusions

Growth and return-seeking capex guidance 2022-25 avg only includes capex necessary for delivering on targeted improvement ambitions and commercial initiatives

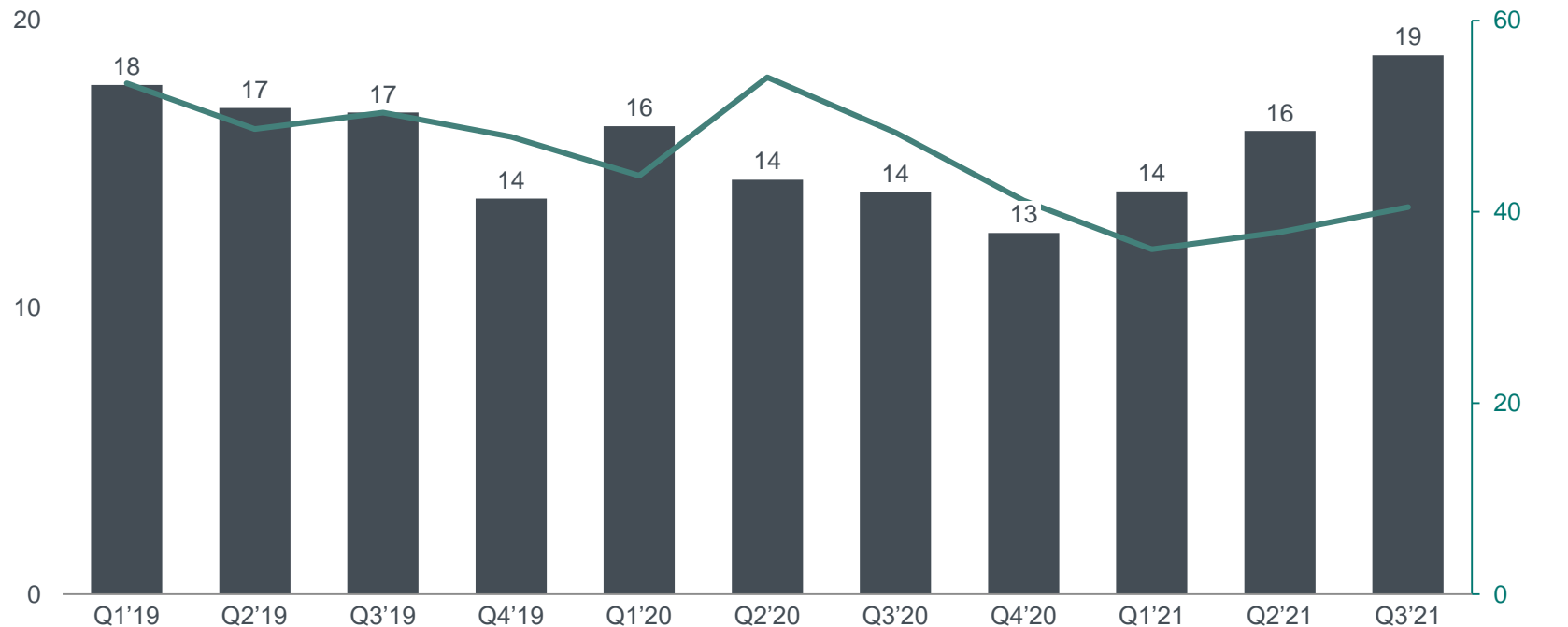
1) Excluding the Pis/Cofins adjustments in Brazil in 2018. Including the adjustment, 2018 capex amounted to BNOK 7.0

2) Excluding NOK (0.1) billion from, e.g., changes in prepayments/payables for capex. Cash effective capex based on the cash flow statement amounts to NOK 6.5 billion (adjusted for changes in short-term investments)

# Optimizing net operating capital in tight markets

## Balancing capital release and supply chain robustness

Net operating capital book value – quarter end<sup>2)</sup>  
NOK Billions



Focus on balancing capital release and supply chain robustness

NOC-days significantly down in 2021, driven by strong customer demand and stretched supply chain

- Very low inventory levels beginning of year due to tight metal balance in Europe
- Absolute NOC level primarily driven by increasing aluminium prices

Build in NOC to slow down in 2022

- Some increase expected from normalizing supply chain
- High exposure to prices and exchange rates

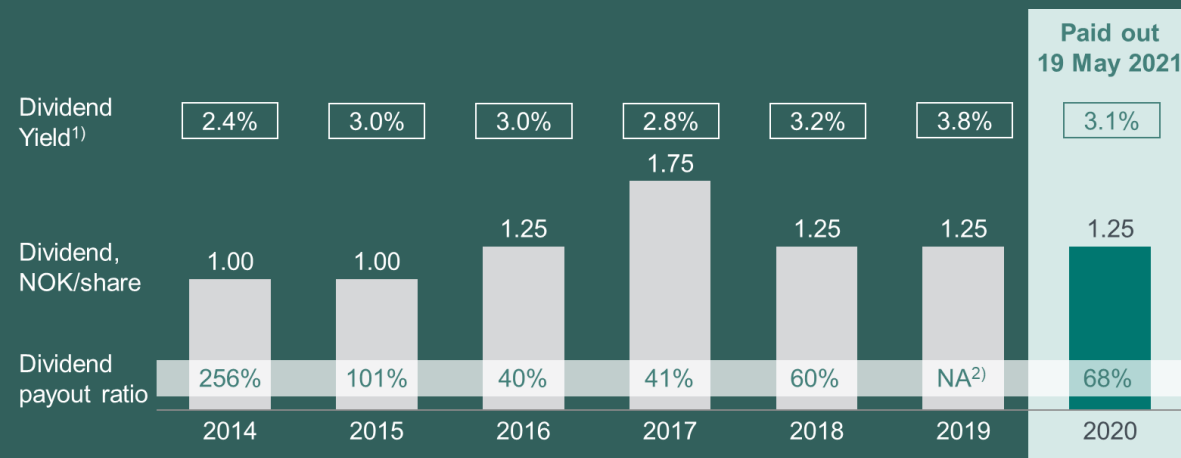
1) NOC-days calculated as: (average of opening balance and closing balance NOC book value for the quarter / adjusted revenue during the quarter) \* number of days in quarter

2) Net operating capital days and net operating capital are estimates excluding Rolling in 2019-2020

# Hydro to increase shareholder payout

- Strong financials in 2021 and robust balance sheet allows higher shareholder distribution
- Hydro aims to pay out 70-80% of adjusted net income for 2021
  - As a combination of ordinary dividends and either extraordinary dividends, or a combination of extraordinary dividends and share buybacks
- Final proposal for distribution at Q4 reporting in February
  - Includes whether to distribute distribution on top of ordinary dividend as extraordinary dividends or a combination of extraordinary dividends and share buybacks
  - Proposal conditional upon Annual General Meeting approval

1) Based on share price at year end 2) Negative net income



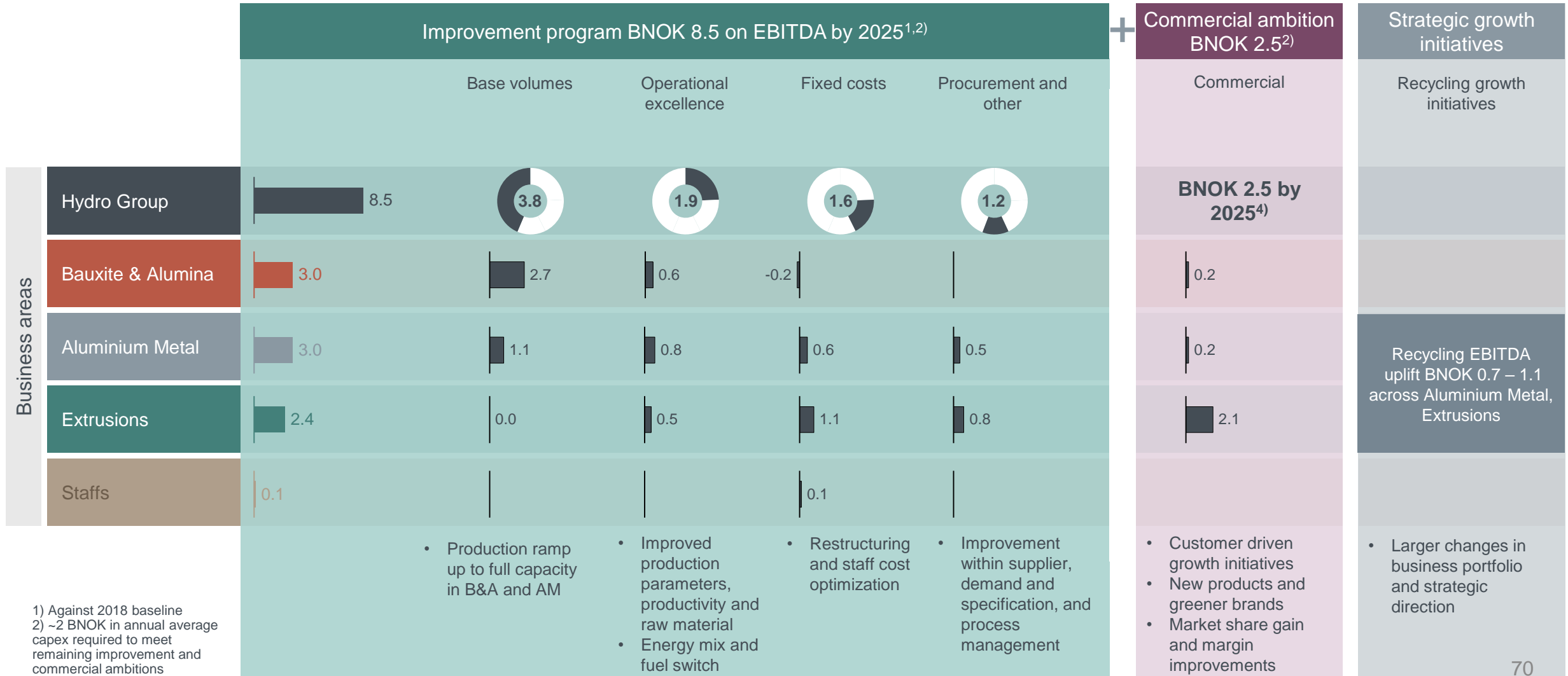
## Hydro's Dividend Policy

- Pay out minimum 50 percent of adjusted net income as ordinary dividend over the cycle
- The dividend policy has a floor of NOK 1.25 per share
- Share buybacks or extraordinary dividends will supplement dividends during periods of strong financials, due consideration being given to the commodity cycle and capital requirements for future growth
- The payout should reflect Hydro's aim to give its shareholders competitive returns, benchmarked against alternative investments in comparable companies

# Raising the improvement ambitions toward 2025



Cost improvements, commercial ambitions, and strategic growth initiatives



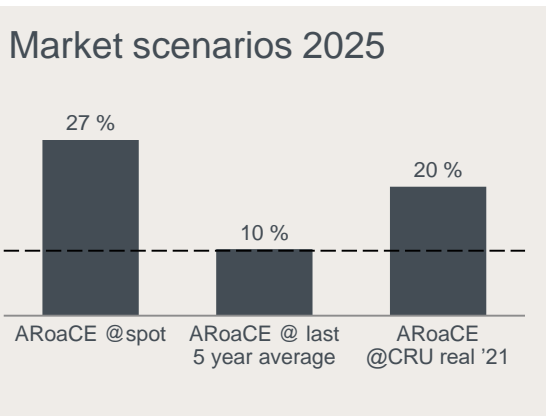
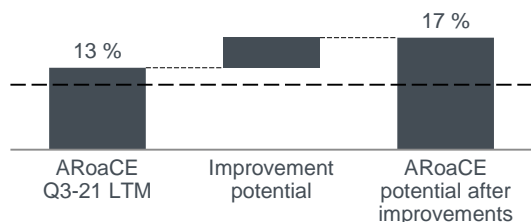
1) Against 2018 baseline  
 2) ~2 BNOK in annual average capex required to meet remaining improvement and commercial ambitions

# Hydro profitability roadmap

Main drivers – improvement measures and market developments

## ARoaCE potential

>10% target



## Main further upside drivers

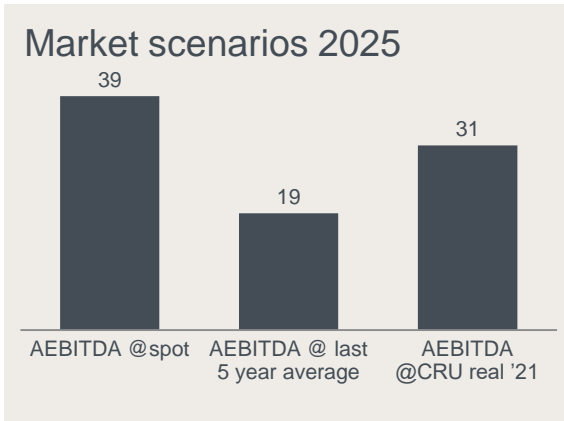
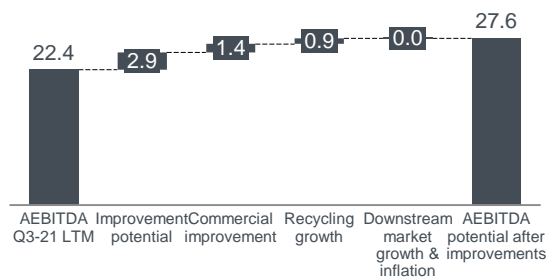
- Sustainability differentiation and ability to produce greener aluminium
- Positive market and macro developments
- High-return growth projects
- Technology and digitization
- Portfolio optimization

## Main downside risks

- Negative market and macro developments, incl. trade restrictions
- Operational disruptions
- Inflation pressure
- Project execution and performance
- Deteriorating relative positions
- Regulatory frameworks, CSR and compliance

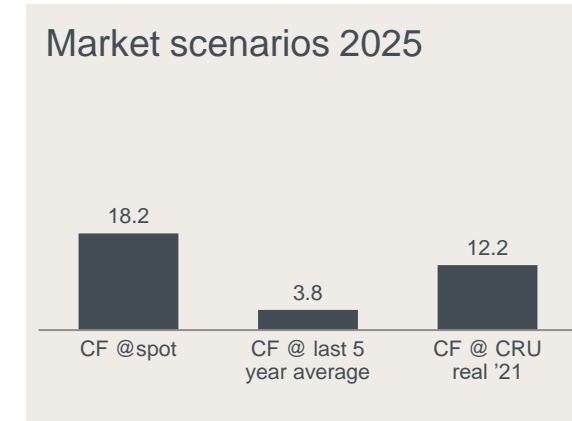
## AEBITDA potential

BNOK



## Cash flow potential after capex, tax and dividend floor

BNOK

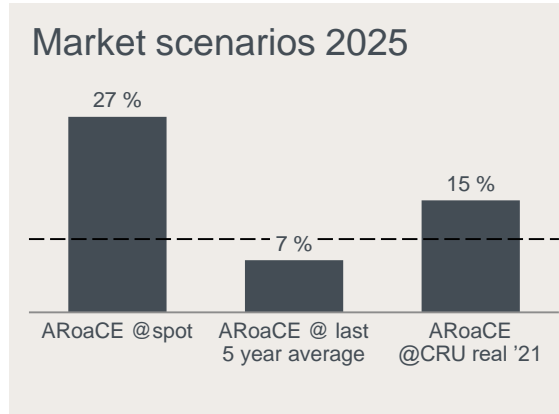
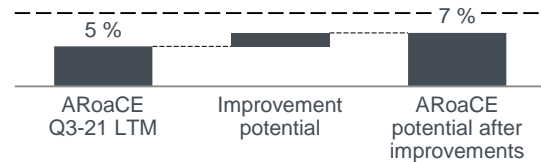




# Bauxite & Alumina profitability roadmap

Main drivers – volumes and raw material optimization, market developments

## ARoaCE potential 10-11% nominal CoC



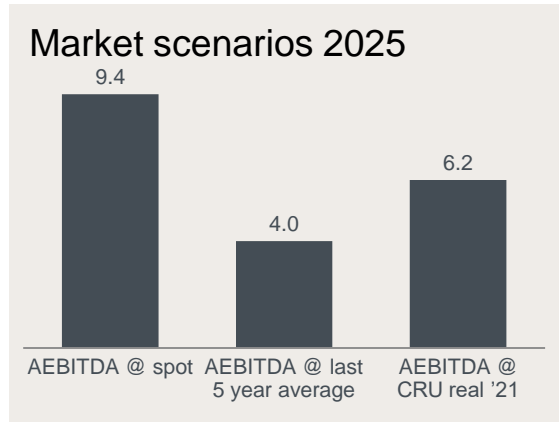
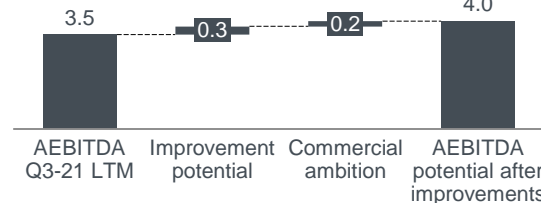
## Main further upside drivers

- Positive market and macro developments
- Commercial performance, incl. shift from LME to PAX contracts
- Fleet optimization at the mine
- Sustaining capex optimization

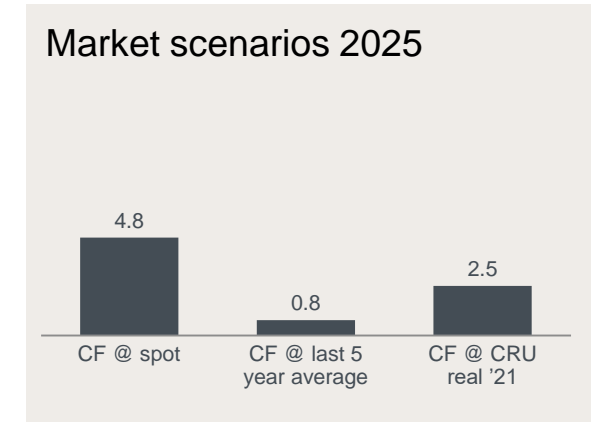
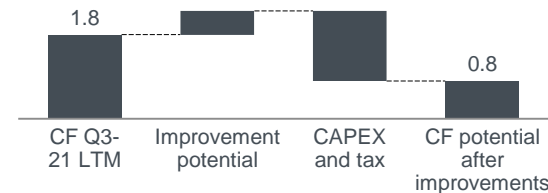
## Main downside risks

- Operational disruptions
- Negative market and macro developments
- Regulatory, CSR and country risk

## AEBITDA potential BNOK



## Cash flow potential after capex, tax BNOK



Assumptions and sources behind the scenarios can be found in the Additional information  
Sources: Republished under license from CRU International Ltd., LME, Hydro analysis

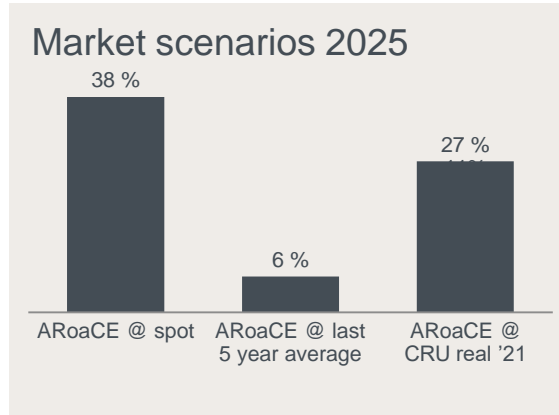
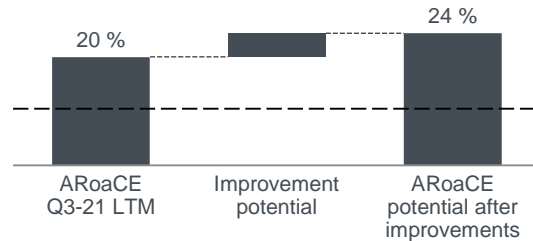


# Aluminium Metal and Metal Markets profitability roadmap

Main drivers – volumes, cost reductions, efficiency gains, and market development

## ARoaCE potential

10-11% nominal CoC



## Main further upside drivers

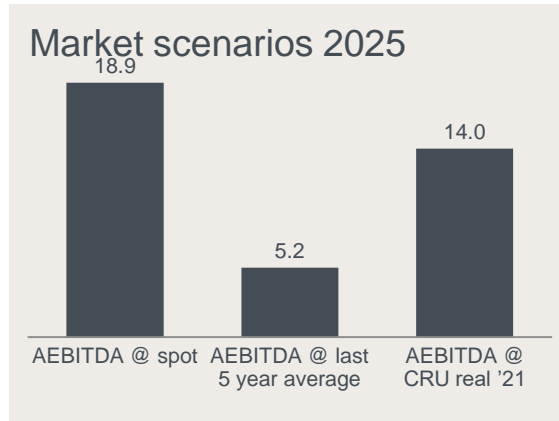
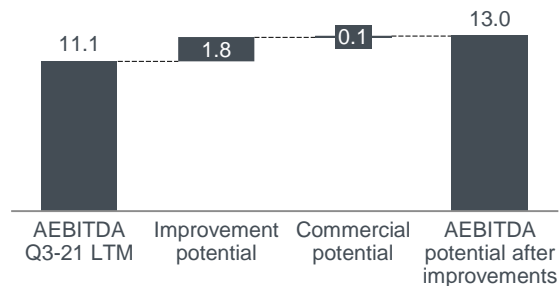
- Positive market and macro developments
- Commercial differentiation, incl. greener brands
- Additional CO2 compensation from 2022
- Recycling opportunities
- Portfolio optimization
- Further potential in automation, process control and efficiency, operational excellence

## Main downside risks

- Negative market and macro developments
- Deteriorating relative cost and market positions
- Operational disruptions and project execution
- Regulatory and country risks, incl. tax

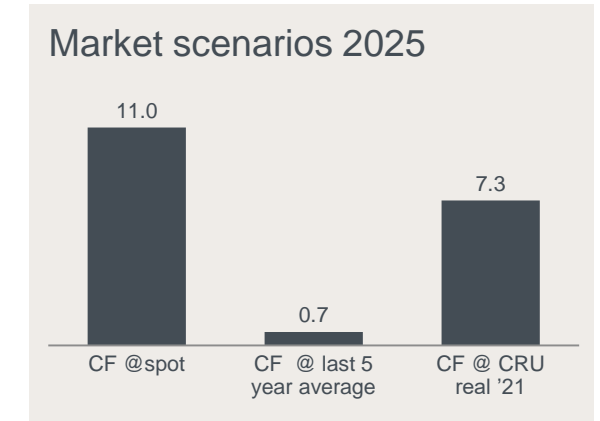
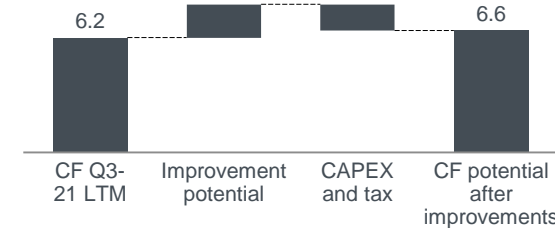
## AEBITDA potential

BNOK



## Cash flow potential after capex, tax

BNOK



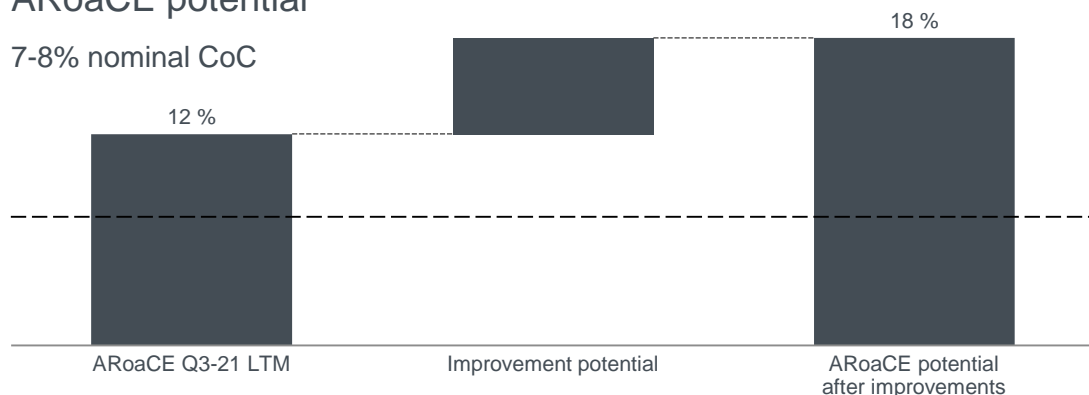
# Extrusions profitability roadmap



Main drivers – improvement program and commercial ambition

## ARoaCE potential

7-8% nominal CoC



## Main further upside drivers

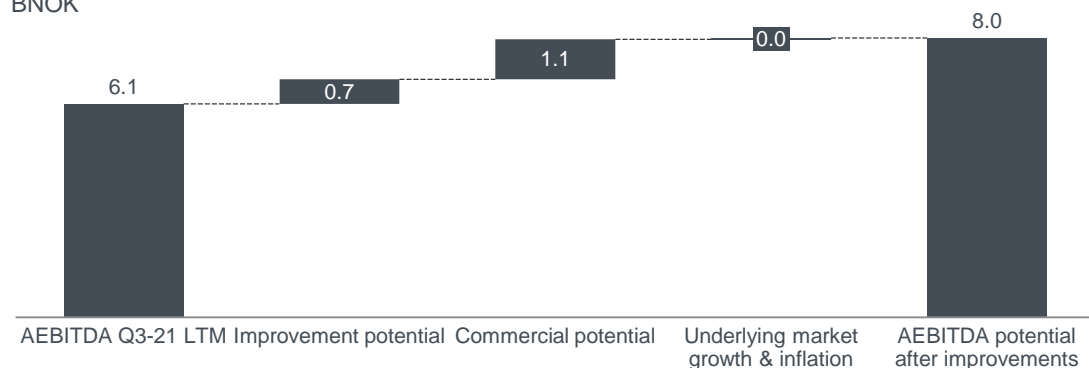
- Selective profitable growth including larger projects
- Continuous portfolio review and optimization
- Operating and fixed cost optimization
- Positive market and macro developments

## Main downside risks

- Negative market and macro developments, incl. trade restrictions
- Inflation pressure
- Operational disruptions and project execution
- Loss of large customer contracts

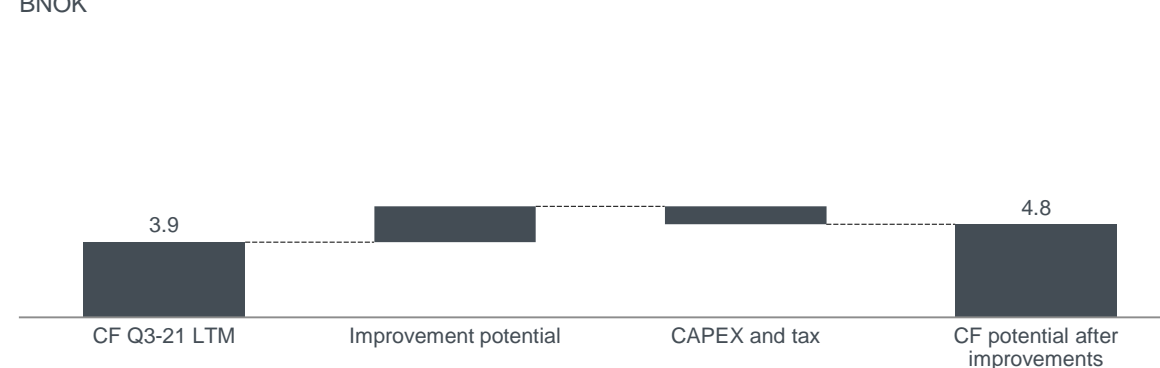
## AEBITDA potential

BNOK



## Cash flow potential after capex and tax

BNOK



# Energy

## Main further upside drivers

- Additional growth opportunities
- Further commercial and operational improvements
- Positive market and macro developments

## Main downside risks

- Negative market and macro developments
- Regulatory and framework conditions, incl. tax
- New project execution

## New Energy initiatives

- Growth projects in REIN, Havrand and Batteries



## Accounting treatment New Energy initiatives

### EBITDA

- Holding companies fully included
- Investments in part-owned project companies included with share of net income

### Capex

- Capital contributions to part-owned vehicles included

### Cash flow statement

- Includes cash flow to/from Hydro subsidiaries, including equity contributions from external companies

### Balance sheet

- Parent companies fully consolidated, including any controlled project vehicles
- Part-owned project vehicles included with share of equity

# Guidance 2022

Aluminium hedges of 20-490 kt/yr 2022-24 in place per November 30

- 2022: 490 kt hedged at a price of ~2200 USD/t
- 2023: 460 kt hedged at a price of ~2200 USD/t
- 2024: 20 kt hedged at a price of ~2350 USD/t
- Pricing mainly in NOK, with USD hedges converted to NOK via USDNOK derivatives
- Corresponding raw material exposure partially secured using financial derivatives or physical contracts

B&A and AM BRL/USD Hedge

- USD 1109 million sold forward for 2021-2024
  - USD 269 million 2021 at rate 5.45
  - USD 339 million 2022 at rate 5.53
  - USD 330 million 2023 at rate 6.03
  - USD 171 million 2024 at rate 6.60
- Aim to reduce volatility and uncertainty in Alunorte and Albras cash flows, as well as support robust cost curve positions

Utilizing Hydro's hedging policy to deliver on strategic ambitions

- Flexibility to hedge in certain cases
  - Support strong cost position
  - Strong margins in historical perspective, e.g., supporting RoaCE target
  - Larger investments

## **B&A**

- Alunorte expected at nameplate capacity (6.3 mt)

## **Aluminium Metal and Metal Markets**

- Liquid production around 2.2 – 2.3 million tonnes
- Recycling production around 580 – 600 kt

## **Extrusions**

- 2022 volumes expected to be broadly in line with market growth estimates

## **Energy**

- Estimate normal production levels (9.4 TWh)

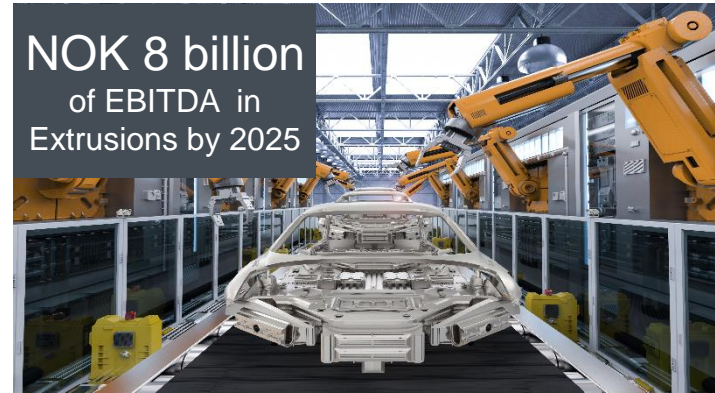
# Why invest in Hydro: key takeaways from today



## Attractive asset base



## Strong market position



## Leadership in greener aluminium



## Profitable growth journey



## Strong balance sheet and shareholder focus



## Sustainability position



1) Investment grade  
2) In addition to 1:1 rehabilitation available mined areas within 2 years

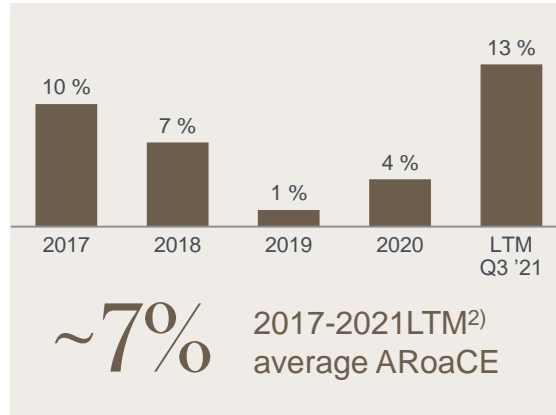
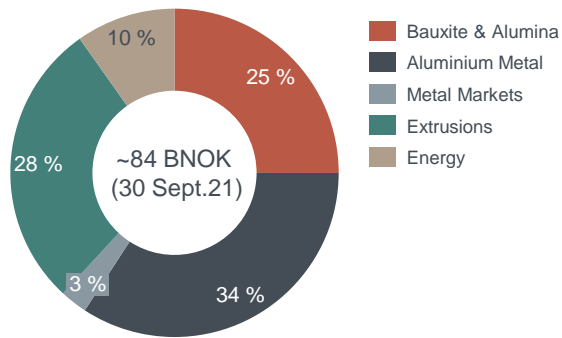


# Additional information

# Capital return dashboard for Hydro

Hydro targets URoaCE above 10% over the cycle

Capital employed<sup>1)</sup>

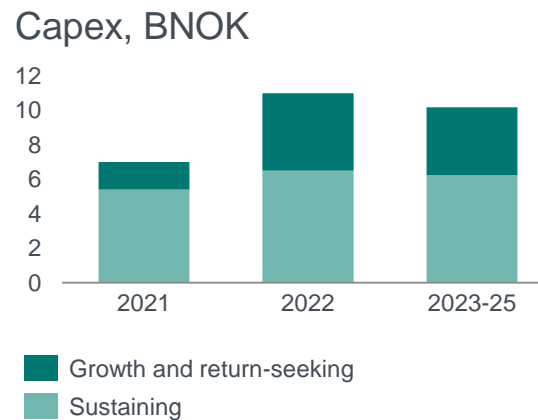


**10%**  
ARoaCE target over the cycle

**9%**  
Nominal long-term cost of capital

**8.5 + 2.5  
BNOK**  
on EBITDA by 2025 in improvement potential and commercial ambitions

Additional earnings potential represented through strategic growth initiatives

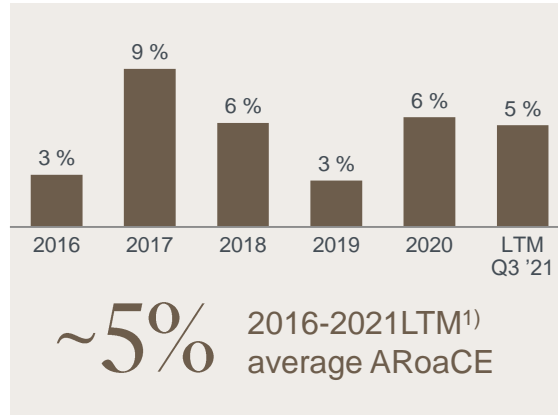
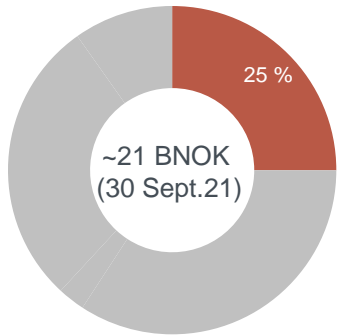


1) Graph excludes (1.7) BNOK in capital employed in Other & Eliminations  
2) Includes the average RoaCE over the last twelve months per Q3 2021

# Capital return dashboard for Bauxite & Alumina

Returns below the cost of capital reflecting challenging markets, embargo and operational issues during the early years

Capital employed in B&A



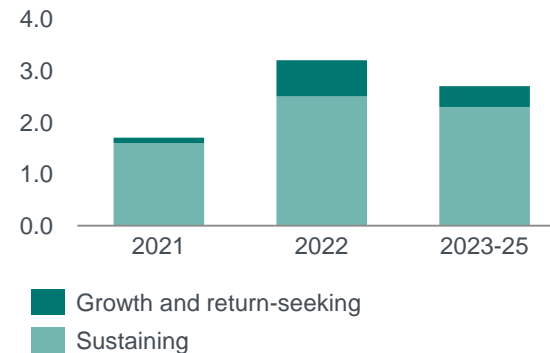
ARoACE > CoC

10-11%  
Nominal long-term cost of capital

3.0 + 0.2  
BNOK  
on EBITDA by 2025 in improvement potential

Fuel switch project improving Alunorte's competitiveness and sustainability

Capex, BNOK



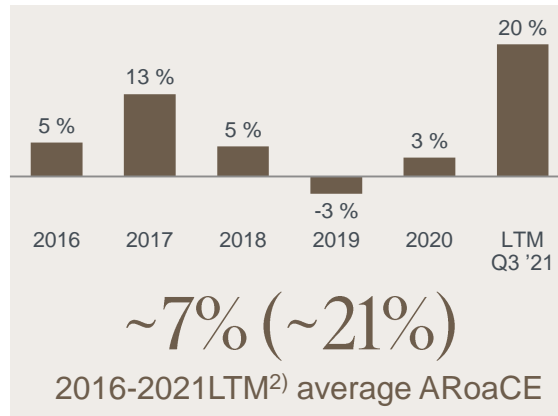
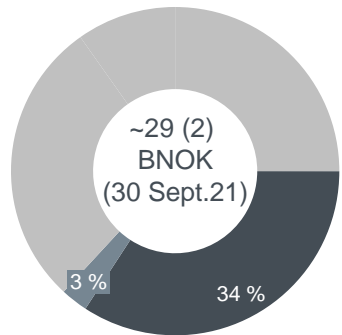
1) Includes the average RoaCE over the last twelve months per Q3 2021



# Capital return dashboard for Aluminium Metal & Metal Markets

Investments in recycling capacity to support growth

Capital employed in AM (MM)



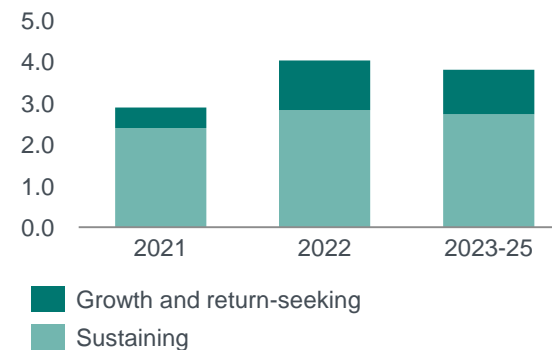
ARoACE > CoC

10%-11%  
(7-8%)  
Nominal long-term cost of capital

3.0 + 0.2  
BNOK  
on EBITDA by 2025 in improvement potential and commercial ambitions

Investments in recycling capacity to support growth

Capex, BNOK

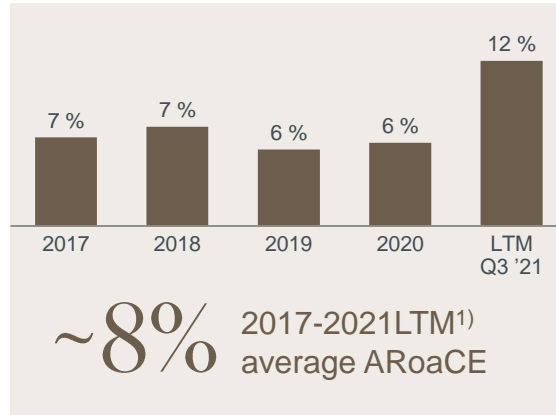
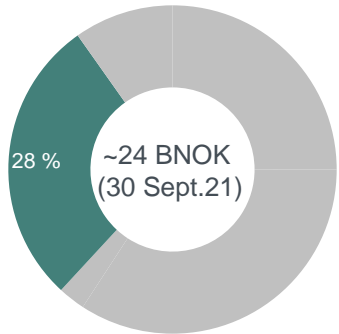


1) Creep and recycling with high profitability  
2) Includes the average RoaCE over the last twelve months per Q3 2021. Annual RoaCE figures for Aluminium Metal only

# Capital return dashboard for Extrusions

Returns in line with the cost of capital reflecting leading market positions in high value segments and portfolio optimization

## Capital employed in Extrusions



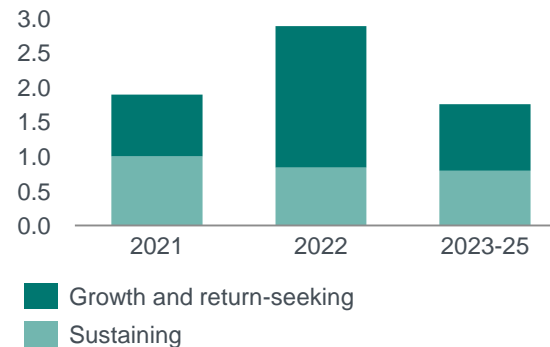
ARoACE > CoC

7-8%  
Nominal long-term cost of capital

2.4 + 2.1  
BNOK  
on EBITDA by 2025 in improvement potential and commercial ambitions

Investments in new presses and recycling projects to support growth

## Capex, BNOK

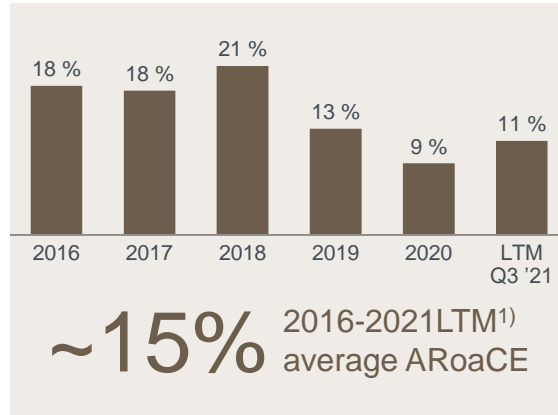
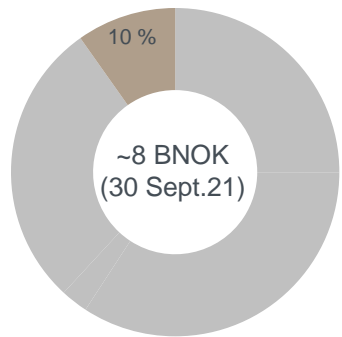


1) Includes the average RoaCE over the last twelve months per Q3 2021

# Capital return dashboard for Energy

Returns above the cost of capital reflecting the depreciated asset base

## Capital employed in Energy



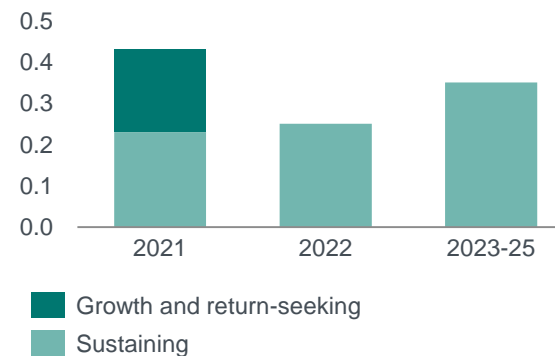
ARoaCE > CoC

6-7%  
Nominal long-term cost of capital

Lower realized unit costs over time following Lyse Kraft DA transaction synergies

Potential listing of REIN and Havrand

## Capex, BNOK

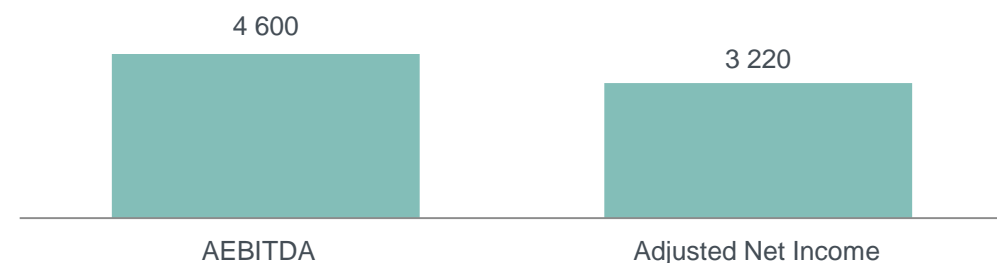


1) Includes the average RoaCE over the last twelve months per Q3 2021

# Significant exposure to commodity and currency fluctuations

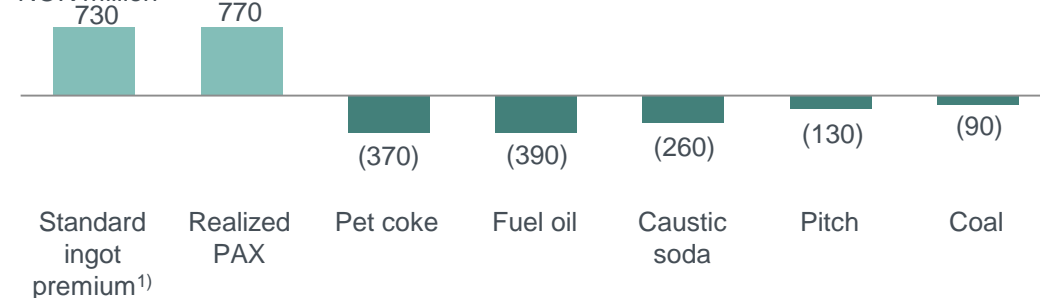
## Aluminium price sensitivity +10%

NOK million



## Other commodity prices, sensitivity +10%

NOK million



## Currency sensitivities +10%

Sustainable effect:

NOK million	USD	BRL	EUR
AEBITDA	4,940	(860)	(250)

One-off reevaluation effect:

Financial items	(540)	700	(4,420)
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- Annual adjusted (unhedged) sensitivities based on normal annual business volumes. LME USD 2,600 per mt, standard ingot premium 360 USD/mt, PAX 380 USD/mt, fuel oil USD 720 per mt, petroleum coke USD 455 per mt, pitch 740 EUR/t, caustic soda USD 435 per mt, coal USD 140 per mt, USD/NOK 9.00, BRL/NOK 1.68, EUR/NOK 10.33
- Aluminium price sensitivity is net of aluminium price indexed costs and excluding unrealized effects related to operational hedging
- BRL sensitivity calculated on a long-term basis with fuel oil assumed in USD. In the short-term, fuel oil is BRL-denominated
- Excludes effects of priced contracts in currencies different from underlying currency exposure (transaction exposure)
- Currency sensitivity on financial items includes effects from intercompany positions
- 2022 Platts alumina index (PAX) exposure used
- Adjusted Net Income sensitivity calculated as AEBITDA sensitivity after 30% tax

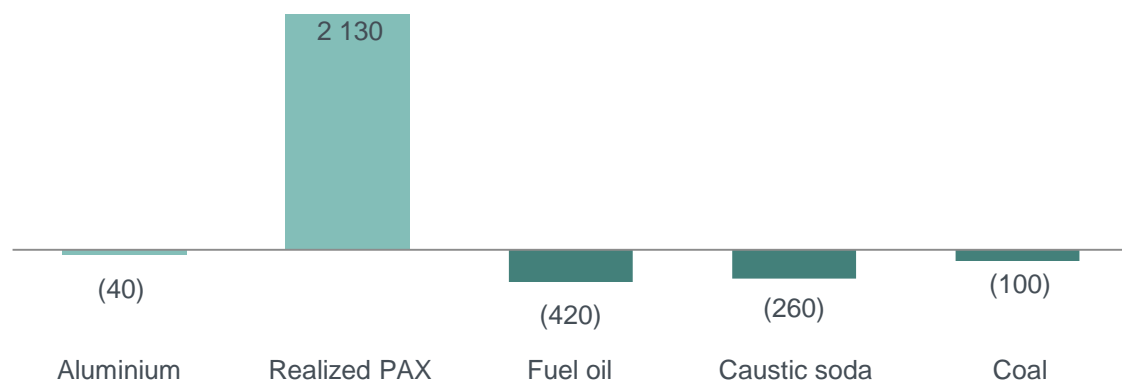
1) Europe duty paid

# Bauxite & Alumina sensitivities



## Annual sensitivities on adjusted EBITDA if +10% in price

NOK million



## Currency sensitivities +10%

NOK million	USD	BRL	EUR
AEBITDA	990	(590)	-

## Revenue impact

- ~14% of 3-month LME price per tonne alumina with one month lag
- Realized alumina price lags PAX by one month

## Cost impact

### *Bauxite*

- ~2.45 tonnes bauxite per tonne alumina
- Pricing partly LME-linked

### *Caustic soda*

- ~0.1 tonnes per tonne alumina
- Prices based on IHS Chemical, pricing mainly monthly per shipment

### *Energy*

- ~0.12 tonnes coal per tonne alumina, Platts prices, one year volume contracts, weekly per shipment pricing
- ~0.11 tonnes heavy fuel oil per tonne alumina, prices set by ANP/Petrobras in Brazil, weekly pricing (ANP) or anytime (Petrobras)

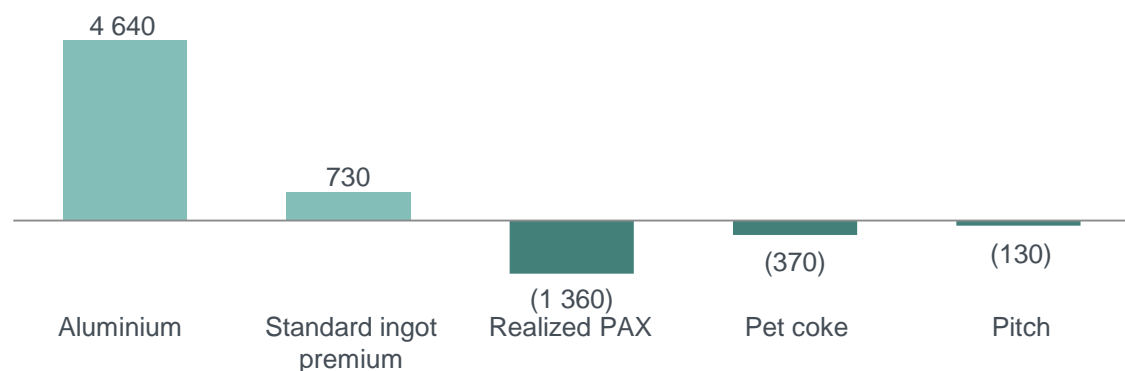
Annual adjusted (unhedged) sensitivities based on normal annual business volumes. LME USD 2,600 per mt, standard ingot premium 360 USD/mt, PAX 380 USD/mt, fuel oil USD 720 per mt, petroleum coke USD 455 per mt, pitch 740 EUR/t, caustic soda USD 435 per mt, coal USD 140 per mt, USD/NOK 9.00, BRL/NOK 1.68, EUR/NOK 10.33  
BRL sensitivity calculated on a long-term basis with fuel oil assumed in USD. In the short-term, fuel oil is BRL-denominated. 2022 Platts alumina index (PAX) exposure used

# Aluminium Metal sensitivities



## Annual sensitivities on adjusted EBITDA if +10% in price

NOK million



## Currency sensitivities +10%

NOK million	USD	BRL	EUR
AEBITDA	3,620	(270)	(900)

## Revenue impact

- Realized price lags LME spot by ~1-2 months
- Realized premium lags market premium by ~2-3 months

## Cost impact

### Alumina

- ~1.9 tonnes per tonne aluminium
- ~14.5% of 3-month LME price per tonne alumina, increasing volumes priced on Platts index
- ~ 2-3 months lag

### Carbon

- ~0.40 tonnes petroleum coke per tonne aluminium, Pace Jacobs Consultancy, 2-3 year volume contracts, quarterly or half yearly pricing
- ~0.08 tonnes pitch per tonne aluminium, CRU, 2-3 year volume contracts, quarterly pricing

### Power

- 14.0 MWh per tonne aluminium
- Long-term power contracts with indexations

# Assumptions behind scenarios



Scenarios are not forecasts, but illustrative earnings, cash flow and return potential based on sensitivities

- Starting point – AEBITDA Q3-21 LTM
- Improvement potential in real 2018 terms, upstream margins based on 2016-2018 average.
- Cash flow calculated as AEBITDA less EBIT tax and 2023-2025 average capex, less 1.25 NOK/share in dividend floor for the Hydro Group
  - Tax rates: 25% for business areas, 55% for Energy
- ARoaCE calculated as AEBIT after tax divided by Q3-21 LTM average capital employed<sup>2</sup>
- The actual earnings, cash flows and returns will be affected by other factors not included in the scenarios, including, but not limited to:
  - Production volumes, alumina sales priced on PAX, raw material prices, downstream margin developments, premiums, inflation, currency, depreciation, taxes, investments, interest expense, competitors' cost positions, and others

## Price assumptions

Prices used in scenarios	Q3 2021 LTM	2025		
		Spot	5-year average	CRU real
LME USD/t	2250	2600	1945	2416 (deflated by 2%)
PAX, USD/t	290	380	319 <sup>1</sup>	333 (deflated by 2%)
USDNOK	8.67	9.00	8.64	8.23
BRLNOK	1.62	1.60	2.13	1.55

1) Excluding Q2-Q3 2018, due to high price level following Alunorte curtailment

2) Excluding Rolled Products

Source: Republished under license from CRU International Ltd., LME, Hydro analysis

Next event

# Fourth quarter results and Annual report February 22, 2022

For more information see  
[www.hydro.com/ir](http://www.hydro.com/ir)

# Investor Relations in Hydro

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**Hydro**

*Industries that matter*