



# Second quarter 2023 Investor presentation

July 21, 2023



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## 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.



# Well positioned in declining markets, low-carbon aluminium gaining ground

Pål Kildemo,  
Executive Vice President and CFO

July 21, 2023

# Q2 2023 | Adjusted EBITDA NOK 7.1 billion

Free cash flow NOK 3.7 billion, adjusted RoaCE 13.6 %

Robust results and strong extrusion margins, despite weaker markets and price pressure

Improvement program and commercial ambitions on track for 2023 targets

Alumetal acquisition significantly strengthens recycling position in Europe

Good progress on low-carbon aluminium partnerships

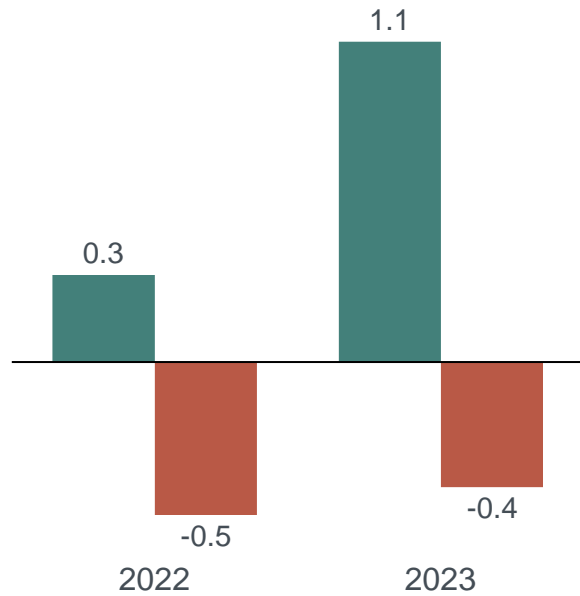
Increased 2023 capex guidance on currency translation, inflation and return-seeking investments

# Market balance weakening

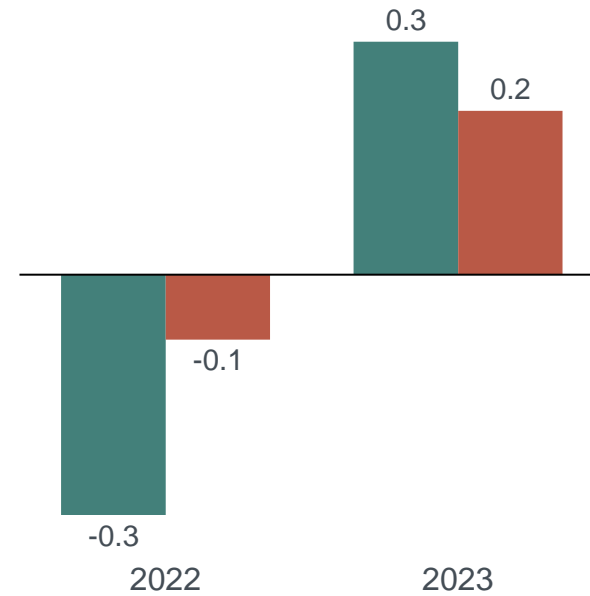
Strong demand decline in most western markets in 2023

## Estimated global balance

CRU (Mt)



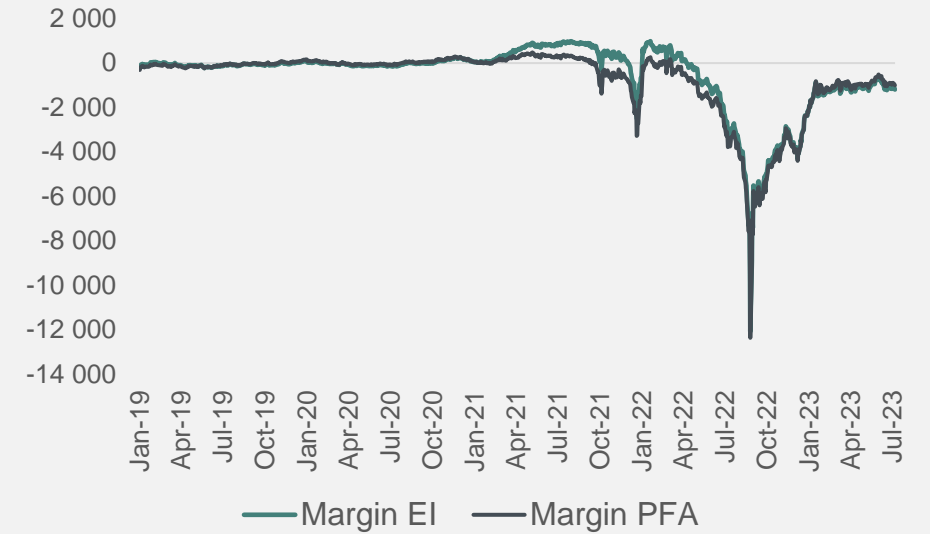
Harbor (Mt)



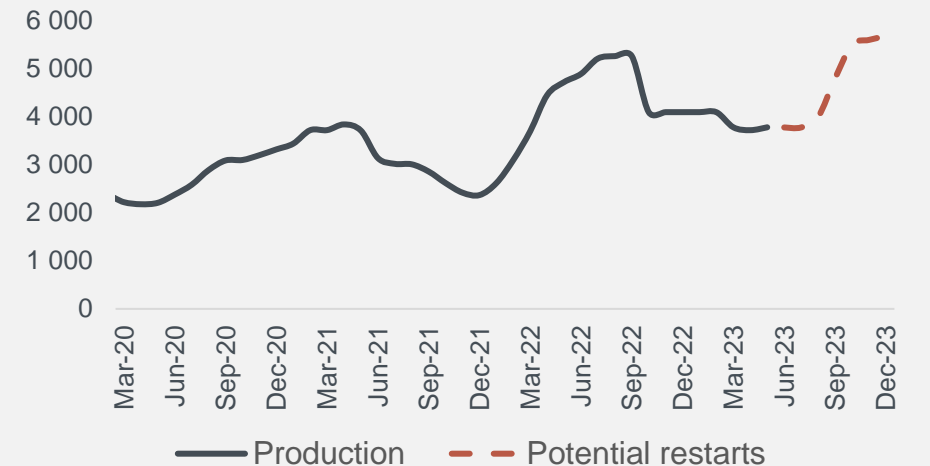
World ex. China China

\*Smelter based on Germany 1Y power and spot alumina  
Source: CRU, HARBOR, Bloomberg, MacroMicro, Fastmarkets, CM, Hydro analysis

## European smelter margin\* per VAP (USD/t)



## Yunnan annual primary production ('000t)

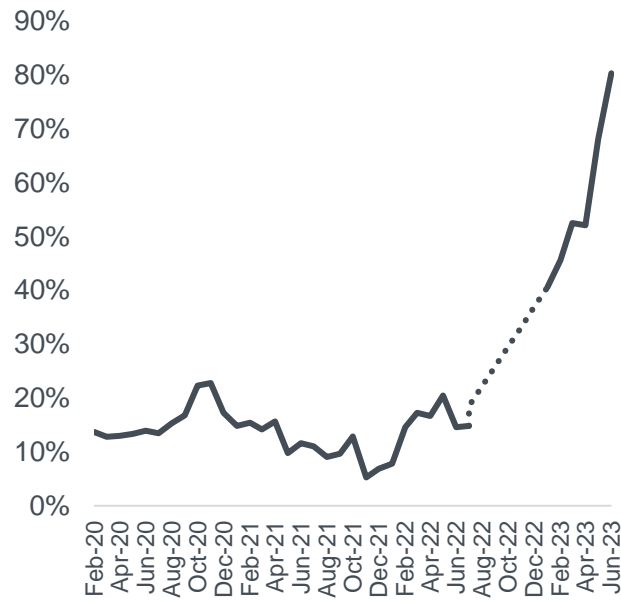


# Growing LME inventories of Russian metal causes concern

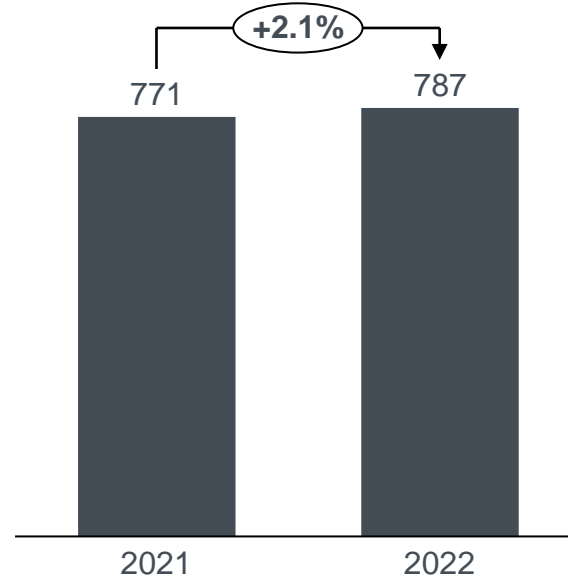
May put the global aluminium index set by LME at risk

## Russian metal

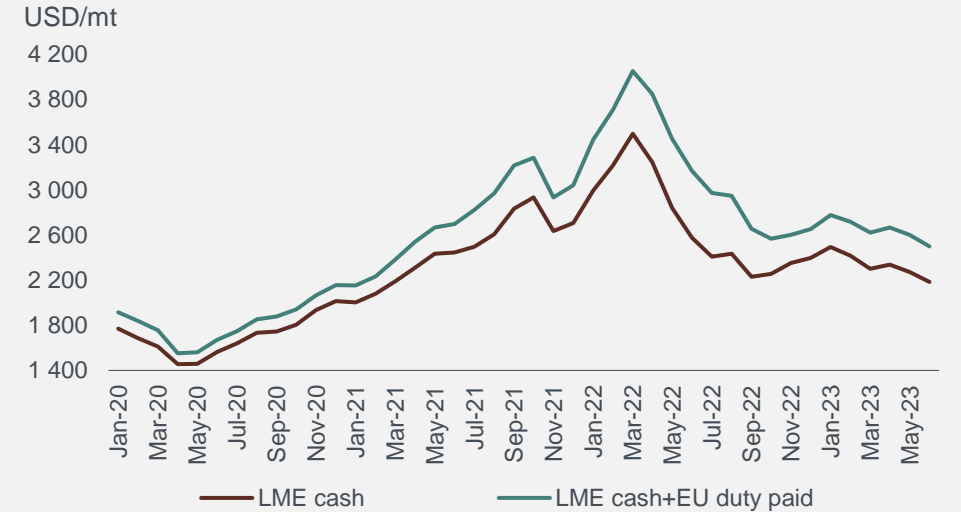
Russian share of available metal in LME warehouses



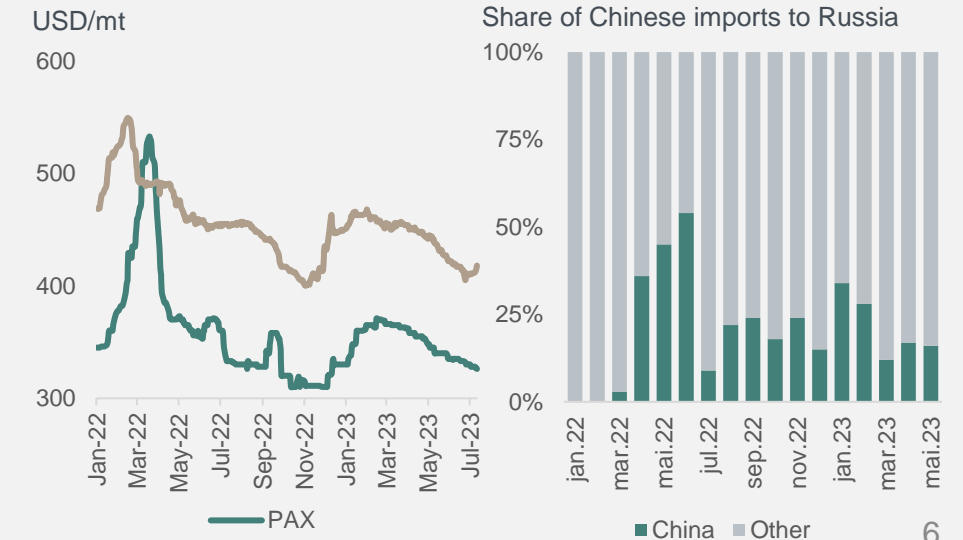
Russian exports of primary aluminium to EU ('000 tonnes)



## Aluminium prices



## Alumina prices and Russian alumina imports



Source: LME, Eurostat, Platts, IHS, AXS marine, Hydro analysis

# Automotive volumes improving in Extrusions, weaker markets in B&C and industrial segments

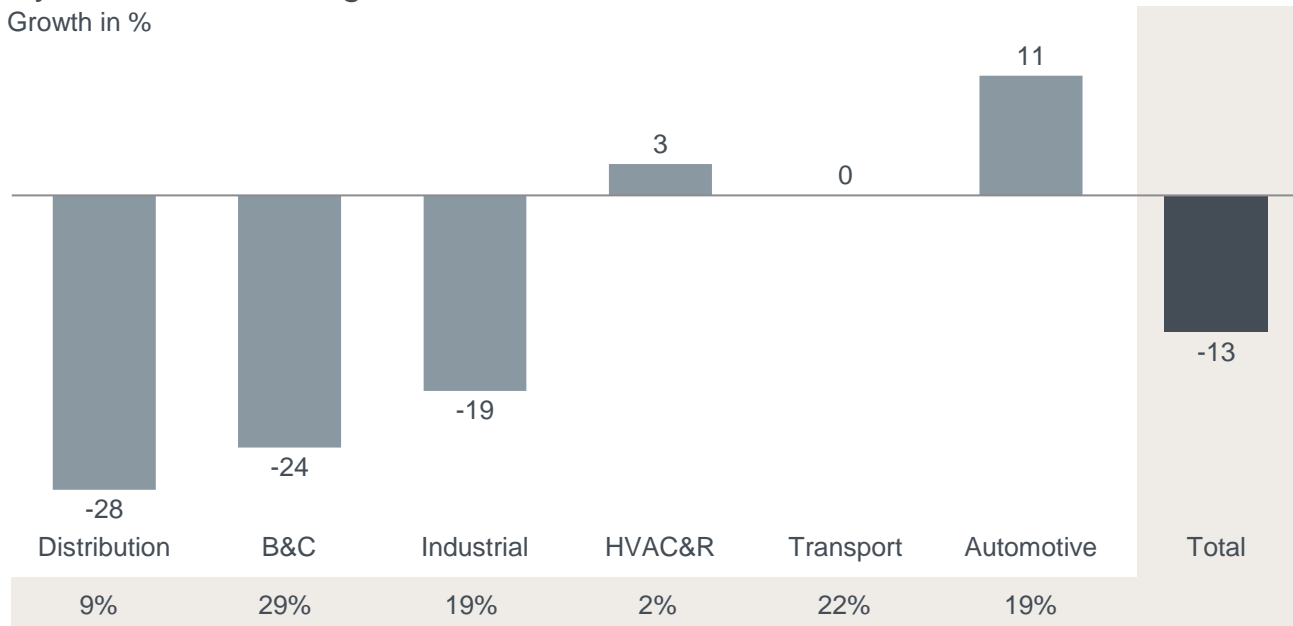
North American and European 2023 demand forecasts revised down 5% and 10%, respectively

## Extrusion sales volumes

Q2 2023 vs Q2 2022

Hydro Extrusions segment sales volume

Growth in %

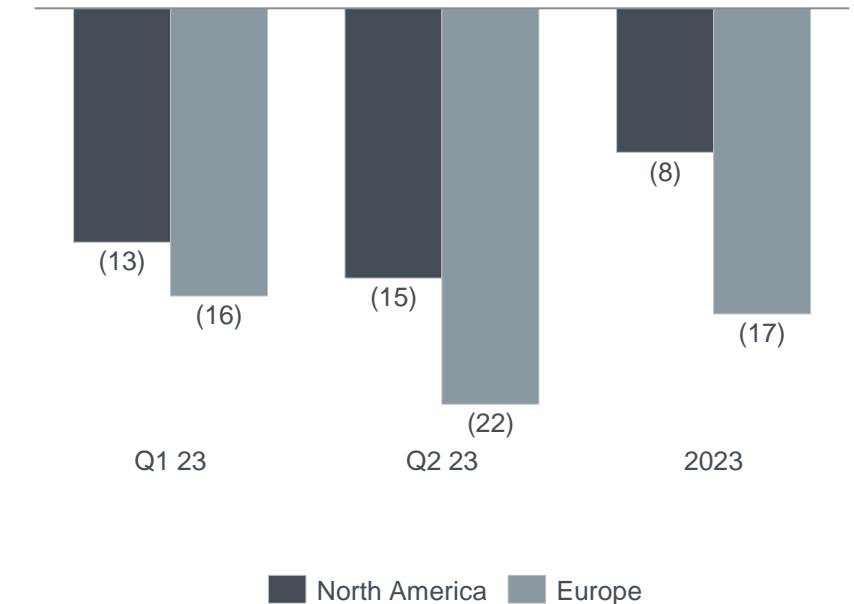


## External market forecasts\*

Year over Year

Extrusion market growth per quarter

Growth in %



Share of Q2 2023 Hydro Extrusions sales

\*Source: CRU

# Making progress on Hydro's 2025 strategy



## 1 Strengthen position in low-carbon aluminium



## 2 Diversify and grow in new energy



Lifting profitability, driving sustainability

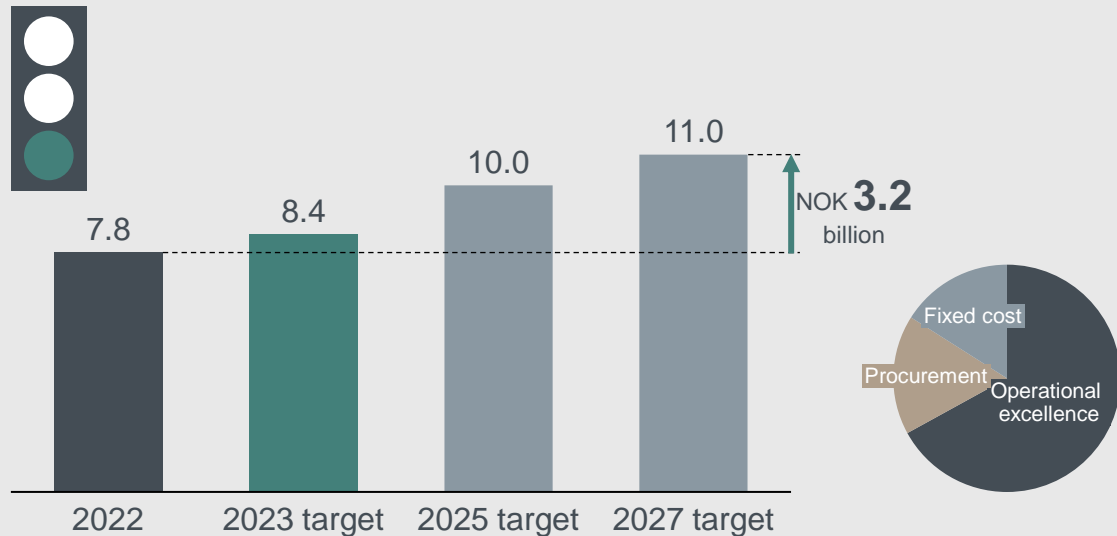




# Improvement program and commercial initiatives ensure robustness in more challenging market

## Improvement program

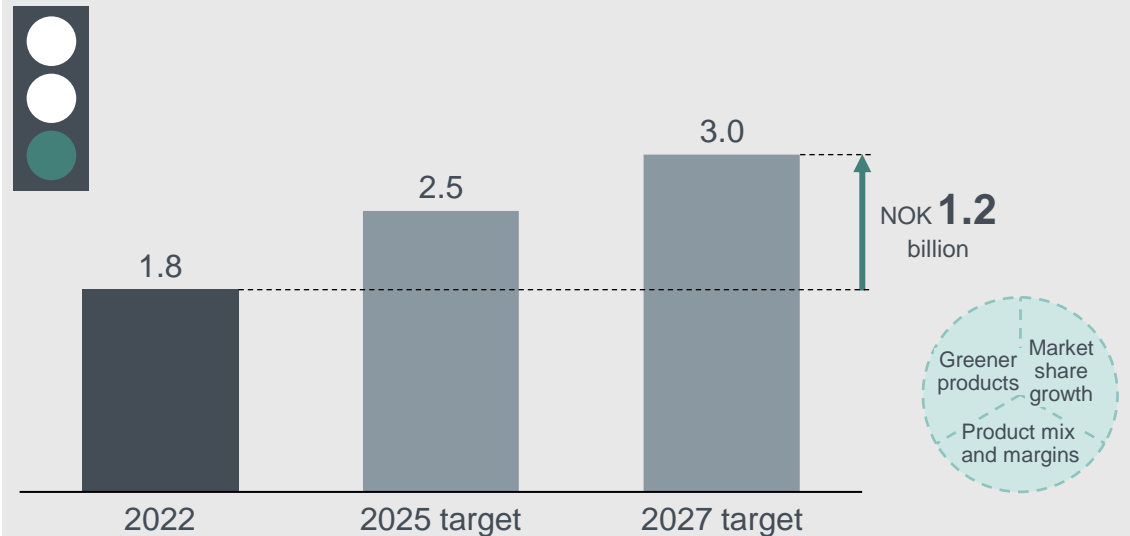
NOK billions



- Strong improvement focus in Bauxite & Alumina to compensate shortfall from fuel switch delay
- Extrusion Business System improvements well ahead of target

## Commercial initiatives

NOK billions



- Commercial initiatives ahead of plan YTD, mainly driven by sales mix in Bauxite & Alumina
- Greener product sales and margins ahead of plan

# Strong improvement drive in Extrusions

Fall in demand and lower recycling margins offset with additional improvement initiatives

## Top line initiatives

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

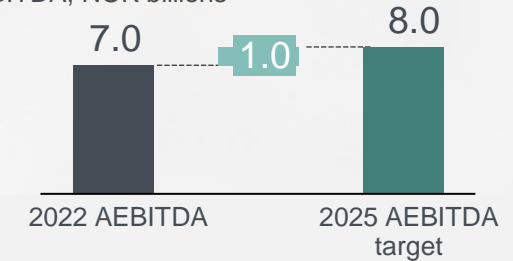
## Adjusting cost proactively in response to volume drop

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



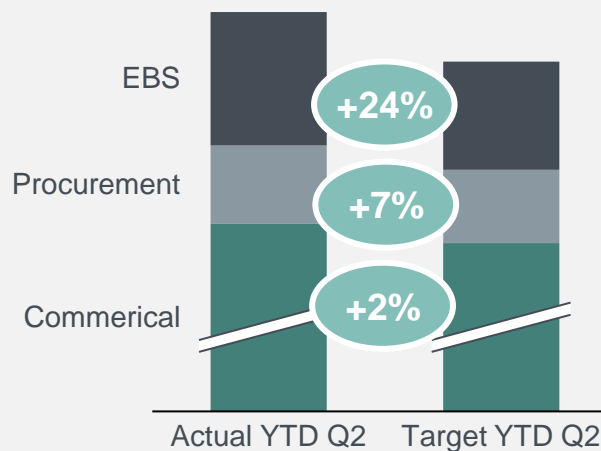
## Extrusions 2025 growth target

EBITDA, NOK billions

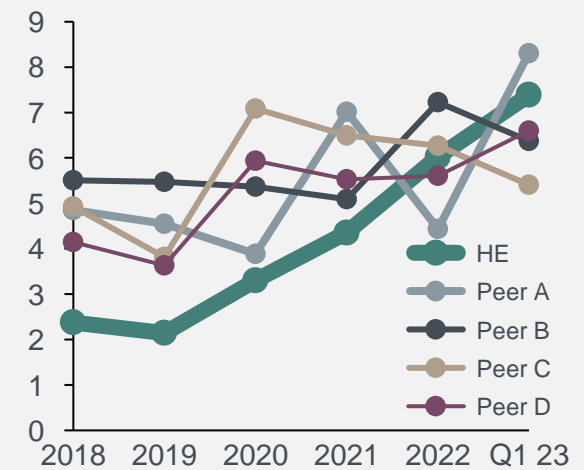


## Improvements exceeding targets and closing gaps to peers\*

EBITDA



EBITDA per tonne (in 1,000 NOK)



\*Peer group: Bonnell extrusions, Profilgruppen, Constellium (AS&I), Grupa Kety- EE

# Strong progress on recycling strategy

Strengthening positioning and widening product offering



## Alumetal acquisition complete

- More than 97 percent of shares secured by June 30, settled on July 7
- Equity value PLN 1,265 million, Enterprise value PLN 1,651 million including dividend payable
- 275,000 tonnes annual capacity and 150,000 tonnes annual PCS
- NOK 0.7 billion annual adjusted EBITDA as per Q1 2023 results
- Integration process underway, executing on identified synergies on scrap sorting and utilization



## Signed agreement to buy land for new recycler in Spain

- Torija in Spain, 120,000 tonnes annual capacity
- Investment EUR 130-140 million



## Expanding capacity at existing recyclers

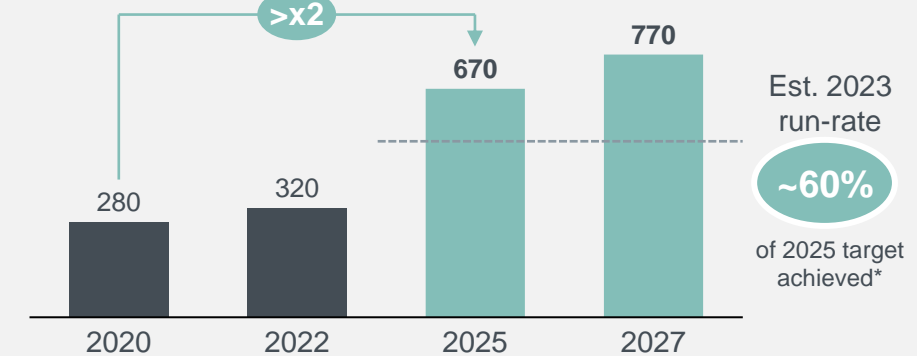
- Navarra and Sjunnen ramping up recycling capacity from casthouse expansions with 40,000 annual tonnes, on time and within budget

## Recycling 2025 and 2027 targets

Project pipeline for Aluminium Metal and Extrusions

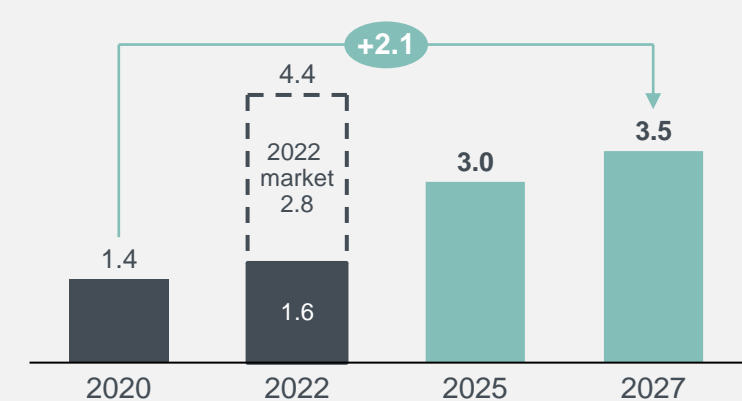
### PCS usage and ambition

In thousand tonnes



### EBITDA

In NOK billions



\*% of 2025 target achieved vs 2022

# Low-carbon aluminium gaining ground



Several new strategic partnerships signed through the quarter across segments



# Successful green transition depends on robust policies

## CBAM loophole threatening greener aluminium

- The political direction of the Green Deal and its industrial parts are aligned with Hydro's growth strategy in all business areas
- The EU Carbon Border Adjustment Mechanism (CBAM) was adopted April 2023. The EU Commission published a draft implementing regulation in June, which assigns zero carbon emissions to remelted pre-consumer scrap when imported to the EU
- The proposal allows for greenwashing of carbon intensive products and undermines the competitiveness of European producers subject to the ETS, the EU market for low-carbon products and the Green Deal objectives

CBAM- extending carbon pricing to imported products to level out ETS effects

April 2023  
CBAM adopted

1. Oct 2023  
CBAM transitional period starting

Indirect CO<sub>2</sub>  
compensation  
remains

2025  
re-evaluation of indirect CO<sub>2</sub>  
cost compensation

2026-2034  
CBAM to replace free quotas

# Maturing and growing in renewable energy with Hydro Rein

## Active capital raise ongoing



- Hydro actively continues to evaluate financing alternatives for Hydro Rein and dialogues are constructively evolving

## Developing existing portfolio



- Progressing on construction of Stor-Skälsjön, Mendubim, Feijao and Boa Sorte
  - Installation of first wind turbine in Stor-Skälsjön completed
- Not participating in offshore wind competition in the North Sea

## Initiating new projects

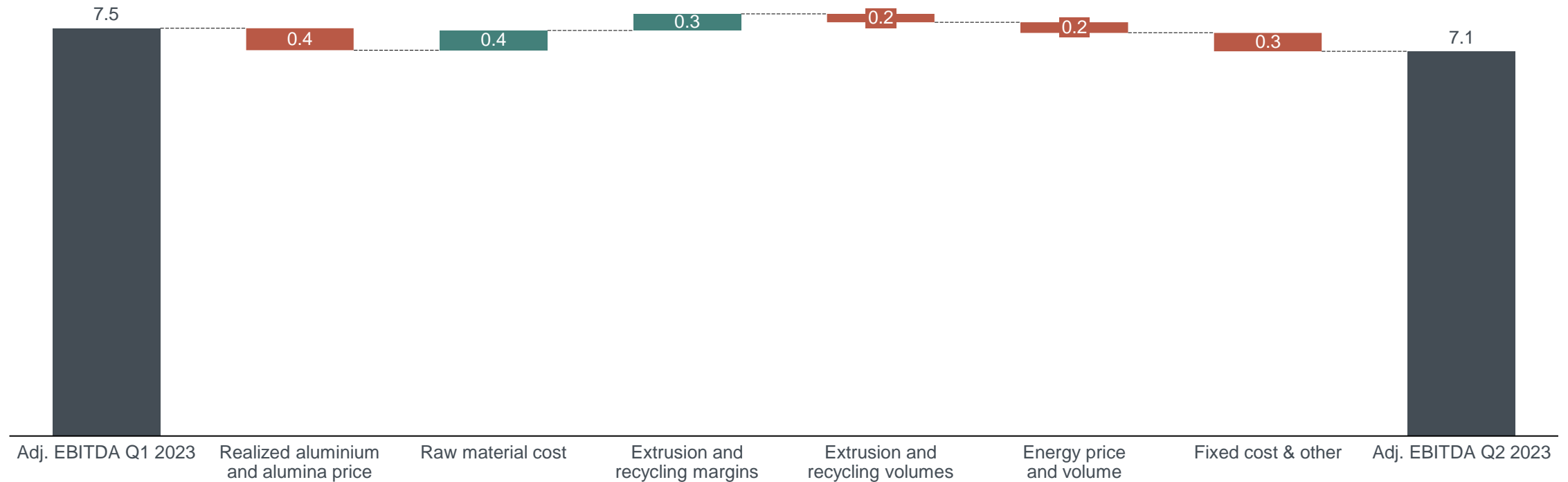


- Signed agreement with GreenGo Energy to acquire and develop four solar projects in Sweden and Denmark
  - Southern Sweden (SE4): 118 MW capacity, construction 2027 and estimated production 2028
  - Denmark (Jylland): 410 MW, construction 2025/26 and estimated production 2026/27

# Adj. EBITDA down on lower prices and higher fixed cost, partly offset by lower raw material cost and extrusion margins



Q2 2023 vs Q1 2023



# Key financials



NOK million	Q2 2023	Q2 2022	Q1 2023	Year 2022
Revenue	53 630	64 793	48 534	207 929
<b>Reported EBITDA</b>	<b>10 249</b>	<b>17 561</b>	<b>6 393</b>	<b>39 536</b>
Adjusting items to EBITDA	(3 152)	(5 966)	1 132	128
<b>Adjusted EBITDA</b>	<b>7 098</b>	<b>11 594</b>	<b>7 525</b>	<b>39 664</b>
Reported EBIT	7 939	15 418	4 233	30 715
<b>Adjusted EBIT</b>	<b>4 788</b>	<b>9 452</b>	<b>5 364</b>	<b>31 179</b>
Financial income (expense)	(953)	(1 311)	(2 212)	1 649
<b>Reported Income (loss) before tax</b>	<b>6 986</b>	<b>14 108</b>	<b>2 021</b>	<b>32 365</b>
Income taxes	(1 930)	(2 971)	(877)	(7 984)
<b>Reported Net income (loss) from continuing operations</b>	<b>5 056</b>	<b>11 136</b>	<b>1 144</b>	<b>24 381</b>
Adjusted net income (loss) from continuing operations	3 410	7 731	3 326	23 145
Earnings per share from continuing operations	2.56	5.49	0.62	11.76
Adjusted earnings per share from continuing operations	1.77	3.63	1.70	10.70
Income (loss) from discontinued operations <sup>1)</sup>	-	-	-	36

1) Income and expenses in the business to be sold are excluded from such income and expenses in continuing operations and reported separately as losses for discontinued operations. For further information and a specification of the result in the discontinued operations, see Note 4 Discontinued operations and assets held for sale to the interim financial statements



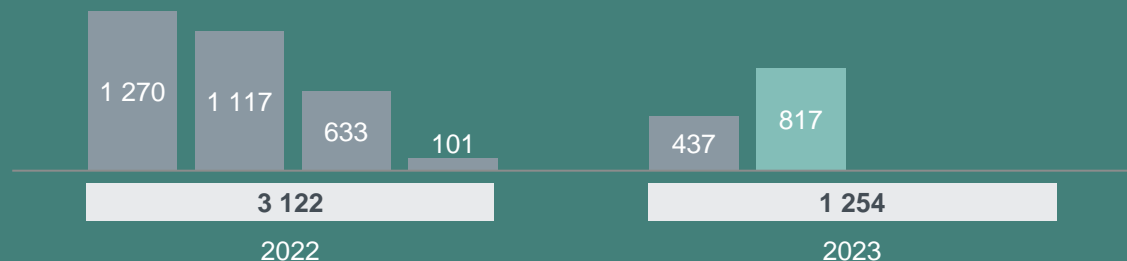
# Hydro Bauxite & Alumina

Results down on lower alumina prices and higher caustic costs, partly offset by lower energy costs and other costs

Key figures	Q2 2023	Q2 2022	Q1 2023
Alumina production, kmt	1 542	1 536	1 550
Total alumina sales, kmt	2 153	2 305	2 171
Realized alumina price, USD/mt	373	430	367
Implied alumina cost, USD/mt <sup>1)</sup>	336	378	347
Bauxite production, kmt	2 630	2 736	2 648
Adjusted EBITDA, NOK million	817	1 117	437
Adjusted EBIT, NOK million	88	484	-221
Adjusted RoaCE, % LTM <sup>2)</sup>	-1.8 %	11.6 %	-0.8 %

## Adjusted EBITDA

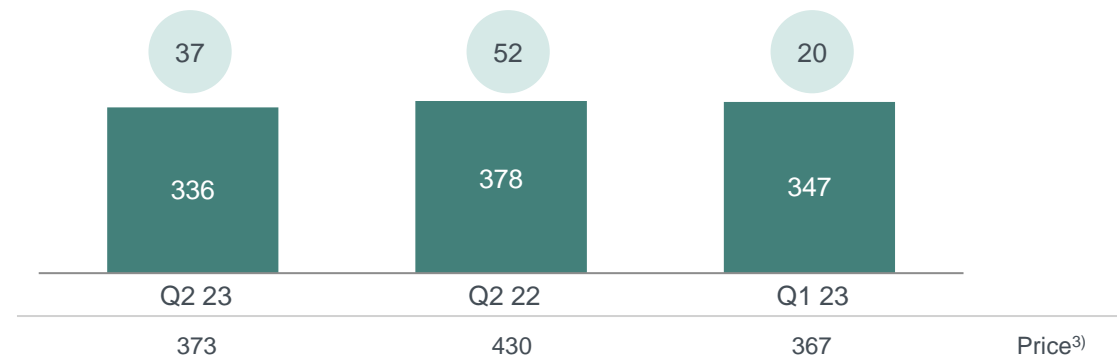
NOK million



- 1) Realized alumina price minus Adjusted EBITDA for B&A, per mt alumina sales
- 2) Adjusted RoaCE calculated as Adjusted EBIT last 4 quarters less 25% tax / Average capital employed last 4 quarters
- 3) Realized alumina price

## Implied alumina cost and margin

USD/mt<sup>1)</sup>



■ Implied EBITDA cost per mt<sup>1)</sup>

● All-in EBITDA margin per mt

## Results Q2 23 vs Q2 22

- Lower energy cost
- Lower port expenses and other costs
- Lower alumina prices
- Higher caustic cost

## Outlook Q3 23 vs Q2 23

- Alunorte production around nameplate capacity
- Lower raw material costs
- Higher fixed and other cost
- Lower realized alumina price

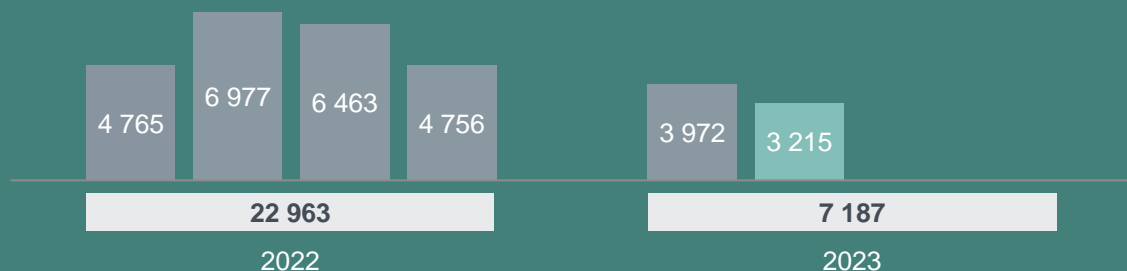
# Hydro Aluminium Metal

Results down on lower all-in metal prices, partly offset by positive currency effects, raw material cost and positive contribution from power sales

Key figures	Q2 2023	Q2 2022	Q1 2023
Primary aluminium production, kmt	506	532	499
Total sales, kmt	577	581	559
Realized LME price, USD/mt <sup>1)</sup>	2 273	3 031	2 291
Realized LME price, NOK/mt <sup>1)</sup>	24 417	28 461	23 566
Realized premium, USD/mt	456	870	503
Implied all-in primary cost, USD/mt <sup>2)</sup>	2 250	2 500	2 275
Adjusted EBITDA, NOK million	3 215	6 977	3 972
Adjusted EBITDA including Qatalum 50% pro rata (NOK million)	3 761	7 706	4 445
Adjusted EBIT, NOK million	2 550	6 349	3 328
Adjusted RoaCE, % LTM <sup>3)</sup>	25.9%	39.6%	32.1%

## Adjusted EBITDA

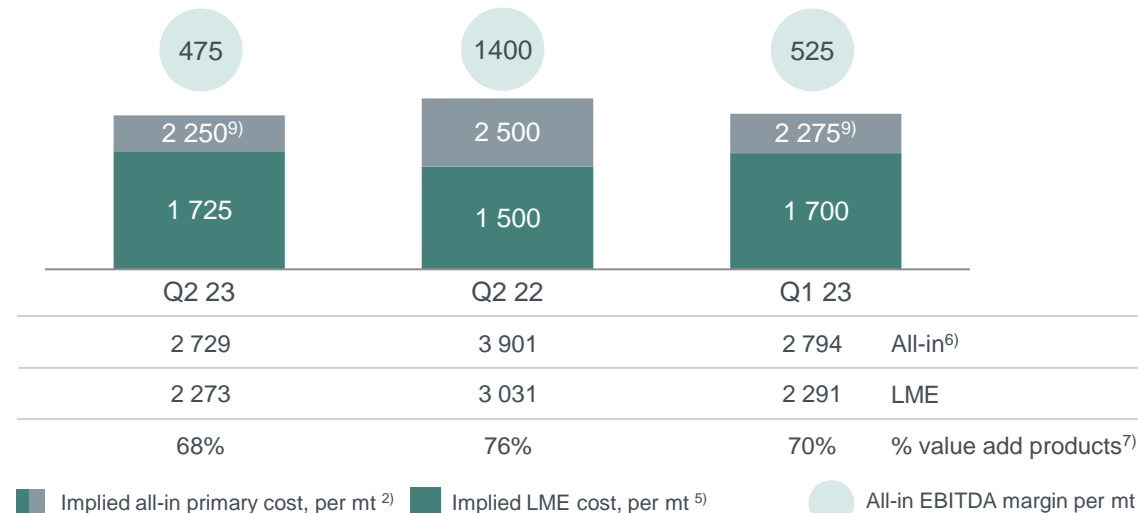
NOK million



- 1) Includes pricing effects from LME strategic hedge program
- 2) Realized all-in aluminium price minus Adjusted EBITDA margin, including Qatalum, per mt aluminium sold
- 3) Adjusted RoaCE calculated as Adjusted EBIT last 4 quarters less 25% tax / Average capital employed last 4 quarters
- 4) Implied primary costs and margin rounded to nearest USD 25
- 5) Realized LME aluminium price less Adjusted EBITDA margin, incl Qatalum, per mt primary aluminium produced

## All-in implied primary cost and margin

USD/mt<sup>1,4)</sup>



## Results Q2 23 vs Q2 22

- Lower LME and premium development
- Lower raw material and fixed cost
- Positive net foreign exchange effects
- Positive contribution from power sales

## Outlook Q3 23 vs Q2 23

- ~67% of primary production for Q3 2023 priced at USD 2 127 per mt<sup>8)</sup>
- ~46% of premiums affecting Q3 2023 booked at USD ~519 per mt<sup>8)</sup>
  - Q3 realized premium expected in the range of USD 400-450 per ton
- Lower raw material cost
- Higher fixed cost
- Lower results on power sales

- 6) Realized LME plus realized premiums, including Qatalum
- 7) % of volumes extrusion ingot, foundry alloy, sheet ingot, wire rod of total sales volumes
- 8) Bookings, also including pricing effects from LME strategic hedging program as per 31.12.2022
- 9) Excluding power sales Slovalco and Norwegian smelters

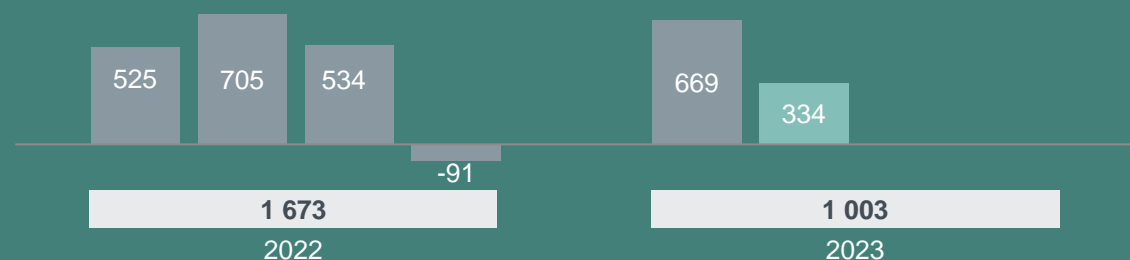
# Metal Markets

Lower results from Recyclers and negative inventory valuation and currency effects, partly offset by increased results from the sourcing and trading activities

Key figures	Q2 2023	Q2 2022	Q1 2023
Recycling production, kmt	146	158	132
Metal products sales, kmt <sup>1)</sup>	691	710	674
Adjusted EBITDA Recycling (NOK million)	299	554	284
Adjusted EBITDA Commercial (NOK million)	35	151	385
Adjusted EBITDA Metal Markets (NOK million)	334	705	669
Adjusted EBITDA excl. currency and inventory valuation effects	265	434	592
Adjusted EBIT (NOK million)	290	666	628
Adjusted RoaCE, % LTM <sup>2)</sup>	17.8%	39.9%	26.9%

## Adjusted EBITDA

NOK million



1) Includes external and internal sales from primary casthouse operations, remelters and third-party metal sources

2) Adjusted RoaCE calculated as Adjusted EBIT last 4 quarters less 25% tax / Average capital employed last 4 quarters



## Results Q2 23 vs Q2 22

- Lower recycling results on weaker EI premiums and volumes
- Negative inventory valuation and currency effects
- Higher results from sourcing and trading activities

## Outlook Q3 23 vs Q2 23

- Continued volatile trading and currency effects
- Lower recycling margins and volumes
- Positive contribution from sourcing and trading activities

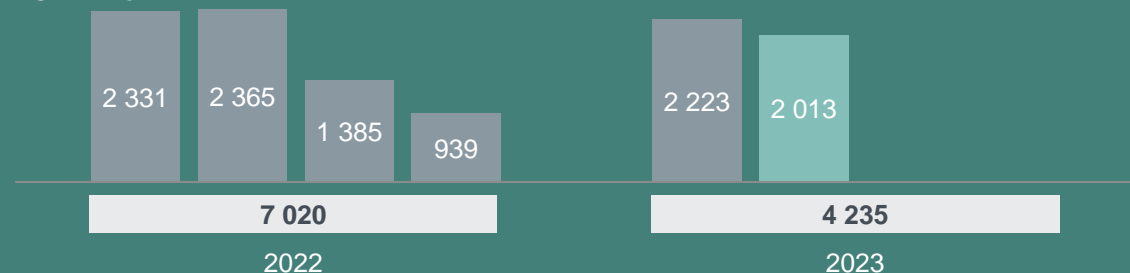
# Hydro Extrusions

Results down on lower sales volume and higher costs, partly offset by higher margins and currency

Key figures	Q2 2023	Q2 2022	Q1 2023
External sales volumes, kmt	293	338	301
Adjusted EBITDA, NOK million	2 013	2 365	2 223
Adjusted EBIT, NOK million	1 228	1 600	1 485
Adjusted RoaCE, % LTM <sup>1)</sup>	9.4%	12.0%	10.6%

## Adjusted EBITDA

NOK million



1) Adjusted RoaCE calculated as Adjusted EBIT last 4 quarters less 25% tax / Average capital employed last 4 quarters. Previous periods have been restated following a change to the capital employed definition.



## Results Q2 23 vs Q2 22

- Lower sales volumes and recycling margins
- Higher sales margins
- Positive currency effects
- Higher variable and fixed costs
- Negative metal effects

## Outlook Q3 23 vs Q3 22

- Continued strong margins offsetting cost increases
- Positive currency effects
- Lower sales volumes
- Lower recycling margins
- Market uncertainty remains

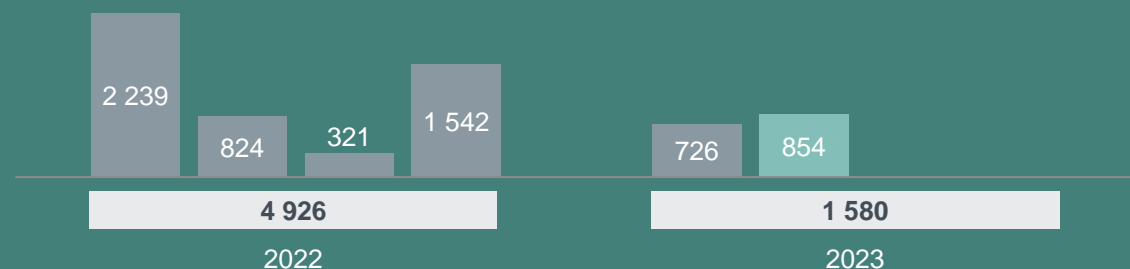
# Hydro Energy

Higher production offset mainly by lower gain on price area differences, lower prices and loss on internal contract

Key figures	Q2 2023	Q2 2022	Q1 2023
Power production, GWh	2 431	1 602	2 610
Net spot sales, GWh <sup>3)</sup>	333	-433	817
Southwest Norway spot price (NO2), NOK/MWh	958	1 752	1 182
Adjusted EBITDA, NOK million	854	824	726
Adjusted EBIT, NOK million	805	777	677
Adjusted RoaCE, % LTM <sup>1),2)</sup>	18.9%	36.9%	19.7%

## Adjusted EBITDA

NOK million



- 1) Adjusted RoaCE calculated as Adjusted EBIT last 4 quarters less tax/ Average capital employed last 4 quarters
- 2) 40% tax rate applied for 2022 and 2023
- 3) Volume affected by disrupted delivery from a long-term power purchase agreement in the northern part of the Nord Pool area. The non-delivered volume were 0.3 TWh in the quarter



## Results Q2 23 vs Q2 22

- Negative results on Aluminium Metal buy-back contract net NOK ~-0.45 billion
- Higher production volumes and net spot sales
- Lower prices
- Lower gain on area price differences

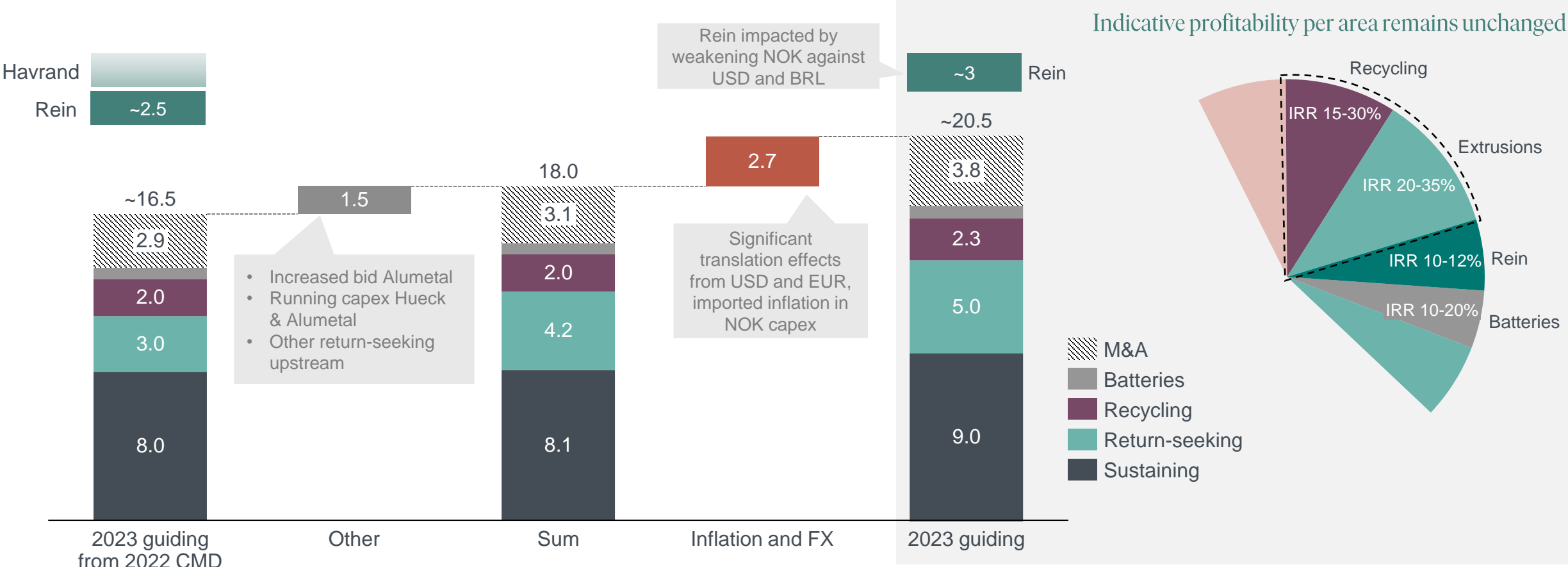
## Outlook Q3 23 vs Q2 23

- Lower losses from Aluminium Metal buy-back contract (~190GWh locked in at ~1400 NOK/ MWh)
- Lower production volumes and net spot sales
- Lower energy prices
- Continued volume and price uncertainty

# Lifting guidance on FX and return seeking investments



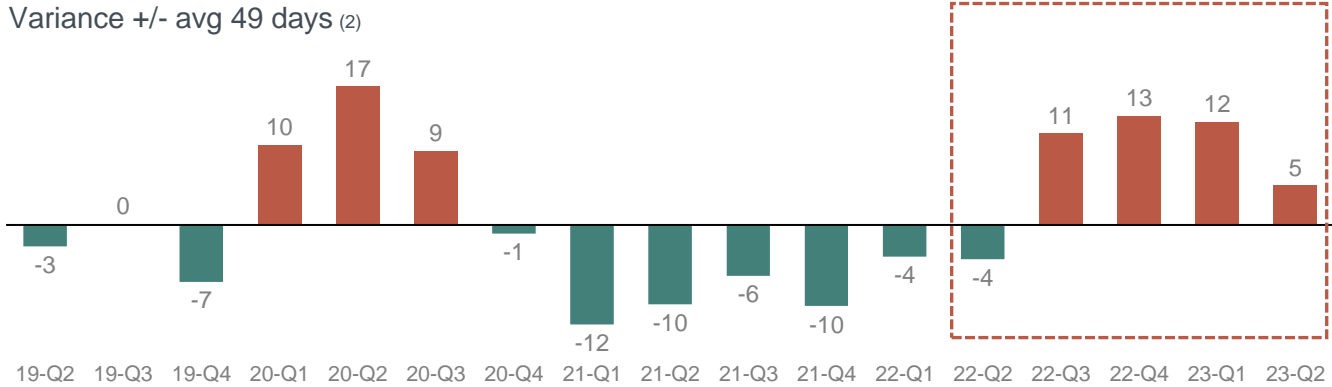
No further increased capital allocation is planned for 2023.



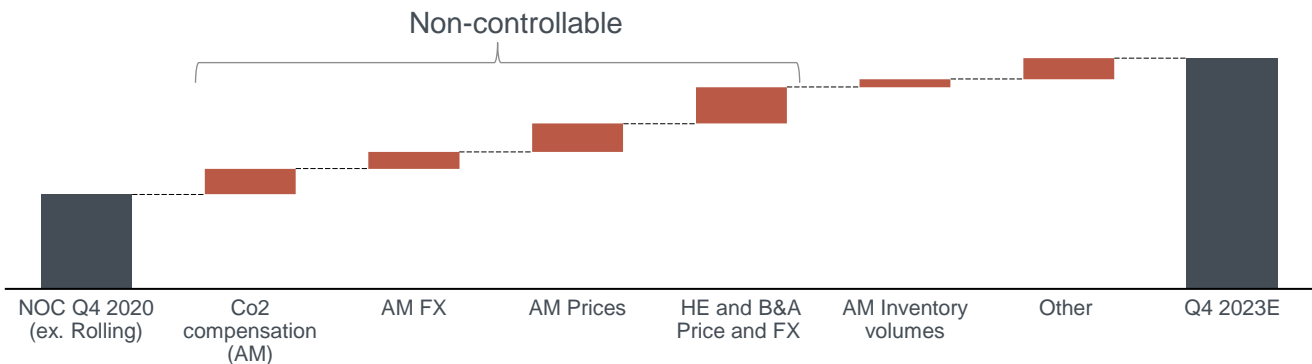
# NOC days improving, strong cash effective release in Q2

## Net Operating Capital Days (1)

Variance +/- avg 49 days (2)



## Q4-20 to Q4 23, book values



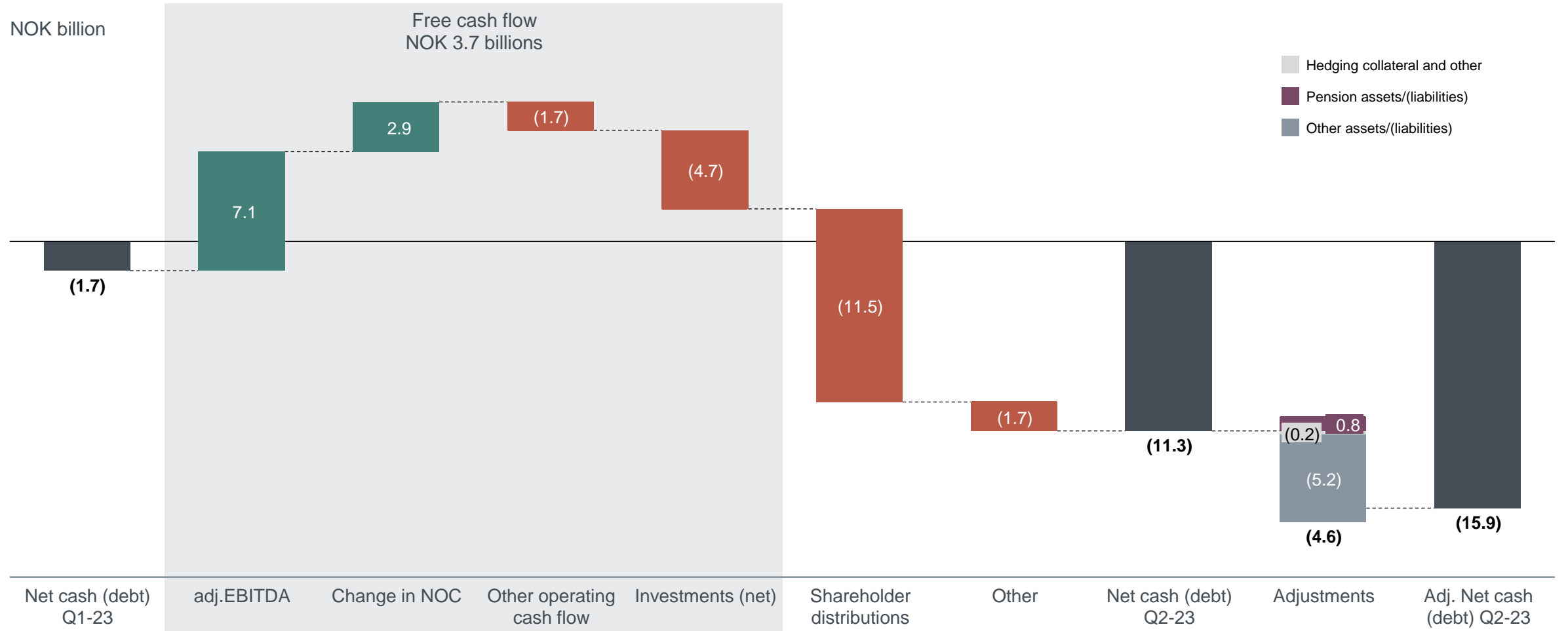
- Strong cash focus in the business areas.
- Cash effective release of NOK 2.9 billion in Q2, driven by inventory release.
- Further improvements are expected, but structural supply chain changes and introduction of CO<sub>2</sub> compensation scheme has increased the NOC level on permanent basis.
- Cash release assumption remains at NOK 2 billion for the year, but is sensitive to changes in price and activity level.

1) NOC-days calculated as: (closing balance NOC book value for the quarter / adjusted revenue during the quarter) \* number of days in quarter  
 2) Avg 2018-2022 partly reflecting new CO<sub>2</sub> compensation scheme and structural supply chain changes. Net operating capital days are estimates excluding Rolling in 2019-2020

# Net debt increase following dividend payment in May



Robust earnings and release of NOC offset by investments and dividend to shareholders

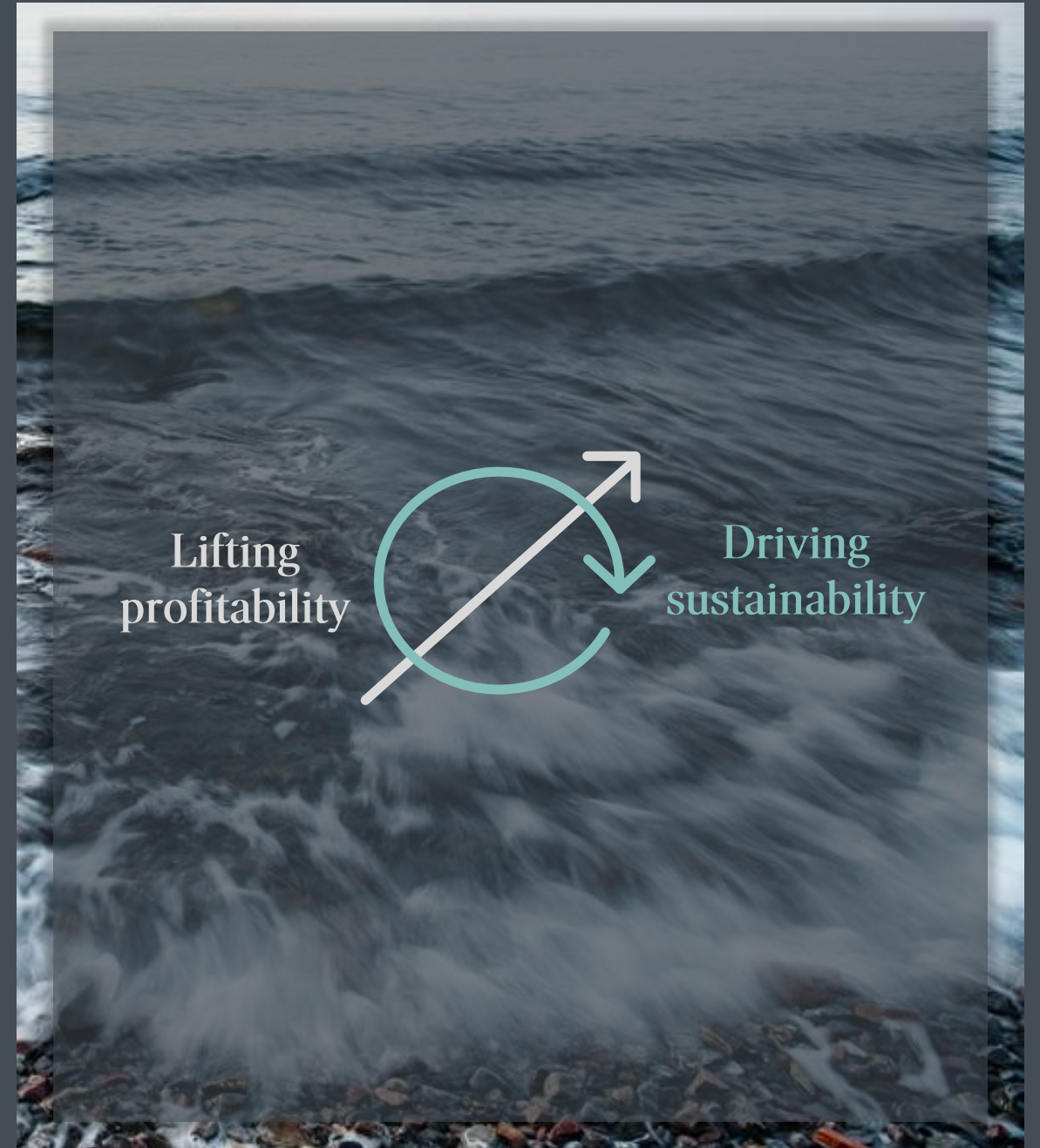


Free cash flow: Excludes hedging collateral (LT/ST restricted cash) and net purchases of money market funds  
Collateral: Includes collateral for short-term and long-term liabilities, mainly related to strategic hedges and the operational hedging activity



# Priorities

1. Health and safety first
2. Maintain robustness in falling markets
3. Enabling and seizing opportunities in greener aluminium at premium pricing
4. Deliver on Recycling and Extrusions growth ambitions
5. Progressing on renewable energy portfolio





Market

# Macro trends and favorable properties drive aluminium demand



Hydro’s strategic direction aims to realize full potential of aluminium’s strong qualities and versatility



### Aluminium

- ✓ Lightness and strength
- ✓ Durability and formability
- ✓ Corrosion resistance
- ✓ Conductivity
- ✓ Recyclability
- ✗ Energy-intensity

### Steel

- ✓ Strength and durability
- ✓ Recyclability
- ✓ Price
- ✗ Weight
- ✗ Corrosion
- ✗ Energy-intensity

### Copper

- ✓ Conductivity
- ✓ Corrosion resistance
- ✓ Recyclability
- ✗ Price
- ✗ Weight
- ✗ Energy-intensity

### Composites

- ✓ Lightness
- ✓ Strength
- ✗ Price
- ✗ Recyclability
- ✗ Climate footprint
- ✗ Energy-intensity

### PVC

- ✓ Lightness and formability
- ✓ Corrosion resistance
- ✓ Price
- ✗ Climate footprint
- ✗ Recyclability
- ✗ Durability

# Product qualities and roadmap to zero make aluminium key for green transition

Key **properties** of aluminium match requirements – lightweight, conductive, corrosion resistance



**Infinitely recyclable** with very low energy need and high resource efficiency



Aluminium based on renewables has **lower footprint** than global average



Aluminium has a **clear roadmap** to zero emissions



## Importance of aluminium within key green transition technologies<sup>1</sup>

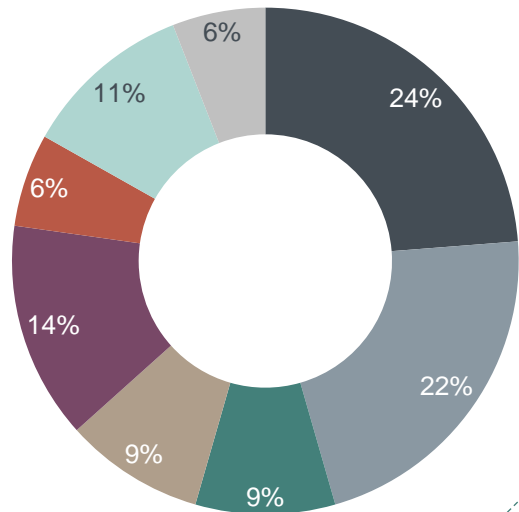
PV		
Electric vehicles		
Wind power		
Electricity networks		
Concentrated solar		
Hydropower		
Bio-energy		
Hydrogen		
Nuclear		
Geo-thermal		

# Transport & construction key semis demand segments

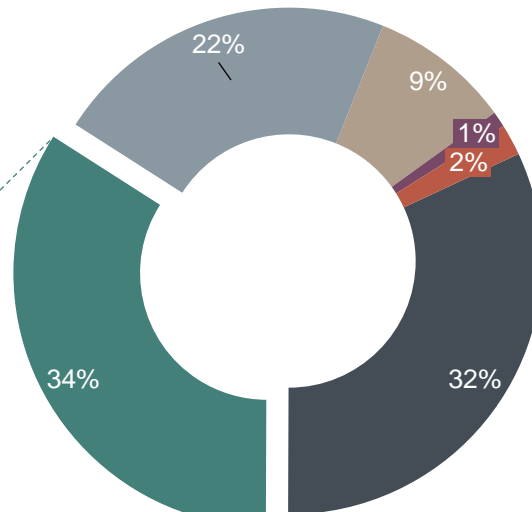
Source: CRU, Hydro Analysis

Global semis demand 2022: ~96 million tonnes

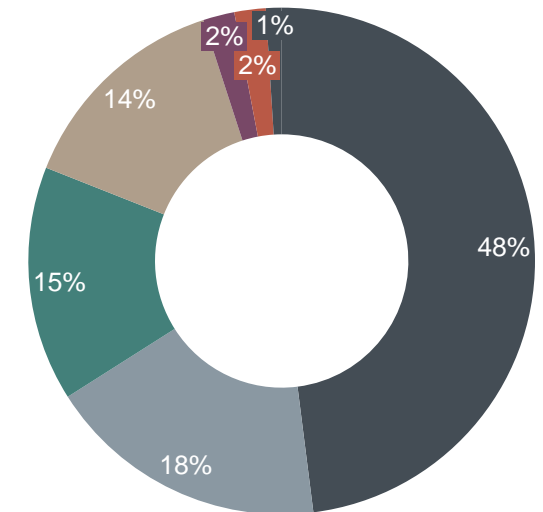
Per segment



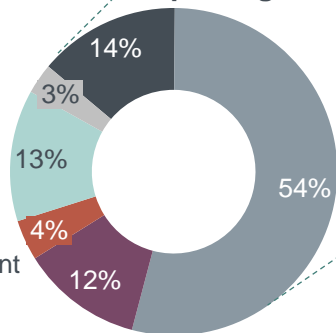
Per product form



Per region



Extrusions per segment



- Transport
- Construction
- Packaging
- Foil stock
- Electrical
- Consumer durables
- Machinery & Equipment
- Other

- Rolled products
- Extrusions
- Castings
- Wire & Cable
- Forgings
- Powder & paste, other

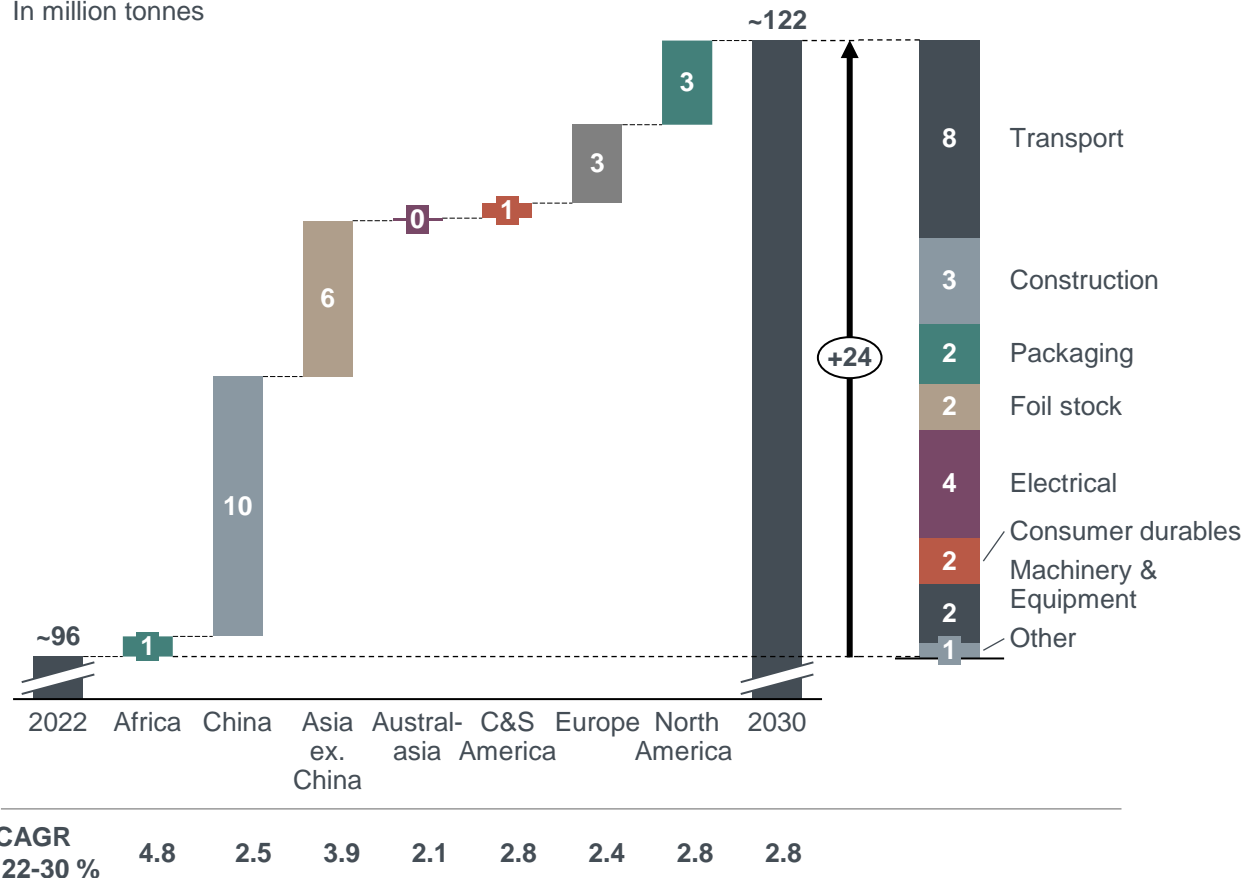
- China
- Asia ex. China
- Europe
- North America
- Central & South America
- Africa
- Australasia

# Green transition drives aluminium consumption

Semis demand growth driven by transport and electrical

Global semis demand 2022-2030

In million tonnes

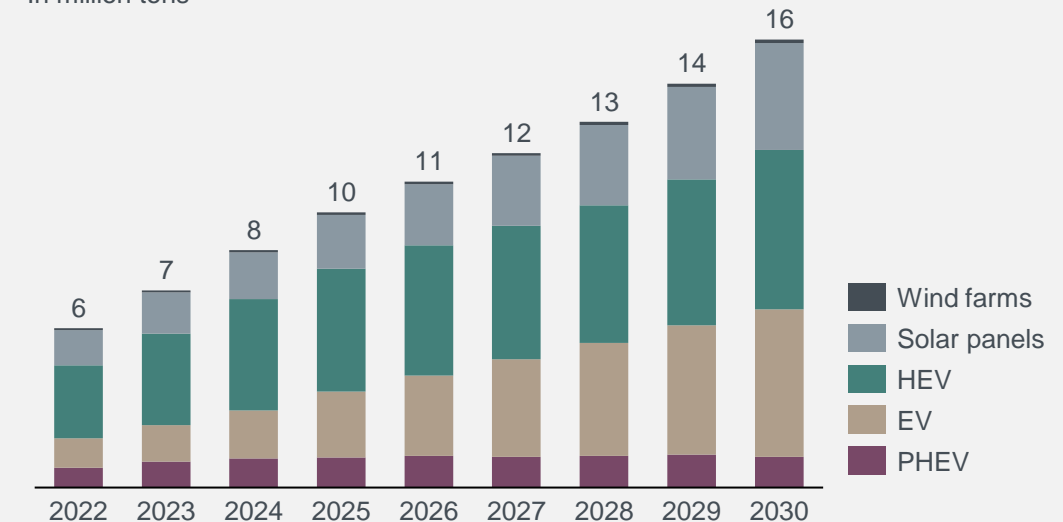


Source: Hydro analysis, CRU, Goldman Sachs  
 1) Electrical vehicles (EV), hybrid electrical vehicle (HEV), plug-in hybrid electrical vehicle (PHEV)



Additional aluminium demand from green transition<sup>1)</sup>

In million tons

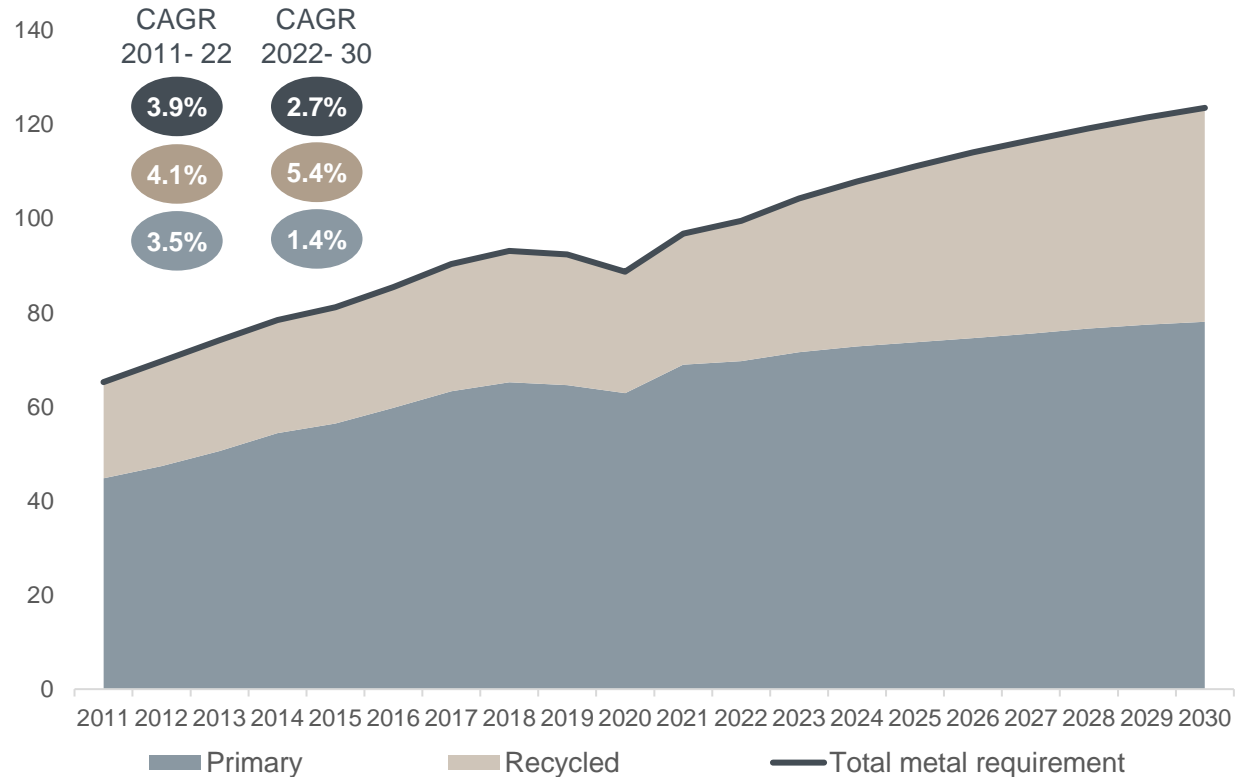


# Future consumption growth increasingly met with recycling

New primary capacity still necessary to balance markets

## Global aluminium consumption

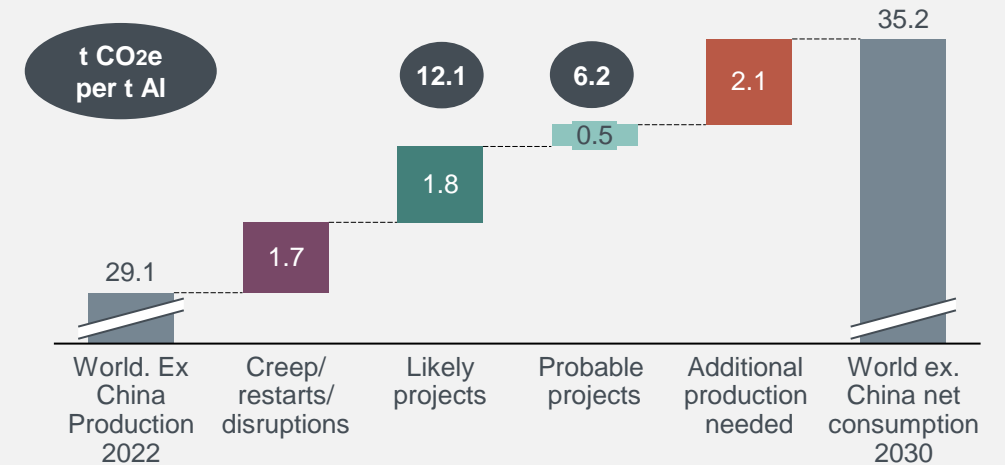
In million tonnes



Source: CRU

## Majority of announced primary growth based on high carbon energy sources

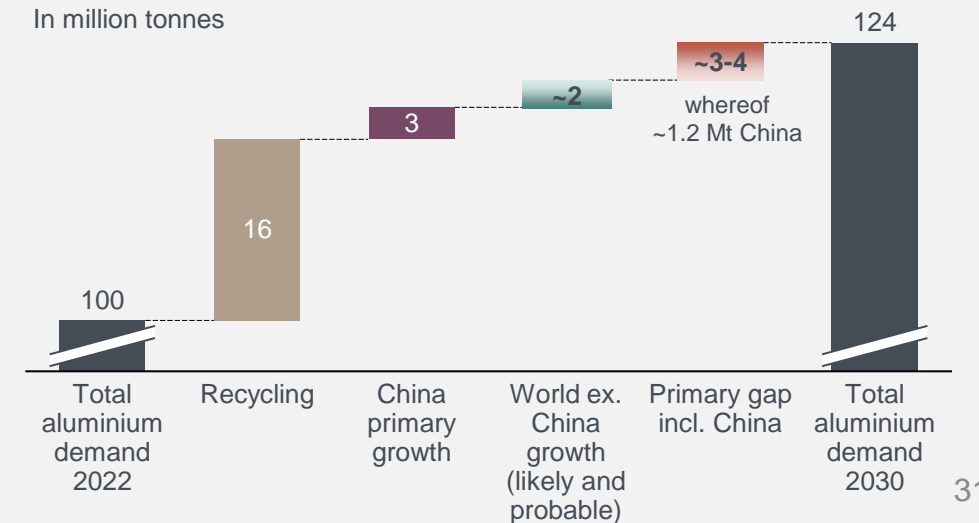
In million tonnes



## Largely balanced markets

Expected likely and probable projects are developed

In million tonnes

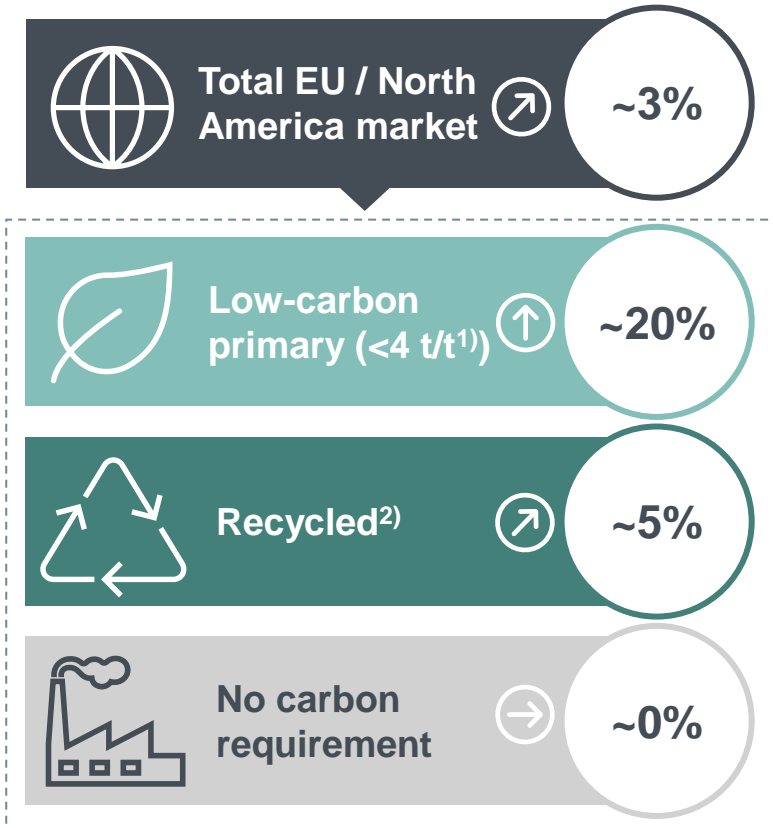


# Demand for greener aluminium accelerates

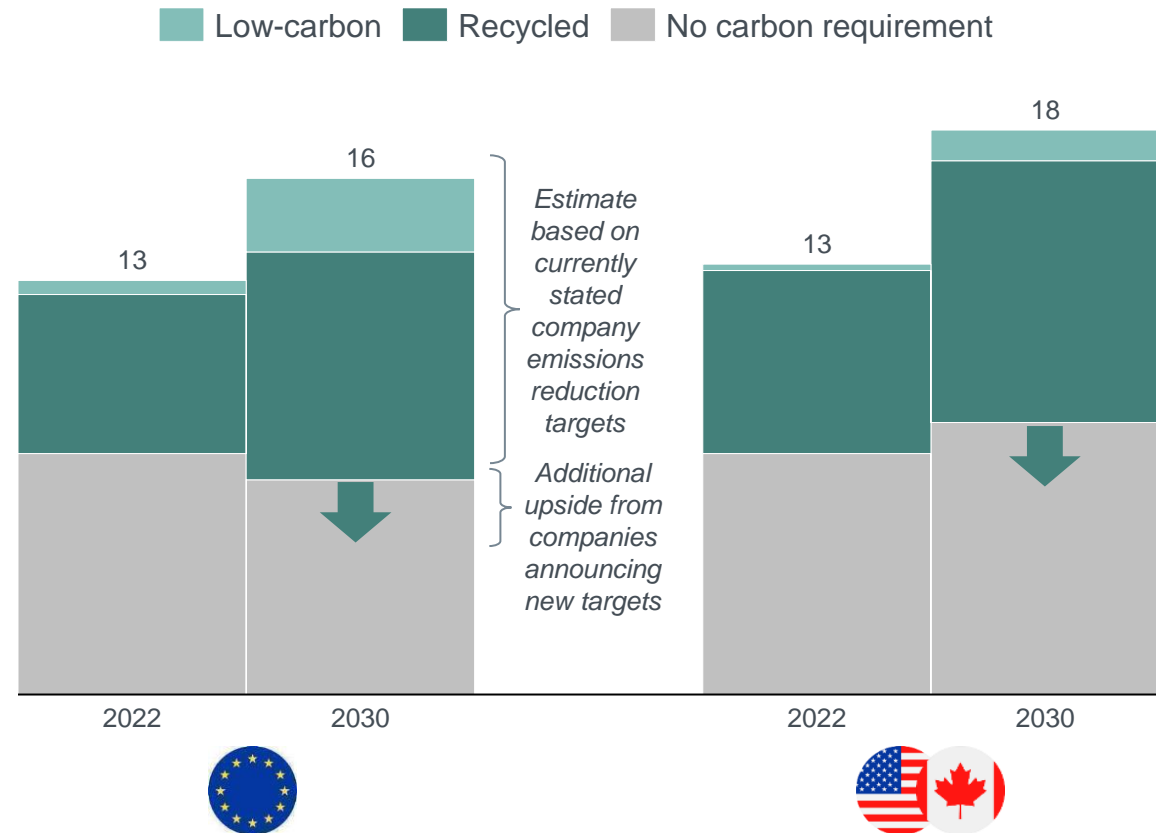
Low-carbon and recycled aluminium to make up majority of EU and North America market by 2030

Greener demand growth is outpacing the rest of the market

'22 -'30 CAGR



Estimated demand from currently stated company emissions reduction targets – demand upside as new targets are expected



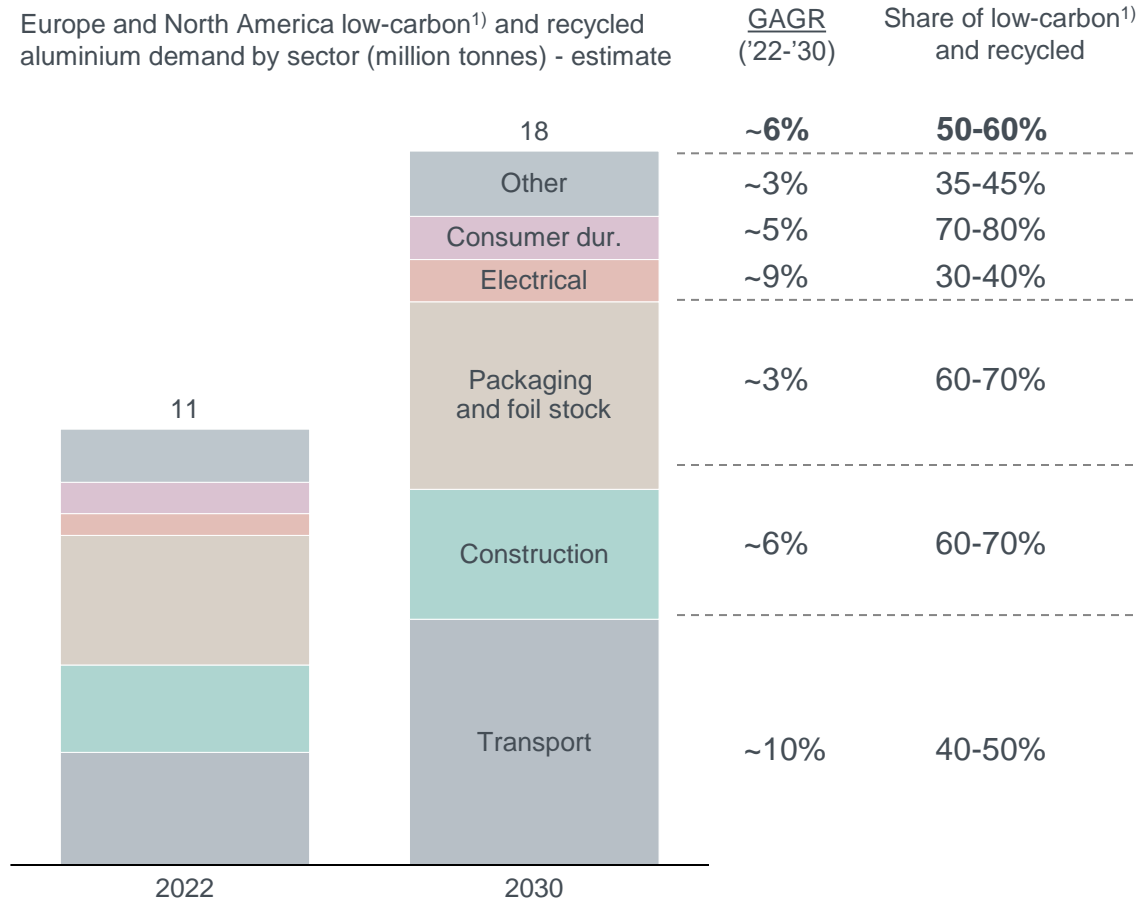
1) Tonnes of CO<sub>2</sub>e per ton of primary aluminium produced, including full value chain emissions. 2) Does not distinguish between post-consumer scrap and process scrap



# Carbon reduction targets growing across market segments



## Estimated demand based on currently stated ambitions



## Examples of front runners with ambitious 2030 targets

	Scope 3 reduction targets	Specific aluminium commitments
	CO <sub>2</sub> e neutral value chain	10% of primary at <3 t/t
	45% per MWh generated	
	52% per MW constructed	
		10% of primary at <3 t/t
		10% of primary at <3 t/t
	50% for absolute emissions	Max. 2.0 kg carbon emitted / kg
	30% for absolute emissions	
	20% for absolute emissions	
	CO <sub>2</sub> e neutral balance sheet	
	CO <sub>2</sub> e neutral (2039)	
	25% per vehicle (2025)	10% of primary at <3 t/t
	22% per vehicle	
	30% per vehicle	

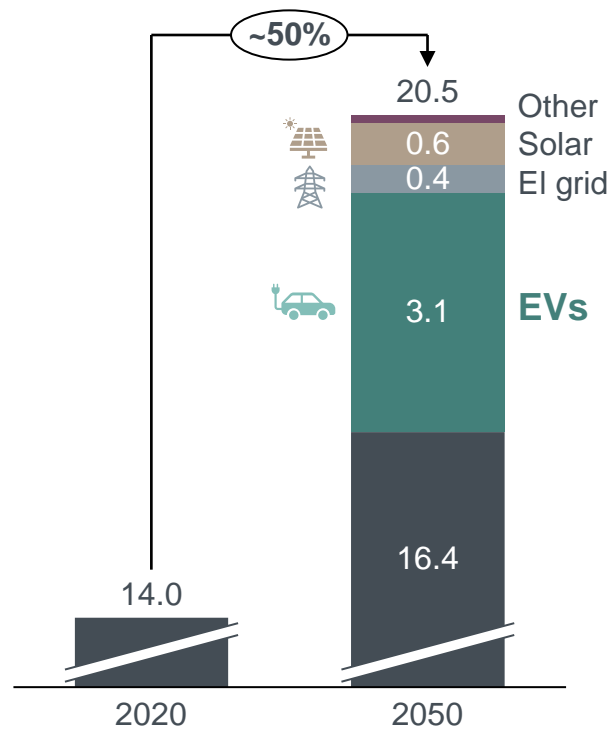
1) <4 tons of CO<sub>2</sub>e emissions per ton of primary aluminium produced, including full value chain emissions

# Green transition drives aluminium demand

Customers accelerating demand for greener aluminium

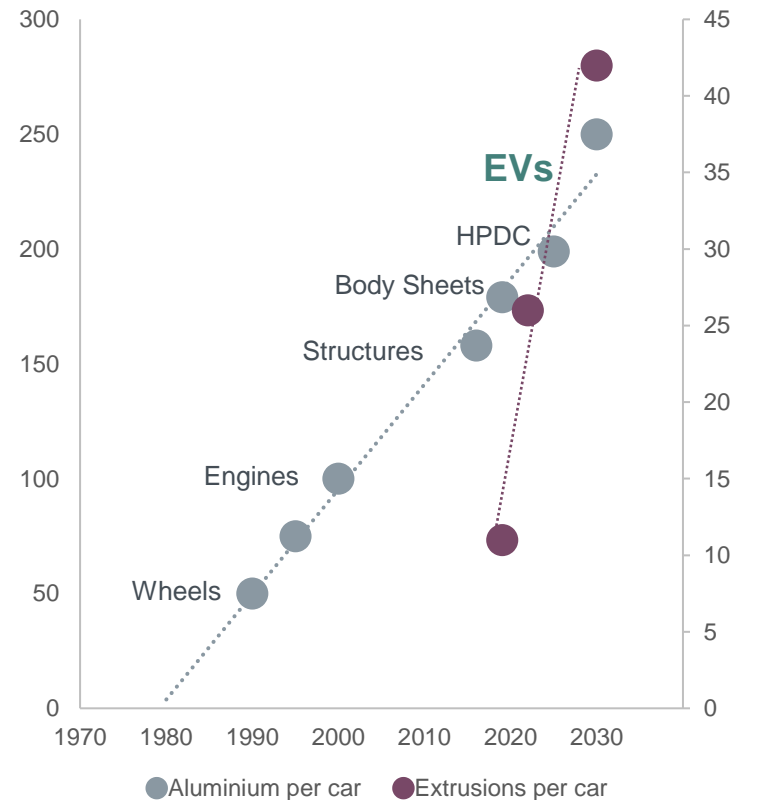
## ~5 million tonnes from green transition until 2050

Aluminium demand Europe, NOK million tonnes



## Aluminium in cars increasing to 2030 – Extrusion in cars accelerating

Aluminium in car, kg<sup>1)</sup>



## Customers are demanding greener aluminium

Examples: Scope 3 reduction targets and aluminium commitments

	CO <sub>2</sub> e neutral balance sheet
	CO <sub>2</sub> e neutral (2039)
	25% per vehicle (2025) / 10% primary <3 t/t
	22% per vehicle
	30% per vehicle
	50% for abs. emissions / Max 2 kg carbon/kg
	30% for abs. emissions
	20% for abs. emissions
	10% primary <3 t/t
	10% primary <3 t/t
	45% per MWh generated
	52% per MW constructed
	CO <sub>2</sub> e neutral value chain / 10% primary <3 t/t

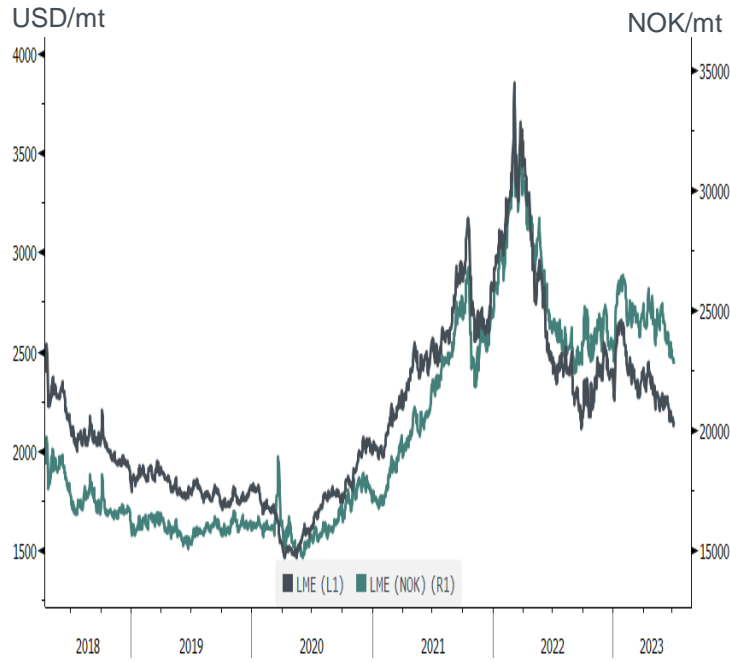
Source: Eurometaux, Ducker  
1) Based on Europe

# Revenue drivers through Q2 2023

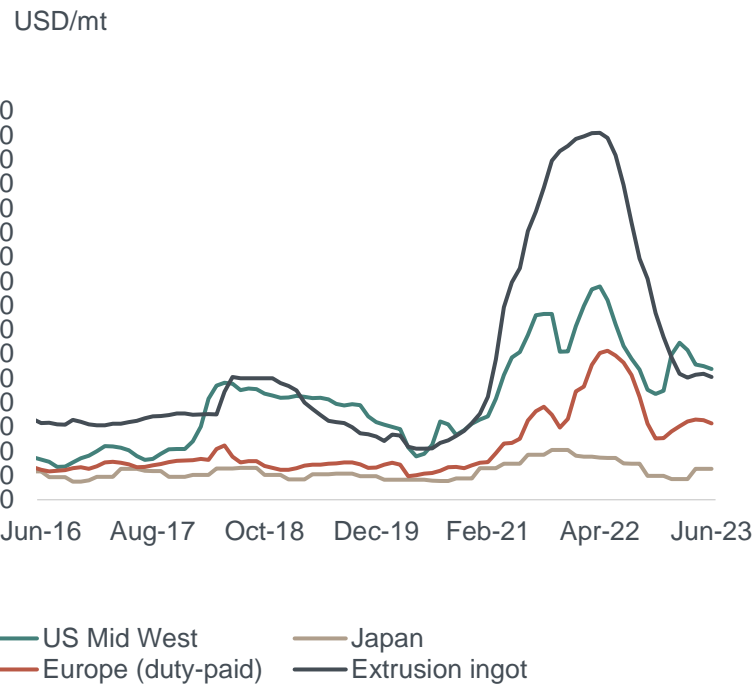


Source: Metal Bulletin, Platts, Reuters Ecowin, Hydro analysis

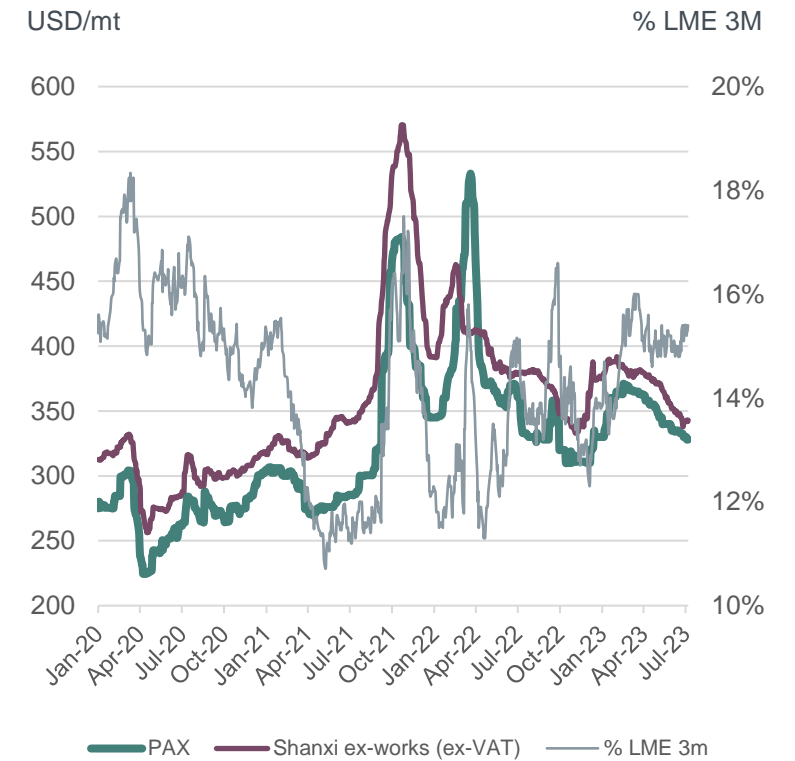
### LME aluminium prices



### Regional standard ingot premiums



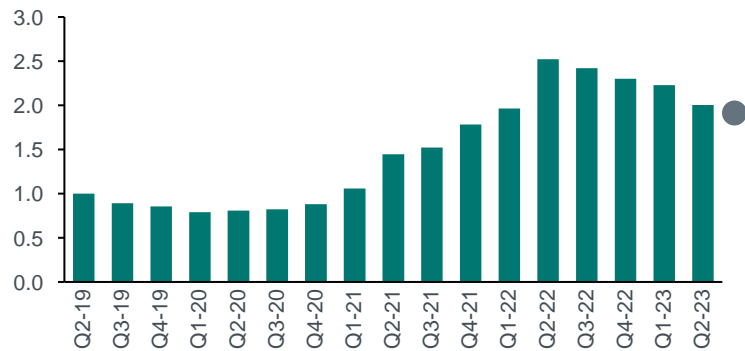
### Platts alumina index (PAX)



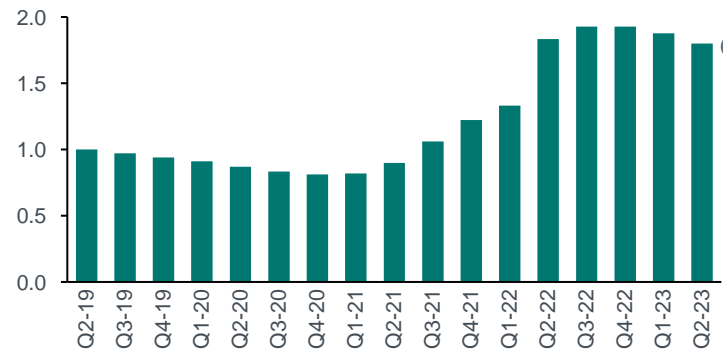
# Market raw material costs in Q2 2023



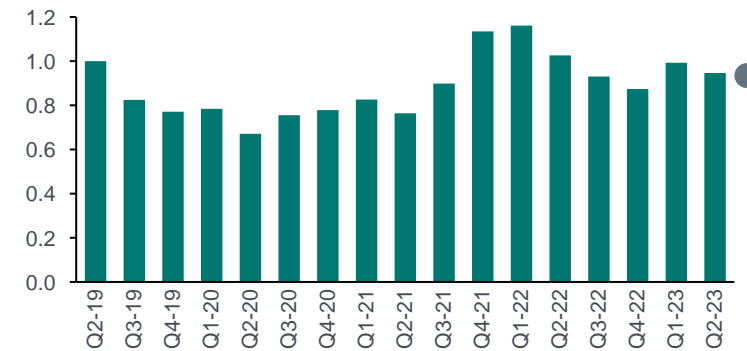
Petroleum coke FOB USG (indexed)



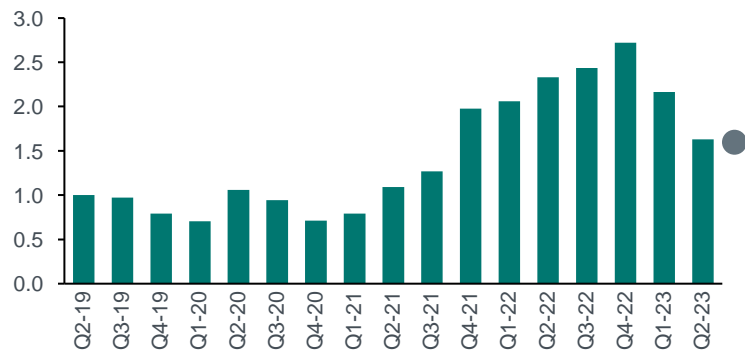
Pitch FOB USG (indexed)



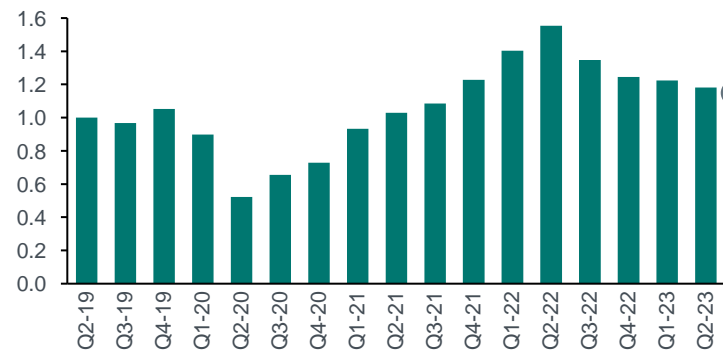
Alumina PAX index (indexed)



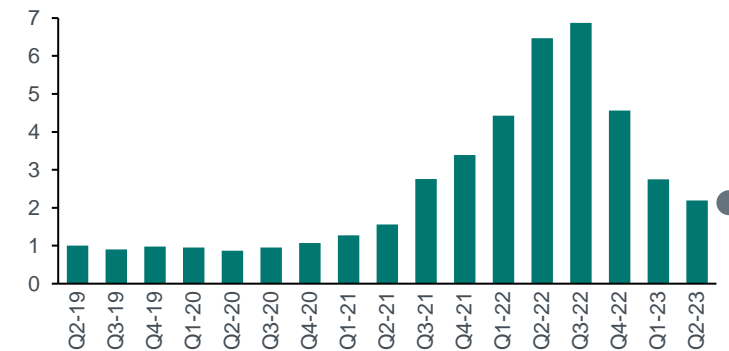
Caustic soda (indexed)



Fuel oil A1 (Indexed)



Steam coal (indexed)



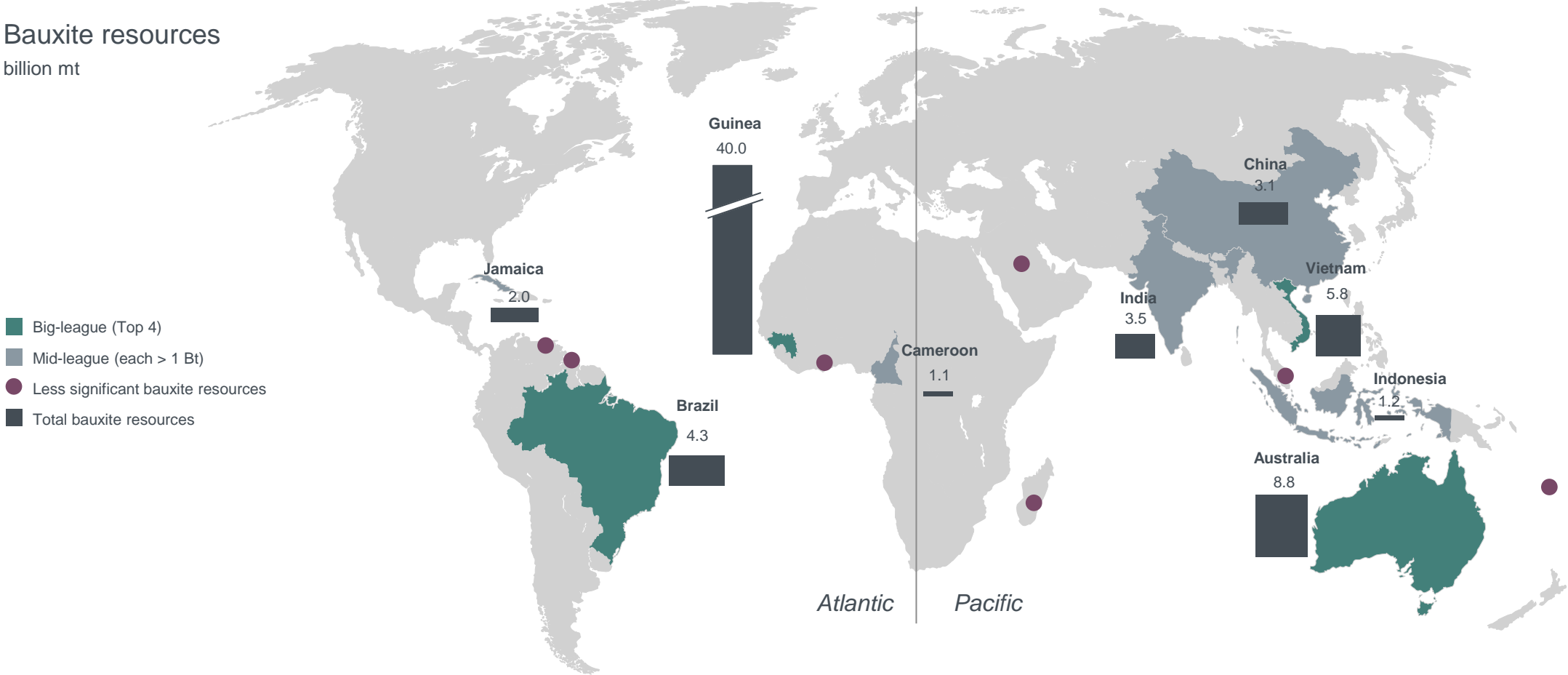
● Indication of current market prices

# Large and concentrated bauxite resources



Guinea stands out as a long-term source

Bauxite resources  
billion mt



Source: CRU



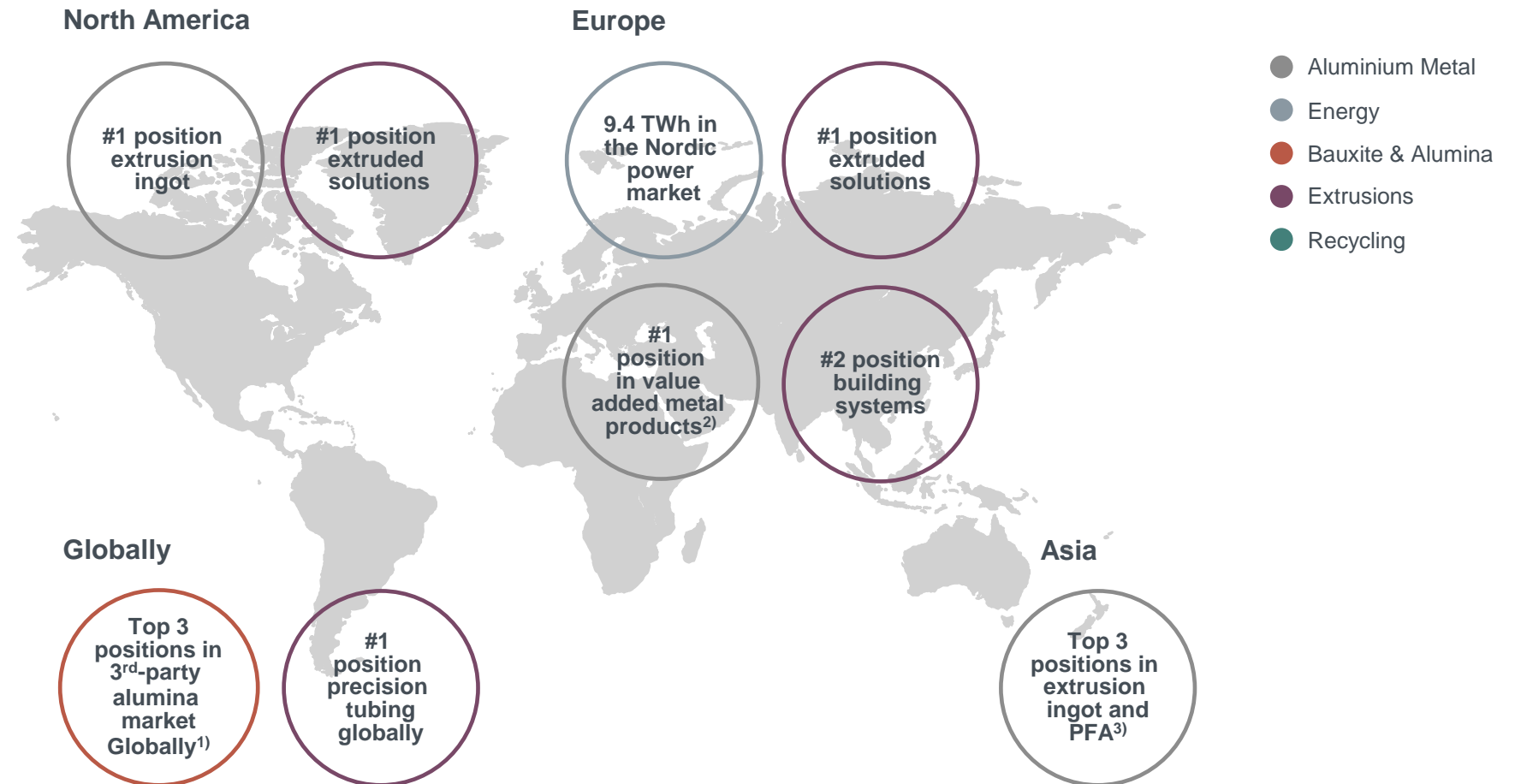
# Position

# Strong global presence throughout the aluminium value chain

Built on market understanding, customer closeness and competence

## The complete aluminium company

- High-quality bauxite and alumina production in Brazil
- Primary production in Norway, Germany, Qatar, Slovakia, Brazil, Canada, Australia
- 9.4 TWh captive hydropower production
- World leader in aluminium extruded profiles
- Remelting in the US, European recycling network
- Unparalleled technology and R&D organization



1) Outside China

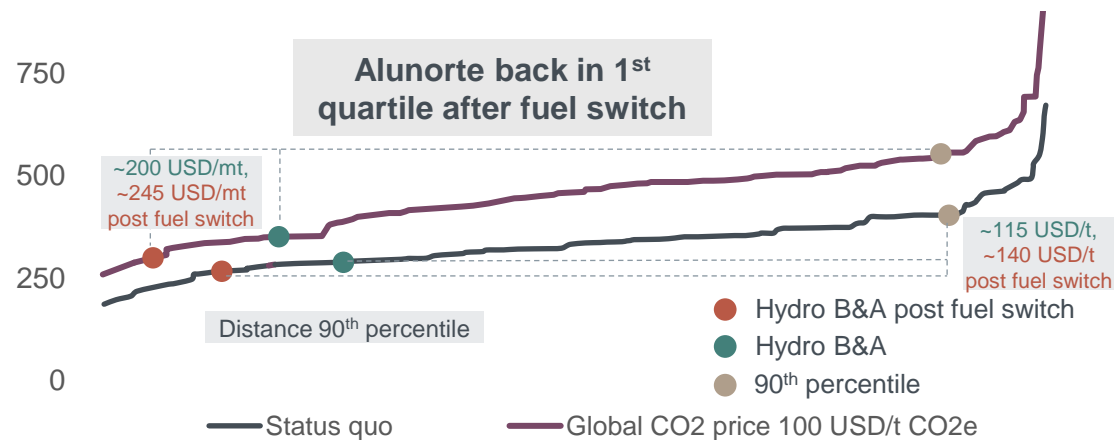
2) Extrusion ingot, sheet ingot, primary foundry alloys and wire rod

3) Primary Foundry Alloys

# Steeper cost curve, low-carbon demand and robust position drive margin potential

## Bauxite & Alumina

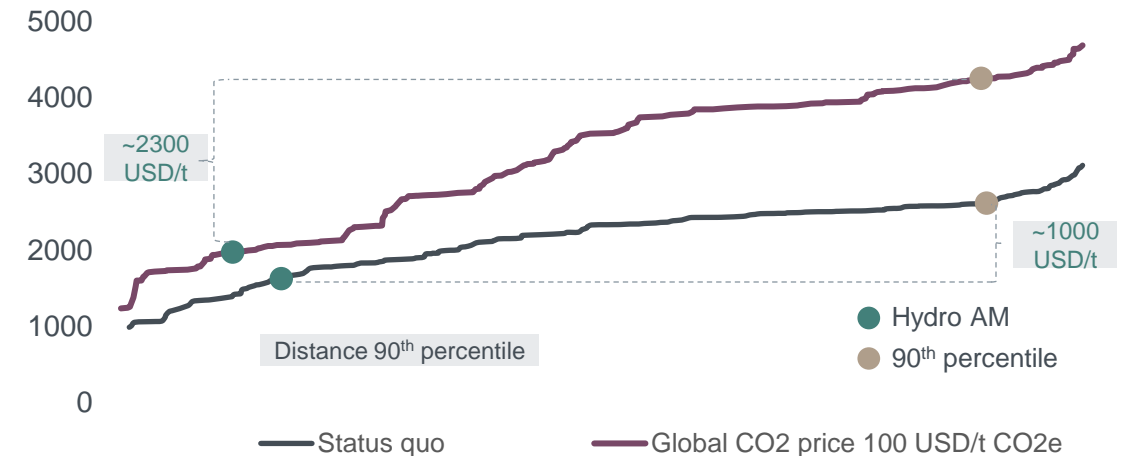
Alumina Business Operating Cost curve (2022)



- Competitively positioned on the global cost curve at the 30<sup>th</sup> percentile
- Fuel switch & electrical boilers project reduce carbon emissions by 30% by 2025
- Global carbon price would improve relative competitive position in Hydro B&A

## Aluminium Metal

Smelter Business Operating Cost curve<sup>1)</sup> (2022)

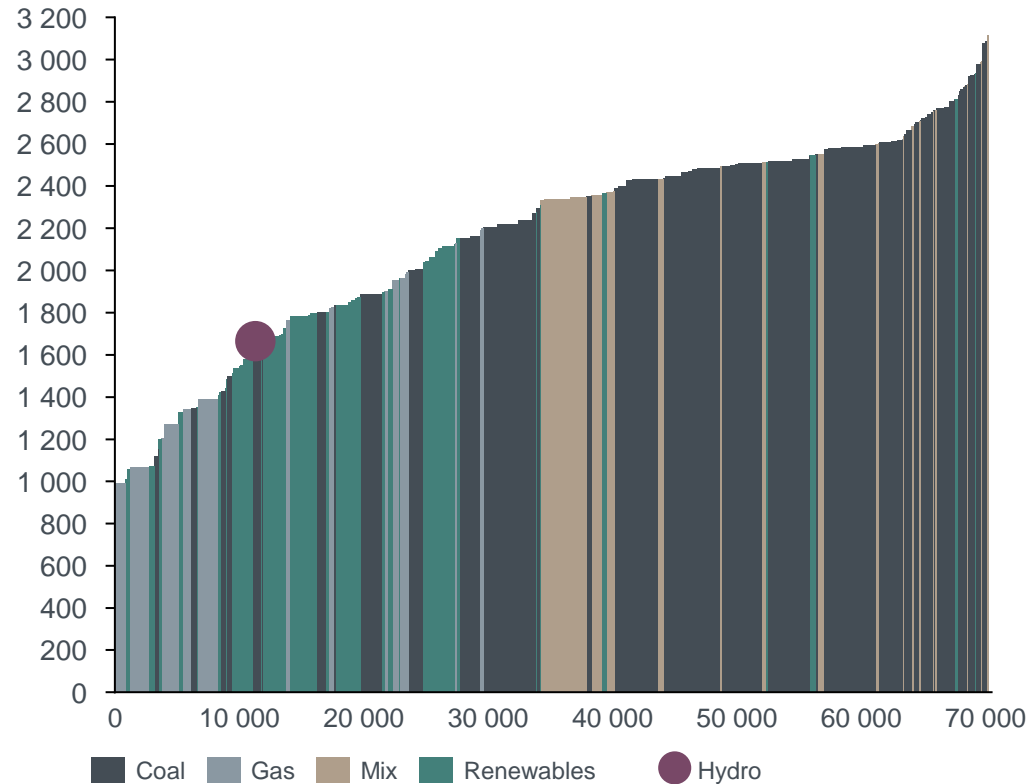


- Competitive relative position on the global cost curve at the 17<sup>th</sup> percentile
- Strong portfolio of low-carbon smelters
- Global carbon price would improve relative competitive position in Aluminium Metal



# Long term renewable power contracts ensure robustness

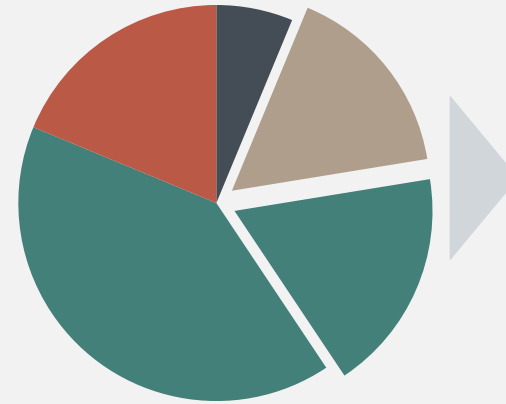
Smelter business operating cost curve 2022  
USD/tonne



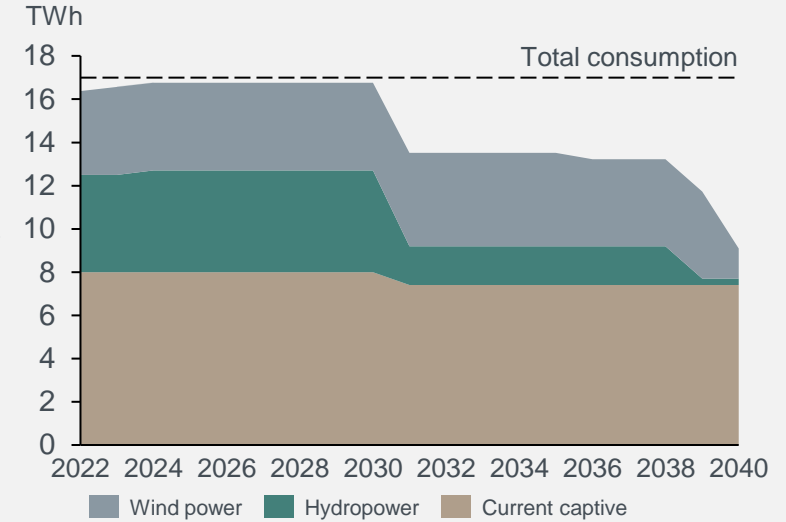
Source: CRU, Hydro analysis

1) Net ~8 TWh captive assumed available for smelters. 2) Hydro Share: Qatalum captive (50%), Alouette (20%), Tomago (12.4%), Albras (51%). 3) Total Alunorte and Paragominas – all consumption sourced through Hydro

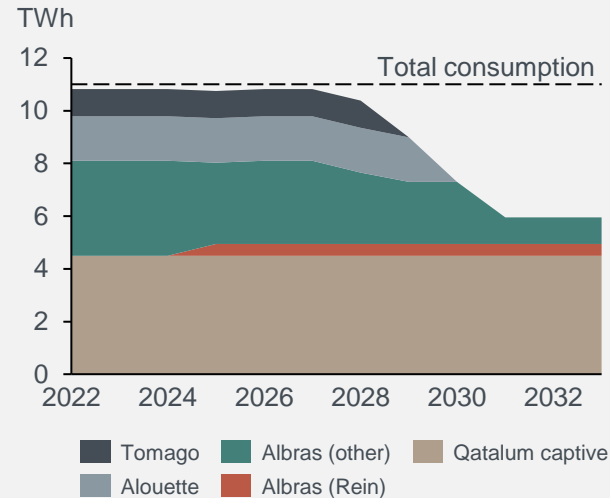
Power sourcing for smelters in Europe



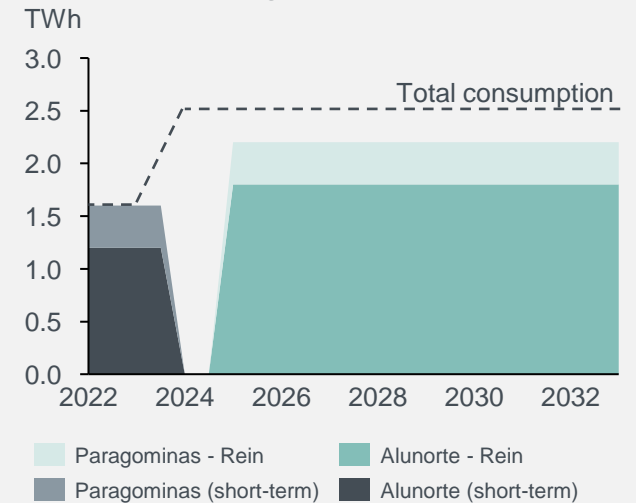
Power sourcing for Hydro smelters in Norway<sup>1)</sup>



Power sourcing for Hydro JV smelters<sup>2)</sup>



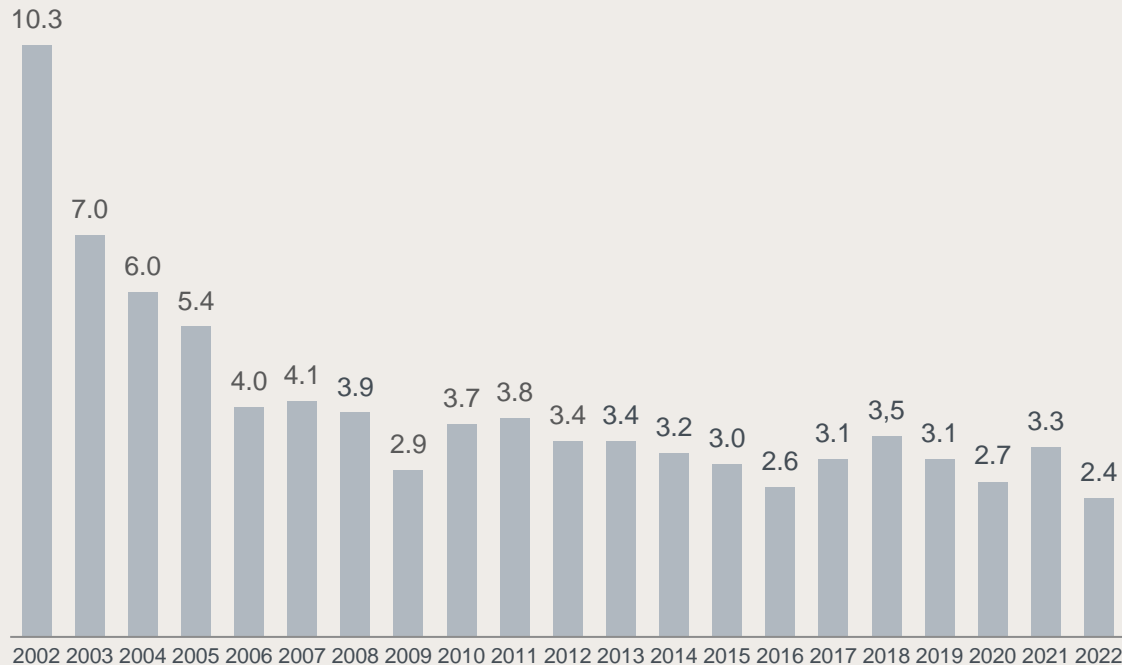
Power sourcing for Hydro B&A<sup>3)</sup>



# Safe and responsible operations is a top priority

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

TRI Rate<sup>1)</sup>



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

Continuing efforts to further increase transparency 

- 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)
- Hydro again rated Low risk on ESG by Sustainalytics



**17.3 (Low risk)**  
#3 in sector (3/226)



**AA rating**  
“Leading initiatives to achieve carbon-free aluminium”

Member of  
**Dow Jones Sustainability Indices**

Powered by the S&P Global CSA  
**67%**  
Europe Index inclusion  
DJSI inclusion since 1999



**73/100**  
96<sup>th</sup> percentile



**71/100**

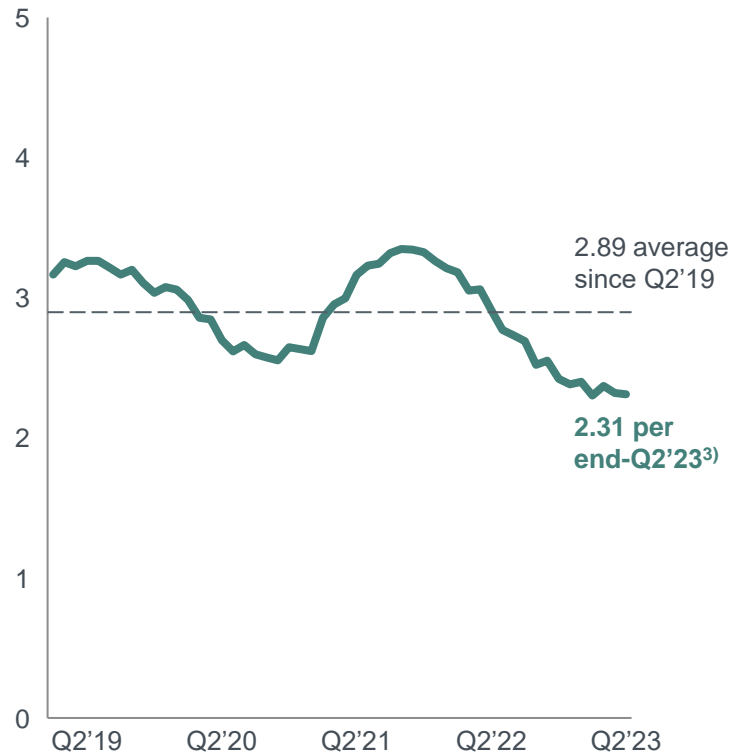


**B rating**  
Corporate Rating: Prime Status

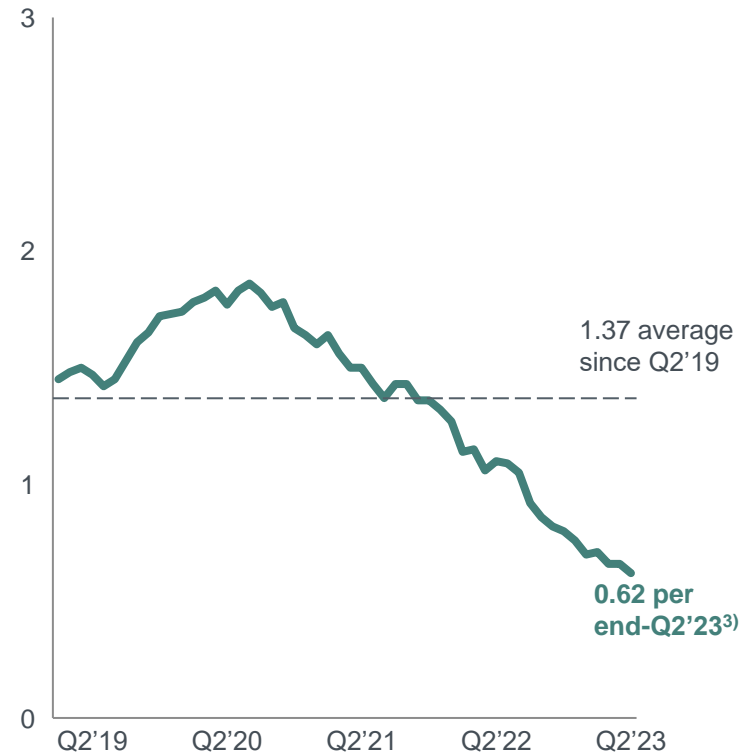
# Safety a key priority

TRI and HRI continue positive development

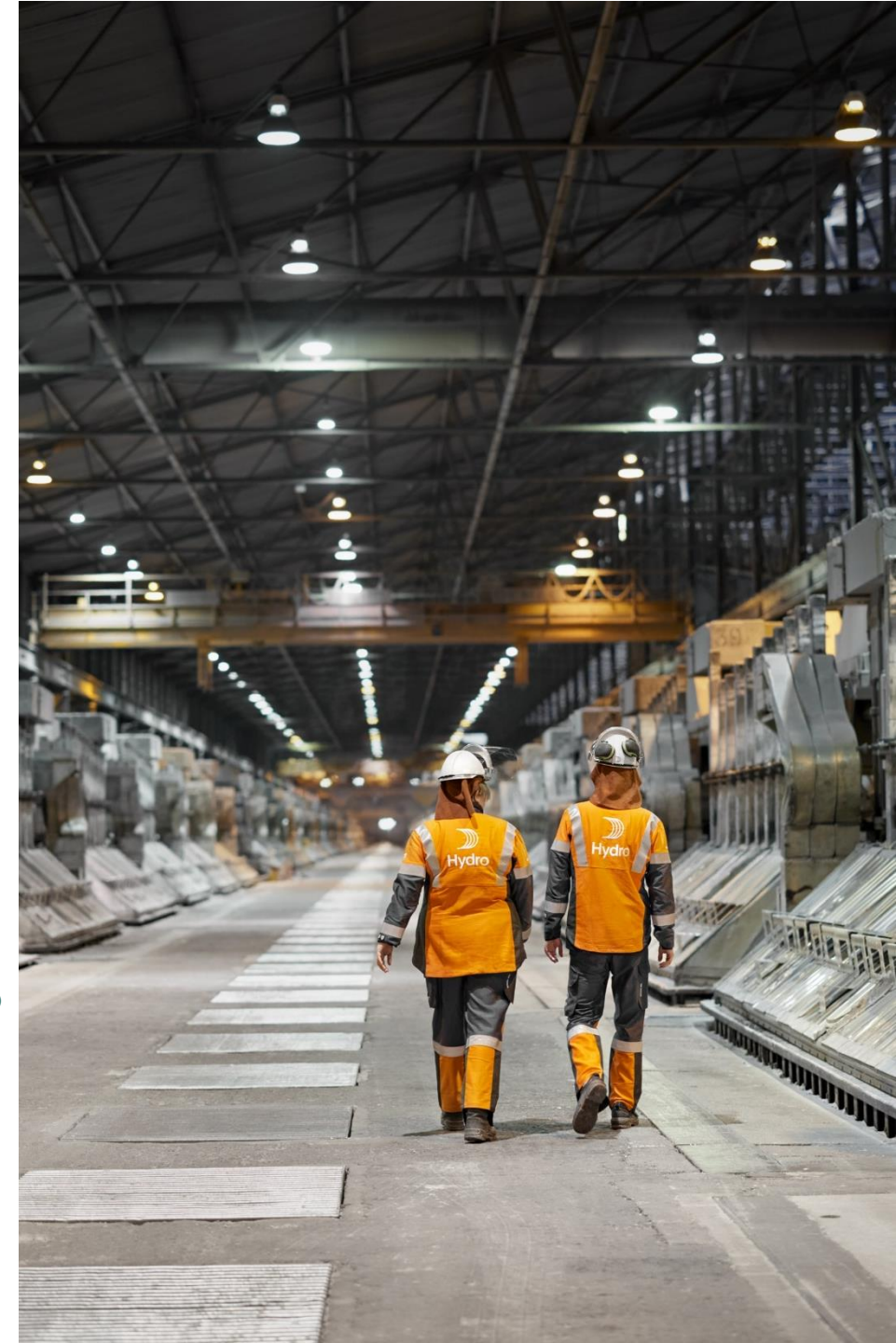
TRI<sup>1)</sup> per million hours worked  
12 months rolling average



HRI<sup>2)</sup> per million hours worked  
12 months rolling average



1) Total Recordable Injuries includes own employees and contractors  
2) High Risk Incidents included own employees and contractors  
3) Average over period



# 2025 hedge position increased by 100 kt during the quarter



## Aluminium hedges of 100-460 kt/yr 2023-25 in place

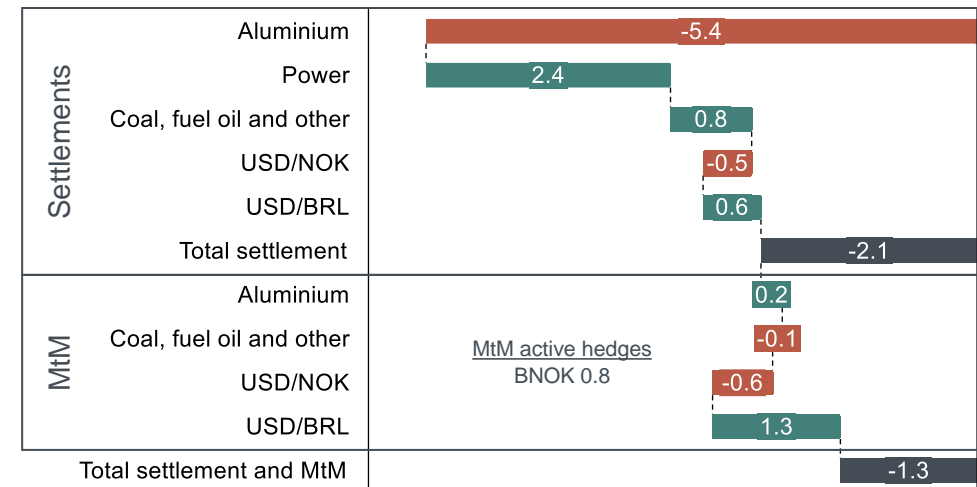
- 2023: 230 kt remaining at a price of ~2200 USD/t
  - 38 kt call-options as liquidity measure
- 2024: 440 kt hedged at a price of ~2400 USD/t
- 2025: 300 kt hedged at a price of ~2500 USD/t
- Pricing mainly in NOK, with USD hedges converted to NOK via USD/NOK derivatives
- Corresponding raw material exposure partially secured using financial derivatives or physical contracts

## B&A and AM BRL/USD Hedge

- USD 738 million sold forward for 2023-2025
  - USD 330 million 2023 at rate 6.03
  - USD 335 million 2024 at rate 6.19
  - USD 75 million 2025 at rate 5.51
- Aim to reduce volatility and uncertainty in Alunorte and Albras cash flows, as well as support robust cost curve positions

## Strategic hedging status

NOK Billions

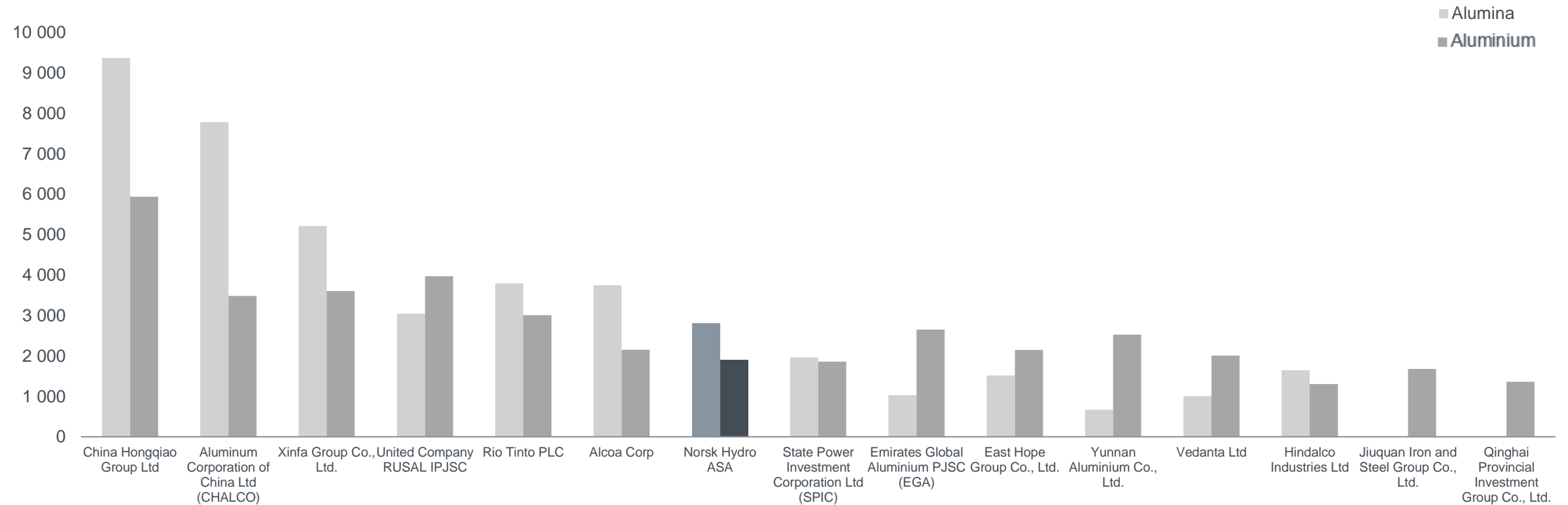


## Utilizing Hydro's hedging policy to deliver on strategic ambitions

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

# Hydro - the fourth largest aluminium producer outside China

Equity production in 2022 in aluminium equivalents, thousand tonnes



Source: CRU  
 Hydro with Alunorte at 6.3 million mt  
 Ala to Al conversion factor: 1.925

# Well positioned for future value creation



## People

- Global, highly skilled workforce
- Strong focus on development, diversity, inclusion and belonging



## Technology

- Leading innovation throughout value chain
- Product development in collaboration with customers
- Clear decarbonization roadmap



## Market position

- Close customer collaboration and partnerships
- Integrated value chain
- Strong positions with Europe and North America
- Value added products



## Sustainability

- Comprehensive low-carbon aluminium offerings
- Renewable energy foundation
- Leading post-consumer scrap competence

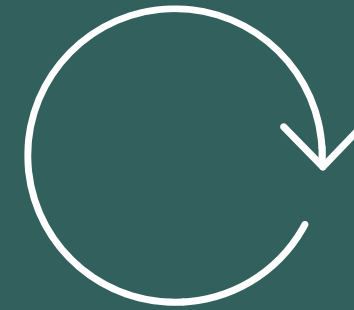


# Strategy and Ambitions



## Profitability

ROACE > 10%



## Sustainability

CO<sub>2</sub> - 30%



# Hydro's strategic direction toward 2025



Seizing opportunities where our capabilities match megatrends

## 1 Strengthen position in low-carbon aluminium



## 2 Diversify and grow in new energy



Lifting profitability, driving sustainability

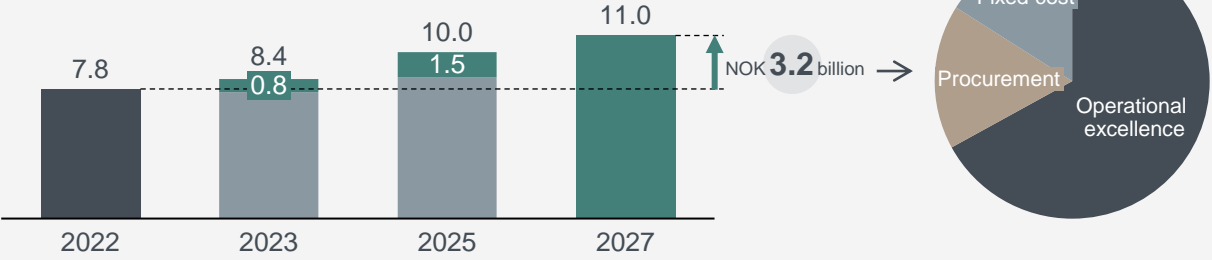


# Increased improvement ambitions

Strengthening future competitiveness and positioning with additional NOK 0.8 and 1.5 billion in 2023 and 2025. Further stretched with additional NOK 1.5 billion by 2027

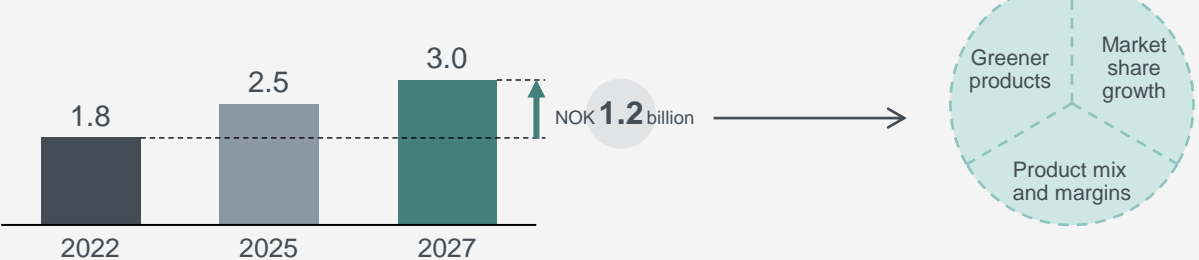
## Improvement program

Ambitions increased in 2023 and 2025, and extended with additional NOK 1 billion until 2027



## Commercial initiatives

Ambition extended with additional NOK 0.5 billion until 2027



2018 baseline on accumulated improvements until 2021, 2021 baseline from 2022. Rebase effect of NOK 0.7 billion for improvement program. NOK 2 billion in annual average CAPEX to meet remaining improvement and commercial ambitions.

# Growing in energy

Leveraging strong platform and capabilities

## Energy Operations & Energy Markets

- Approx NOK 3.5 billion earnings “platform” (LTM adjusted to normal production and no area price gain)
- In addition, commercial contribution of approx. NOK 400 million average last 3 years



- USD 2.7 billion contracted revenues<sup>1)</sup>
- NOK 400 - 450 million estimated EBITDA contribution from projects in construction in 2026
- NOK 2.5 billion remaining capex for projects in construction



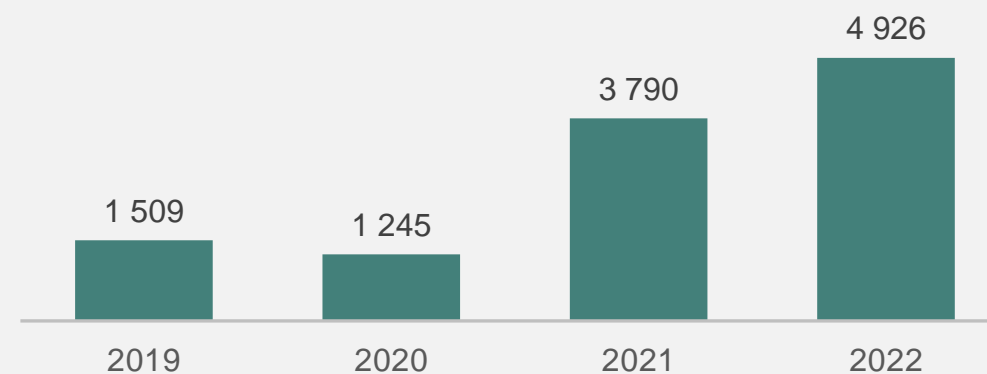
- Establishing as developer, owner and operator of green hydrogen production facilities
- Large fuel switch potential next decade internally, enabling hub development for external customers

## Batteries

- NOK 3 billion capital allocated 2020-2025
- Targeting 3x value uplift on equity invested by 2025



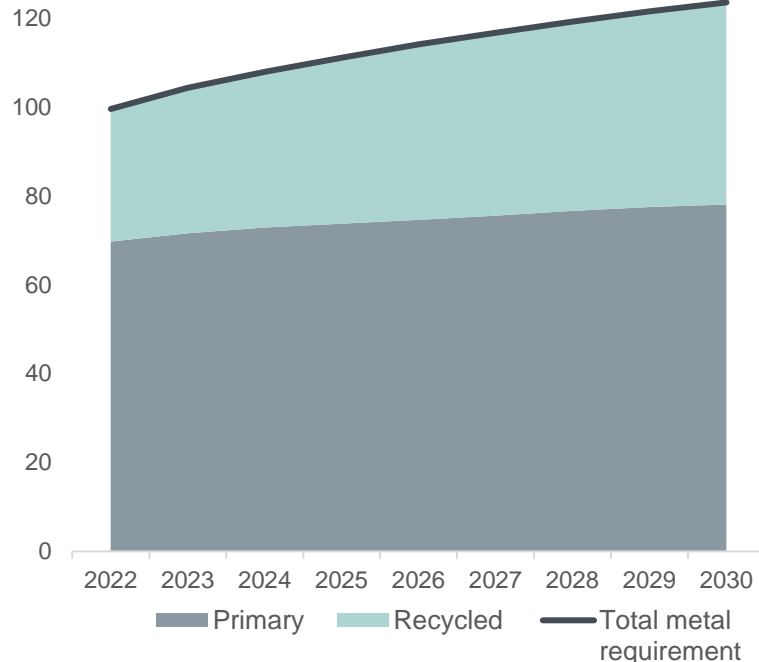
Adjusted EBITDA Energy 2019 – 2022  
NOK million



1) Projects in construction: Stor-Skålsjön, Mendubim, Boa Sorte, Feijão

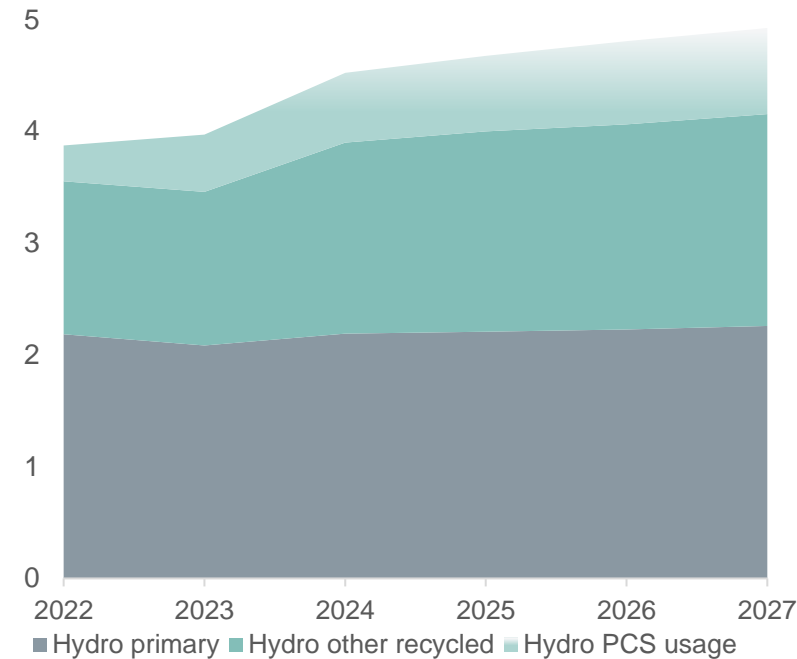
# Ambitious recycling strategy delivering on future consumption growth

Global aluminium consumption  
In million tonnes



CAGR 2022-30: Primary 1.4%, Recycled 5.4%, Total metal requirement 2.7%

Hydro aluminium production  
In million tonnes<sup>1)</sup>



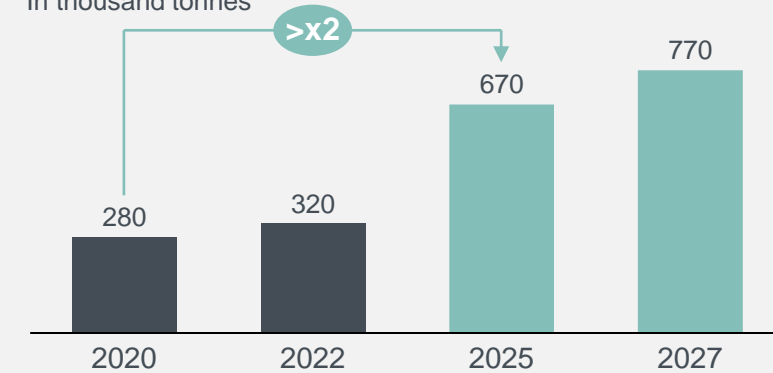
Ambition to add ~1 million tonnes recycled capacity until 2027, whereof 40-50% from PCS

## Recycling 2025 and 2027 targets

All approved project pipeline

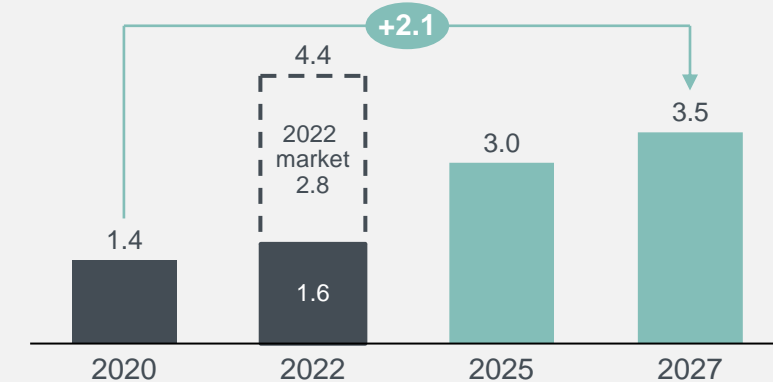
### PCS usage and ambition

In thousand tonnes



### EBITDA

In NOK billions

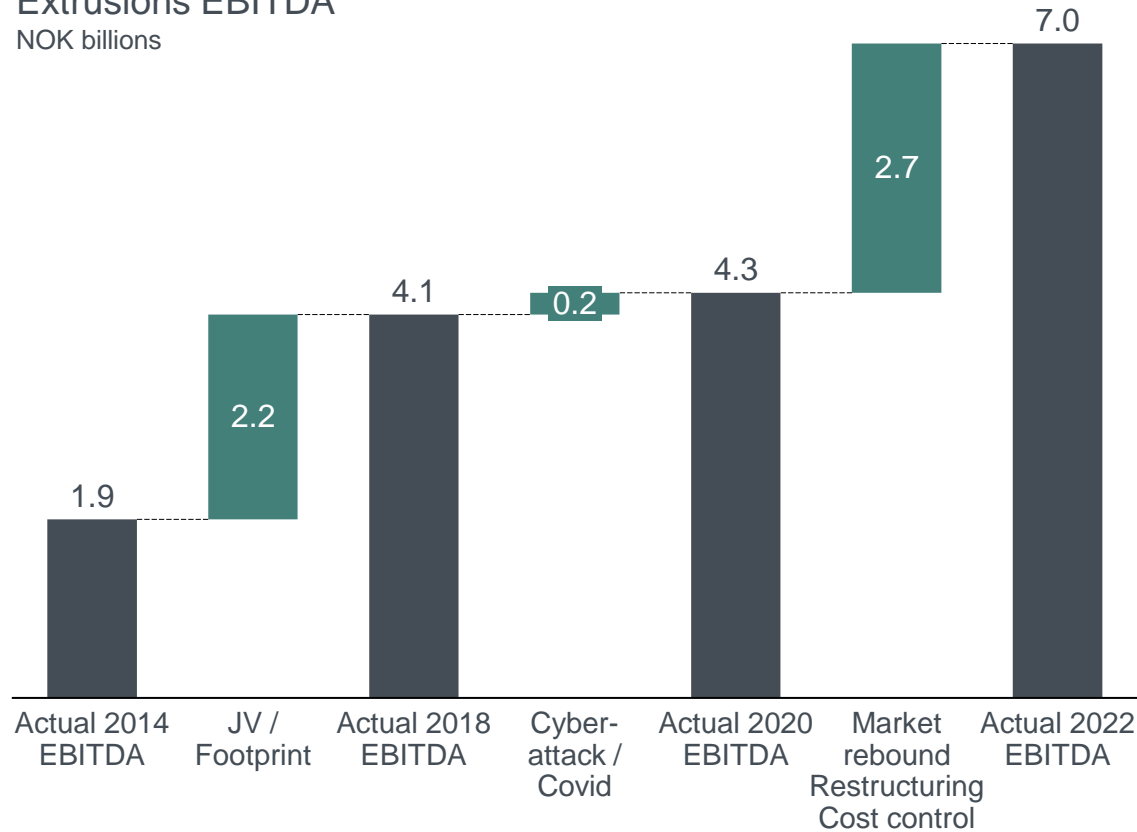


# Delivering robust Extrusions margins in weaker markets, and on track for NOK 8 billion AEBITDA target



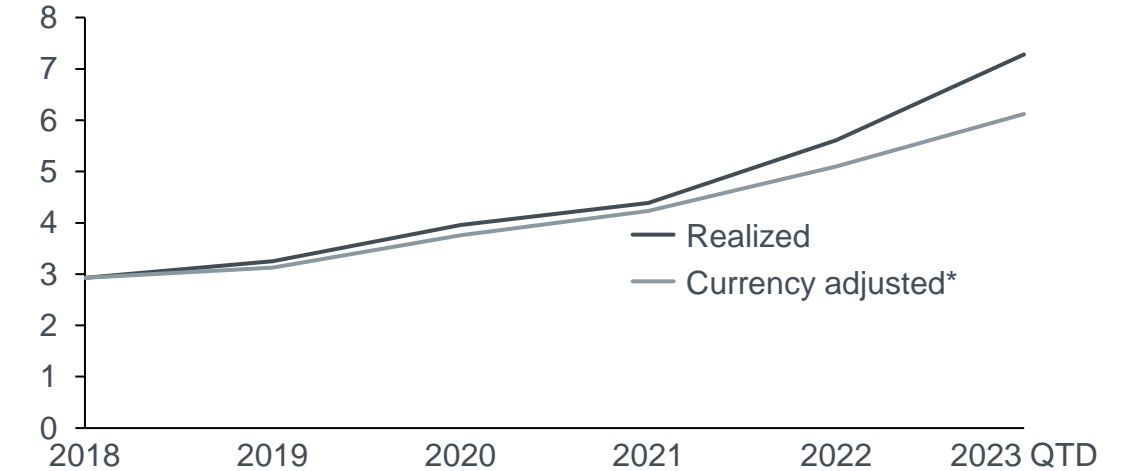
Portfolio optimization, pricing, productivity and recycling driving margins

Extrusions EBITDA  
NOK billions



1,399	Volumes sold (million tonnes)	1,250
-------	-------------------------------	-------

AEBITIDA margin  
NOK per kg



*Several initiatives for further improvement:*

- **Efficiency and cost saving programs** including procurement, automation and technology development
- **Commercial activities** leveraging position to grow in selected segments and improve product mix through value added activities and customer partnerships
- Realization of **sustainability agenda**, including Circal and Eco design

\*FX currency based on 2018

# Extrusions on track to deliver NOK 8 billion EBITDA 2025

 **Portfolio restructuring**

- Automotive, systems business and commercial transport
- Exited non-attractive operations and segments

 **Cost reductions**

- Dedicated improvement program for procurement and operational excellence (EBS)

 **Growth projects**

- Capacity and capabilities in attractive segments such as E-mobility and recycling
- Strengthening flagship plants in the portfolio

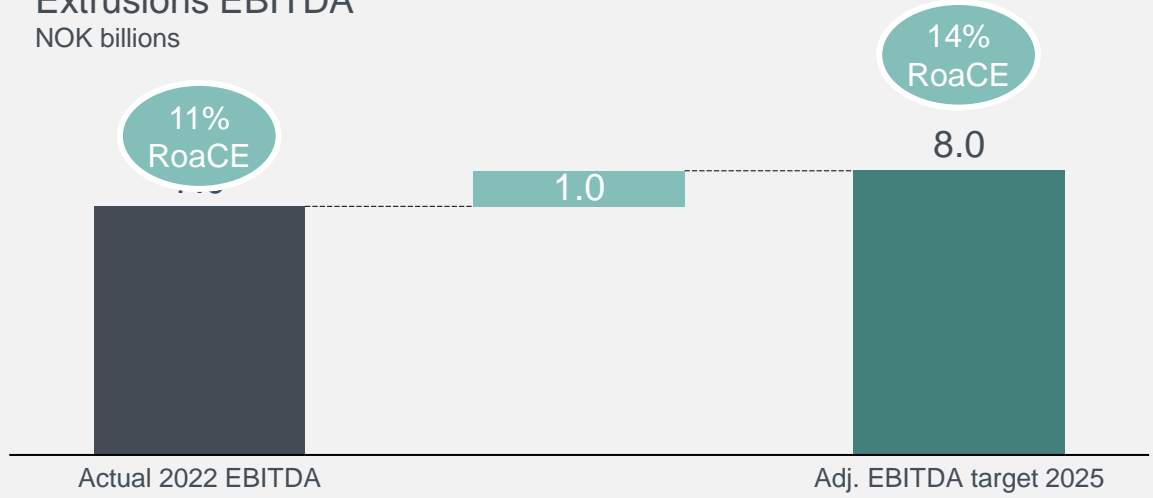
 **Sustainability**

- Improvements in margins and market share from greener products
- Creating “closed-loops” with customers



## Extrusions 2025 growth target

Extrusions EBITDA  
NOK billions





# Driving sustainability: Future-proofing our company



## Climate



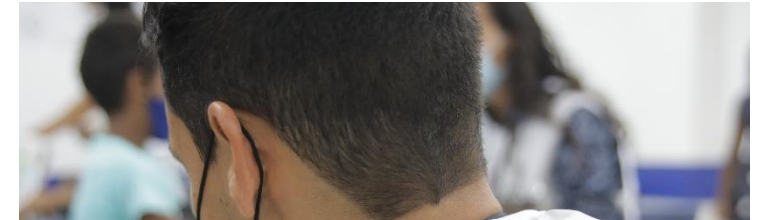
- On track to meet 30 percent reduction in scope 1 and 2 CO<sub>2</sub>e by 2030
- Net-zero by 2050 or earlier
- Reduce specific scope 3 emissions by 30% by 2030



## Environment



- 1:1 reforestation on track
- No net-loss biodiversity ambition for new projects
- Tailings dry backfill technology reducing the need for permanent landfilling
- Continued focus on waste elimination, including new project on recycling bauxite residue



## Society



- 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

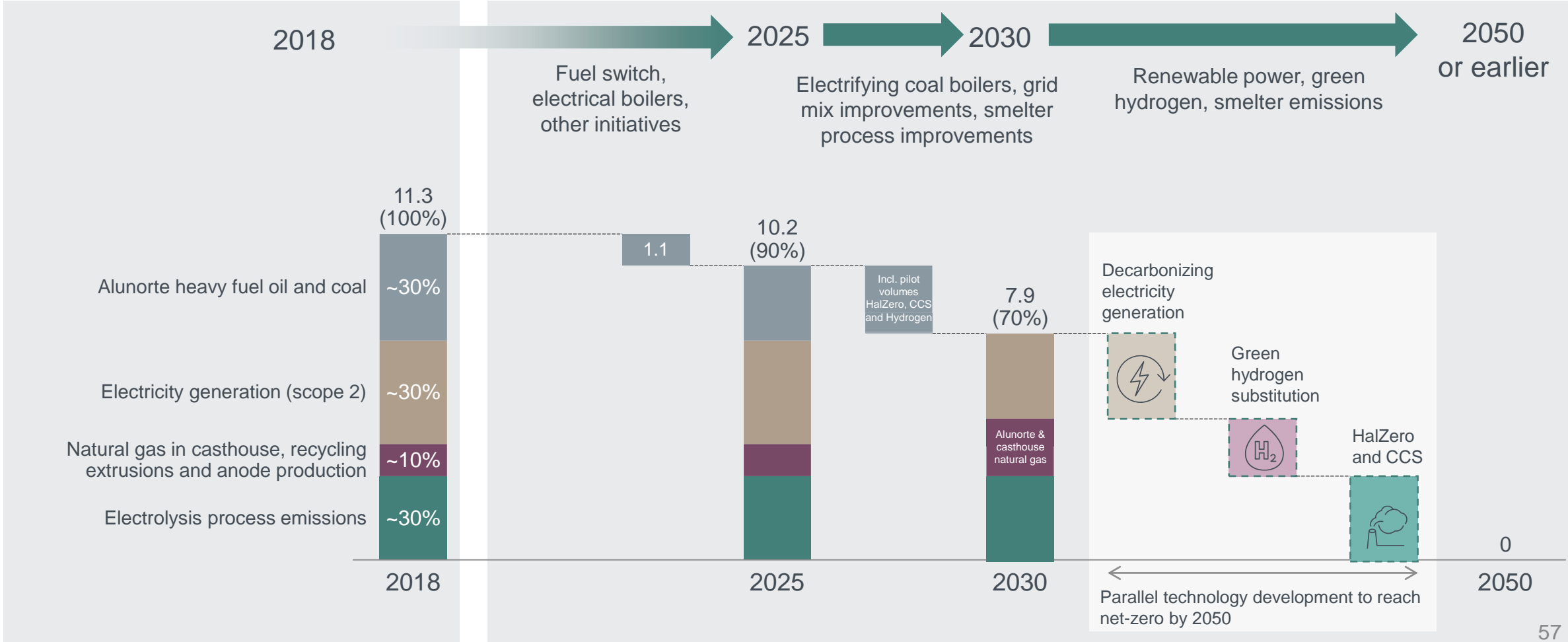


# Net-zero Hydro: The roadmap



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

GHG emissions – ownership equity  
 Million tonnes CO<sub>2</sub>e (% of 2018 baseline emissions)

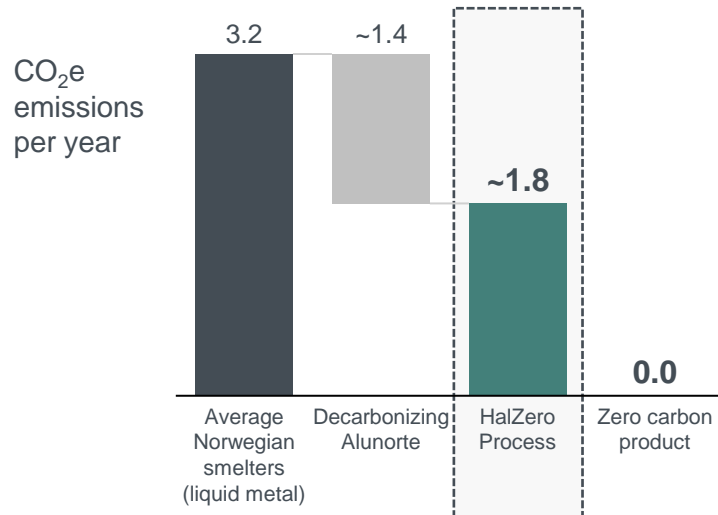


# Decarbonization ambition: Three paths to net-zero

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

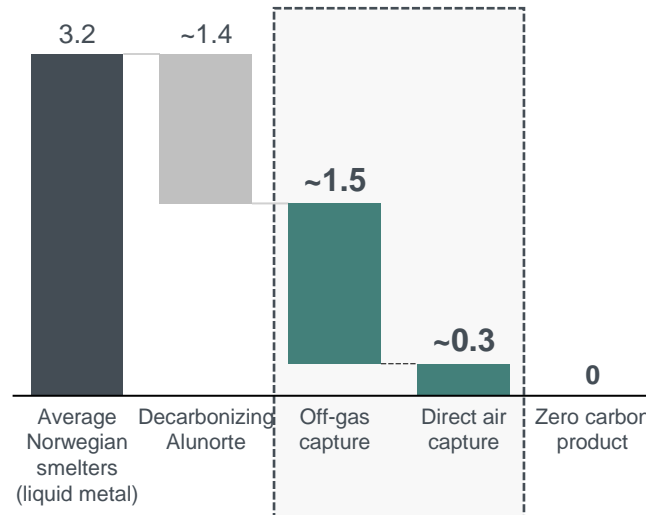
## HalZero process

New process technology for decarbonizing new capacity



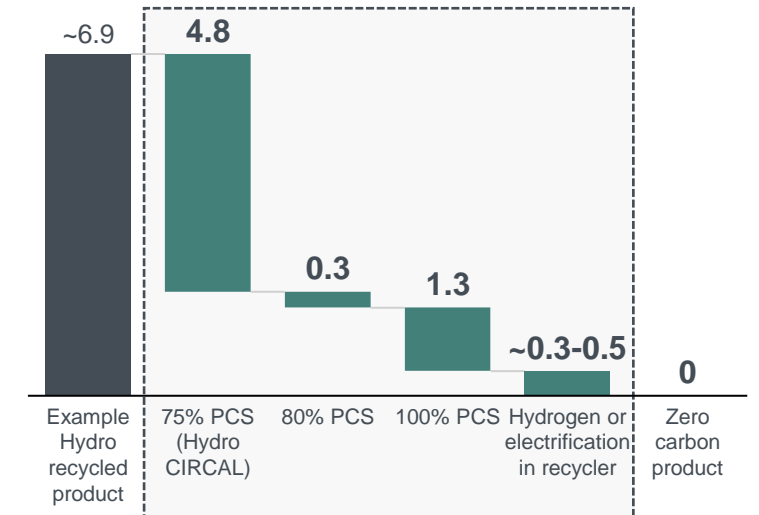
## Carbon capture and storage

Technologies for decarbonizing existing smelters



## Recycling and Casting

Technologies for more PCS-use and casthouse decarbonization

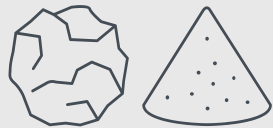



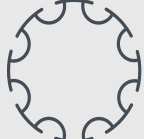


# Hydro uniquely positioned in the low-carbon aluminium market



Hydro's control of integrated value chain drives key decarbonization capabilities

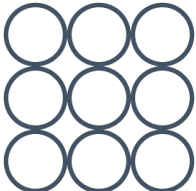


Business	 <b>Bauxite &amp; Alumina</b>	 <b>Aluminium Metal</b>	 <b>Recycling</b>	 <b>Energy</b>	 <b>Extrusions</b>
Strong starting point	1 <sup>st</sup> quartile CO <sub>2</sub> e emissions	Primary production with CO <sub>2</sub> e content 75% lower than global average	Leading in PCS recycling for extrusion ingots Advanced sorting technology	Captive renewable power Leader in industrial PPAs	World's largest extrusion company with integrated recycling capacity EcoDesign driving circularity
Ambitious roadmap	1 <sup>st</sup> decile by 2025	Advanced HalZero and CCS technology to further reduce smelting emissions	Increasing PCS recycling up to 770kt by 2027	Renewables developer, including batteries and hydrogen	Greener local energy sourcing Increased recycling

Certified, traceable, low-carbon aluminium

# Hydro provides products with low emissions

Primary aluminium produced on renewable energy



**4-6 times**

lower than the world global primary average

Recycled aluminium from Hydro

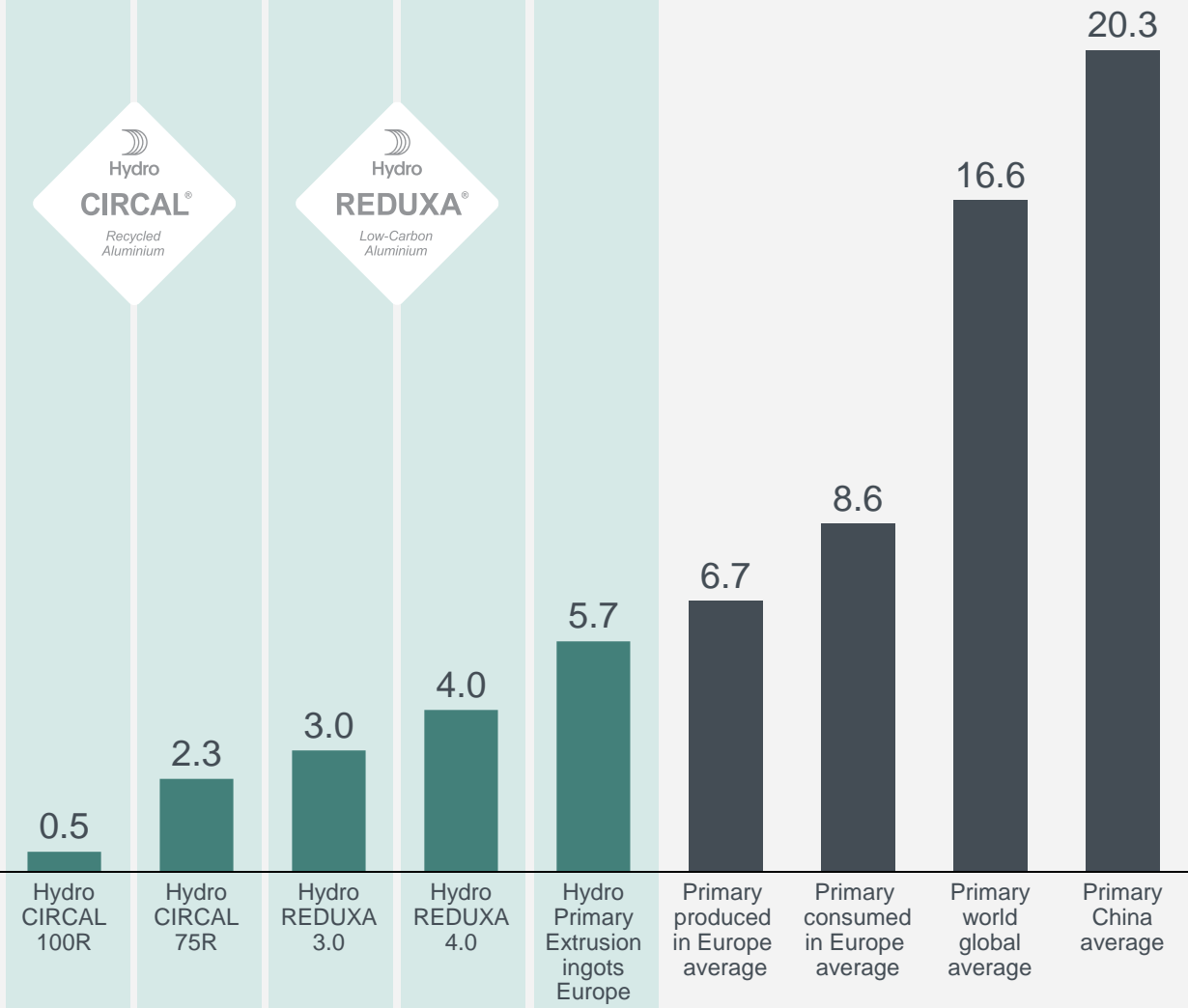


More than **7 times** for 75R, and **33 times** for 100R

lower than the world global primary average



Kilos of CO<sub>2</sub>e emissions per kilo aluminium



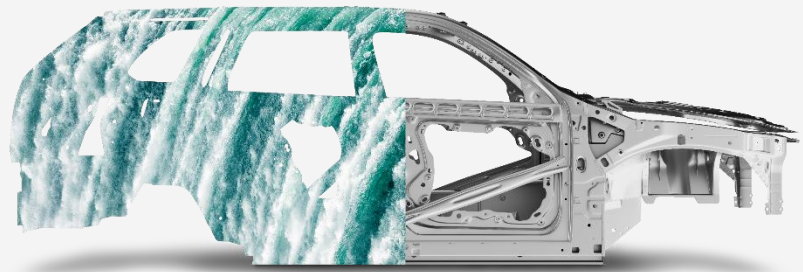
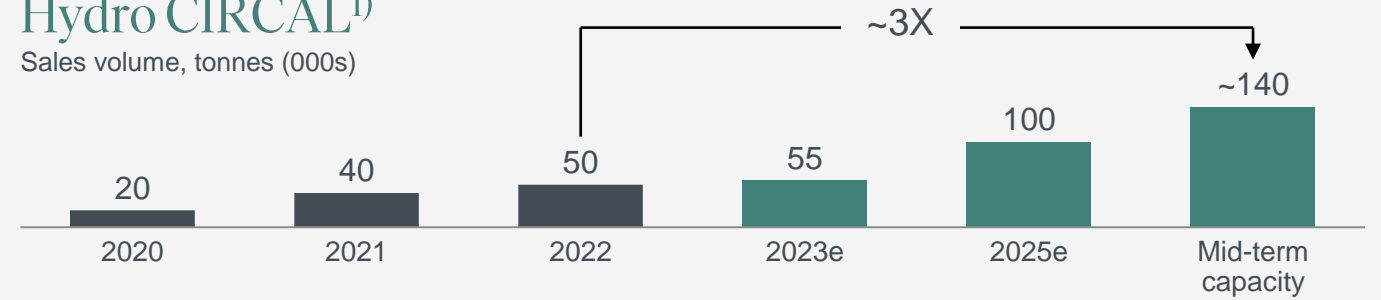
Sources: EAA, IAI, Hydro internal analysis

# Ambition to more than double sales of greener products to meet market demand



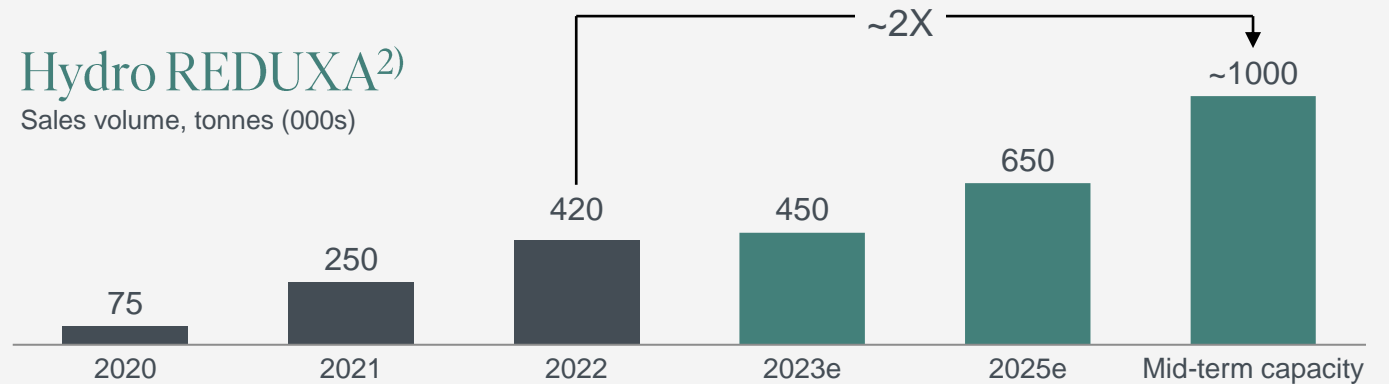
## Hydro CIRCAL<sup>1)</sup>

Sales volume, tonnes (000s)



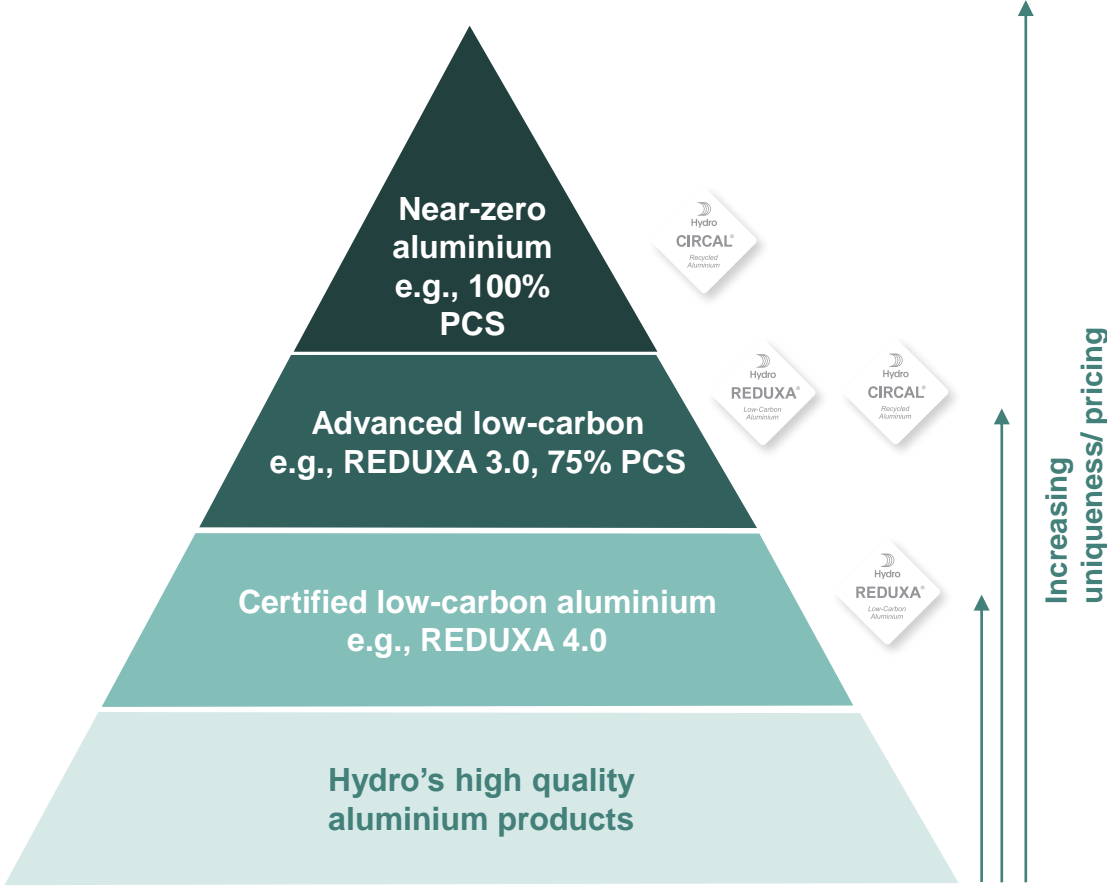
## Hydro REDUXA<sup>2)</sup>

Sales volume, tonnes (000s)



1) Post-consumer scrap > 75%. 2) Footprint < 4.0

# Hydro offers the leading low-carbon product portfolio



## Leading low-carbon aluminium offering and capabilities

- Strong **scale position** within recycling and low carbon aluminium
- Ambitious, yet concrete, **decarbonization roadmap** across entire value chain
- Delivering pilot volumes of **ultra low carbon and 100% PCS** to frontrunner partners
- Differentiated suite of low-carbon products enables **adaptable pathway** to net-zero - unique to Hydro

Scale with high ambition players



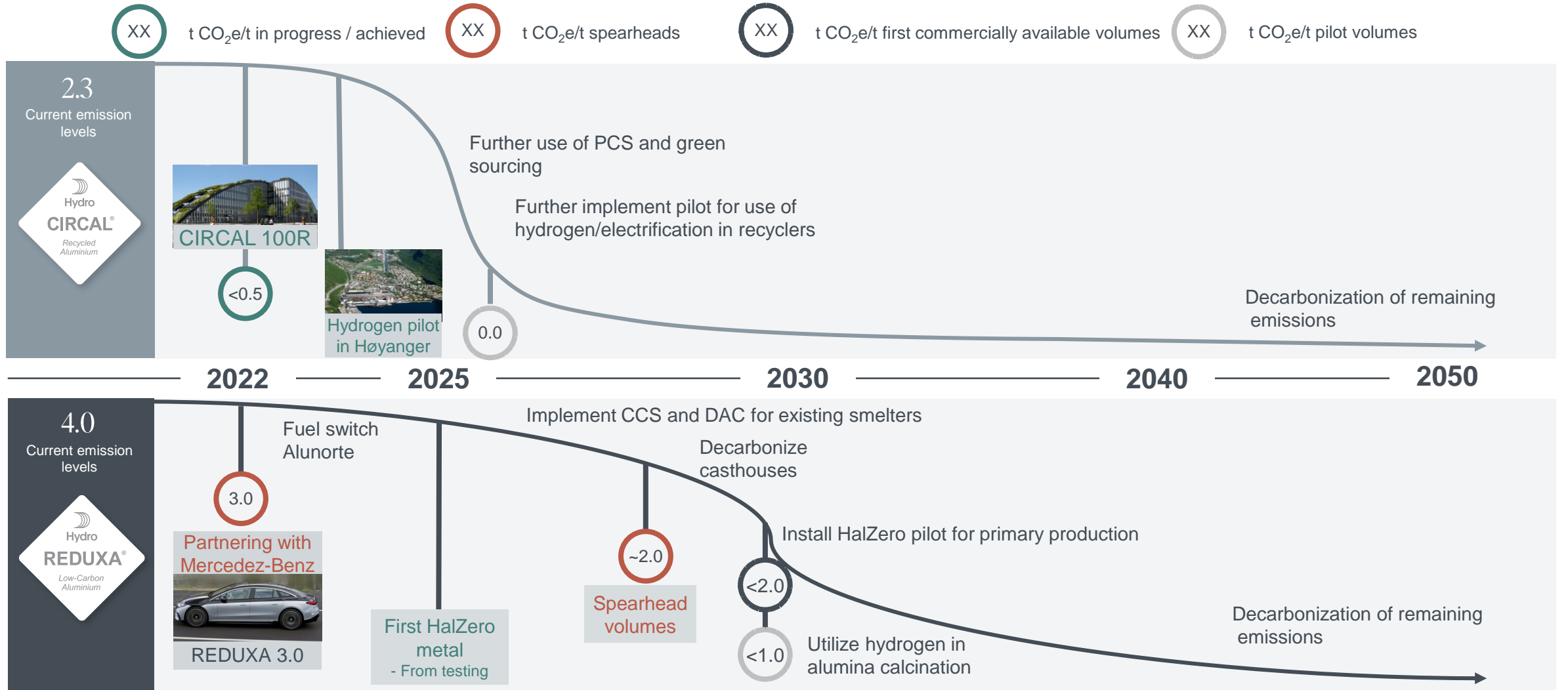
Unique pilot volumes for front runners



# Ambitious product roadmap driving industry frontiers



Capitalize on market demand through circularity while decarbonizing primary value chain



# Hydro a preferred partner on journey to net-zero



Utilizing integrated value chain and trusted partner position to deliver decarbonization to industry front runners



Lifting  
profitability,  
driving  
sustainability

Unlocking **commercial and technological**  
solutions

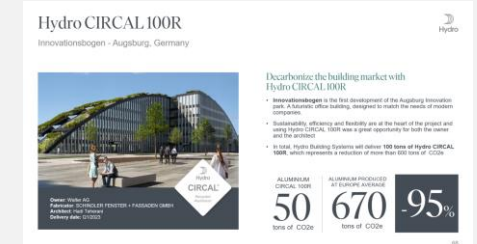
Enabling **decarbonization journey**  
transition

Driving **demand**

Access to **full suite of greener aluminium**  
solutions

Support in making the **right**  
**decarbonization steps**

Hydro as **R&D partner**

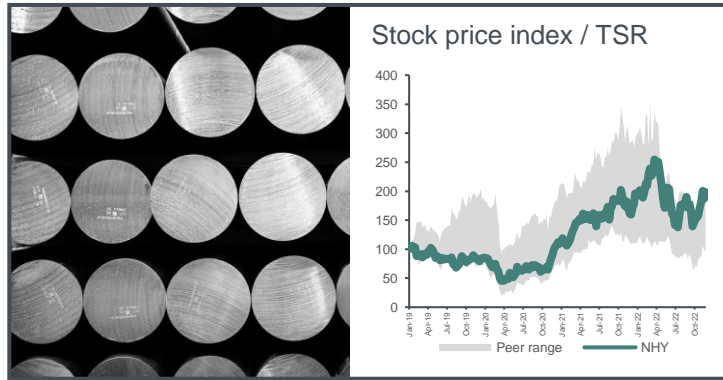




# Why invest in Hydro?



## Good track record on relative shareholder value creation



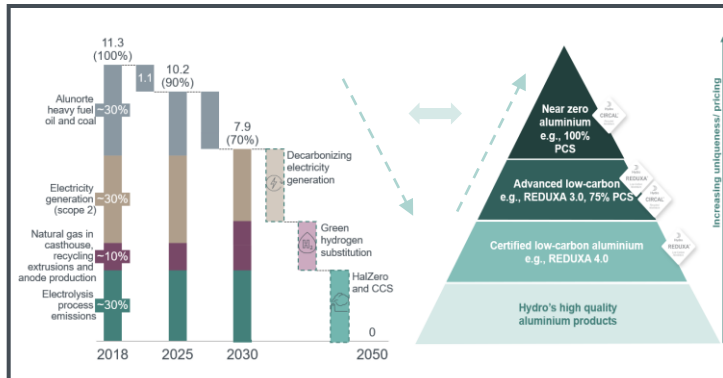
## Low and robust cost position with ambition to improve

- 1st quartile cost position AM
- Low carbon footprint
- Long-term renewable power contracts
- Increased improvement ambitions

## Positive demand outlook for greener aluminium



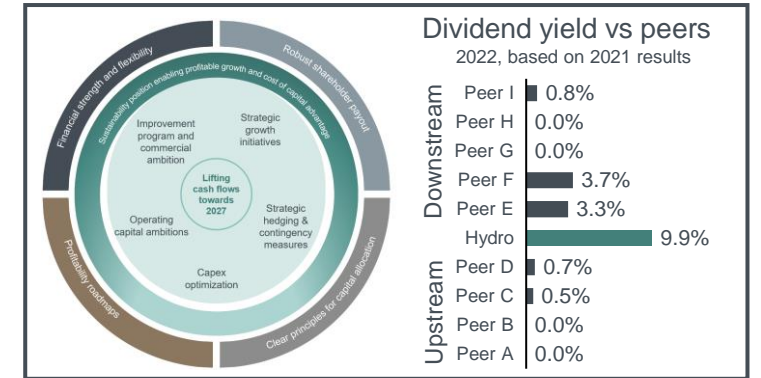
## Pathway to net-zero aluminium products



## Portfolio of profitable growth projects



## Solid financial framework and competitive shareholder distribution





# Business overview



Hydro – Group

# The aluminium value chain



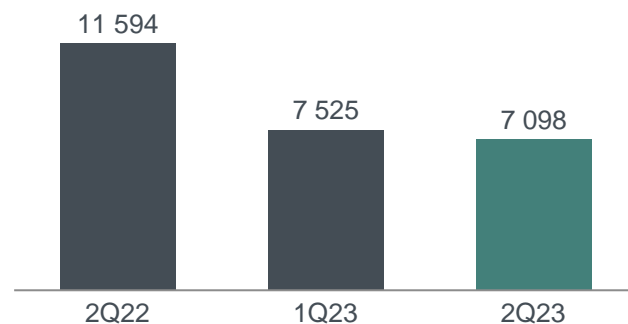
World class assets, high-end products and leading market positions



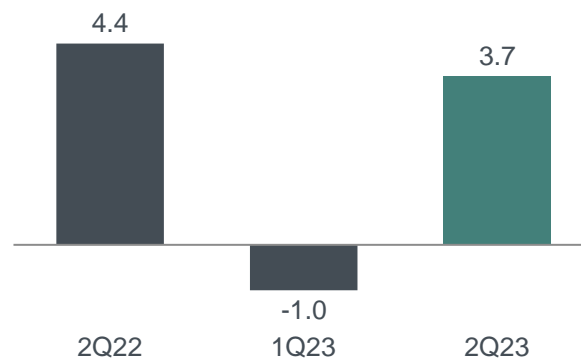
# Key performance metrics | Q2 2023



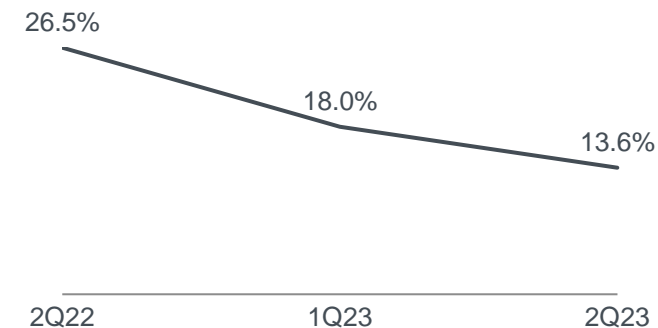
Adjusted EBITDA  
NOK million



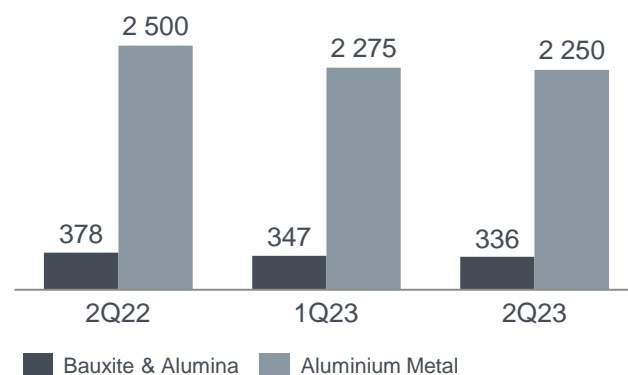
Free cash flow<sup>1)</sup>  
NOK billion



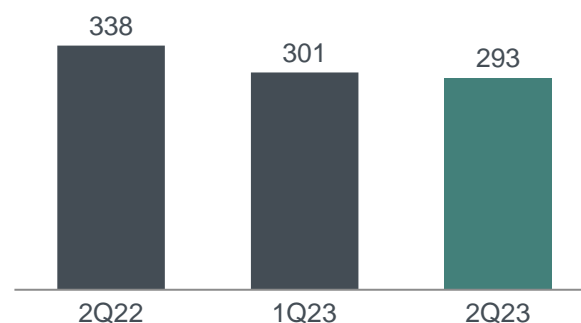
Adjusted RoaCE<sup>2)</sup>  
12-month rolling %



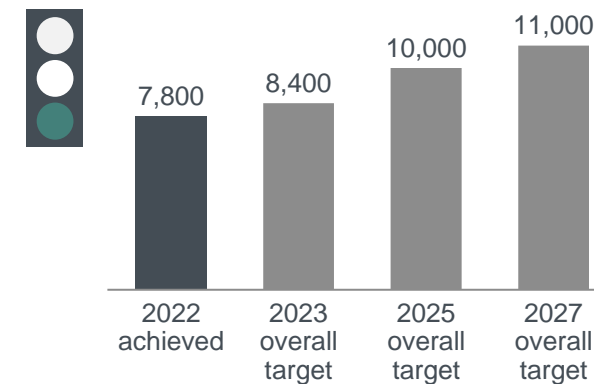
Upstream costs<sup>3,4)</sup>  
USD per tonne



Extrusion volumes  
Thousand tonnes



Improvement program status<sup>5)</sup>  
NOK millions



1. Free cash flow is defined as net cash provided by (used in) operating activities of continuing operations, adjusted for changes in collateral and net purchases of money market funds, plus net cash provided by (used in) investing activities of continuing operations, adjusted for purchases of / proceeds from sales of short-term investments

2. Adj. RoaCE calculated as adjusted EBIT last 4 quarters less underlying tax expense adjusted for 30% tax on financial items / average capital employed last 4 quarters

3. Realized alumina price minus adjusted EBITDA for B&A, excluding insurance proceeds relating to decommissioned crane (NOK ~500 million), per mt alumina sales

4. Realized all-in aluminium price (incl. strategic hedge program) less adjusted EBITDA margin excluding indirect CO<sub>2</sub> compensation catch-up effect (NOK ~1.4 billion) and power sales Slovalco, Albras and Norwegian smelters, incl Qatalum, per mt aluminium sold. Implied primary cost and margin rounded to nearest USD 25

5. 2018 baseline on accumulated improvements until 2021, 2021 baseline from 2022

# Managing short-term risk and long-term opportunities

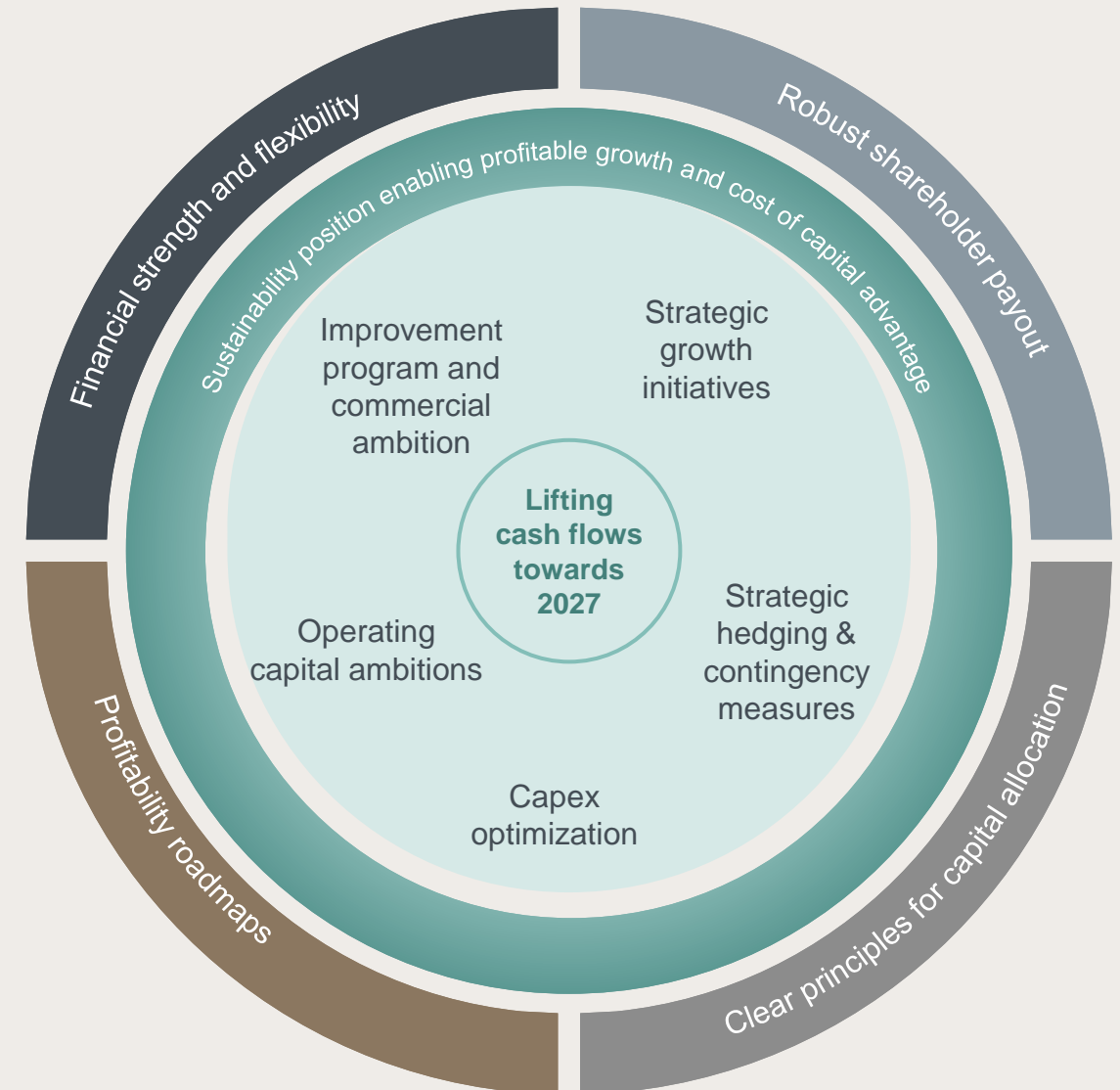
## Short-term improvement and mitigation

- Increasing improvement program target for 2025 and extending program to 2027
- Setting ambitious operating capital ambitions for 2023
- Contingency measures in place
- Integrated aluminium margin hedge in place for 2023, 2024, and partly 2025

## Long-term opportunities and measures

- Clear principles for capital allocation
- Continue to deliver on strategic capex roadmap
- Sustainability driving cost of capital advantage
- Clear profitability roadmaps
- Robust shareholder payout

Solid framework for lifting returns and cash flow and managing uncertainty



# Capital allocated according to strategic modes



Strategic modes reflect global megatrends and high-return opportunities

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

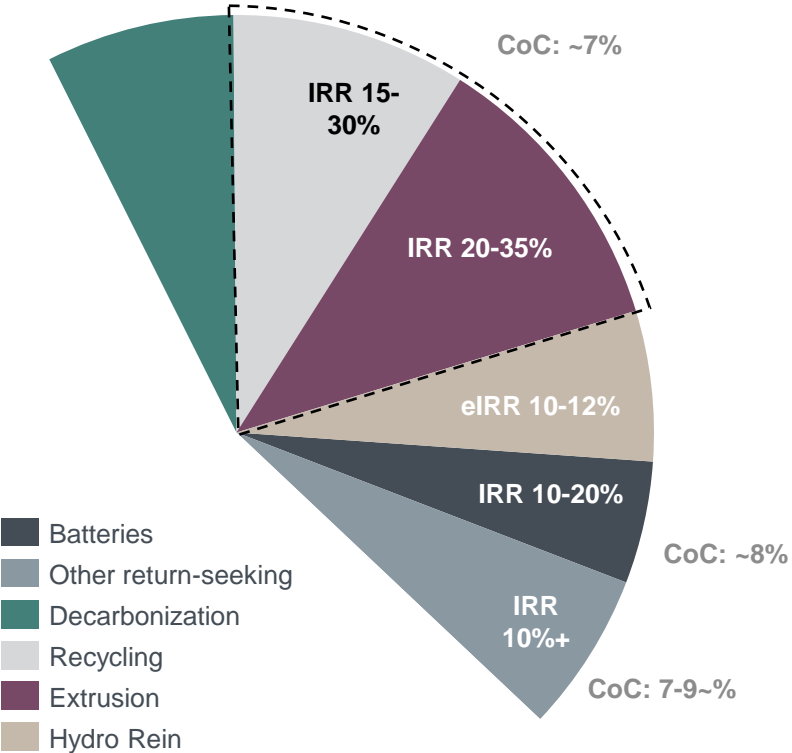


Businesses	 <b>Bauxite &amp; Alumina</b>	 <b>Aluminium Metal</b>	 <b>Recycling</b>	 <b>Energy</b>	 <b>Extrusions</b>
Strategic mode	Sustain and improve	Sustain and improve	Selective growth	Selective growth	Selective growth
Towards 2025	Reduce risk, improve sustainability footprint, improve cost position	Robustness 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

# Strong profitability in return-seeking and growth capex portfolio



Indicative profitability in current return-seeking and growth portfolio



### Recycling

- Increase proportion of post consumer scrap (PCS), lowering metal cost
- Improved economies of scale in brownfield expansions
- Sorting technology and equipment standardization

### Extrusions

- New presses with improved capabilities and commercial value, capturing market share
- Press replacements with significant cost reductions and increased productivity
- Focus on high growth segments including automotive, systems business and commercial transportation

### Hydro Rein

- USD 2.7 billion contracted revenues, 3.6 TWh signed under long-term EUR & USD PPAs
- 1.7 GW gross capacity in operation or construction
- Focus on early phase projects opportunities and strategic partnerships

### Batteries

- Focused strategy within sustainable battery materials, leveraging Hydro capabilities
- Establish positions in attractive growth segments in core markets
- Core investments: Hydrovolt (recycling) and Vianode (anode material)

### Decarbonization

- Alunorte Fuel switch project (IRR 10-20%)
- Carbon capture technology pilots in mid-term, industrial scale pilot volumes by 2030
- HalZero as technology pilots in mid-term, industrial scale pilot volumes by 2030



# Shareholder and financial policy

- Aiming for competitive shareholder returns and dividend yield compared to alternative investments in peers
- Dividend policy
  - Average ordinary payout ratio: 50% of adjusted net income over the cycle
  - 1.25 NOK/share to be considered as a floor
  - Share buybacks and extraordinary dividends as supplement in periods with strong financials and outlook
  - Five-year average ordinary pay-out ratio 2018-2022 of ~74%
- Maintain investment-grade credit rating
  - Currently: BBB stable (S&P) & Baa3 with positive outlook (Moody's)
  - Competitive access to capital is important for Hydro's business model (counterparty risk and partnerships)
- Financial ratio target over the business cycle
  - Adjusted net debt to adjusted EBITDA < 2x

# Hedging policy



- Overall risk policy
  - Remain exposed to the inherent cash flow volatility related to Hydro's business
  - Fluctuating with the market - volatility mitigated by strong balance sheet
- Diversified business
  - Vertical integrated value chain reducing risk and volatility
  - Strengthening relative position to ensure competitiveness
- Upstream margin risk
  - Currency exposure, mainly USD and BRL
  - Exposed to LME and Platts alumina index prices
  - Strategic and operational hedging with perspective of mitigating downside risk and securing margins (not opportunistic)
  - Operational LME hedging – one-month forward sale
- Downstream margin risk
  - Spread between customer prices and the underlying production cost
  - As such exposed to commodity prices, exchange rates, other costs, market conditions and negotiating power
  - Risk is managed through operational hedging programs

# Sustainable financing initiatives increase access to capital and provide cost of capital advantage

## Green and Sustainability Linked Financing Framework

- Framework published to facilitate issuance of green and sustainability linked bonds
- Linked to Hydro's sustainability ambitions
- CICERO Shades of Green provided Second Party Opinion allocating medium green shading and governance assessment at excellent

## Updated capital structure policy and EMTN Program

- Revised capital structure targets over the cycle
- EMTN program established to streamline bond issuance in line with capital structure policy

## Sustainability linked bonds (SLBs)

- NOK 3 billion SLBs (2022-2028) issued under framework and EMTN programme
- First SLB issue in the Norwegian corporate investment grade market
- SLB feature increased access to capital in challenging market conditions

Linked to Hydro sustainability ambitions

**10%**  
carbon  
emission  
reduction  
by 2025

**520-670**  
kt PCS  
by 2025

Revised capital structure in 2022

Adj. net  
debt/adj.  
EBITDA  
**< 2x**

Adj. net  
debt  
around  
**NOK 25**  
billion

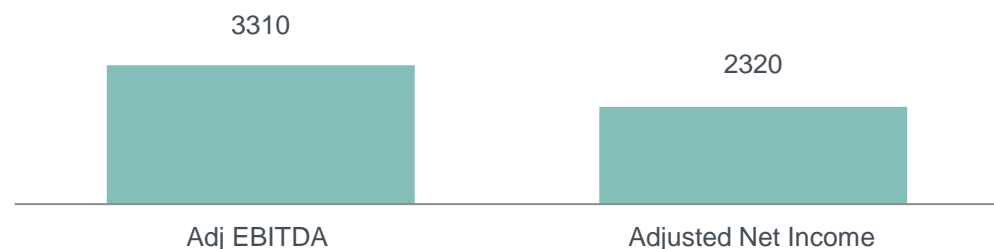
**NOK 3**  
billion  
SLBs

**1st** corp  
IG SLB in  
Norway

# Significant exposure to commodity and currency fluctuations

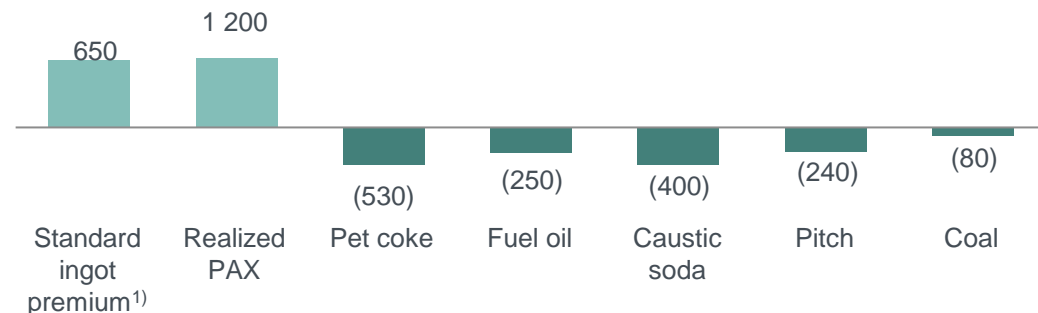
## Aluminium price sensitivity +10%

NOK million



## Other commodity prices, sensitivity +10%

NOK million



1) Europe duty paid

## Currency sensitivities +10%

Sustainable effect:

NOK million	USD	BRL	EUR
Adj. EBITDA	3960	(940)	10

One-off reevaluation effect:

Financial items	(875)	1,223	(3,919)
-----------------	-------	-------	---------

- Annual adjusted sensitivities based on normal annual business volumes. LME USD 2,270 per mt, standard ingot premium 305 USD/mt, PAX 375 USD/mt, fuel oil USD 785 per mt, petroleum coke USD 595 per mt, pitch 1,250 EUR/t, caustic soda USD 560 per mt, coal USD 110 per mt, USD/NOK 10.74, BRL/NOK 2.17, EUR/NOK 11.66
- 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 adjusted currency exposure (transaction exposure)
- Currency sensitivity on financial items includes effects from intercompany positions
- 2023 Platts alumina index (PAX) exposure used
- Adjusted Net Income sensitivity calculated as UEBITDA sensitivity after 30% tax
- Sensitivities include strategic hedges for 2023 (remaining volumes for 2023, annualized)

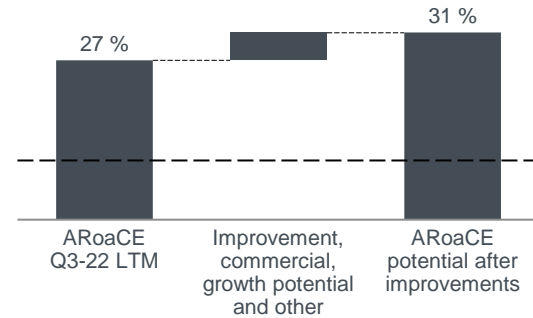
# Hydro profitability roadmap



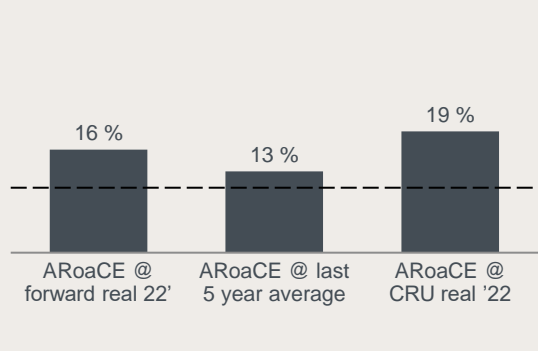
Main drivers – improvement, growth and market developments

## ARoaCE potential

Profitability target of >10%



## Market scenarios 2027



## Main further upside drivers

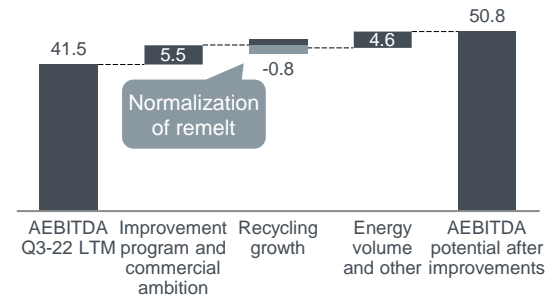
- Sustainability differentiation and ability to produce net-zero aluminium
- Positive market and macro developments
- High-return growth projects
- Technology and digitization
- Portfolio optimization

## Main downside risks

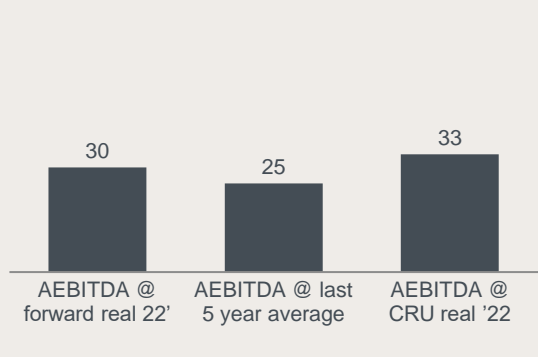
- Negative market and macro developments, incl. trade restrictions
- Operational disruptions
- Inflation pressure
- Project execution and performance
- Deteriorating relative positions
- Regulatory frameworks, CSR and compliance

## AEBITDA potential

NOK billion

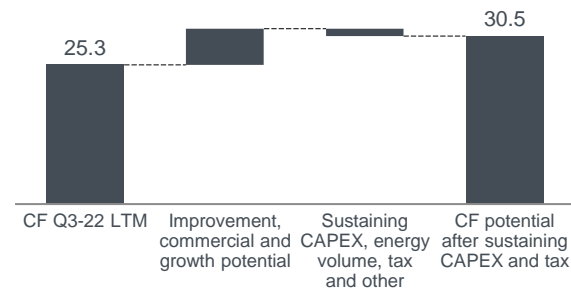


## Market scenarios 2027

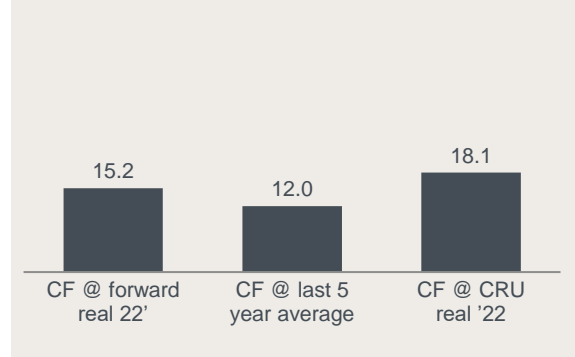


## Cash flow potential after sustaining CAPEX<sup>1)</sup>

NOK billion



## Market scenarios 2027



Note: Excluding growth from new energy areas

1) Cash flow calculated as EBITDA+tax+LT sustaining capex + other (lease payments, interest payments)

Assumptions and sources behind the scenarios can be found in the Additional information

Sources: Republished under license from CRU International Ltd.



# Bauxite & Alumina

# Bauxite and alumina cluster in Para, Brazil

**Note:** Information not adjusted for the recently announced Glencore transaction



## MRN bauxite mine



- Top 3 bauxite mine in the world
- 5% ownership
- Volume off-take agreement for Vale's 40% stake
- 2020 production 12.9 mill tonnes
- 2021 production 12.6 mill tonnes
- 2022 production 12.3 mill tonnes

## Paragominas bauxite mine



- 100% ownership
- Nameplate capacity of 9.9 million tonnes
- 2017 production 11.4 million tonnes
- 2018 production 6.2 million tonnes\*
- 2019 production 7.4 million tonnes\*
- 2020 production 8.6 million tonnes
- 2021 production 10.9 million tonnes
- 2022 production 11.0 million tonnes
- Long-life resource

## Alunorte alumina refinery



- 92% ownership
- World's largest alumina refinery outside China
- Nameplate capacity of 6.3 million tonnes
- 2017 production 6.4 million tonnes
- 2018 production 3.7 million tonnes\*
- 2019 production 4.5 million tonnes\*
- 2020 production 5.5 million tonnes
- 2021 production 6.3 million tonnes
- 2022 production 6.2 million tonnes
- Bauxite supplied from Paragominas and MRN
- World-class conversion cost position
- Utilizing state-of-the-art press filter technology to process bauxite residue
- Enhancing plant robustness to prepare for extreme weather events

**Bauxite licenses**

**Refining and mining competencies**

**External supply contracts**

**Sales contract portfolio**

\* Alunorte and Paragominas produced at 50% capacity from March 2018 to May 2019 due to a 50% production embargo on the Alunorte refinery. The production embargo was lifted in May 2019.

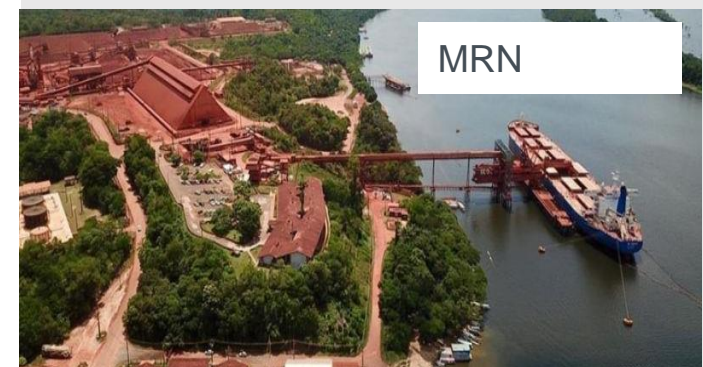
# Hydro and Glencore to become partners to further develop Alunorte

- Hydro has signed an agreement with Glencore to divest
  - 30% of Alunorte and 5% ownership in MRN
  - Glencore acquires an additional 40% of MRN, currently owned by Vale. This 40% stake will be acquired by Hydro from Vale and immediately sold to Glencore on a back-to-back basis.
  - The transactions will have an enterprise value of USD 1.15 billion (including ARO). Net debt at Alunorte as of 31 March 2023 was USD 375 million
- The sale is an important step to deliver on Hydro's 2025 strategy
  - Proceeds used for strategic growth investments in line with Hydro's 2025 strategy and shareholder distribution
  - Alunorte is a core strategic asset, however equity alumina production will be more balanced
  - Continue to reduce emissions from Alunorte through fuel switch project and electrification of coal boilers, targeting first decile position on global carbon curve by 2025
  - Strong commitment to continue development of social projects to improve the lives and livelihoods in nearby communities



Alunorte

- Location: **Barcarena, state of Pará, Brazil**
- Annual capacity: **6.3 mt/year**
- Employees: **7 900<sup>1)</sup>**
- Pre transaction ownership: **92%**
- Post transaction ownership: **62%**



MRN

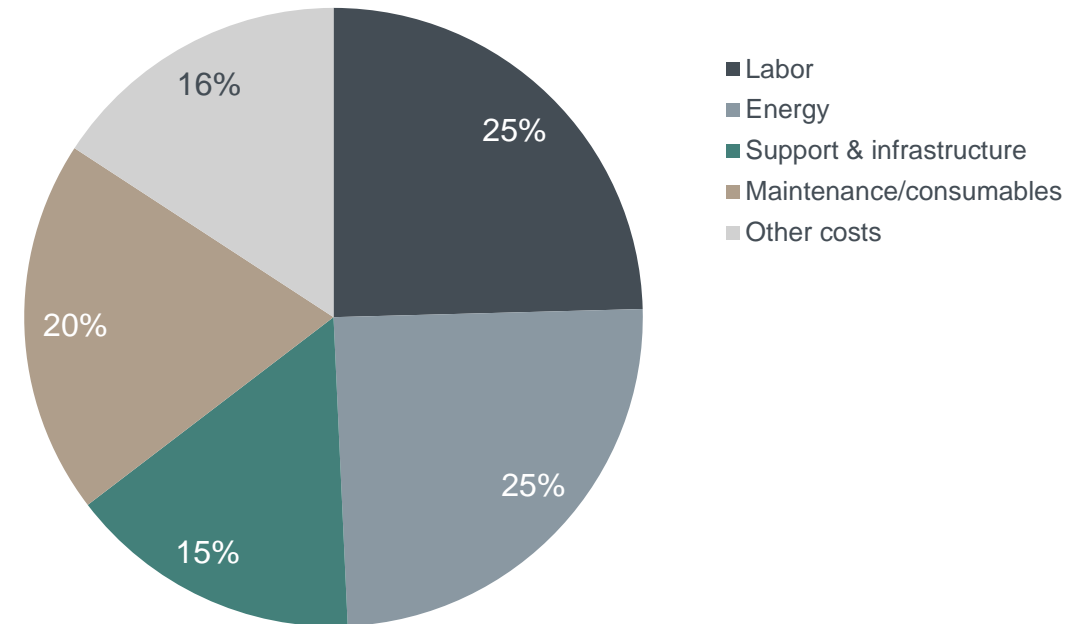
- Location: **Oriximiná-PA, Brazil**
- Annual capacity: **12.5mt /year**
- Employees: **5 200<sup>1)</sup>**
- Pre transaction ownership: **5%**
- Post transaction ownership: **0%**

1) Includes contractors

# Bauxite operational mining costs in Paragominas

- Energy cost - Power and fuel
- Large fixed cost base
- Labor cost
  - Influenced by Brazilian wage level
- Maintenance and consumables
  - Mainly influenced by Brazilian inflation

Indicative Paragominas bauxite mining costs

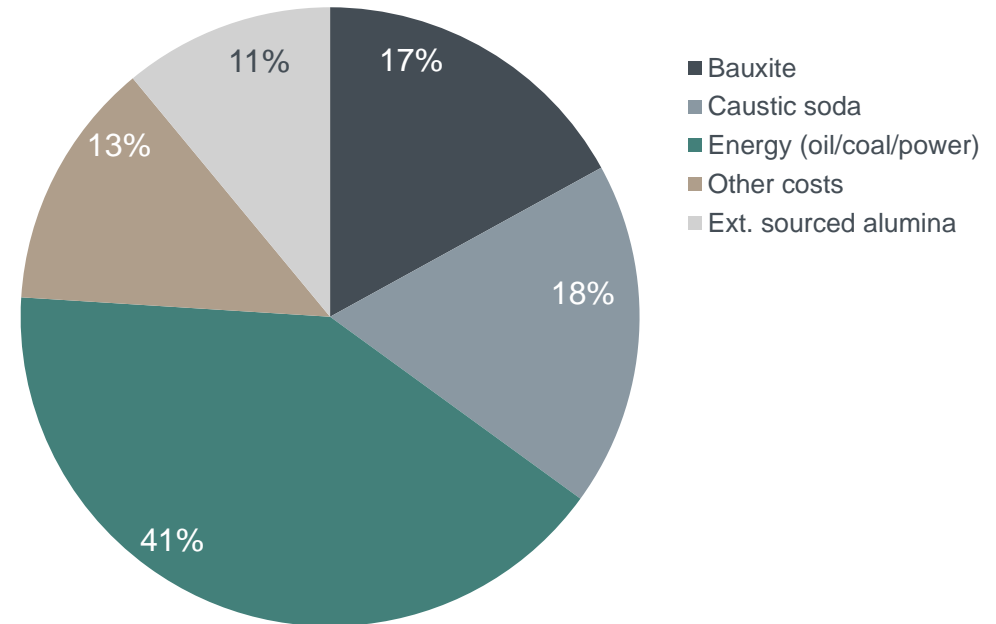




# Favorable integrated alumina cost position

- Implied alumina cost 2022 - USD 345 per mt<sup>1)</sup>
  - Alunorte, Paragominas and external alumina sourcing for resale
- Bauxite
  - Internal bauxite from Paragominas at cost, sourced bauxite from MRN
  - External bauxite sales
- Energy
  - Energy mix of heavy fuel oil, coal and electric power
- Caustic soda
  - Competitive caustic soda consumption due to bauxite quality
  - Competitive caustic soda sourcing contracts
- Other costs
  - Maintenance, labor and services

Indicative implied alumina cost composition



1) Realized alumina price minus Adjusted EBITDA for B&A, per mt alumina sales

# Strong commercial organization maximizing the value of B&A assets

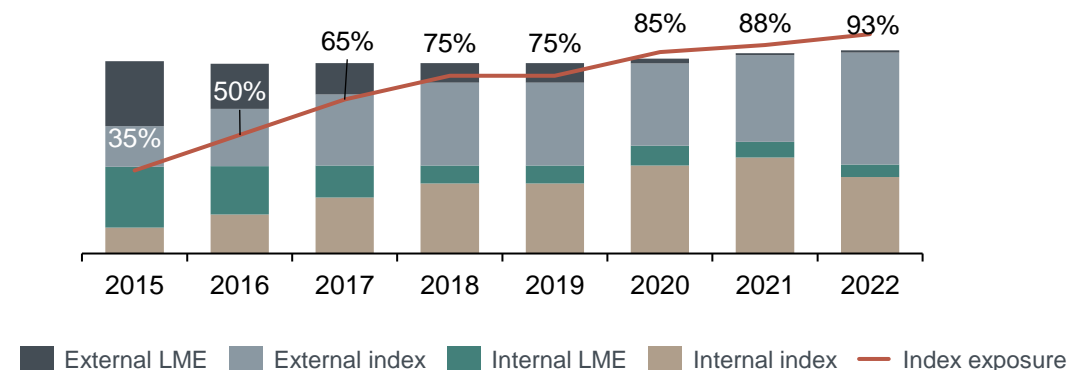


## External alumina sourcing

- 2.0-2.5 million mt of external alumina sourced annually
- Long term off-take agreement with Rio Tinto
  - ~900 000 mt annually from Yarwun refinery
- Short and medium-term contracts
  - To balance and optimize position geographically
  - Various pricing mechanisms
    - Older contracts linked to LME
    - New medium to long term contracts mostly index
    - Fixed USD per mt for spot contracts on index

## Long positions in bauxite and alumina

- Pricing should reflect bauxite and alumina market fundamentals
- Selling surplus MRN bauxite externally
  - Premium for high bauxite product quality
  - Mostly term contracts based on % of PAX and/or fixed USD/mt element
- Selling 3-4 million mt/yr of alumina externally
  - Index pricing<sup>1)</sup> (the new norm) and short to medium-term contracts
  - New contracts: 100% sold on index, except Hydrate and short-term contracts, normal terms 1-3 years
  - Legacy LME-linked contracts: priced at ~14% of LME 3M



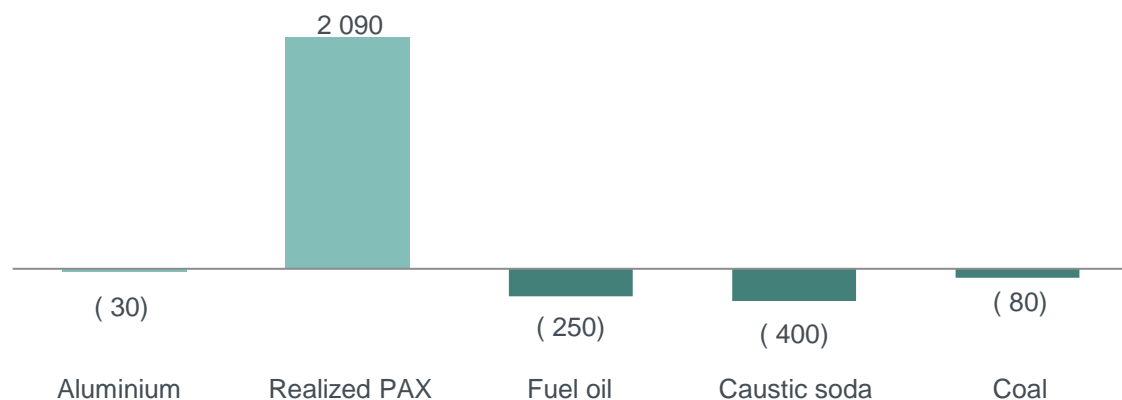
1) Rounded figures. Indicating volumes available for index pricing. Includes minority sales priced at % of LME with floor. Based on annual sourced volumes of around 2.5 mill t, assuming normal production at Alunorte.

# Bauxite & Alumina sensitivities



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

NOK million



## Currency sensitivities +10%

NOK million	USD	BRL	EUR
Adj. EBITDA	900	(680)	-

## Revenue impact

- 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*

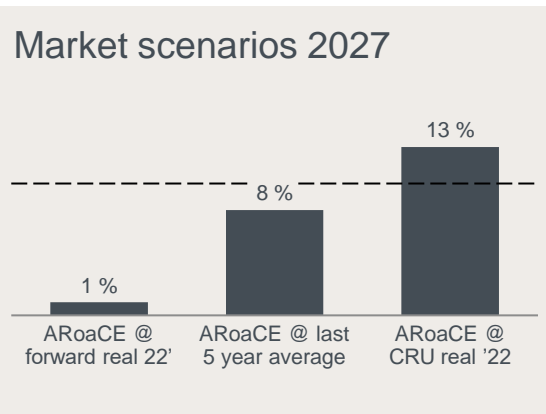
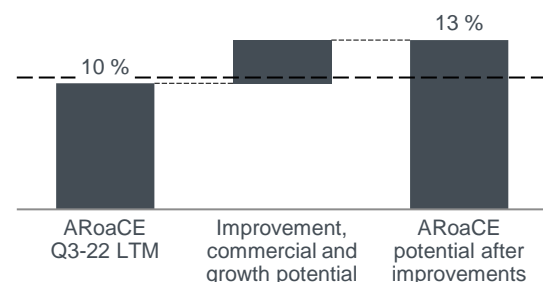
- ~0.12 tonnes coal per tonne alumina, Platts prices, one year volume contracts, weekly per shipment pricing
- ~0.11 tonnes heavy fuel oil per tonne alumina, prices set by ANP/Petrobras in Brazil, weekly pricing (ANP) or anytime (Petrobras)

# Bauxite & Alumina profitability roadmap

Main drivers – fuel switch, commercial differentiation and market development

## ARoaCE potential

Profitability target of >10%



## Main further upside drivers

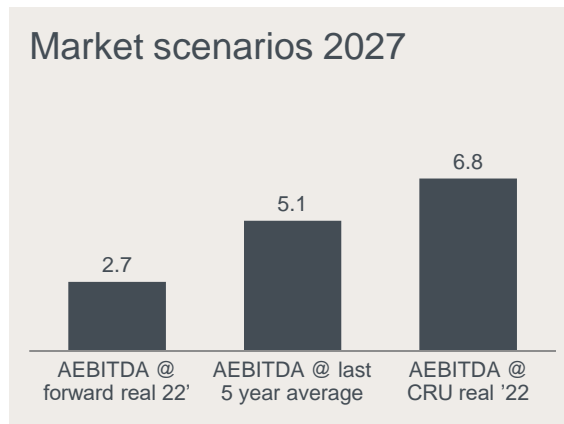
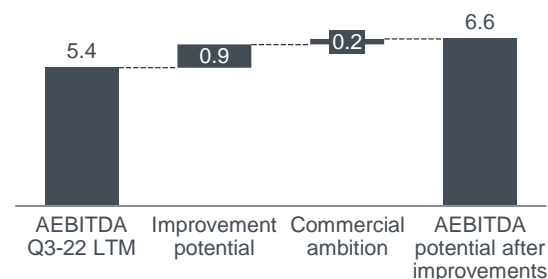
- Positive market and macro developments
- Commercial differentiation, incl. greener alumina
- Fleet optimization at the mine
- Sustaining capex optimization

## Main downside risks

- Operational disruptions
- Negative market and macro developments
- Regulatory, CSR and country risk
- Supply chain disruptions
- Value chain concentration in Brazil

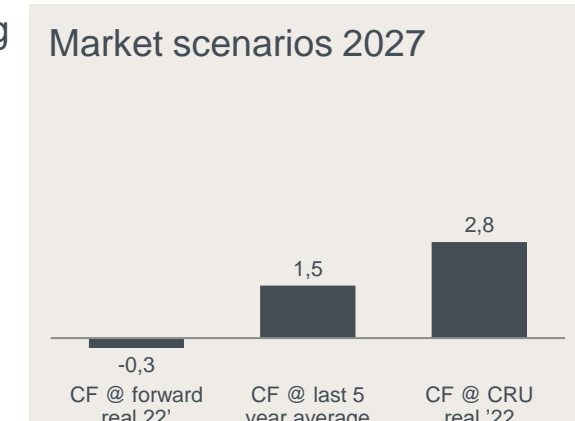
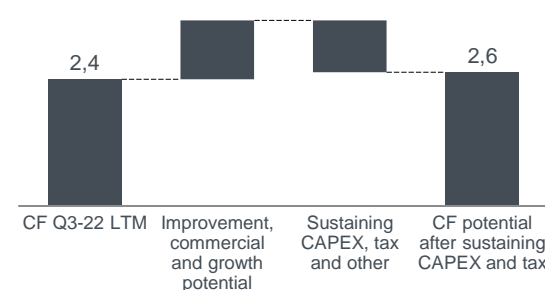
## AEBITDA potential

NOK billion



## Cash flow potential after sustaining CAPEX<sup>1)</sup>

NOK billion

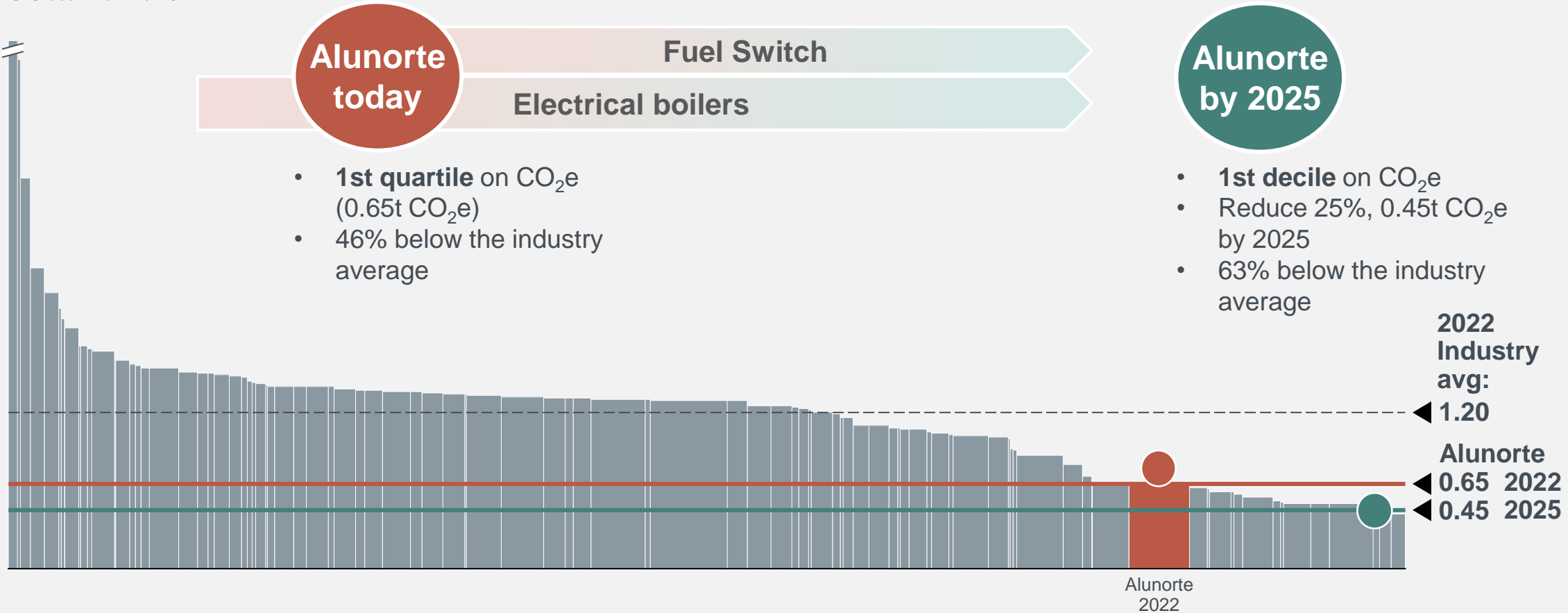


1) Cash flow calculated as EBITDA+tax+LT sustaining capex  
 Assumptions and sources behind the scenarios can be found in the Additional information  
 Sources: Republished under license from CRU International Ltd.

# Decarbonization ambition: Alunorte is 1st quartile in CO<sub>2</sub>e with a clear plan to 1st decile by 2025



CO<sub>2</sub>e per ton of Alumina (scope 1 and 2)  
CRU Global Alumina 2022

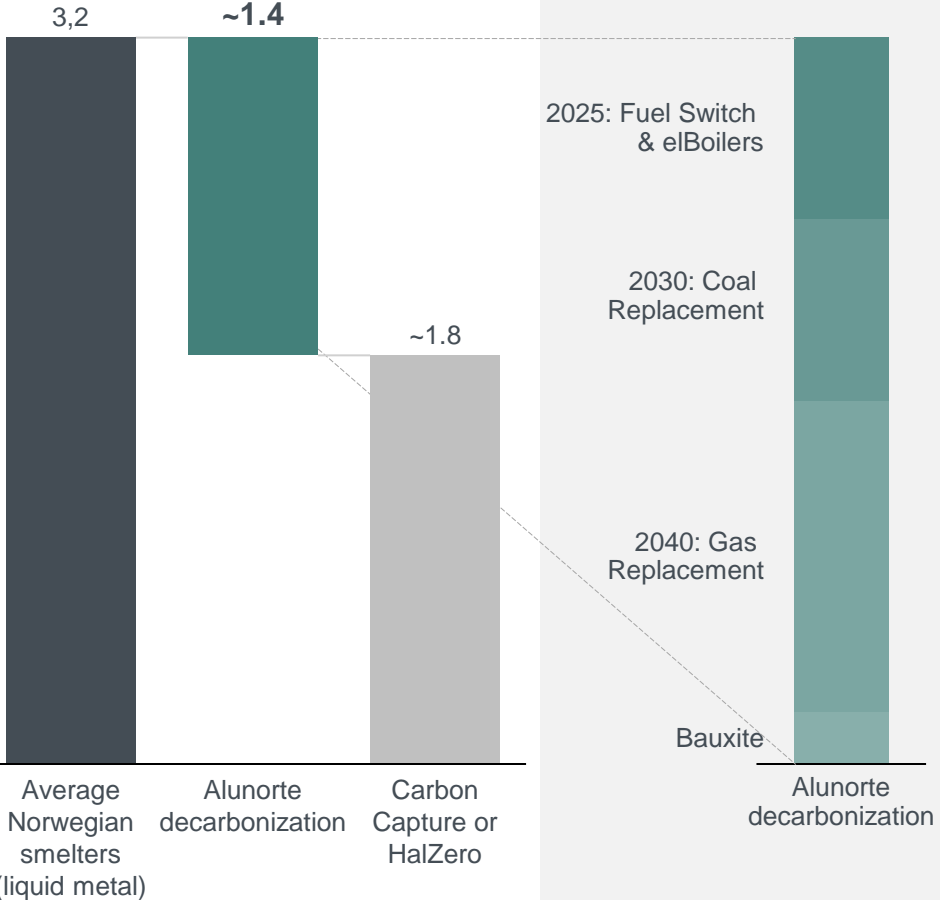


# Decarbonization ambition: Significant progress on decarbonization of Alunorte alumina



Tonnes CO<sub>2</sub>e / tonne aluminium  
Scope 1 and 2 emissions

Towards lowest CO<sub>2</sub>e per tonne alumina relative to peers by 2025



### Fuel switch project

- Replacing heavy fuel oil with natural gas
- Reducing annual CO<sub>2</sub>e emissions by 700,000 tonnes
- Cost BRL ~1.3 billion (NOK ~2 billion)
- First gas consumption in Q2 2023 and all oil assets converted to gas by 1H 2024

### Electrical boiler – Hydro Rein supports decarbonization

- First electrical boilers in operation in first half 2022
- Two more electrical boilers in operation by 2024
- 2 times 20-year PPA’s were signed with Hydro Rein (255 MW) to power boilers, from the Mendubim and Feijao projects and providing competitive terms for Alunorte

### Coal replacement by 2030

- Coal only as a secondary energy source for security of supply by 2025
- Multiple paths to replace coal and targeting stand-alone business cases
- Ambition to fully replace coal by 2030

### Gas replacement by 2040

- Gas will be replaced in Calcination by either Hydrogen or Renewable energy

### Bauxite

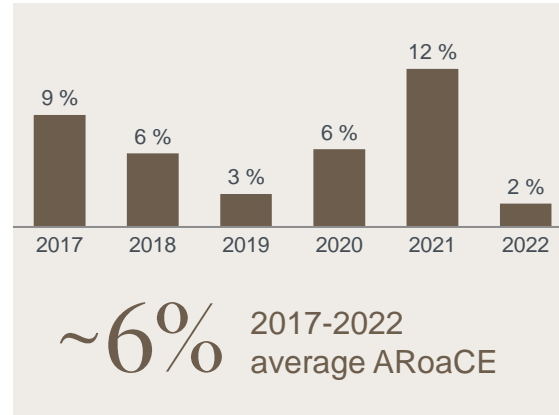
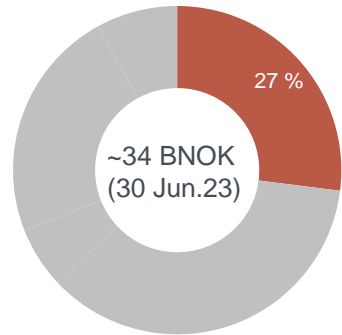
- Replacement of diesel with biofuel and electric equipment

# 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

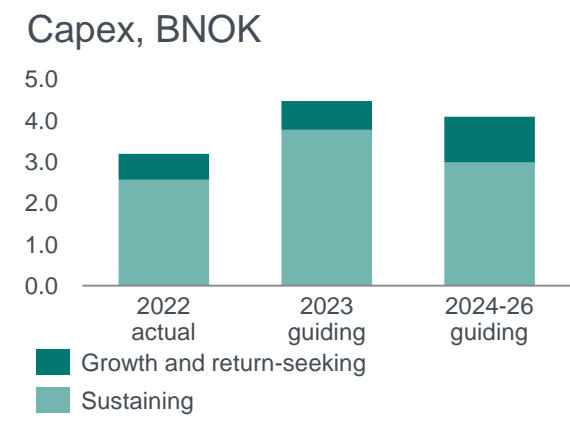


**3.1 BNOK**  
Adjusted EBITDA FY 2022

**10-11%**  
Return requirement

**0.8 BNOK**  
2023-2027 incremental EBITDA from improvement potential and commercial ambitions.  
Reduce 25% of CO<sub>2</sub>e by 2025. 1:1 reforestation target.

Fuel switch project improving Alunorte's competitiveness and sustainability





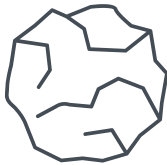
Energy



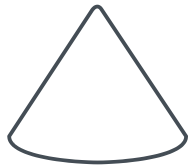
# Energy is a key differentiator in the aluminium industry



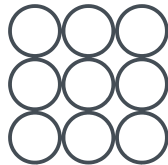
Center of energy excellence in Hydro



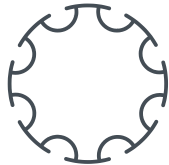
Bauxite



Alumina



Primary



Extrusion

Energy cost <sup>1)</sup>



Energy business area's contribution to Hydro

- |  |  |   |  |
|--|--|---|--|
| <ul style="list-style-type: none"> <li>• Power sourcing</li> </ul> | <ul style="list-style-type: none"> <li>• Power sourcing</li> <li>• Fuel switch project (LNG)</li> <li>• Energy mix long term, renewables, storage</li> </ul> | <ul style="list-style-type: none"> <li>• Power sourcing and production</li> <li>• Gas sourcing</li> </ul> | <ul style="list-style-type: none"> <li>• Power sourcing</li> <li>• Gas sourcing</li> </ul> |
|--|--|---|--|

Market understanding. Framework advocacy. «Greener» support & energy efficiency support. Security of supply

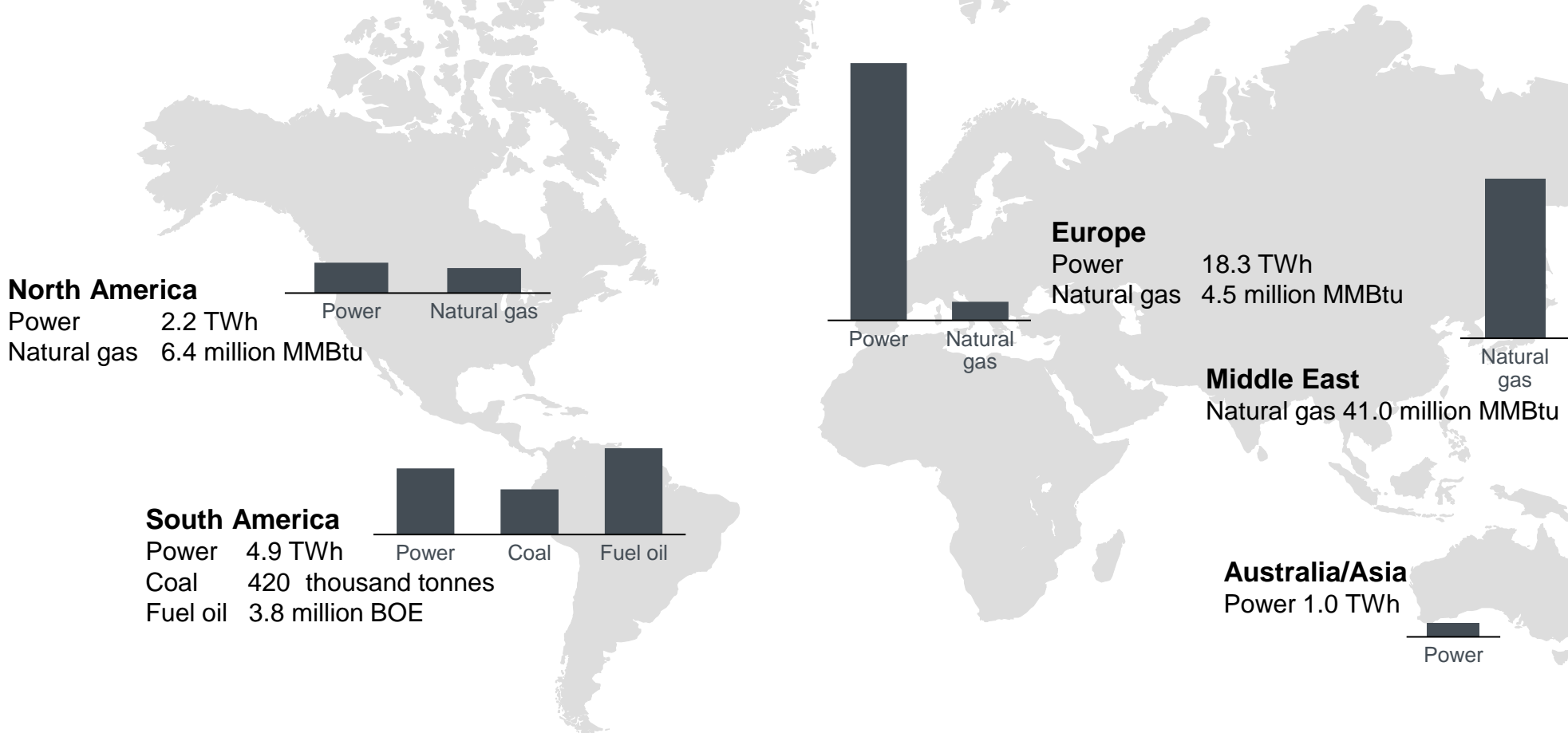
1) Share of Business Operating Cash Cost over the cycle

# Hydro's global primary energy demand



Spanning the entire aluminium value chain, all global regions and energy carriers

Hydro's total energy portfolio amounts to ~210 million GJ per year based on ownership equity



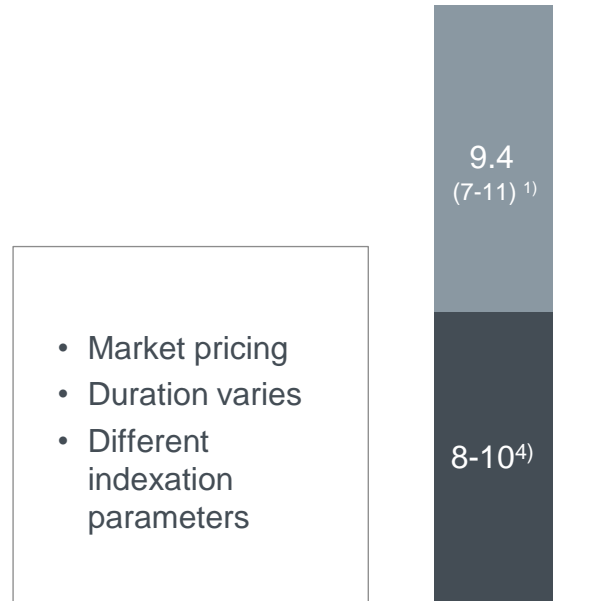
Primary energy is defined as energy production plus energy imports, minus energy exports.  
 Values are listed in its conventional trading unit. Electrical energy: 1 MWh = 3.6 GJ, MMBtu = Million British thermal units = 1.06 GJ, ton=metric ton thermal coal = 28 GJ, BOE= Barrel of Oil Equivalent = 6.12 GJ.  
 Bar charts are represented in the equivalent primary energy size for each category.  
 Based on equity-adjusted 2021 values for Norsk Hydro's bauxite mines, alumina refineries, smelters, casthouses, remelters, and extrusion plants.

# Market pricing principle applied to internal contracts

Based on external price references

Sourcing side

TWh



- Market pricing
- Duration varies
- Different indexation parameters

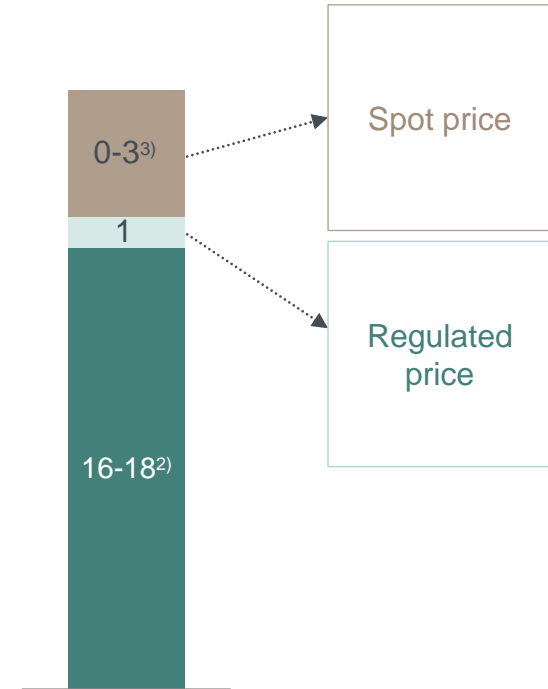
■ Normal production  
■ Sourcing on long-term contracts

- Long-term contract
- Market pricing
- Fixed annual pricing adjustments

Revenue side

TWh

Mainly Back-to-back



■ Net spot sales  
■ Concession power \*  
■ Consumption in Aluminium Metal

- Spot price
- Regulated price

Norway post 2020

1) Depending on the precipitation level, hydropower production may vary from 7 TWh in a dry year to 11 TWh in a wet year

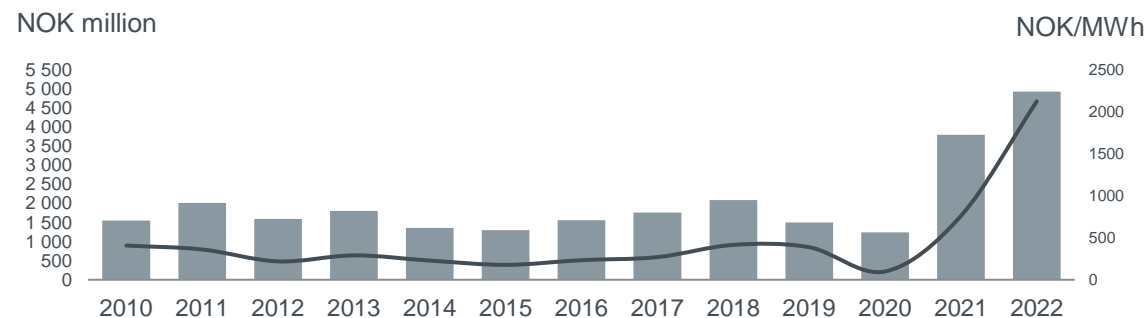
2) Consumption in AM at current production levels and at full installed capacity

3) Net spot sales vary depending on the power production level and internal consumption in AM

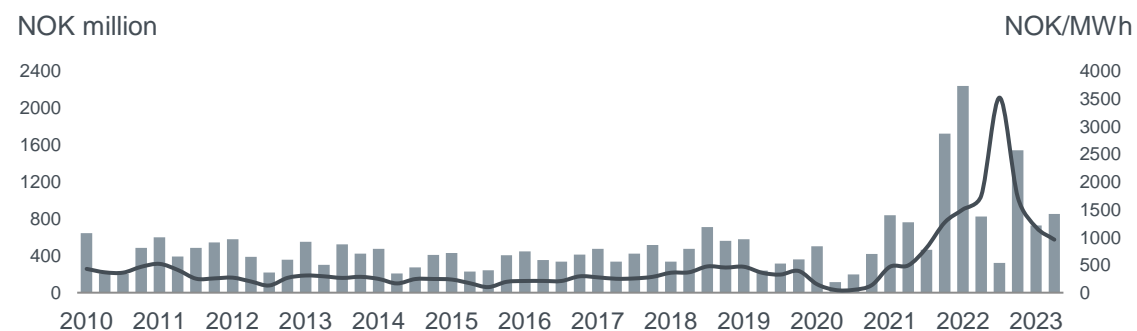
4) Depending on status of sourcing

# Energy EBITDA development

Adjusted EBITDA and NO2 spot price



Adjusted EBITDA and NO2 spot price



■ Adjusted EBITDA — Spot price

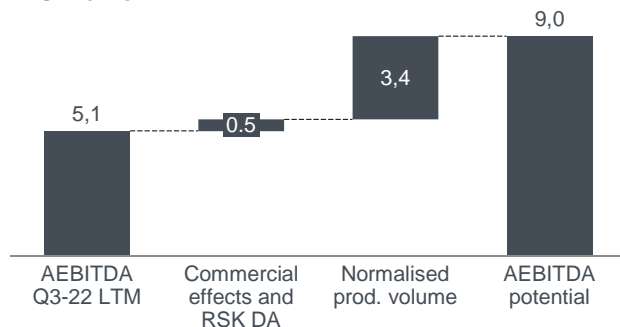
- Production and market prices strongly linked to hydrological conditions
- Seasonal market variations in demand and supply. Gains or losses may occur from delink between area prices arising due to transmission capacity limitations in the Nordic area
- Power portfolio optimized versus market
- Lift in annual EBITDA contribution from 2021
  - Positive impact from expiry of legacy supply contract from 2021
  - 8 TWh internal contract for power sales to Aluminium Metal in Norway effective from 2021-30
- Stable and competitive production cost base:
  - Mainly fixed costs
  - Volume-related transmission costs
- Maturing portfolio growth options; emphasis on flexible production & selected geographies

# Energy profitability roadmap

Main drivers – Net spot sales volume and market development

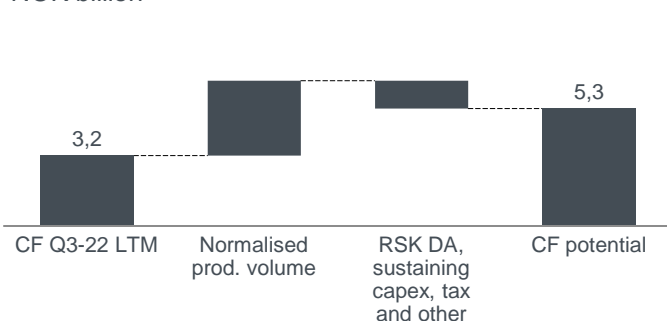
## AEBITDA potential (ex new Energy)

NOK billion



## Cash flow potential after sustaining CAPEX and tax (ex new Energy)

NOK billion



## Market scenarios 2027 (ex new Energy)

Additional upside from price area differences and commercial effects



## Market scenarios 2027 (ex new Energy)

Additional upside from price area differences and commercial effects



## 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 for Hydro REIN

### EBITDA

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

### Cash flow statement

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

### Capex

- Capital contributions to part-owned vehicles included

### Balance sheet

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

Note: Excluding growth from new energy areas

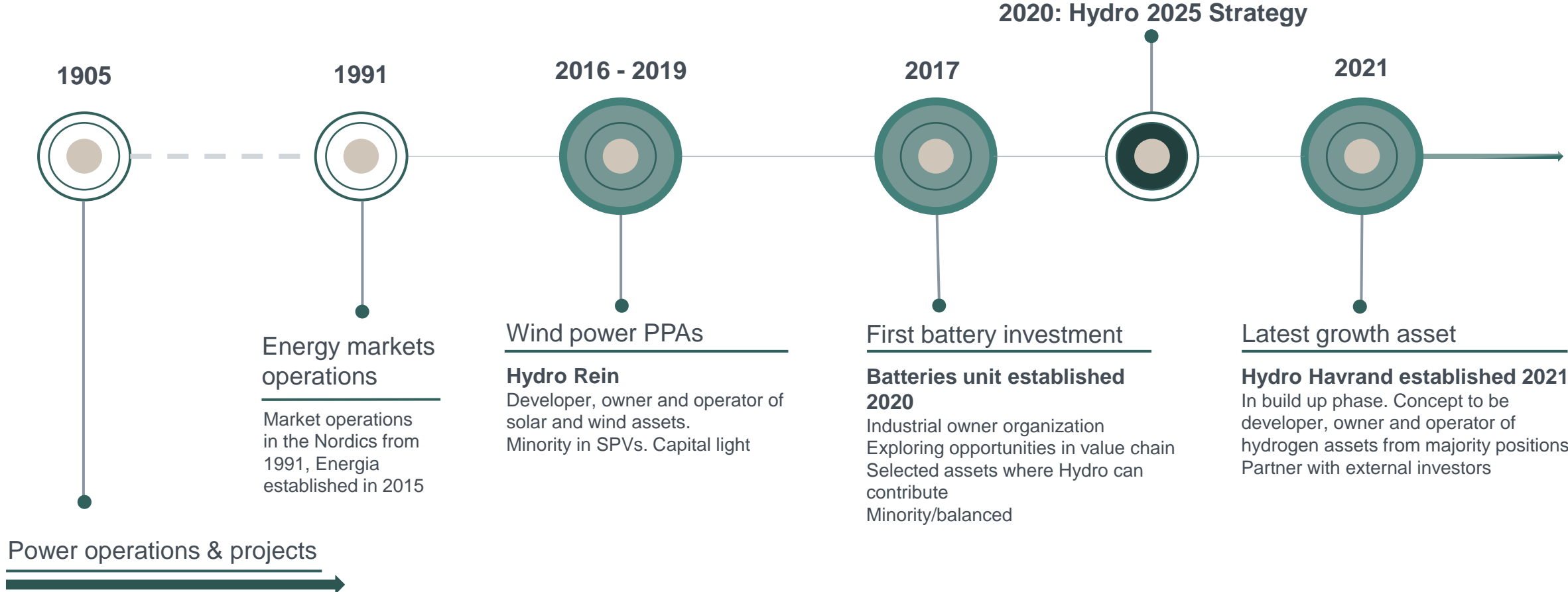
\* Cash flow calculated as EBITDA+tax+LT sustaining capex

Assumptions and sources behind the potential can be found in the Appendix

# Pursuing growth opportunities at different stages



Realizing value potential in Batteries, Hydro Rein & Hydro Havrand



# Strong production platform, market performance and growth opportunities



## Excellent hydropower operations & growth projects

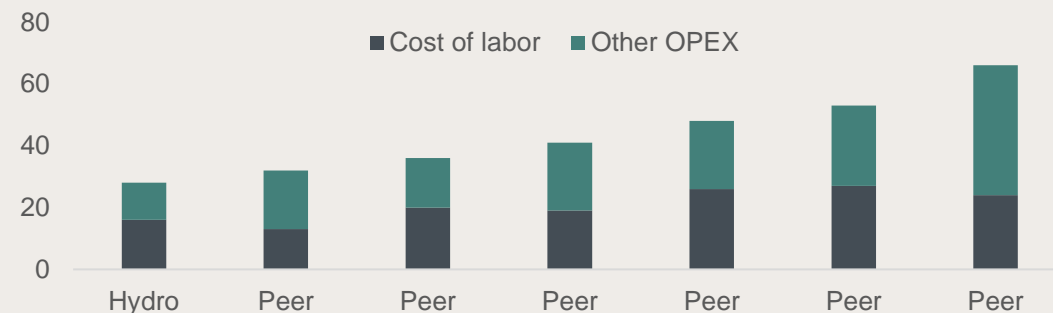
<p><b>14.0 TWh</b> Operations of power assets in Norway. 9.4 TWh equity owned hydropower. Karmøy 4 TWh smelter control room service</p>	<p><b>NOK 1 billion</b> Potential Hydro investments in Lyse Kraft DA giving 150 MW and 60 GWh supporting green shift and high-end volatile market</p>	<p><b>200 GWh</b> Potential increased production in Fortun by building pumping power station at Illvatn and Øyane</p>
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## Leading power market player

<p><b>Top 5 in Europe on PPAs</b> Among the largest PPA buyers in Europe, measured in MW over the last 6 years</p>	<p>Market analysis, market operations, sourcing, trading &amp; portfolio management</p>	<p>Among the top 10% largest energy trading companies and managing the 2nd largest power consumption portfolio in Brazil</p>
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## Industry leader on cost and operational performance

Resource spend Norwegian hydropower players 2020  
NOK/MWh



## Strong platform for value creation

- EBITDA “platform” from operations:
  - **8 TWh** on long term contracts (predictable prices) + **2 TWh** (avg.) net long spot volume in merchant market:
  - App. **NOK 3.5 billion** LTM adjusted with normal production and no area price gain<sup>1)</sup>
- Commercial contribution in addition of app. **NOK 400 million** average last 3 years
- Well positioned portfolio to benefit from area price differences
- Maturing portfolio growth options; emphasis on flexible production & selected geographies

1) Based on a normal production of 9.4 TWh with a 2021 seasonal profile at last 12 months prices of NOK 2 / kWh  
Sources: THEMA, Schneider Electric: Neo Network PPA Deal Tracker 2017-2022

# Energy assets and unique competence drive value creation across Hydro



## Strong platform for production, sourcing and advisory



**Operations and projects:** HSE excellence, operating 40 power plants across Norway (hydropower and wind). Large scale project execution across new units and Hydro



**Commercialize positions:** PPA originator, from “as produced” to PPA profile, highly competitive sourcing and optimal energy solutions



**Market, grid & regulatory insight:** Strong market presence and insight, monitoring regulatory initiatives across Norway, the EU and Brazil. Grid and infrastructure development

## Decarbonizing Hydro and external industries

### Decarbonizing Hydro

- Power sourcing, managing and matching profiles and consumptions
- Hydro Rein offering renewable power and energy solutions
- Hydro Havrand replacing fossil fuels with green hydrogen
- Hydrovolt delivering post consumer aluminium scrap from used EV batteries

### Decarbonizing industries

- Investing in renewables in the Nordics, Europe and Brazil and PPAs to external customers
- Battery materials investments focused on reduced CO<sub>2</sub>-footprint from LCA<sup>1)</sup> perspective
- Green hydrogen to fuel switch industries and transport

1) LCA = Life Cycle Assessment



# Position and capabilities across entire value chain

Major renewable energy producer, market player and offtaker

## In Operation

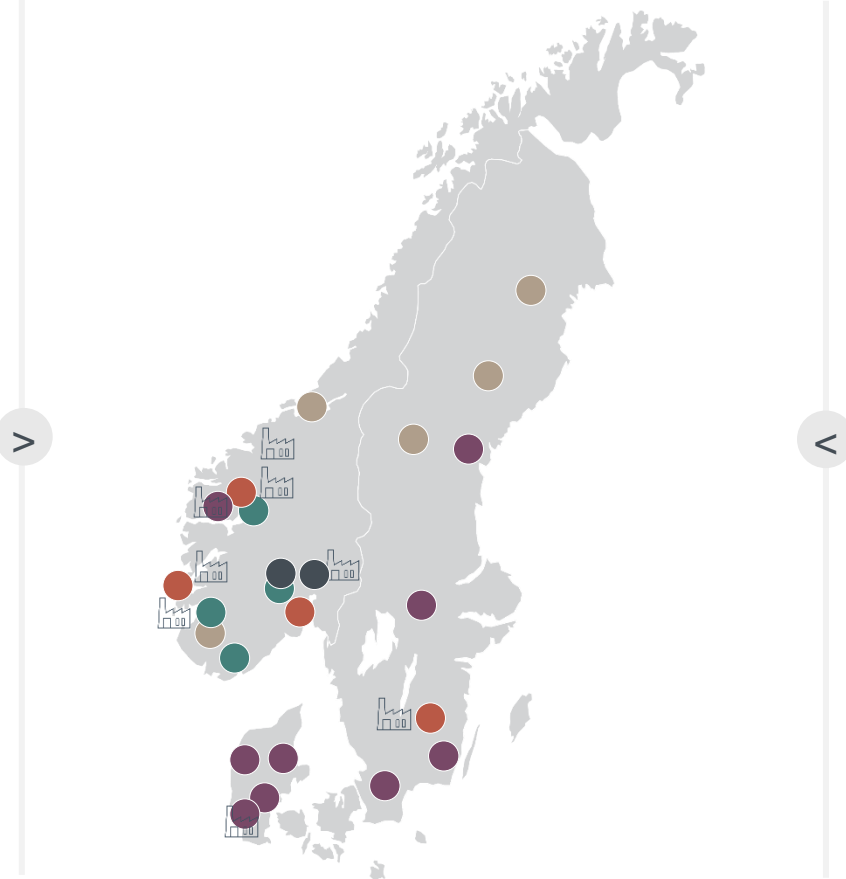
- Hydropower in Norway (equity): 9.4 TWh
- Hydropower in Norway (operator): 13 TWh
- Wind power in Norway (operator): 0.7 TWh

## Sourcing

- Hydropower in the Nordics: 5.1 TWh
- Wind power in the Nordics: 4.2 TWh

## Hydro Rein projects under development

- Wind power in the Nordics: 3.9 TWh
- Solar power in the Nordics: 1.1 TWh



## Offtake Aluminium Metal

Norwegian smelters: 17 TWh

## Offtake Extrusions

Selected Extrusion plants: 0.1 TWh

## Potential offtake Batteries

Potential sites portfolio companies: 1 TWh

## Potential offtake green Hydrogen

Hydrogen hubs at selected strategic sites

# Hydro Rein: Delivering on Hydro's ambitions in renewable growth. Active capitalization process ongoing



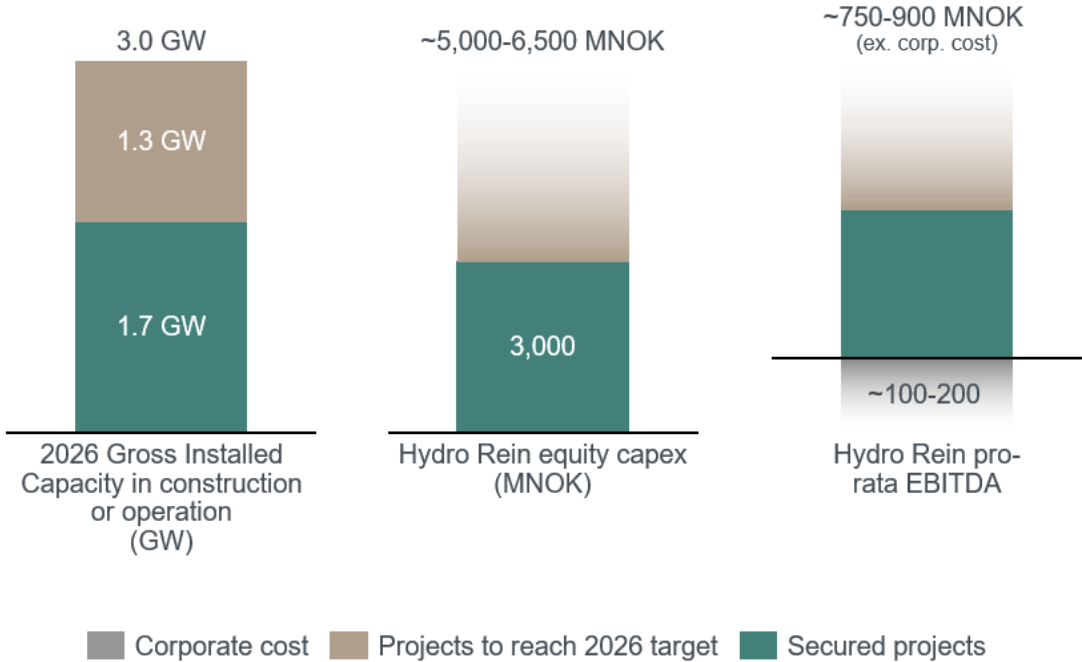
## Significant progress last 24 months

<p><b>3.6 TWh</b> signed under long-term EUR &amp; USD PPAs</p>	<p><b>USD 2.7 billion</b> contracted revenues</p>	<p><b>NOK 2.5 billion</b> Remaining capex for projects in construction, incl. 2.1 BNOK in 2023</p>
<p><b>20</b> numbers of renewable projects in portfolio</p>	<p><b>1.7 GW</b> gross capacity in operation or construction</p>	<p><b>30</b> sites identified for Energy Solutions</p>

## Hydro Rein in 2026

<p><b>3 GW</b> Gross portfolio in operation and construction</p>	<p><b>&gt;500 MW</b> added gross capacity to pipeline on average annually</p>	<p><b>NOK 400-450 million<sup>1)</sup></b> Estimated EBITDA contribution from projects in construction</p>
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## Hydro Rein EBITDA estimates 2026/27. CAPEX 21-26

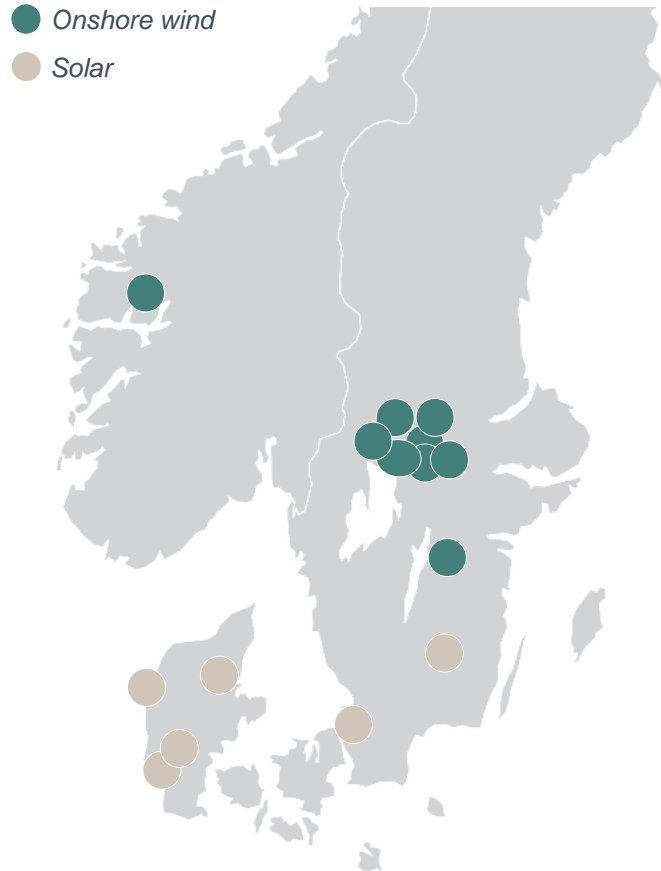


All financial figures in MNOK has been converted by using fixed FX of 9.7 on EUR/NOK and USD/NOK  
 Capex and EBITDA figures for indicative/pipeline projects to secure the additional 1.3 GW are based on high-level multiples for targeted wind and solar project in Nordics and Brazil, based on an assumed technology mix, targeted ownership share and leverage. All figures exclude Energy Solutions and Offshore wind.

# Strong focus on building development pipeline in Nordics



## Nordic development portfolio



## Overview of development pipeline

Sweden – Onshore wind SE3/SE4 portfolio						
	9 # of projects	SE3/SE4 Price area	672 MW	50% Stake	 Partner	2030-2031 COD
Sweden – Solsidan						
	2 # of projects	SE4 Price area	118 MW	100% Stake		2028 COD
Denmark – Arielle						
	2 # of projects	DK1 Price area	362 MW	50% Stake	 Partner	2026 COD
Denmark - Melody & Triton						
	2 # of projects	DK1 Price area	407 MW	100% Stake		2026-2027 COD
Norway – Snøheia Industrikraft						
	1 # of projects	NO3 Price area	300 MW	35% Stake	 Partners	2030 COD

# Focused battery strategy: Grow within sustainable battery materials by leveraging Hydro's capabilities



## STRATEGIC GROWTH

### Anode materials

*Vianode targeting substantial market share for synthetic graphite in Europe and North America*

**Vianode**

30% owner share

### Circular solutions

*Hydrovolt targeting 25% market share within EV battery recycling in Europe. Work to integrate downstream.*

**hydrovolt**

50% owner share

### Battery materials

*Selectively explore*

**Industrialize sustainable battery material businesses**

**Build technology platform through R&D and selected emerging technology investments supporting strategic growth**

## PORTFOLIO HOLDINGS

**Active industrial owner in marine systems segment leader**

**Corvus**   
24.1% owner share








**Financial holding in European emerging cell manufacturing leader**

**northvolt**  
0.6% owner share

**Active industrial ownership leveraging capabilities:** Industrial scaling of innovative technologies, energy expertise, automotive experience, battery investor

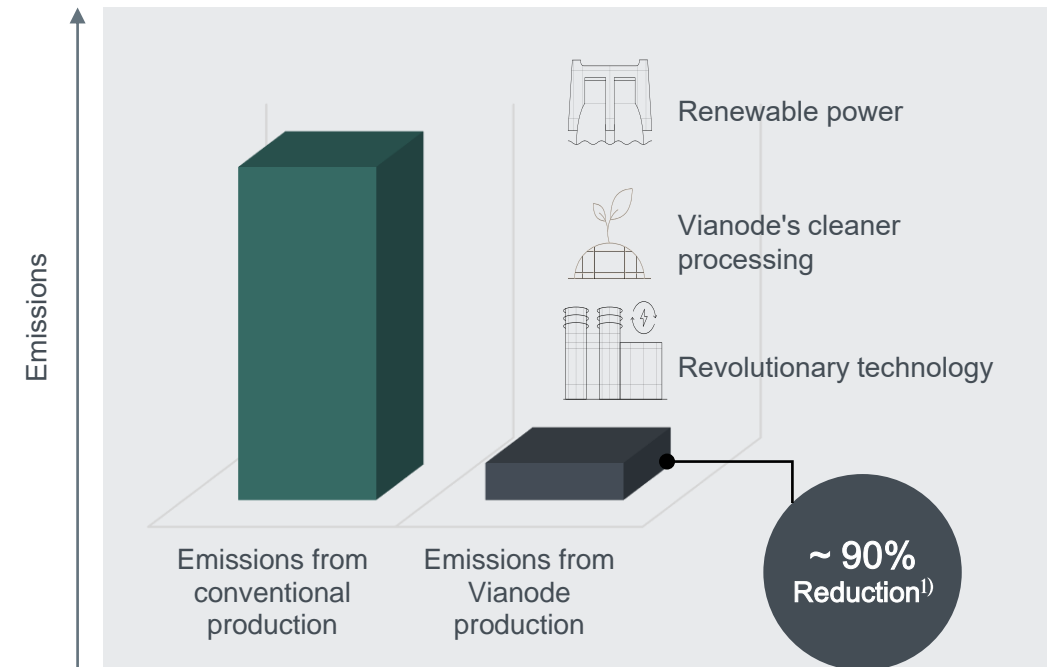
**Hydro foundation:** Mission, values, and group finance, M&A, HSE, and sustainability

# Vianode targeting the largest undersupply in the battery value chain. First full-scale production line underway

	Description	Status	Capacity
Pilot	 <ul style="list-style-type: none"> <li>All process steps</li> <li>Small size industrial equipment</li> <li>Located in Kristiansand, Norway</li> </ul>	In operation	R&D Samples 
Industrial pilot	 <ul style="list-style-type: none"> <li>All process steps</li> <li>Industrial environment</li> <li>New R&amp;D center</li> <li>Located at Kristiansand, Norway</li> </ul>	In operation	Customer samples 
Vianode Phase 1	 <ul style="list-style-type: none"> <li>Full scale production lines</li> <li>Located at Herøya, Norway</li> </ul>	Operational from 2024	~20,000 EVs per year 
Vianode Phase 2	 <ul style="list-style-type: none"> <li>Modular design for rapid expansion based upon phase 1</li> </ul>	Operational from 2026	~1 million EVs per year
Vianode by 2030			~2 million EVs per year

## Enabling near zero emissions

Emissions reduction compared to the production process in today's market



1) CO<sub>2</sub>e footprint reduction based on data from NVE and IEA

# Batteries delivering on strategy and stated value creation potential



## Significant progress last 24 months

<b>2x</b> Value uplift on equity invested	<b>10,000</b> EV batteries secured by Hydrovolt	<b>20,000</b> EVs with Vianode graphite from plant under construction
<b>NOK 0.9 billion</b> Equity invested	<b>90%</b> Roadmap to reduced CO <sub>2</sub> e in battery materials	<b>NOK 3 billion</b> Capital allocated 2020-2025

## Batteries in 2027

<b>3x</b> Value uplift on equity invested by 2025	<b>150,000</b> EV batteries recycling capacity in Hydrovolt	<b>1,000,000</b> EVs with Vianode graphite capacity
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## Key capabilities



Scaling capability, energy expertise and automotive experience



Working in strong partnerships to build scale and accelerate growth



Leading sustainability expertise – driving and implementing sustainability ambitions

# Hydro Havrand: Creating a competitive green hydrogen player

## First mover position from industrial consumption in Hydro

<p><b>Multi-GW</b> potential internal Hydro offtake</p>	<p><b>30%</b> reduction of Hydro emissions by 2030</p>	<p><b>70+</b> potential Hydro locations worldwide</p>
<p><b>&gt; 1 GW</b> Working with partners on large scale</p>	<p><b>1st</b> pilot for zero carbon aluminium in Høyanger</p>	<p><b>~30 FTEs</b> Multinational and diverse team</p>

## Hydro Havrand in 2027

<p><b>International</b> Plants in operation in several markets</p>	<p><b>Fuel switch</b> Proven for key industrial processes</p>	<p><b>Partnerships</b> Both capital and projects</p>
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## Strategic approach and overview



Establishing as a developer, owner and operator of green hydrogen production facilities.

Initiating first-mover projects to decarbonize Hydro with green hydrogen. Scaling and exploring next steps in partnerships



Ongoing technology qualification of hydrogen for decarbonization of aluminium value chain, through laboratory and full industrial scale tests



Maturing projects in Norway and internationally, working in strong partnerships to build scale and accelerate growth



Incentives for scaling the market is emerging, and will unlock demand

REPower EU and US IRA act demonstrate that political ambitions for green hydrogen are increasingly supported by financial mechanisms

# Value creation across the energy space going forward

- 1** | Expanded footprint in the Nordics in terms of power and market operations, projects and sourcing
- 2** | Sourcing and management of power and fuels for Hydro operating assets across geographies
- 3** | Hydro Rein successfully established as separate company with external capital and partners
- 4** | Hydro Havrand developing portfolio, with external capital and partners delivering speed in green fuel switch in industries and transport
- 5** | Preferred partner for industrializing sustainable battery material businesses in Europe



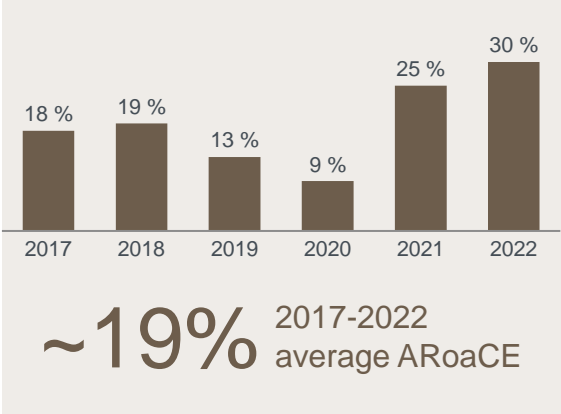
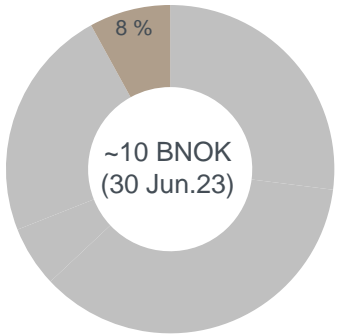


# Capital return dashboard for Energy



Returns above the cost of capital reflecting the depreciated asset base

Capital employed in Energy

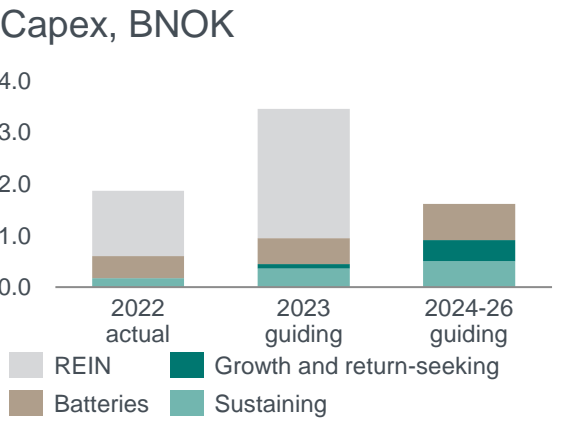


**4.9 BNOK**  
Adjusted EBITDA FY 2022

**6-7%**  
Return requirement

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

Potential listing of Rein and Havrand



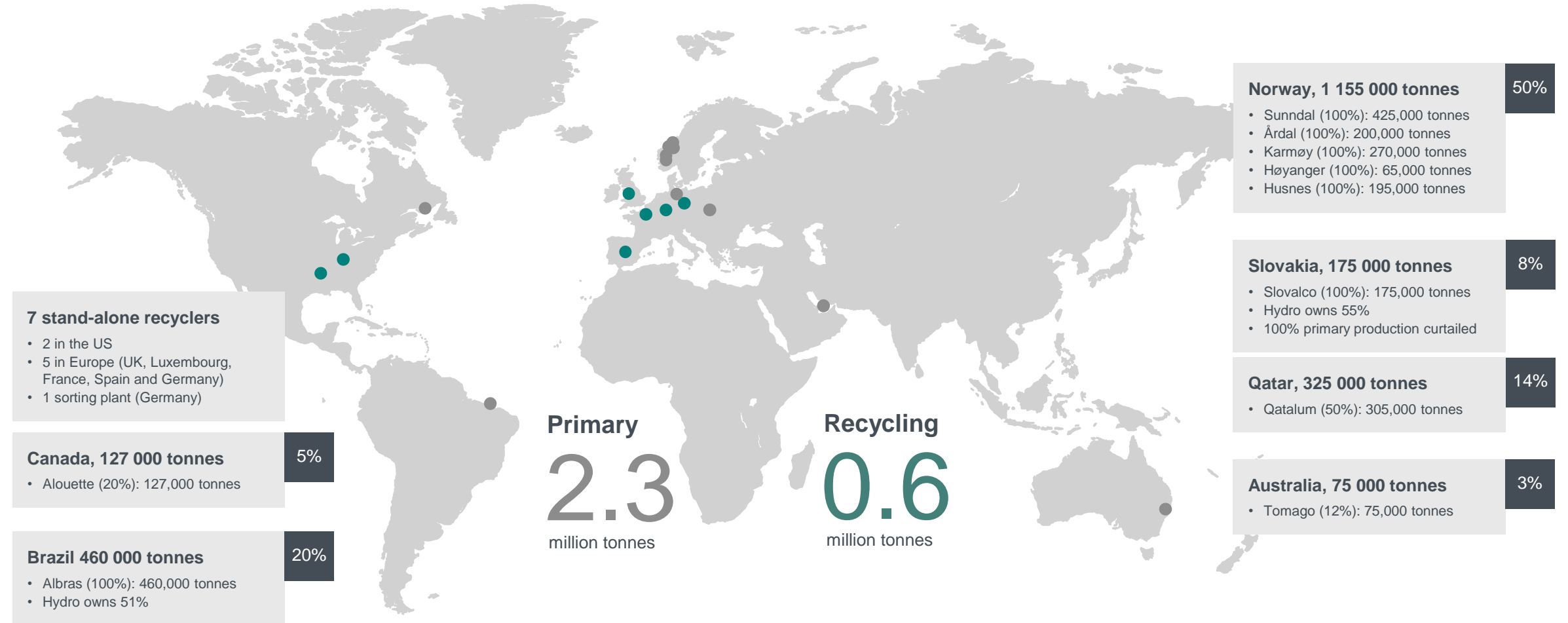


Aluminium Metal

# World-wide primary aluminium production network



Aluminium Metal and Metal Markets

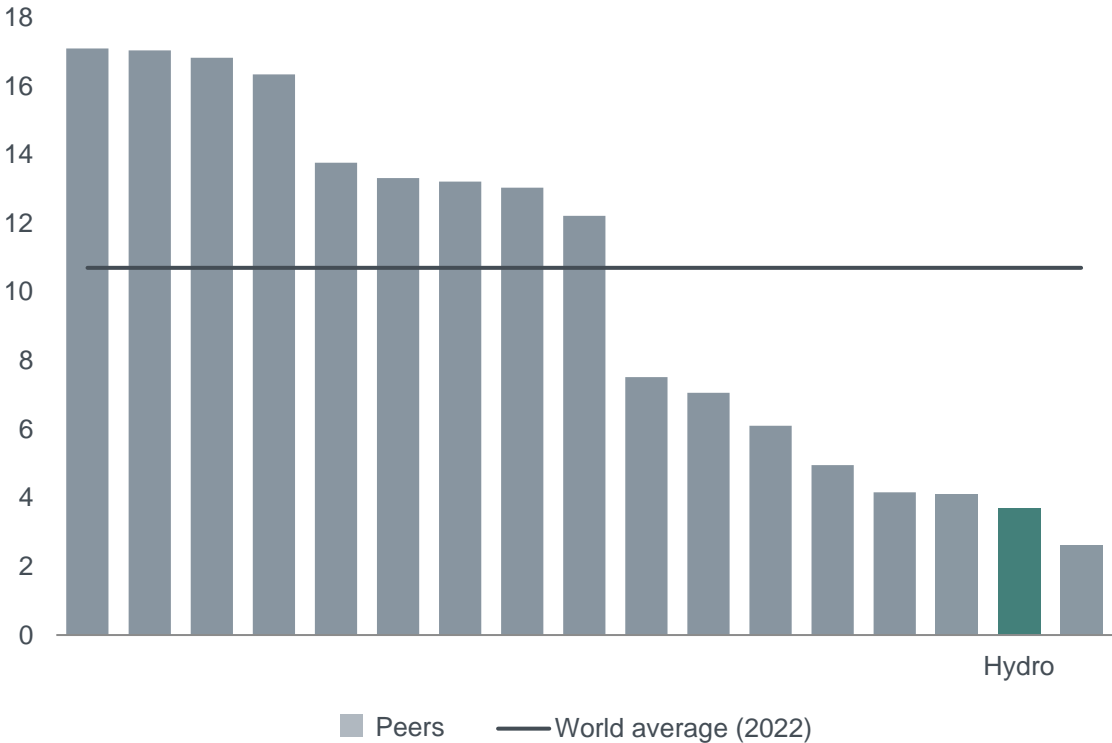


2.3 million mt is consolidated electrolysis capacity, Slovalco and Albras are fully consolidated, Tomago and Alouette are proportionally consolidated and Qatalum is equity accounted. Slovalco based on primary capacity, not production (currently 100% primary production curtailed and lower remelt). 0.6 million mt includes stand-alone recyclers, excluding additional remelt capacity in Primary casthouses.

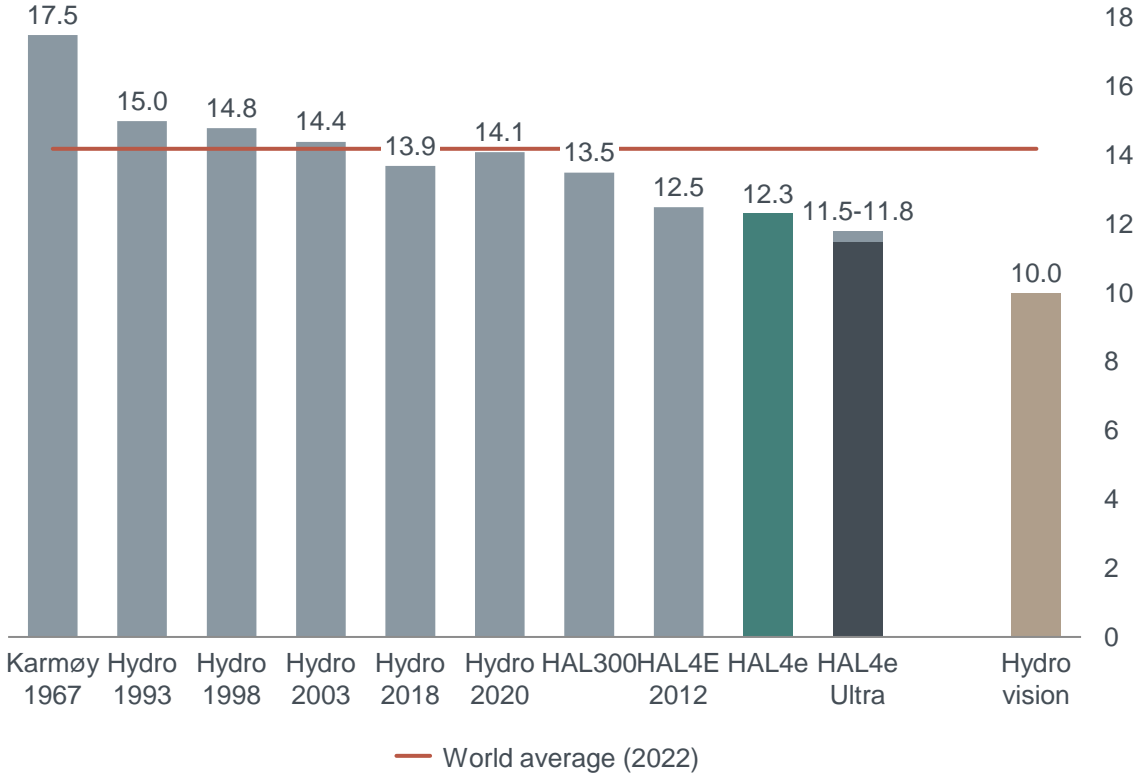
# Low-carbon footprint due to renewable energy base and industry lowest energy consumption



Total emissions, in tonne CO<sub>2</sub>/t al



Energy consumption in Hydro smelters<sup>1)</sup>, kwh/kg al

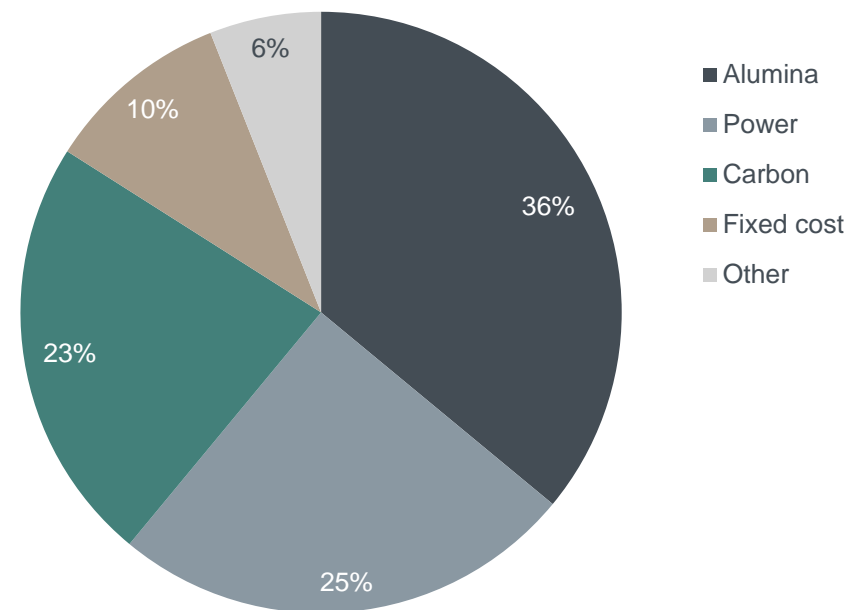


Source: CRU and Hydro analysis  
 1) Hydro's consolidated share

# Competitive primary aluminium cash cost

- Primary aluminium cash cost 2022
  - All-in implied primary aluminium cash cost<sup>1,2)</sup> USD 2 375 per mt
  - LME implied primary aluminium cash cost<sup>1,3)</sup> USD 1 575 per mt
- Alumina
  - Purchases based on alumina index ~93%
  - Purchased based on LME link ~7% (only for Qatalum)
- Power
  - Long-term contracts
  - 3/4 of power need from renewable power
  - Contracts with a mix of indexations; inflation, LME, coal, fixed
- Carbon
  - Majority of contracts are based on 1-2 years, quarterly pricing
- Fixed costs
  - Maintenance, labor, services and other
- Other
  - Other direct costs and relining

Liquid aluminium cash cost 2022<sup>3)</sup>



1) Adjusted EBITDA margin excluding indirect CO<sub>2</sub> compensation catch-up effect (NOK ~1.4 billion) and power sales Slovalco, Albras and Norwegian smelter

2) Realized LME aluminium price (incl.strategic hedges) plus premiums minus adjusted EBITDA margin, including Qatalum, per mt primary aluminium sold

3) Realized LME aluminium price (incl.strategic hedges) minus adjusted EBITDA margin, including Qatalum, per mt primary aluminium produced

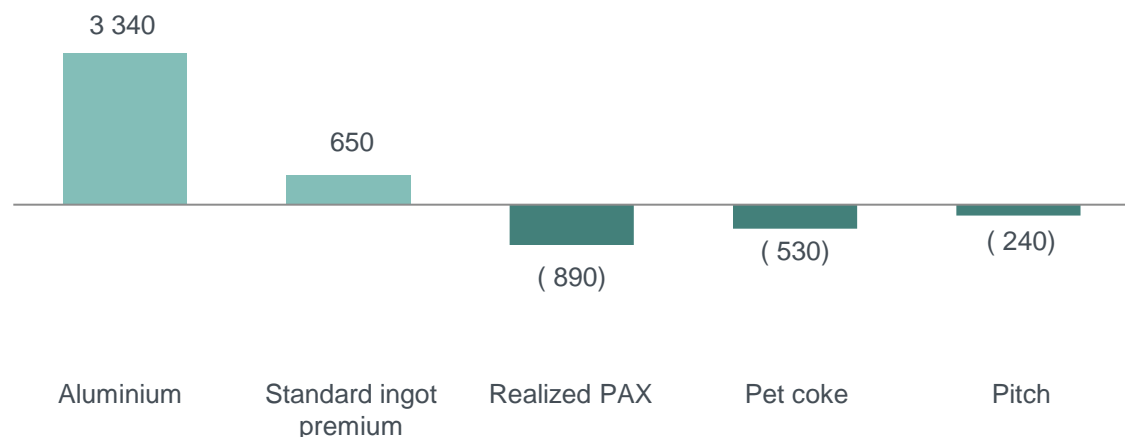
4) Pie chart based on cost of producing liquid aluminium, not directly comparable to the LME or All-in implied primary aluminium cash cost

# Alumimum Metal sensitivities



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

NOK million



## Currency sensitivities +10%

NOK million	USD	BRL	EUR
Adj. EBITDA	3,040	(260)	(380)

## 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
- ~ 2-3 months lag
- Mainly priced on Platts index

### 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

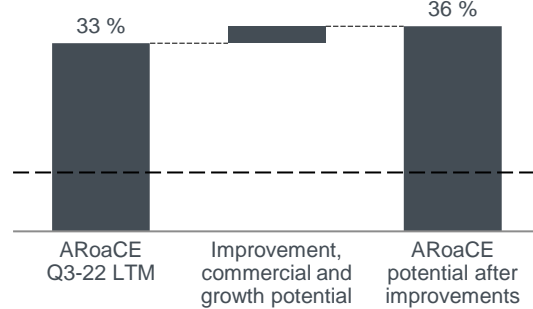
# Aluminium Metal and Metal Markets profitability roadmap



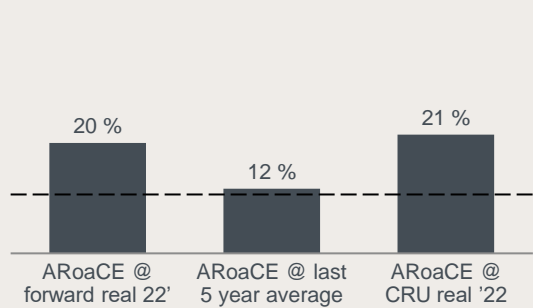
Main drivers – improvement efforts, commercial differentiation, and market development

## ARoaCE potential

Profitability target of >10% (>8%)



## Market scenarios 2027



## Main further upside drivers

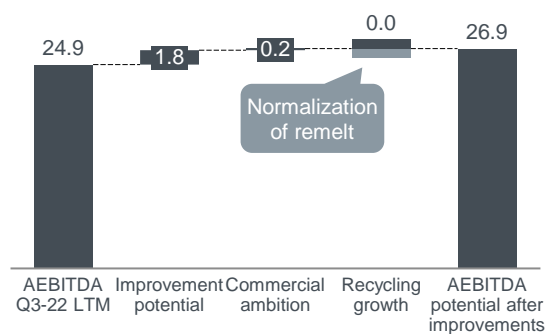
- Positive market and macro developments
- Commercial differentiation, incl. greener brands
- Recycling opportunities
- Portfolio optimization
- Further potential in automation, process control and efficiency, operational excellence

## Main downside risks

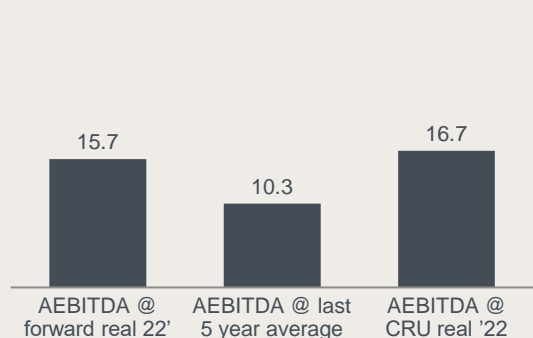
- Negative market and macro developments, incl. trade restrictions
- Deteriorating relative cost and market positions
- Operational disruptions
- Supply chain disruptions
- Regulatory and country risks, incl. tax

## AEBITDA potential

NOK billion

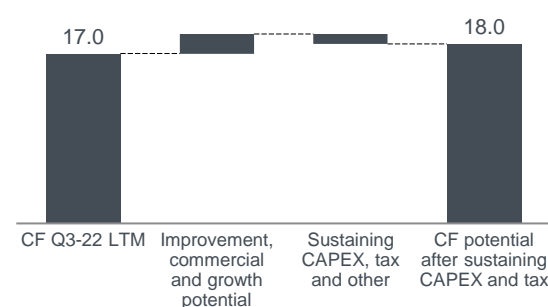


## Market scenarios 2027

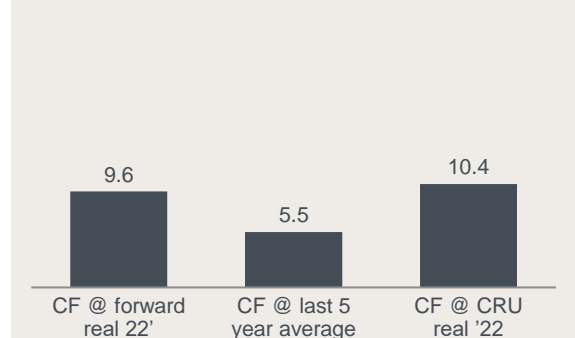


## Cash flow potential after sustaining CAPEX<sup>1)</sup>

NOK billion

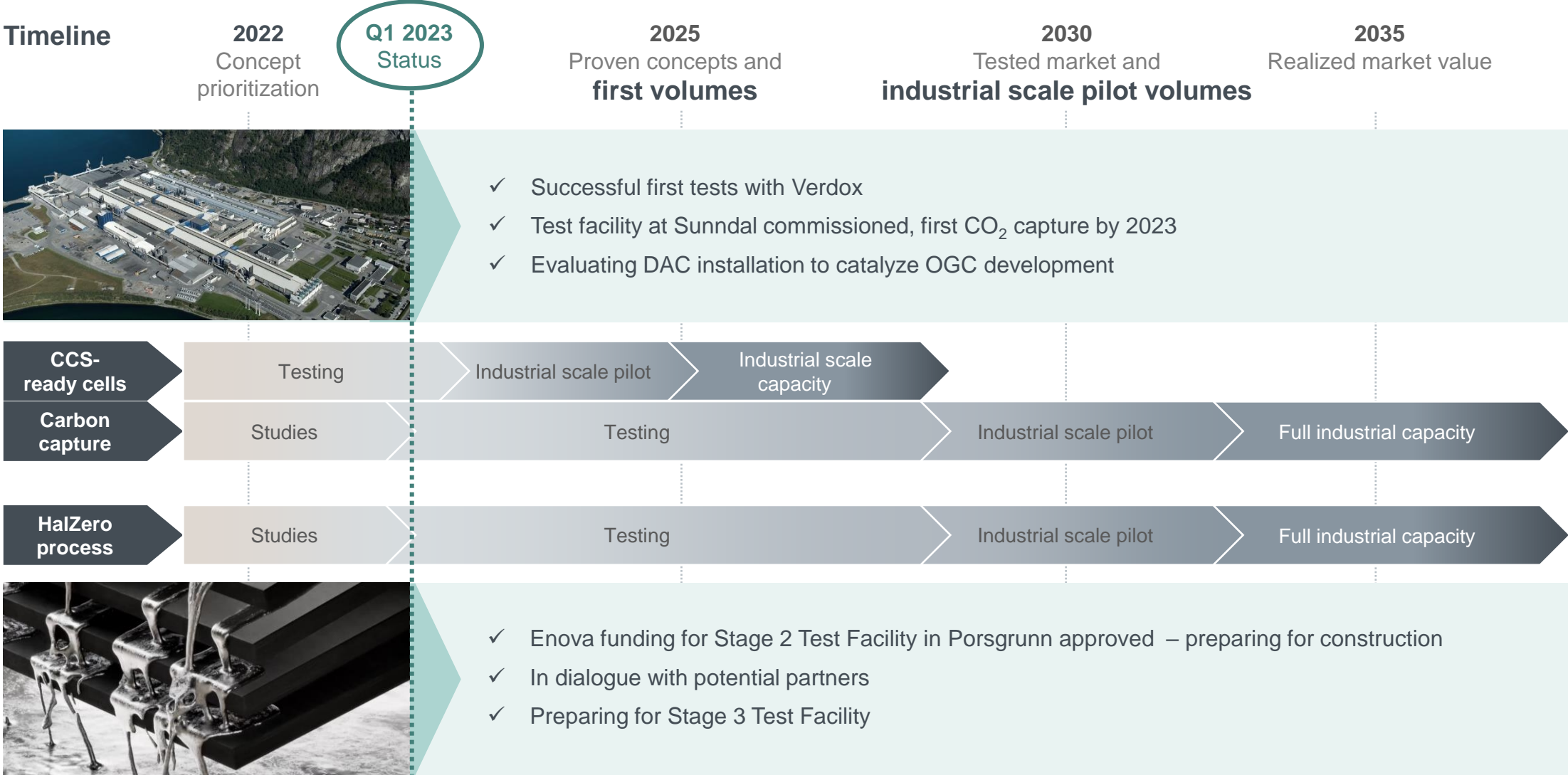


## Market scenarios 2027



1) Cash flow calculated as EBITDA+tax+LT sustaining capex  
 Assumptions and sources behind the scenarios can be found in the Additional information  
 Sources: Republished under license from CRU International Ltd.

# Preparing for first CO<sub>2</sub> capture and HalZero testing at scale



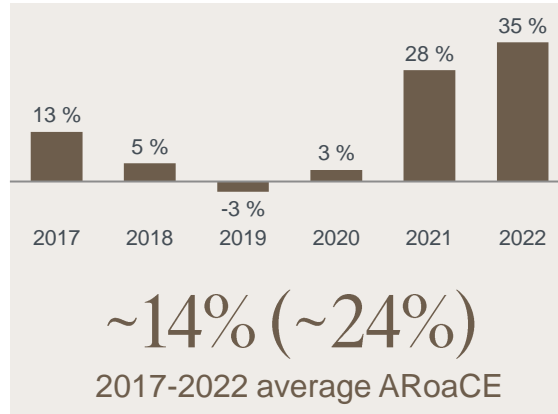
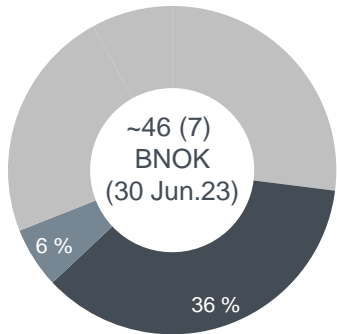


# Capital return dashboard for Aluminium Metal & Metal Markets



Investments in recycling capacity to support growth

Capital employed in AM (MM)



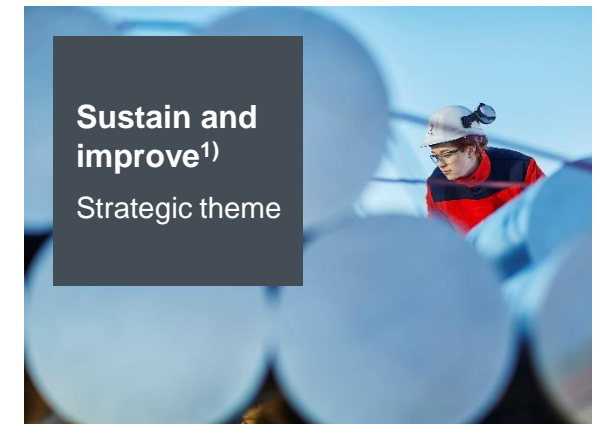
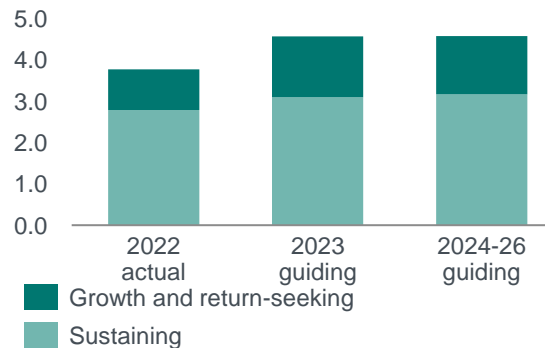
**23 (1.7) BNOK**  
Adjusted EBITDA FY 2022

**10%-11%**  
**(7-8%)**  
Return requirement

**1.4 + 0.2**  
**BNOK**  
2023-2027 incremental EBITDA from improvement potential and commercial ambitions

Investments in recycling capacity to support growth

Capex, BNOK



1) Creep and recycling with high profitability

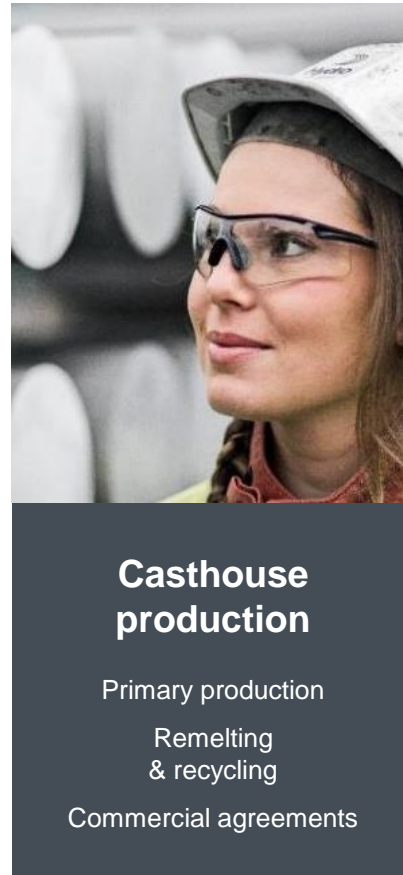


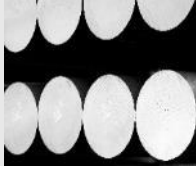




# Metal Markets

# Strong position in value-added casthouse products

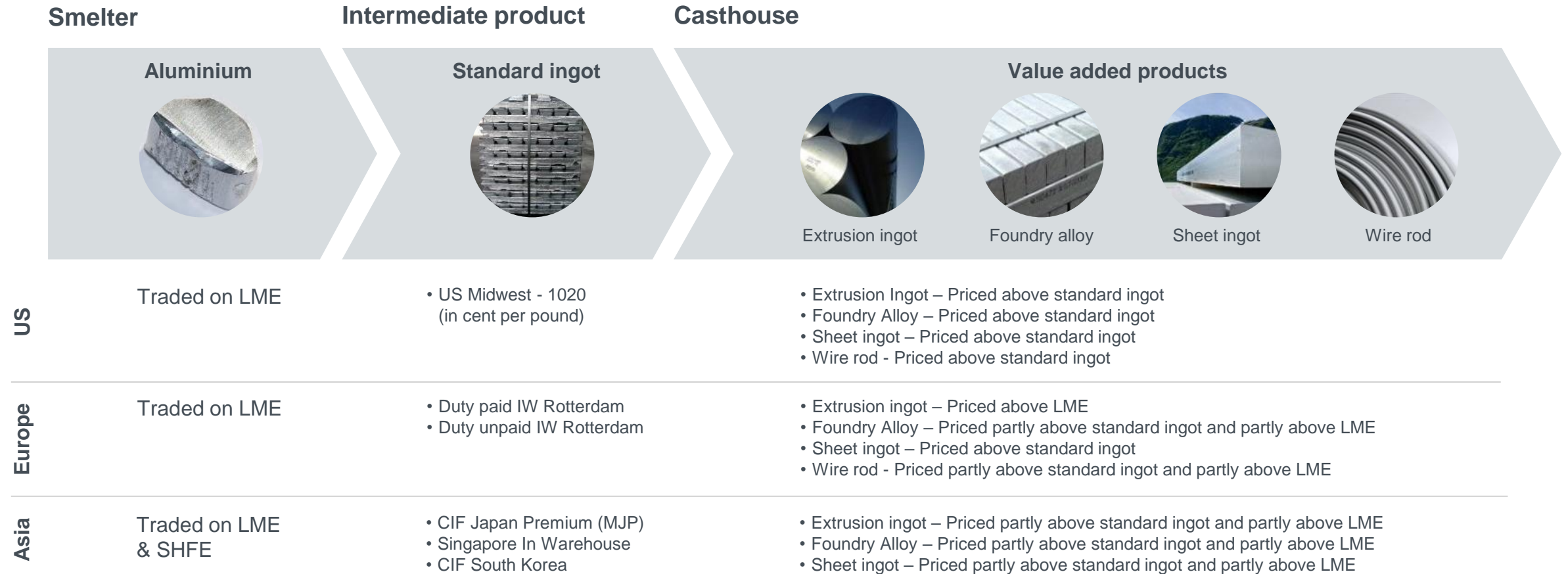


- Capitalizing on value-added casthouse products portfolio
- Extensive multi-sourcing system including fully- and part-owned primary casthouses and stand-alone remelters
- Flexible sourcing system enabling rapid and cost effective volume adjustments
- Value creation from margin management based on commercial expertise and risk management competence
- Strong market positions in Europe, US and Asia



<p><b>Extrusion ingot</b></p> <p>1.6 million mt</p>		<p><b>Leading global position</b></p> <p>Unique primary and recycling capacity network</p>
<p><b>Foundry alloys</b></p> <p>0.5 million mt</p>		<p><b>Leading global position</b></p> <p>Strong capabilities in all automotive segments</p>
<p><b>Sheet ingot</b></p> <p>0.3 million mt</p>		<p><b>Leading European position</b></p> <p>Well positioned to capture automotive growth</p>
<p><b>Wire rod</b></p> <p>0.1 million mt</p>		<p><b>Leading European position</b></p> <p>Market attractively supported by copper substitution</p>
<p><b>Standard ingot</b></p> <p>0.3 million mt</p>		<p><b>Leading global position</b></p> <p>Global flow optimization through key positions</p>

# Pricing of value-added products



# Alumetal acquisition complete

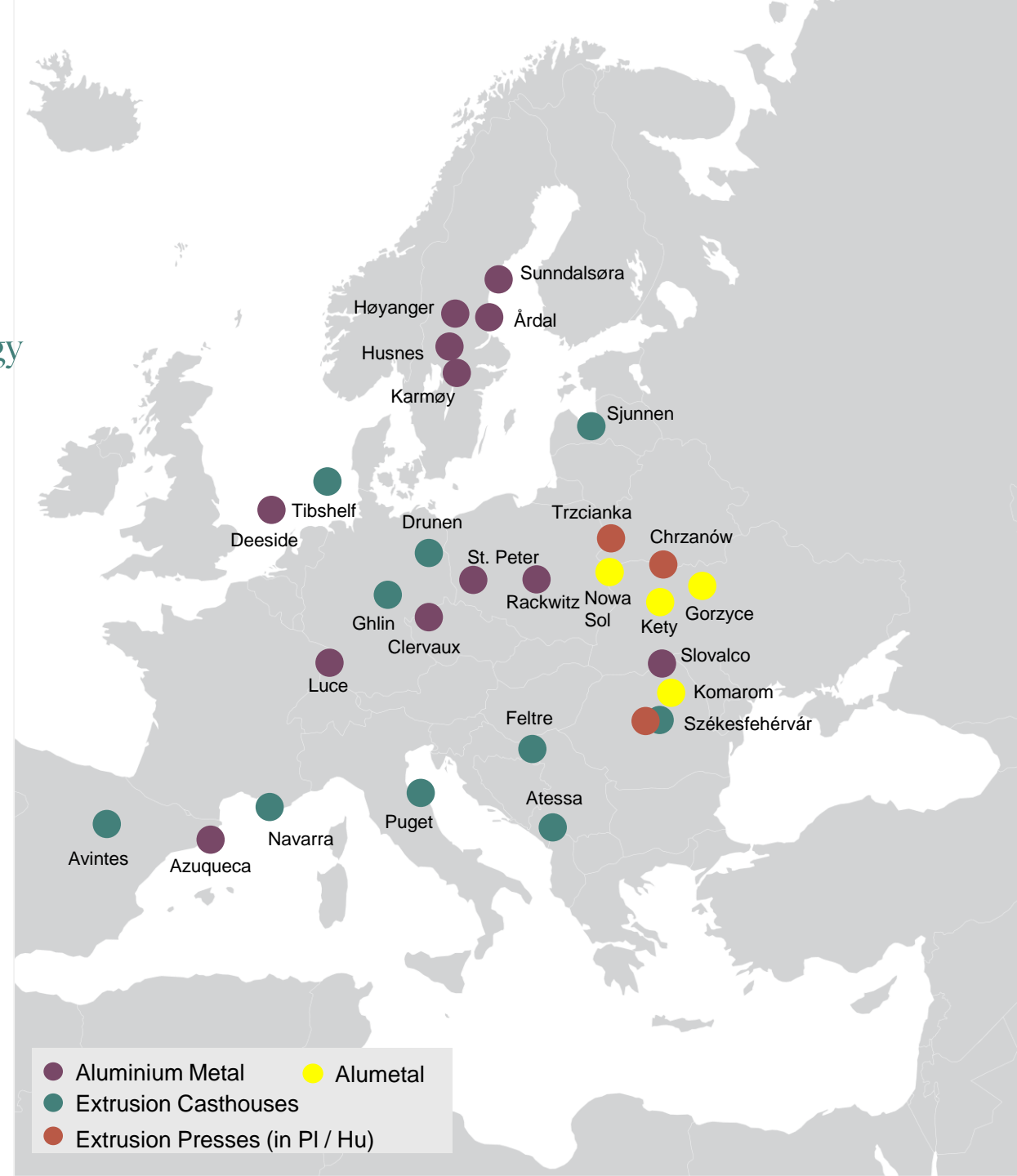
Hydro acquired the Polish aluminium recycling company, Alumetal S.A on June 30 – Settled on July 7

## Strong strategic fit towards delivering on Hydro's recycling strategy

- Second largest producer of aluminium secondary foundry alloys in Europe
- Production capacity of 275,000 tonnes per year with three plants in Poland and one in Hungary, and 640 employees
- The company sells its products primarily within Europe and to the automotive sector, which represents 90% of customer base
- Alumetal is also experienced in sorting of post-consumer scrap and recently commenced operations on a new, state-of-the art sorting line

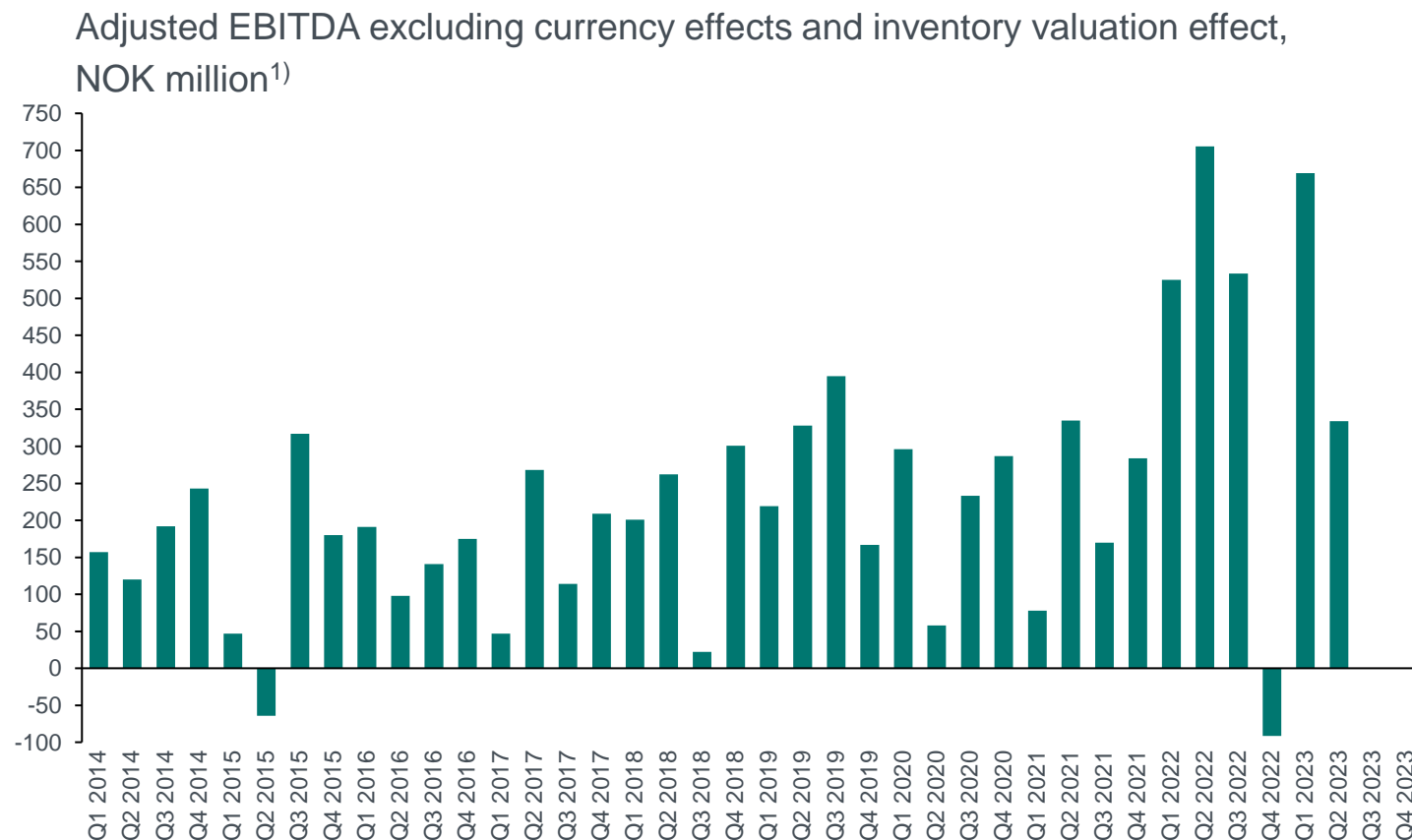
**As of June 30, more than 97% of shares have subscribed.  
A tender offer for 100% of the shares of Alumetal S.A.:**

- Equity value: PLN 1,265 million (app. EUR 267 million)
- Enterprise Value: PLN 1,651 million



# Metal Markets earnings drivers

- Recyclers
  - Revenue impact – volume and product premiums above LME
  - Cost impact
    - Scrap and standard ingot premiums above LME
    - Raw material mix
    - Freight cost – proximity to market
    - Energy consumption and prices
- Other main businesses
  - Physical ingot and LME trading
  - Third-party casthouse products
- Results influenced by currency fluctuations and inventory valuation effects
- Adjusted EBITDA for 2023 expected in the range of 1.3BNOK to 1.5BNOK

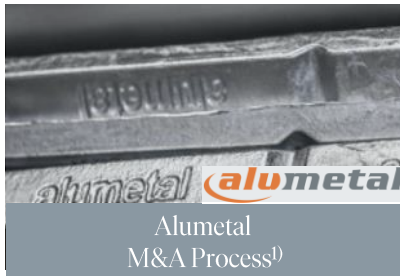


1) Amounts are as disclosed for the individual years reflecting the accounting policies applied for those years and Hydro's definition of APMs applied for the relevant years.

# Delivering on recycling strategy at high speed, increasing ambition

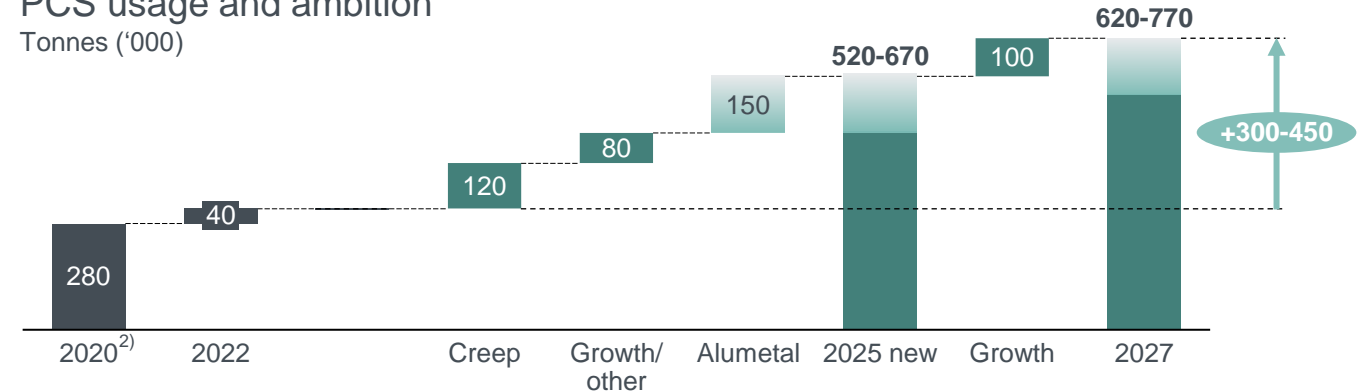


## Key investment decisions made



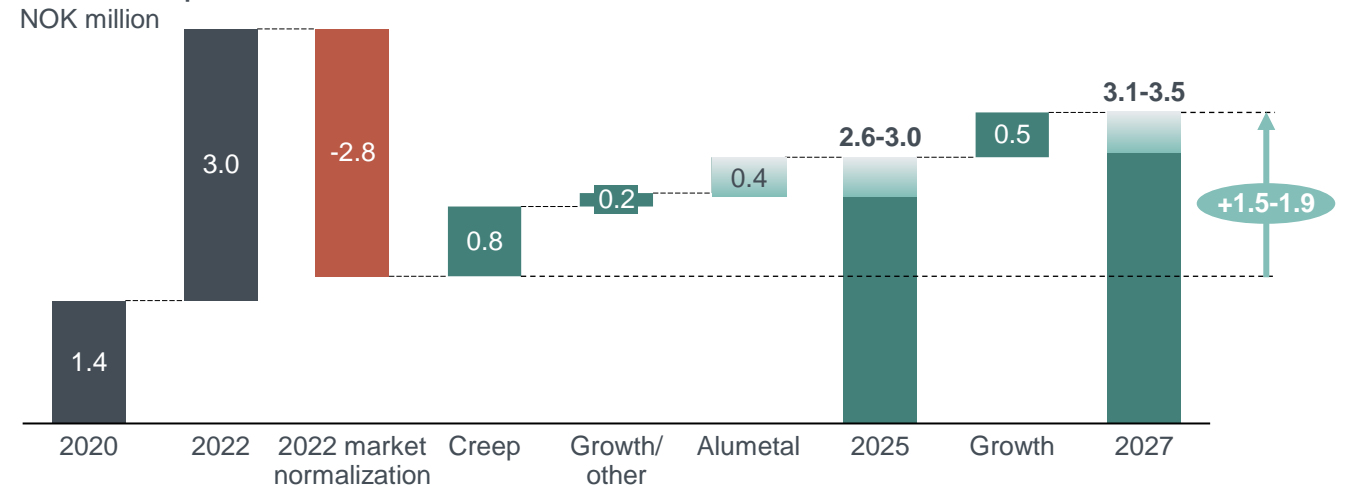
## PCS usage and ambition

Tonnes ('000)



## EBITDA uplift

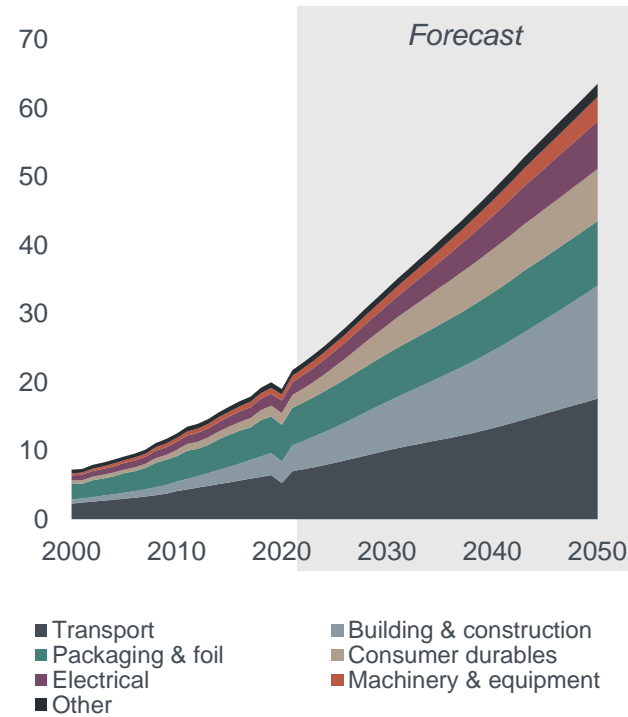
NOK million



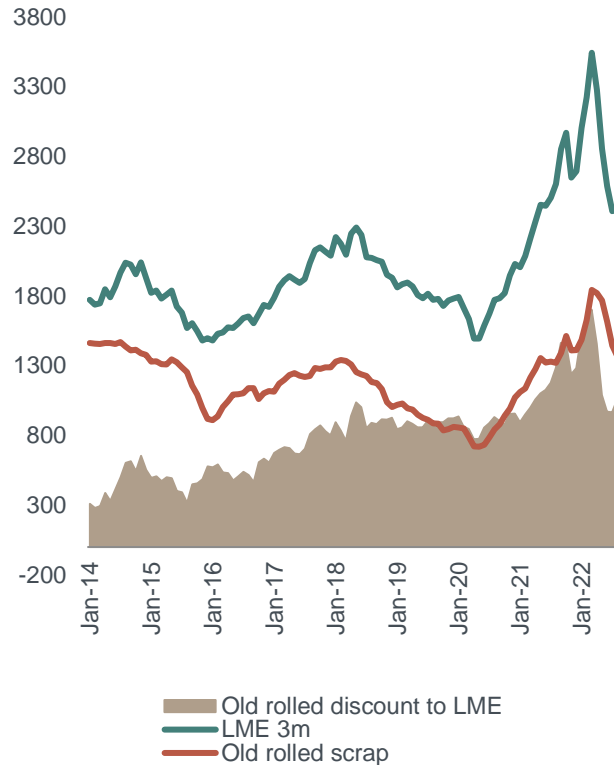
1) Currently undergoing Phase II merger control review by the European Commission  
 2) Baseline 2020 PCS volume reduced from 290 to 280 kt due to reclassification.

# Recycling: A profitable business case strengthening the sustainability positioning of Hydro and industry

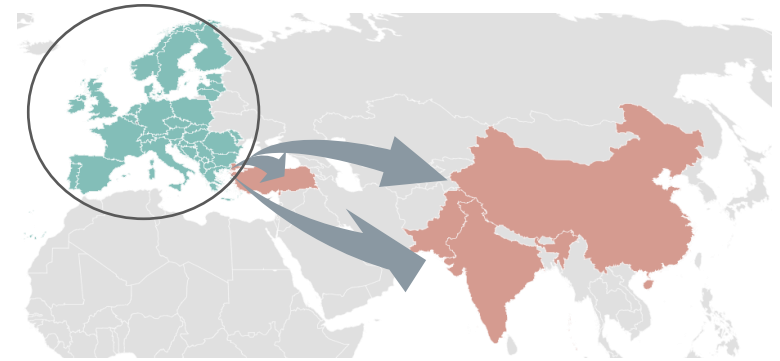
Global estimated recovery from post-consumer scrap collected increases  
Million tons



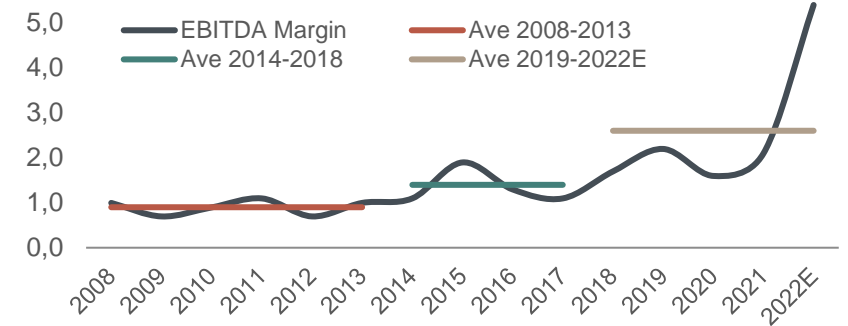
Price spread LME vs. complex post-consumer scrap increased  
USD/tonne



Large scrap volumes leaving Europe, ~1 million tons – an untapped potential

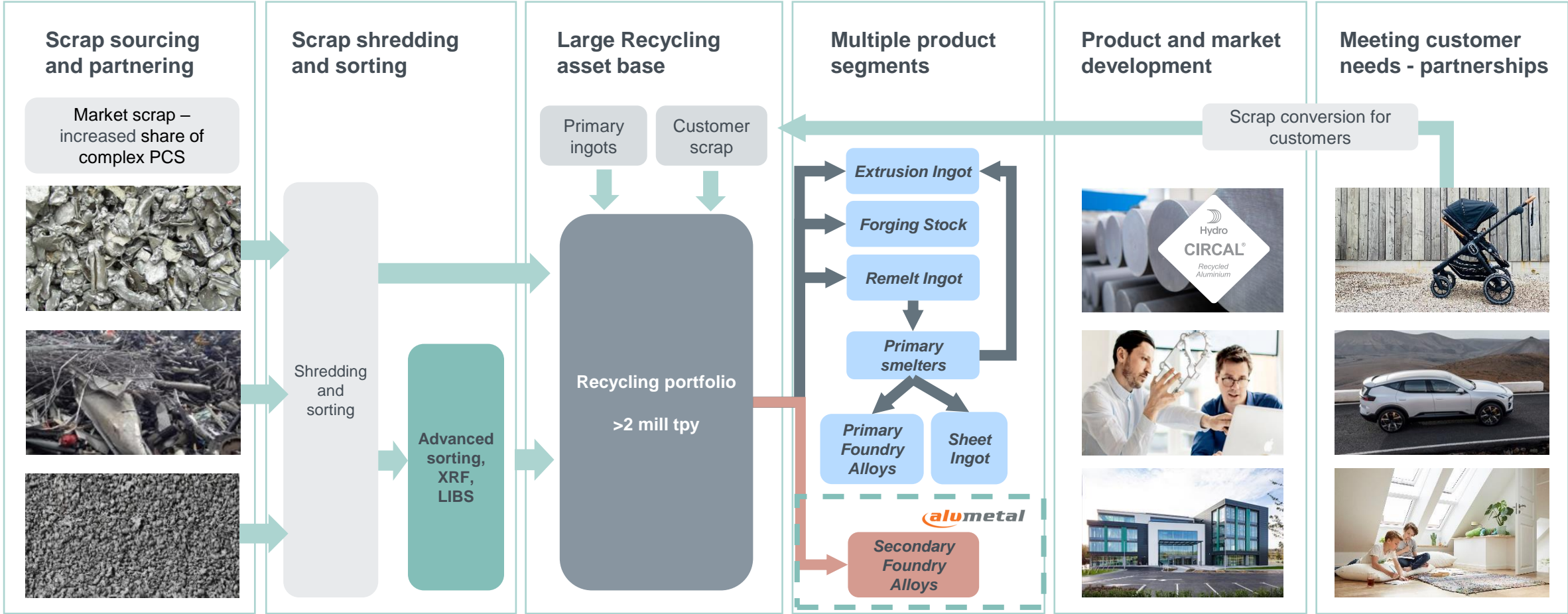


AM Recycling indexed EBITDA margin  
USD/tonne (2008 set at 1)





# Growing in recycling by 'digging deeper in the scrap pile' is not straight forward – strong focus throughout value chain required



# Hydro well positioned in recycling



Utilizing our combined competencies, strong asset base, market position and value chain



Scrap sourcing flexibility



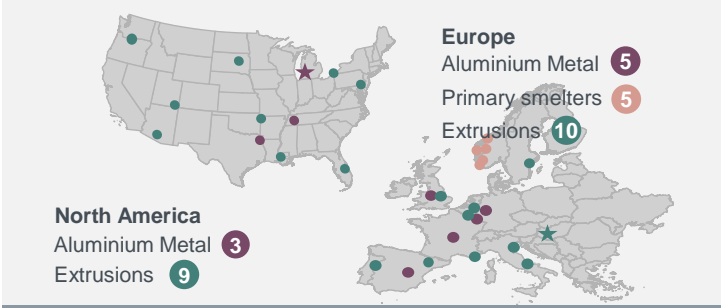
Integrated value chain



Innovative product portfolio



Developing advanced sorting



Large & growing asset base



Partnering with customers

# Recycling: The fastest route to full decarbonization



Advanced sorting technology ready. Progress on casthouse decarbonization technology

## Advanced sorting technology for more PCS use

HySort technology ready for industrialization

Enabling further growth in Hydro CIRCAL and scaling production of 100R



## Casthouse decarbonization technology to reach net-zero

Program to test viable technologies in progress

Green hydrogen test pilot by Hydro Havrand to be built at Høyanger recycling plant





# Extrusions

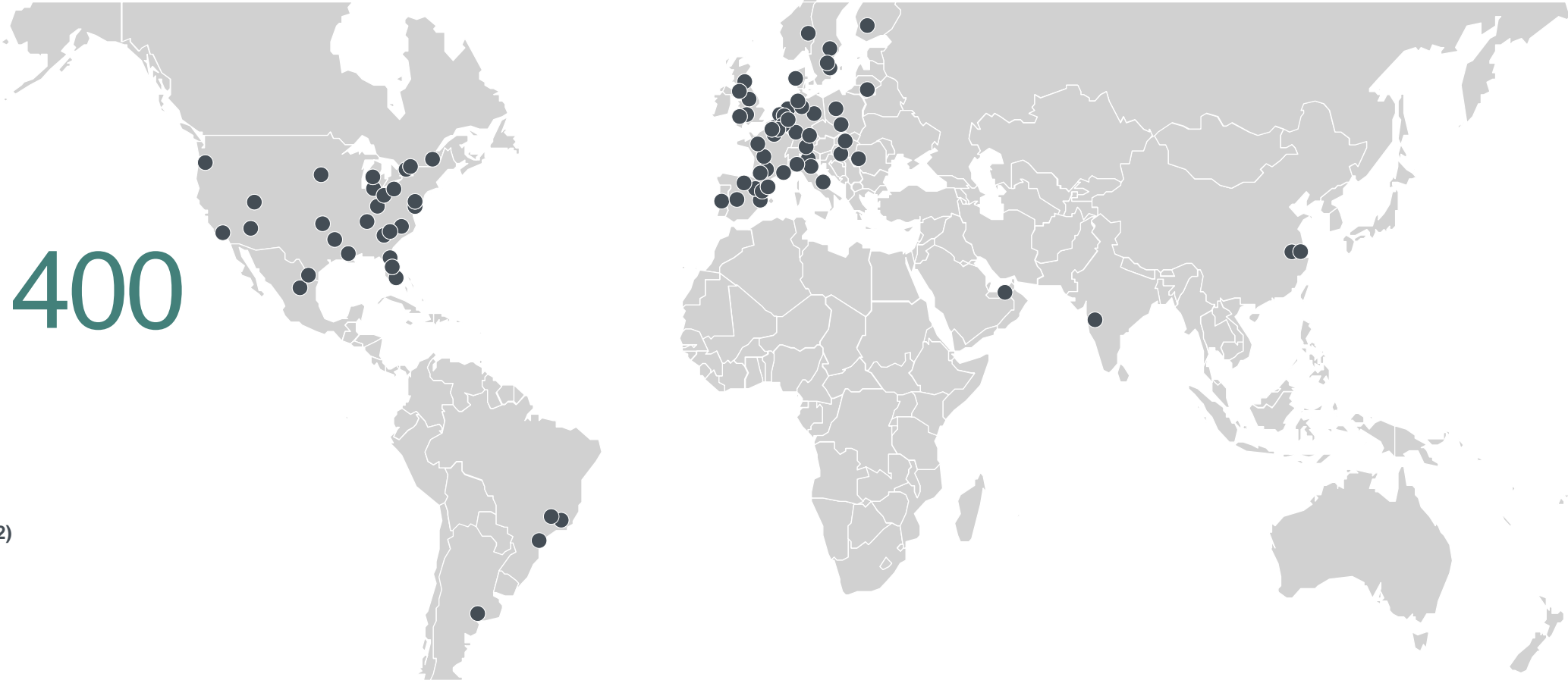
# Extrusions – #1 in the global aluminium extrusion industry



Present in  
**~40**  
countries

**~ 21 400**  
people <sup>1)</sup>

**1.3**  
Million mt sales<sup>2)</sup>

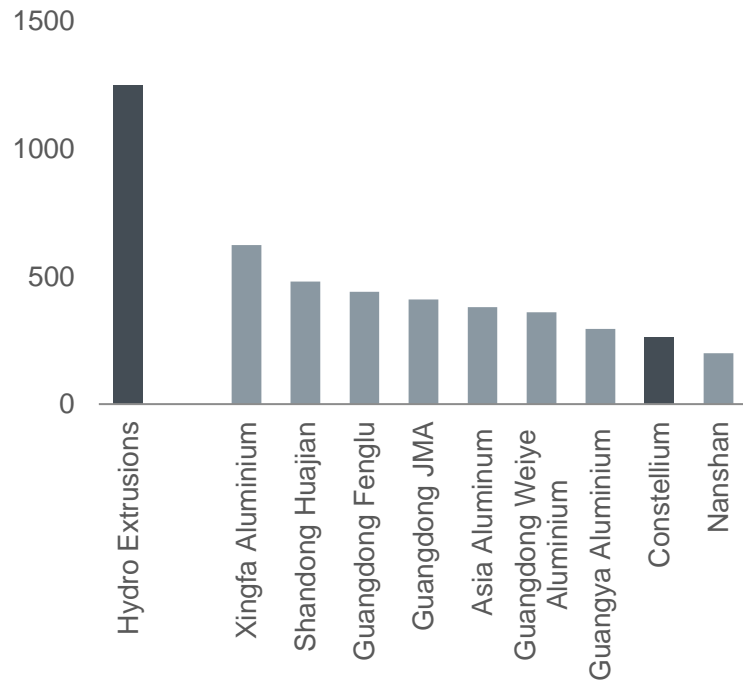


1) Permanent employees as of end-2022  
2) Total sales in 2022

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

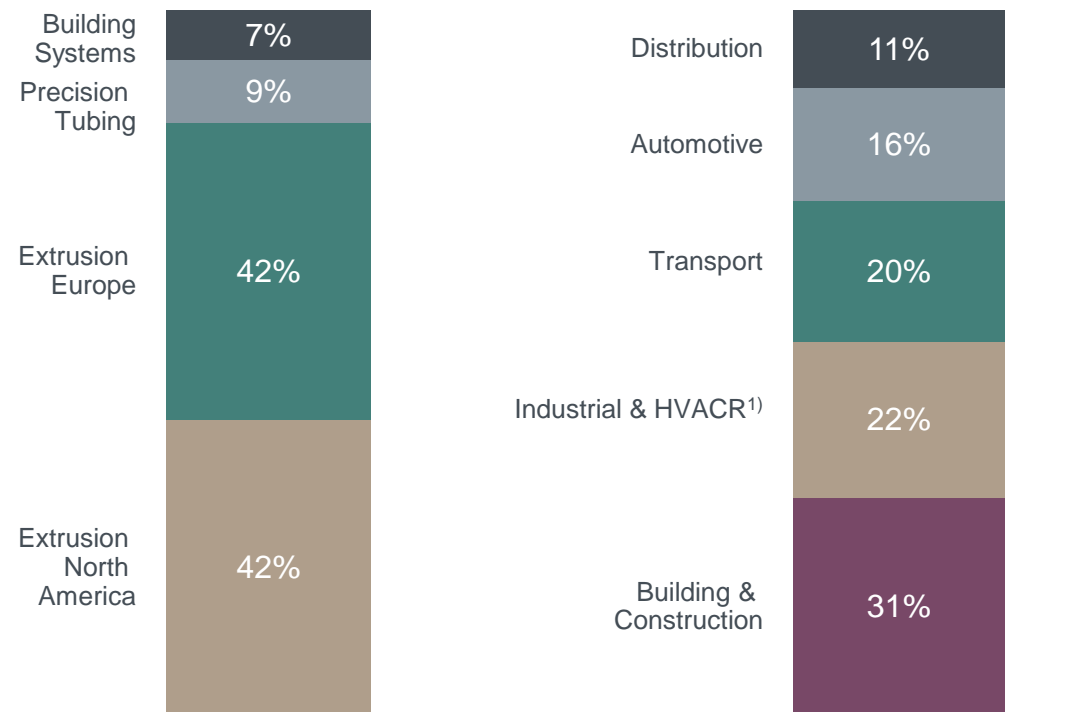
## Unrivalled position as #1 extrusions provider globally

Extrusion sales volume (2022), tonnes (000s)



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

Total volume 2022: 1.3 million tonnes



1) HVACR: Heat, ventilation, air condition & refrigeration  
Source: Company filings, CRU

# Organized in four business units to maximize synergies across



21,400 highly competent people across the world, total turnover of BNOK 91

## Extrusion Europe



- Market leader focusing on value-added products
- 17% market share
- 32 locations, 9,100 people

Revenue	UEBITDA
<b>BNOK 36.1</b>	<b>BNOK 3.2</b>

## Extrusion North America



- Uniquely positioned as the only coast-to-coast supplier
- 20% market share
- 21 locations, 6,100 people

Revenue	UEBITDA
<b>BNOK 36.5</b>	<b>BNOK 2.7</b>

## Precision Tubing



- Global Technology market leader in Precision Tubing segment
- 35% market share Europe & the US
- 10 locations, 2,800 people

Revenue	UEBITDA
<b>BNOK 8.3</b>	<b>BNOK 0.5</b>

## Building Systems

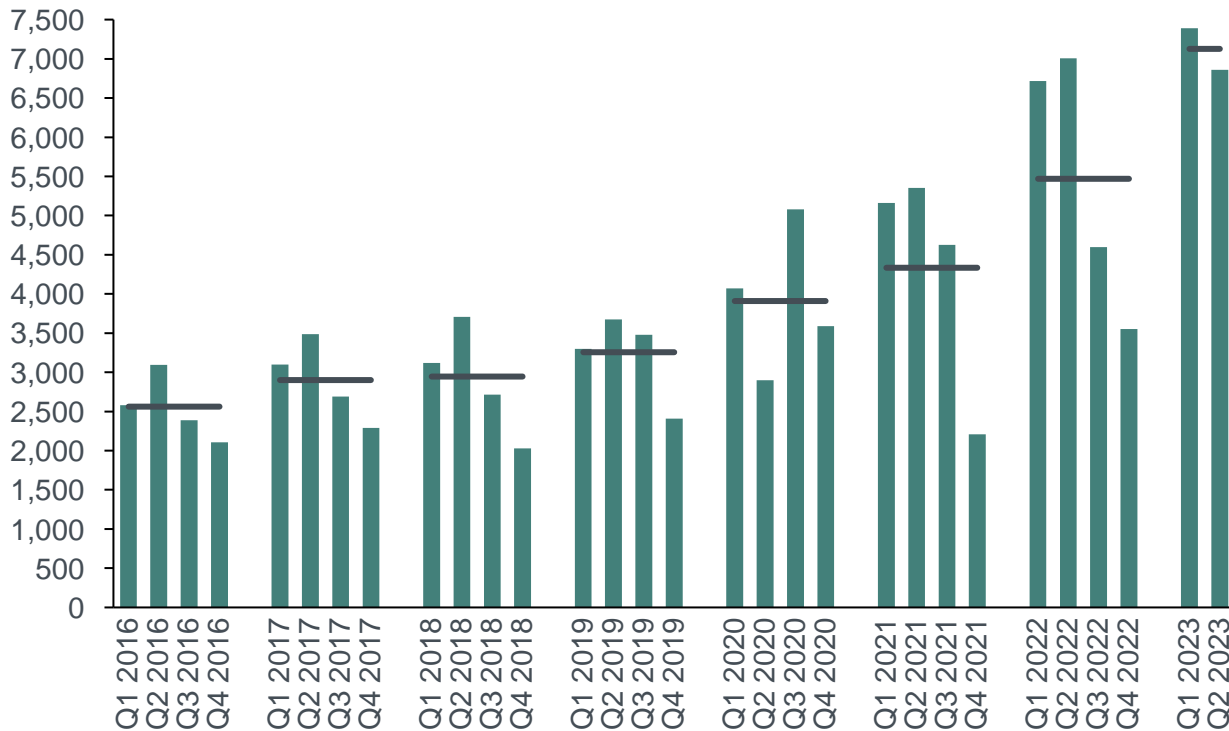


- Leading European player with multi-brand portfolio
- 17% market share in Europe\*
- Presence in 26 countries, 3,100 people

Revenue	UEBITDA
<b>BNOK 11.3</b>	<b>BNOK 0.9</b>

# Extrusions earnings drivers

Adjusted EBITDA per tonne<sup>1)</sup>, NOK



- Contract structure
  - Margin business based on conversion price
    - LME element passed on to customers
  - Mostly short-term contract, typically ranging from spot to 12 months, few longer term contracts with floating price or hedging in place
- High share of variable costs – high level of flexibility
- Annual seasonality driven by maintenance and customer activity
  - Stronger Q1 and Q2, weaker Q3 and Q4
- Strong focus on increasing value add to customers
- Preferred supplier market position in high-end products

1) Pro-forma figures

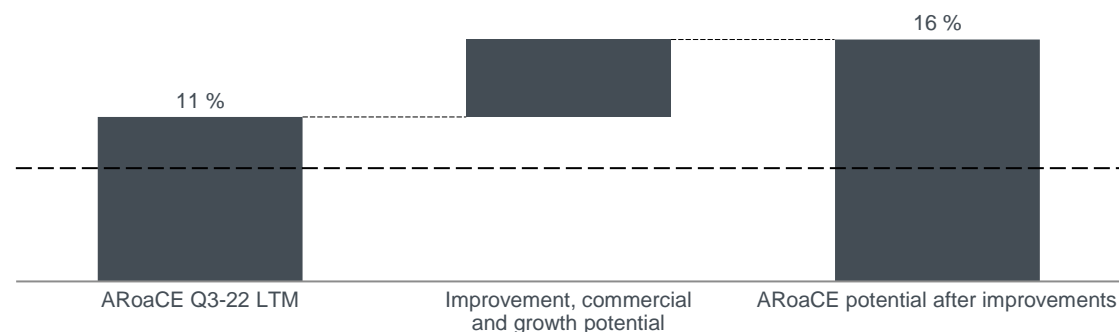


# Extrusions profitability roadmap

Main drivers – improvement program and commercial ambition

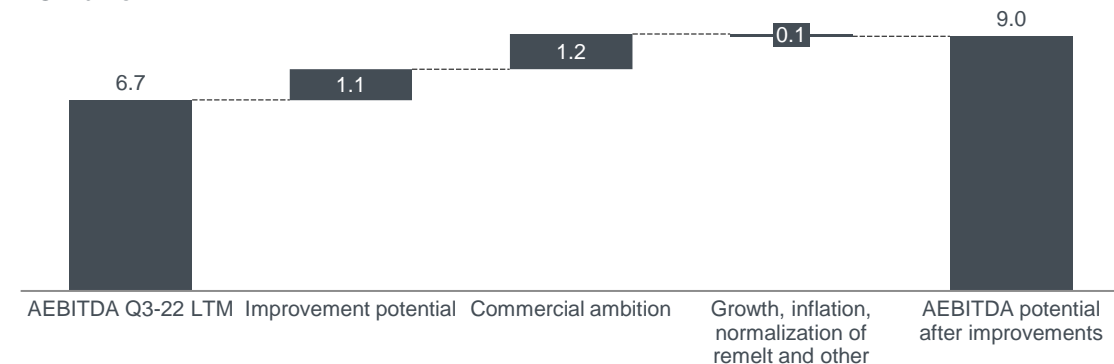
## ARoaCE potential

Profitability target of >8%



## AEBITDA potential

NOK billion



## Main further upside drivers

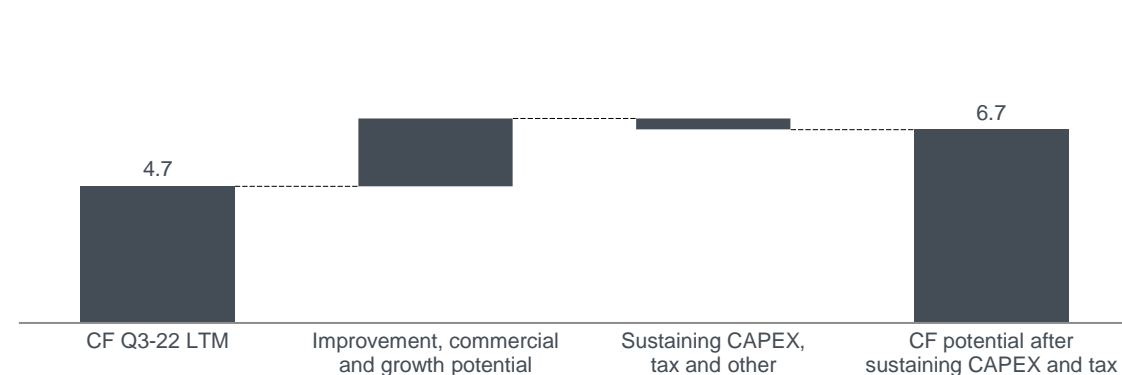
- Selective profitable growth including larger projects
- Continuous portfolio review and optimization
- Operating and fixed cost optimization
- Positive market and macro developments

## Main downside risks

- Negative market and macro developments, incl. trade restrictions
- Inflation pressure
- Loss of large customer contracts
- Supply chain disruptions
- Regulatory and country risks

## Cash flow potential after sustaining CAPEX<sup>1)</sup>

NOK billion



1) Cash flow calculated as EBITDA+tax+LT sustaining capex  
Assumptions and sources behind the scenarios can be found in the Additional information

# Attractive value add Systems and Precision Tubing business in addition to strong EU & US extrusion positions



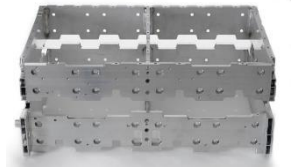
Building Systems and Precision Tubing offering unique value added and specialty solutions growth opportunities

Business Unit

Attractive growth and business development opportunities

## Extrusion Europe

- Increased penetration in E-mobility supported by substitution
- Recycling capacity to facilitate increased PCS usage



## Extrusion North America

- Grow in automotive and commercial transport
- Shape the market for greener products in North America



## Building Systems

- Leverage CIRCAL, increase market share driven by sustainability and brand offerings
- Leverage strong European product and digital platforms in new geographies



## Precision Tubing

- Substitution away from copper towards aluminium in HVAC&R
- Higher penetration of aluminium in E-mobility



Aluminium battery cable  
Significant advantages in material, weight and cost

# Strategic initiatives continue to transform Extrusions into a more robust and customer driven business

More competitive cost base, stronger customer interaction, targeted capacity expansion and sustainability agenda provide for business resilience going forward

## Key Initiatives

## Key actions

### Portfolio restructuring

- **Strong focus on selected segments where Extrusions has competitive advantage**
- Exited non-attractive operations and segments

### Cost reductions

- **Several cost reduction initiatives**, including procurement and operational improvements through Hydro Extrusions Business System (EBS)

### Customer partnerships and commercial focus

- **Increased customer interaction through value added activities and fabrication**
- Focus on **customer solutions** and service to ensure value creation, long-term interaction and loyalty

### Capacity growth in attractive regions and segments

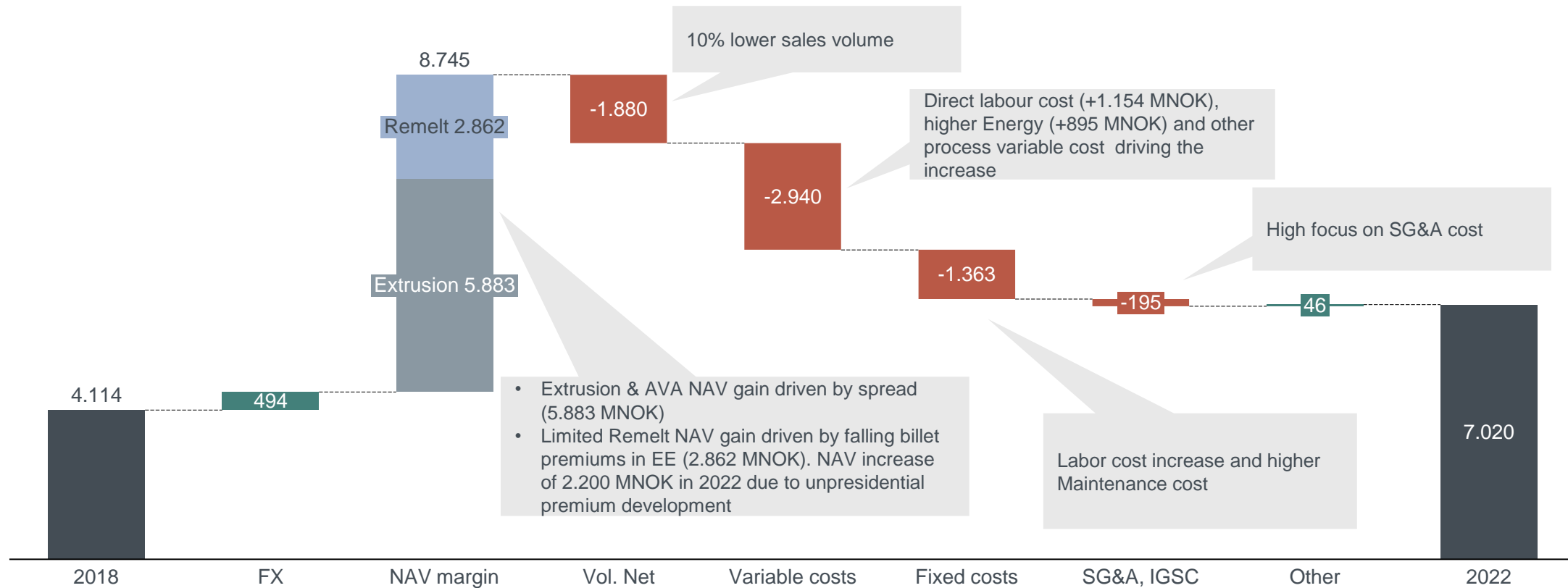
- **Increase in large press, state-of-the-art technology capacity**
- Focus on growth in attractive geographies

### Sustainability platform

- Established competitive advantage in building systems area, **leveraging Hydro CIRCAL**
- **Growth and enhanced position in recycling** capacity to optimize value, scrap flows and PCS

# High margins overcompensating volume reduction and cost increases; 2022 remelt result on high level

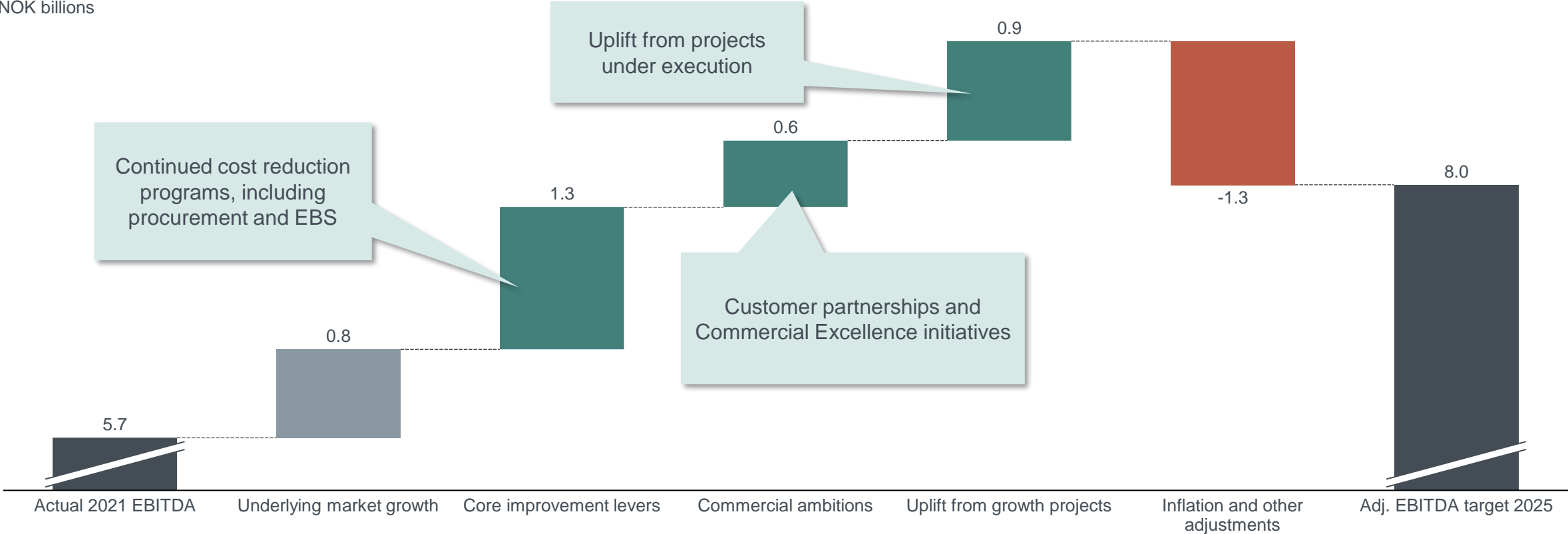
Hydro Extrusions UEBITDA bridge, FY 2023 vs 2018, (MNOK)



# Lifting Extrusions EBITDA towards 2025 through cost improvements and leveraging growth projects



Extrusions EBITDA  
NOK billions



# Critical growth projects in execution, further projects being matured to enable profitable growth



Further strengthening flagship plants in the portfolio, leveraging key trends

## Key trends



- Sustainable products with low-carbon footprint
- Recyclability and keeping materials “in the loop”
- Greener energy sourcing

## Project under execution

Hungary recycling

The Dalles upgrade

Navarra recycling

Sjunnen recycling



## Project pipeline

Cressona Bay-Zero  
(recycling upgrade)



- E-mobility
- Light-weighting of vehicles

PT China press

PE coating line



Automotive presses  
in Europe:

- Tønder
- Hungary



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

Nenzing press

Cressona press



Rackwitz press

City of Industry press



# Strong synergy potential from acquisition of Hueck



## Status Hueck acquisition

- Transaction closed in February following approval from competition authorities in Germany and Austria

## Hueck – integrated extrusion and systems provider

- German family owned extrusion and building systems business located close to Düsseldorf
- Highly innovative supplier of aluminium window & door systems (70% of systems business) and façade systems
- Strong European presence with Germany as core market (70% of extrusion sales, 56% of systems business)
- Integrated casthouse with 50,000 tonnes annual capacity
- Two extrusion presses (12- and 8-inch) with 25,000 tonnes total capacity
- Reported EBITDA of EUR 18.5 million in 2022
- Enterprise value of EUR 60.3 million



## Strong synergy potential

### Synergy areas and drivers

#### Systems business

- Integrated product portfolio; platforming benefits
- Common product development
- Operational and commercial synergies

#### Extrusions

- Commercial potential, integrate product offering to Hydro extrusion portfolio
- Optimization of capacity utilization and operational improvements

#### Casthouse

- Clear upside on increased use of scrap, lower share of ingot consumption
- Operational improvements and efficiency

# Hydro delivers first near-zero aluminium

- Through its building system brand WICONA, Hydro is excited to deliver and promote aluminium made with **near-zero carbon footprint\*** to a building project in Europe
- The use of Hydro CIRCAL 100R aluminium **reduces the emissions from aluminium by 93%\*\* in the building project**, enabling decarbonization of Europe's building industry
- Using 100 percent post-consumer aluminium scrap for high quality profiles is a challenge because of the contamination from paint and attachments such as plastics and other metals
- The production milestone was only possible because of our **competent workforce** and Hydro's **state-of-the-art recycling technology**, which includes sorting, shredding and melting technologies
- Hydro is a first mover when it comes to recycling of post-consumer aluminium scrap. By using Hydro CIRCAL 100R, customers have a unique opportunity to significantly reduce the footprint of their products

*\*Near-zero aluminium is defined as aluminium with a footprint of less than 0.5kg CO<sub>2</sub>e /kg aluminium throughout the value chain.*

*\*\*The project uses 85 tons of Hydro CIRCAL 100R, with a footprint of 0.5 kg CO<sub>2</sub>/kg Al compared to the European average of 6.7 kg CO<sub>2</sub>/kg Al.*

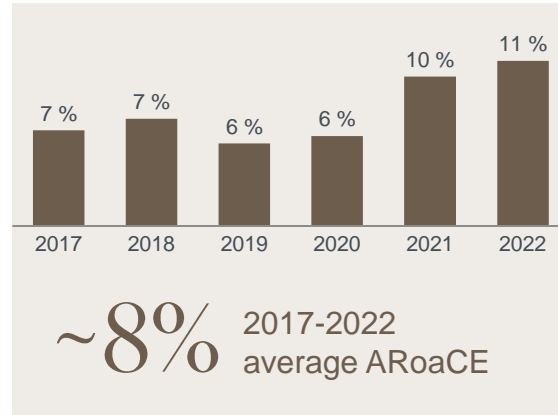
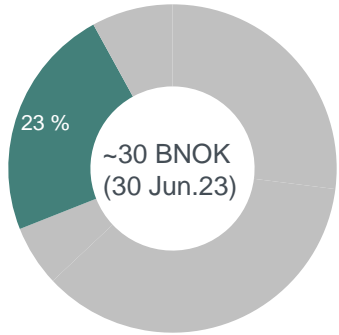




# Capital return dashboard for Extrusions

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

## Capital employed in Extrusions



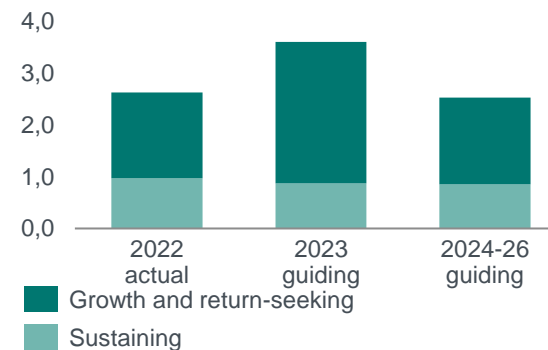
**7.0 BNOK**  
Adjusted EBITDA FY 2022

**7-8%**  
Return requirement

**1.0 + 1.1  
BNOK**  
2023-2027 incremental EBITDA from improvement potential and commercial ambitions

Investments in new presses and recycling projects to support growth

## Capex, BNOK



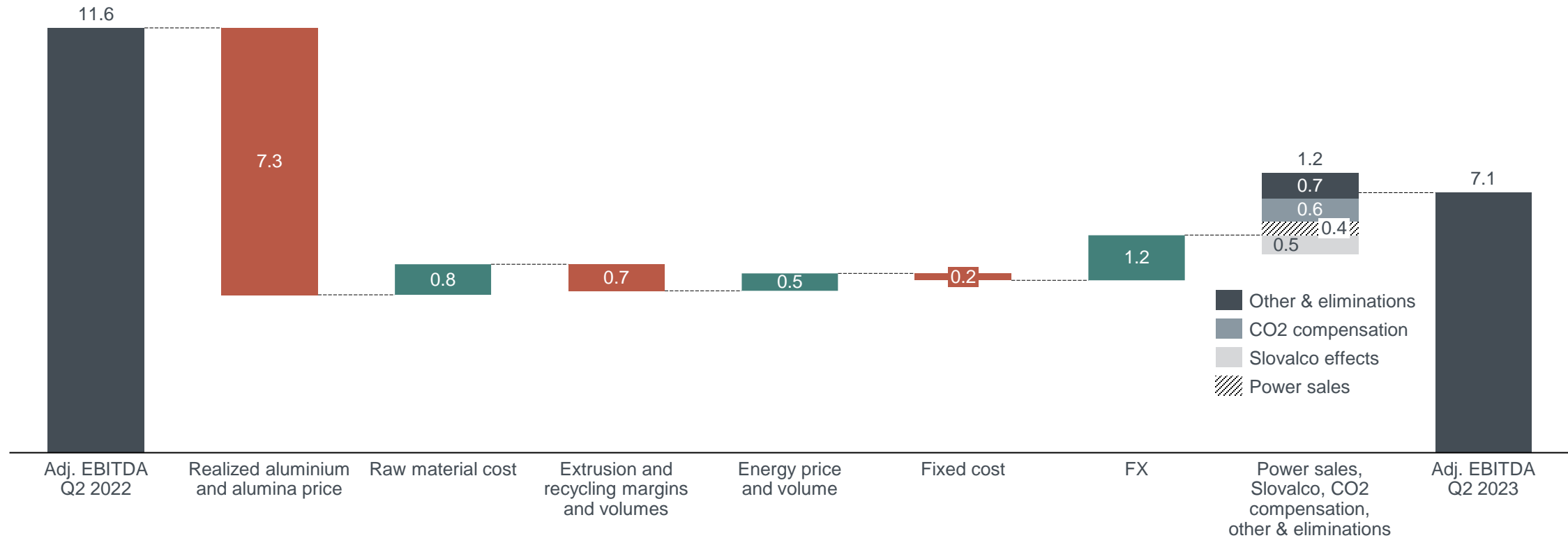


# Additional information

# Adj. EBITDA down on lower prices and Extrusion results, partly offset by FX and lower raw material cost



Q2 2023 vs Q2 2022



# Assumptions behind scenarios in profitability roadmaps



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

- Starting point – AEBITDA Q3-22 LTM
- Improvement potential in real 2021 terms, upstream margins based on 2021 average
- Cash flow calculated as AEBITDA less EBIT tax and long-term sustaining capex, less lease payments and interest expenses for the Hydro Group
  - Tax rates: 25% for business areas, 34% for Energy, 19% (LTM) for Hydro Group
- ARoaCE calculated as AEBIT after tax divided by average capital employed
  - Average capital employed assumed to increase with growth capex and sustaining capex above LT sustaining CAPEX 2023-2026
- 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, raw material prices, downstream margin developments, premiums, inflation, currency, depreciation, taxes, investments, interest expense, competitors' cost positions, and others
- Energy market scenarios for 2027 excludes gains from price area differences and commercial effects

## Price and FX assumptions

Assumptions used in scenarios	Q3 2022 LTM	2023 forward real	2027		
			Forward real 2022	Last 5 year average	CRU real 2022
LME, USD/mt	2,880	2461 (deflated by 2%)	2,560 (deflated by 2%)	2,130	2,400 (deflated by 2%)
Realized premium, USD/mt	755	413 <sup>1)</sup>	413 <sup>1)</sup>	385	496 <sup>4)</sup> (deflated by 2%)
PAX, USD/mt	390	325 (deflated by 2%)	340 <sup>2)</sup> (deflated by 2%)	330	360 (deflated by 2%)
Caustic soda, USD/mt	600	900 <sup>1)</sup>	900 <sup>1)</sup>	406	403 (deflated by 2%)
Coal, USD/mt	270	255 (deflated by 2%)	200 <sup>3)</sup> (deflated by 2%)	110	200 <sup>7)</sup> (deflated by 2%)
Pitch, EUR/mt	1,020	1300 <sup>1)</sup>	1,300 <sup>1)</sup>	730	770 <sup>5)</sup> (deflated by 2%)
Pet coke, USD/mt	630	717 <sup>1)</sup>	720 <sup>1)</sup>	410	430 <sup>5)</sup> (deflated by 2%)
NO2, NOK/MWh	2,010	2,010 <sup>6)</sup>	1,250 <sup>6)</sup>	690	1,250 <sup>7)</sup>
Nordic system, NOK/MWh	1,260	1,260 <sup>6)</sup>	570 (deflated by 2%)	540	570 <sup>7)</sup> (deflated by 2%)
USDNOK	9.25	9.69	9.50	8.87	8.88
EURNOK	10.00	10.30	10.68	10.10	8.34
BRLNOK	1.77	1.86	1.84	1.99	1.66

1) Spot price 2) % of LME forward price deflated by 2% 3) 2026 nominal forward price deflated by 2% 4) Realized premium based on CRU product premiums Q4-2024 5) Historic average % of LME, using CRU LME price deflated by 2% 6) Based on Nordic system forward price and constant NO2-Nordic system area price 7) Based on price from forward case 8) Based on LTM power prices  
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# Adjusting items to EBITDA, EBIT and net income



NOK million (+=loss/)=gain)		Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2022
Unrealized derivative effects on raw material contracts	Hydro Bauxite & Alumina	(376)	(173)	157	353	177	94	(40)
Community contributions Brazil	Hydro Bauxite & Alumina	-	-	-	32	-	25	32
Other effects	Hydro Bauxite & Alumina	-	-	-	162	-	-	162
<b>Total impact</b>	<b>Hydro Bauxite &amp; Alumina</b>	<b>(376)</b>	<b>(173)</b>	<b>157</b>	<b>547</b>	<b>177</b>	<b>118</b>	<b>155</b>
Unrealized derivative effects on LME related contracts	Hydro Aluminium Metal	4 715	(6 374)	(1 538)	207	709	(2 836)	(2 990)
Unrealized derivative effects on power contracts	Hydro Aluminium Metal	(766)	1 056	1 291	1 638	62	(106)	3 218
Significant rationalization charges and closure costs	Hydro Aluminium Metal	-	(18)	-	64	-	-	46
Net foreign exchange (gain)/loss	Hydro Aluminium Metal	(19)	(23)	(26)	(40)	(37)	(114)	(108)
Other effects	Hydro Aluminium Metal	-	(69)	-	-	-	-	(69)
<b>Total impact</b>	<b>Hydro Aluminium Metal</b>	<b>3 929</b>	<b>(5 428)</b>	<b>(273)</b>	<b>1 868</b>	<b>733</b>	<b>(3 055)</b>	<b>97</b>
Unrealized derivative effects on LME related contracts	Hydro Metal Markets	190	(850)	195	358	34	(146)	(107)
Transaction related effects	Hydro Metal Markets	-	-	-	-	50	4	-
<b>Total impact</b>	<b>Hydro Metal Markets</b>	<b>190</b>	<b>(850)</b>	<b>195</b>	<b>358</b>	<b>84</b>	<b>(142)</b>	<b>(107)</b>
Unrealized derivative effects on LME related contracts	Hydro Extrusions	(442)	543	84	(126)	(19)	6	59
Unrealized derivative effects on power contracts	Hydro Extrusions	(39)	58	50	(67)	5	(24)	3
Significant rationalization charges and closure costs	Hydro Extrusions	2	13	-	91	51	27	106
(Gains)/losses on divestments and other transaction related effects	Hydro Extrusions	(49)	1	(2)	(4)	20	-	(54)
Other effects	Hydro Extrusions	-	(74)	(2)	-	-	(107)	(76)
<b>Total impact</b>	<b>Hydro Extrusions</b>	<b>(527)</b>	<b>541</b>	<b>130</b>	<b>(106)</b>	<b>57</b>	<b>(98)</b>	<b>38</b>
Unrealized derivative effects on power contracts	Hydro Energy	(236)	46	(254)	615	214	184	170
(Gains)/losses on divestments	Hydro Energy	-	(65)	-	-	-	-	(65)
Net foreign exchange (gain)/loss	Hydro Energy	4	2	3	1	(3)	(7)	11
<b>Total impact</b>	<b>Hydro Energy</b>	<b>(232)</b>	<b>(16)</b>	<b>(251)</b>	<b>616</b>	<b>211</b>	<b>177</b>	<b>116</b>
Unrealized derivative effects on LME related contracts	Other and eliminations	(15)	(15)	19	47	(15)	(35)	36
Net foreign exchange (gain)/loss	Other and eliminations	(21)	(26)	(83)	(91)	(115)	(143)	(221)
Other effects	Other and eliminations	-	-	-	15	-	26	15
<b>Total impact</b>	<b>Other and eliminations</b>	<b>(36)</b>	<b>(41)</b>	<b>(65)</b>	<b>(29)</b>	<b>(131)</b>	<b>(151)</b>	<b>(170)</b>
<b>Adjusting items to EBITDA</b>	<b>Hydro</b>	<b>2 948</b>	<b>(5 966)</b>	<b>(108)</b>	<b>3 254</b>	<b>1 132</b>	<b>(3 152)</b>	<b>128</b>
Impairment charges	Hydro Aluminium Metal	-	-	49	28	-	-	77
Impairment charges	Hydro Extrusions	-	-	-	258	-	-	258
<b>Adjusting items to EBIT</b>	<b>Hydro</b>	<b>2 948</b>	<b>(5 966)</b>	<b>(59)</b>	<b>3 541</b>	<b>1 132</b>	<b>(3 152)</b>	<b>464</b>
Net foreign exchange (gain)/loss	Hydro	(2 392)	1 129	(572)	(356)	1 985	789	(2 192)
<b>Adjusting items to income (loss) before tax</b>	<b>Hydro</b>	<b>556</b>	<b>(4 838)</b>	<b>(631)</b>	<b>3 185</b>	<b>3 177</b>	<b>(2 362)</b>	<b>(1 728)</b>
Calculated income tax effect	Hydro	(181)	1 432	213	(972)	(935)	716	492
<b>Adjusting items to net income (loss)</b>	<b>Hydro</b>	<b>374</b>	<b>(3 406)</b>	<b>(418)</b>	<b>2 213</b>	<b>2 182</b>	<b>(1 646)</b>	<b>(1 236)</b>

# Operating segment information



## Adjusted EBIT

NOK million	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Hydro Bauxite & Alumina	556	383	466	1 913	718	484	10	(586)	(221)	88	3 318	626
Hydro Aluminium Metal	1 185	2 246	3 684	4 111	4 183	6 349	5 837	4 097	3 328	2 550	11 225	20 467
Hydro Metal Markets	43	301	133	245	487	666	494	(134)	628	290	721	1 514
Hydro Extrusions	1 244	1 266	828	(122)	1 587	1 600	640	168	1 485	1 228	3 217	3 995
Hydro Energy	792	713	417	1 674	2 192	777	275	1 493	677	805	3 596	4 737
Other and Eliminations	(261)	(17)	(219)	(793)	3	(425)	356	(93)	(532)	(173)	(1 291)	(159)
<b>Total</b>	<b>3 559</b>	<b>4 891</b>	<b>5 309</b>	<b>7 026</b>	<b>9 170</b>	<b>9 452</b>	<b>7 611</b>	<b>4 946</b>	<b>5 364</b>	<b>4 788</b>	<b>20 786</b>	<b>31 179</b>

## Adjusted EBITDA

NOK million	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Hydro Bauxite & Alumina	999	855	1 055	2 426	1 270	1 117	633	101	437	817	5 336	3 122
Hydro Aluminium Metal	1 754	2 807	4 263	4 676	4 765	6 977	6 463	4 756	3 972	3 215	13 500	22 963
Hydro Metal Markets	78	335	170	284	525	705	534	(91)	669	334	867	1 673
Hydro Extrusions	1 744	1 830	1 457	665	2 331	2 365	1 385	939	2 223	2 013	5 695	7 020
Hydro Energy	841	761	465	1 723	2 239	824	321	1 542	726	854	3 790	4 926
Other and Eliminations	(234)	10	(192)	(762)	35	(395)	384	(63)	(501)	(134)	(1 178)	(39)
<b>Total</b>	<b>5 182</b>	<b>6 598</b>	<b>7 219</b>	<b>9 011</b>	<b>11 165</b>	<b>11 594</b>	<b>9 721</b>	<b>7 184</b>	<b>7 525</b>	<b>7 098</b>	<b>28 010</b>	<b>39 664</b>

# Operating segment information



## EBIT

NOK million	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Hydro Bauxite & Alumina	583	467	407	1 830	1 094	657	(147)	(1 133)	(399)	(30)	3 288	471
Hydro Aluminium Metal	(171)	325	909	7 311	254	11 777	6 061	2 200	2 595	5 605	8 376	20 292
Hydro Metal Markets	19	299	(93)	500	297	1 516	300	(492)	544	432	725	1 621
Hydro Extrusions	1 220	1 269	852	(412)	2 114	1 059	510	16	1 427	1 326	2 929	3 699
Hydro Energy	851	716	435	1 724	2 424	793	526	878	466	628	3 727	4 621
Other and Eliminations	(271)	(43)	23	(868)	39	(385)	420	(63)	(402)	(21)	(1 158)	11
<b>Total</b>	<b>2 233</b>	<b>3 034</b>	<b>2 533</b>	<b>10 086</b>	<b>6 222</b>	<b>15 418</b>	<b>7 670</b>	<b>1 405</b>	<b>4 233</b>	<b>7 939</b>	<b>17 887</b>	<b>30 715</b>

## EBITDA

NOK million	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Hydro Bauxite & Alumina	1 026	940	996	2 344	1 647	1 290	477	(446)	260	698	5 306	2 967
Hydro Aluminium Metal	500	1 037	1 642	8 260	836	12 405	6 736	2 888	3 239	6 270	11 440	22 866
Hydro Metal Markets	55	333	(56)	540	335	1 556	339	(449)	586	476	872	1 780
Hydro Extrusions	1 842	1 840	1 495	381	2 858	1 824	1 255	1 045	2 165	2 111	5 558	6 982
Hydro Energy	900	764	483	1 774	2 471	840	572	926	515	677	3 921	4 810
Other and Eliminations	(244)	(15)	50	(837)	71	(354)	449	(34)	(371)	17	(1 046)	132
<b>Total</b>	<b>4 079</b>	<b>4 899</b>	<b>4 610</b>	<b>12 462</b>	<b>8 217</b>	<b>17 561</b>	<b>9 828</b>	<b>3 930</b>	<b>6 393</b>	<b>10 249</b>	<b>26 050</b>	<b>39 536</b>

# Operating segment information



## Total revenue

NOK million	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Hydro Bauxite & Alumina	6 026	5 976	6 984	8 713	7 901	9 413	8 652	7 986	8 320	8 830	27 699	33 951
Hydro Aluminium Metal	8 953	9 467	9 964	14 164	11 094	24 583	16 678	13 129	15 236	18 211	42 548	65 483
Hydro Metal Markets	13 624	15 275	16 447	19 715	22 674	27 698	22 374	18 222	20 873	22 483	65 061	90 968
Hydro Extrusions	16 334	17 470	17 984	18 509	23 468	25 269	22 620	19 819	22 717	22 608	70 296	91 176
Hydro Energy	2 343	2 213	2 116	3 477	4 268	2 456	2 854	3 037	3 452	2 162	10 149	12 614
Other and Eliminations	(15 327)	(15 843)	(16 784)	(18 146)	(22 788)	(24 626)	(20 733)	(18 118)	(22 065)	(20 664)	(66 099)	(86 264)
<b>Total</b>	<b>31 951</b>	<b>34 559</b>	<b>36 710</b>	<b>46 433</b>	<b>46 616</b>	<b>64 793</b>	<b>52 445</b>	<b>44 075</b>	<b>48 534</b>	<b>53 630</b>	<b>149 654</b>	<b>207 929</b>

## External revenue

NOK million	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Hydro Bauxite & Alumina	3 546	3 538	4 533	5 471	5 052	5 864	5 641	5 091	5 289	5 570	17 088	21 649
Hydro Aluminium Metal	762	621	310	3 681	(2 518)	8 640	4 327	2 638	1 528	5 444	5 373	13 087
Hydro Metal Markets	10 789	12 552	13 831	16 993	18 472	24 420	18 796	15 132	17 308	19 837	54 165	76 821
Hydro Extrusions	16 203	17 346	17 829	18 505	23 199	25 228	22 585	19 881	22 765	22 527	69 883	90 892
Hydro Energy	787	486	204	1 780	2 415	646	1 082	1 324	1 634	257	3 257	5 467
Other and Eliminations	(136)	16	4	2	(5)	(6)	15	9	10	(4)	(113)	13
<b>Total</b>	<b>31 951</b>	<b>34 559</b>	<b>36 710</b>	<b>46 433</b>	<b>46 616</b>	<b>64 793</b>	<b>52 445</b>	<b>44 075</b>	<b>48 534</b>	<b>53 630</b>	<b>149 654</b>	<b>207 929</b>



# Operating segment information



## Internal revenue

NOK million	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Hydro Bauxite & Alumina	2 479	2 438	2 452	3 242	2 848	3 549	3 011	2 895	3 031	3 260	10 610	12 303
Hydro Aluminium Metal	8 191	8 846	9 654	10 484	13 611	15 943	12 352	10 491	13 709	12 767	37 175	52 396
Hydro Metal Markets	2 835	2 723	2 616	2 722	4 201	3 277	3 578	3 091	3 565	2 647	10 896	14 147
Hydro Extrusions	131	125	154	3	269	41	36	(62)	(48)	81	413	284
Hydro Energy	1 556	1 727	1 912	1 697	1 853	1 810	1 772	1 713	1 818	1 905	6 891	7 148
Other and Eliminations	(15 191)	(15 858)	(16 788)	(18 148)	(22 783)	(24 620)	(20 748)	(18 126)	(22 075)	(20 660)	(65 986)	(86 278)
<b>Total</b>	-	-	-	-	-	-	-	-	-	-	-	-

## Share of profit /(loss) in equity accounted investments

NOK million	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Hydro Bauxite & Alumina	-	-	-	-	-	-	-	-	-	-	-	-
Hydro Aluminium Metal	147	513	336	513	383	626	340	200	154	264	1 509	1 549
Hydro Metal Markets	-	-	-	-	-	-	-	-	-	-	-	-
Hydro Extrusions	-	-	-	-	-	-	-	-	-	1	-	-
Hydro Energy	(23)	(32)	(25)	(25)	(28)	(39)	(32)	(81)	(67)	(59)	(104)	(180)
Other and Eliminations	1	(20)	(31)	(15)	22	(184)	118	12	8	(25)	(65)	(32)
<b>Total</b>	<b>125</b>	<b>462</b>	<b>280</b>	<b>473</b>	<b>377</b>	<b>403</b>	<b>426</b>	<b>131</b>	<b>95</b>	<b>181</b>	<b>1 340</b>	<b>1 337</b>

# Operating segment information

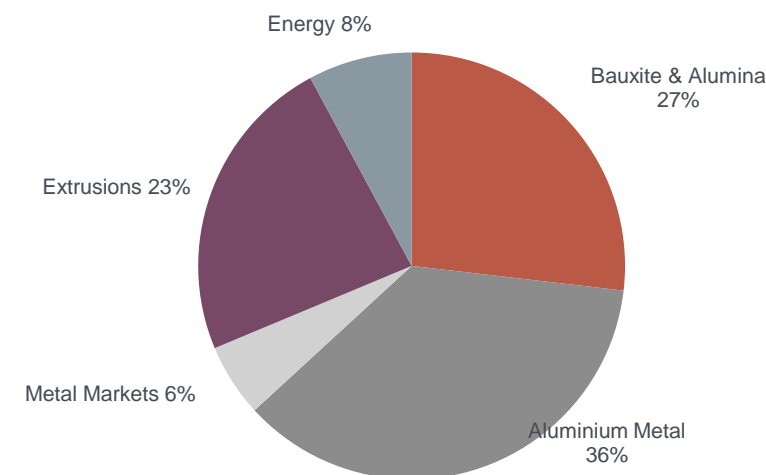


Return on average capital employed <sup>1)</sup> (RoaCE)

	Reported RoaCE							Adjusted RoaCE						
	2022	2021	2020	2019	2018	2017	2016	2022	2021	2020	2019	2018	2017	2016
Hydro Bauxite & Alumina	1.3%	11.9%	5.4%	1.9%	4.6%	8.5%	2.7%	1.8%	12.0%	5.9%	2.5%	6.0%	8.5%	2.8%
Hydro Aluminium Metal	35.1%	21.6%	1.9%	(3.9%)	5.6%	11.8%	5.2%	35.4%	28.3%	2.9%	(2.6%)	4.7%	12.6%	5.2%
Hydro Metal Markets	33.2%	24.0%	22.8%	20.7%	25.1%	18.6%	19.6%	31.0%	23.9%	21.6%	27.3%	19.4%	20.9%	15.9%
Hydro Extrusions <sup>2)</sup>	10.5%	9.4%	1.3%	3.8%	5.3%	13.4%		11.4%	10.3%	6.2%	5.7%	7.2%	6.6%	
Hydro Energy <sup>3)</sup>	28.8%	26.5%	249.5%	13.4%	18.8%	17.5%	18.1%	29.5%	25.4%	8.7%	12.9%	18.8%	17.5%	18.1%
<b>Hydro Group</b>	<b>21.9%</b>	<b>16.3%</b>	<b>5.4%</b>	<b>(0.9%)</b>	<b>6.0%</b>	<b>11.2%</b>	<b>6.5%</b>	<b>22.2%</b>	<b>18.6%</b>	<b>3.7%</b>	<b>1.3%</b>	<b>6.6%</b>	<b>9.6%</b>	<b>5.1%</b>

## Capital employed – upstream focus

NOK million	Jun 30, 2023
Hydro Bauxite & Alumina	34 095
Hydro Aluminium Metal	46 119
Hydro Metal Markets	7 030
Hydro Extrusions	29 746
Hydro Energy	9 996
Other and Eliminations	(3 852)
<b>Total</b>	<b>123 135</b>



Graph excludes BNOK (3.9) in capital employed in Other and Eliminations

1) RoaCE at business area level is calculated using 25% tax rate (30% tax rate applied for years prior to 2017). For Hydro Energy, 40% tax rate is used for 2022 and 2021, 80% for 2020 and 2019, 70% for 2018, 65% for 2017 and 60% for 2016

2) Hydro Extrusions reflected as 50% equity accounted investment Q1-Q3 2017 and fully consolidated from Q4 2017

3) Hydro Energy reported RoaCE for 2020 higher than previous years due to the Lyse transaction

# Operating segment information



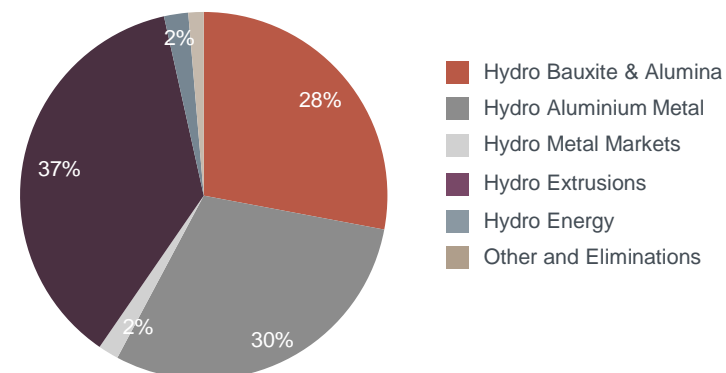
## Depreciation, amortization and impairment

NOK million	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Hydro Bauxite & Alumina	443	472	589	514	553	633	624	687	659	729	2 018	2 496
Hydro Aluminium Metal	694	736	756	972	605	651	698	711	666	687	3 158	2 664
Hydro Metal Markets	36	35	37	41	38	39	39	44	42	45	149	161
Hydro Extrusions	628	573	645	804	746	767	748	1 036	741	792	2 649	3 297
Hydro Energy	49	48	48	49	47	47	47	48	48	49	194	190
Other and Eliminations	27	28	27	31	32	31	28	30	31	38	113	121
<b>Total</b>	<b>1 876</b>	<b>1 892</b>	<b>2 102</b>	<b>2 411</b>	<b>2 020</b>	<b>2 168</b>	<b>2 185</b>	<b>2 556</b>	<b>2 186</b>	<b>2 340</b>	<b>8 281</b>	<b>8 929</b>

## Indicative depreciation currency exposure by business area

Percent	USD	EUR	BRL	NOK & Other
Hydro Bauxite & Alumina			100%	
Hydro Aluminium Metal	15%		20%	65%
Hydro Metal Markets	30%	55%		15%
Hydro Extrusions	40%	30%	10%	20%
Hydro Energy				100%
Other and Eliminations	5%	30%	5%	60%

## Depreciation by business area 2022, 8.9 BNOK



# Income statements



NOK million	Q2 2023	Q2 2022	Q1 2023	First half 2023	First half 2022	Year 2022
Revenue	53 630	64 793	48 534	102 164	111 409	207 929
Share of the profit (loss) in equity accounted investments	181	403	95	276	781	1 337
Other income, net	1 175	877	1 357	2 531	1 319	4 406
<b>Total revenue and income</b>	<b>54 985</b>	<b>66 072</b>	<b>49 986</b>	<b>104 971</b>	<b>113 509</b>	<b>213 672</b>
Raw material and energy expense	32 109	37 031	31 295	63 404	66 191	129 373
Employee benefit expense	6 604	5 976	6 416	13 021	11 497	22 886
Depreciation and amortization expense	2 340	2 167	2 189	4 529	4 187	8 593
Impairment of non-current assets	0	0	(3)	(3)	0	336
Other expenses	5 992	5 480	5 856	11 848	9 993	21 769
<b>Earnings before financial items and tax (EBIT)</b>	<b>7 939</b>	<b>15 418</b>	<b>4 233</b>	<b>12 172</b>	<b>21 640</b>	<b>30 715</b>
Interest and other finance income	324	86	344	668	171	619
Foreign currency exchange gain (loss)	(789)	(1 129)	(1 985)	(2 774)	1 263	2 192
Interest and other finance expense	(488)	(268)	(571)	(1 059)	(551)	(1 161)
Income (loss) before tax	6 986	14 108	2 021	9 007	22 523	32 365
Income taxes	(1 930)	(2 971)	(877)	(2 806)	(4 976)	(7 984)
<b>Income (loss) from continuing operations</b>	<b>5 056</b>	<b>11 136</b>	<b>1 144</b>	<b>6 201</b>	<b>17 547</b>	<b>24 381</b>
Income (loss) from discontinued operations	-	-	-	-	-	36
<b>Net income (loss)</b>	<b>5 056</b>	<b>11 136</b>	<b>1 144</b>	<b>6 201</b>	<b>17 547</b>	<b>24 417</b>
Net income (loss) attributable to non-controlling interests	(156)	(141)	(121)	(277)	531	263
Net income (loss) attributable to Hydro shareholders	5 212	11 277	1 265	6 477	17 016	24 154
Earnings per share from continuing operations	2.56	5.49	0.62	3.18	8.29	11.76
Earnings per share from discontinued operations	-	-	-	-	-	0.02
<b>Earnings per share attributable to Hydro shareholders</b>	<b>2.56</b>	<b>5.49</b>	<b>0.62</b>	<b>3.18</b>	<b>8.29</b>	<b>11.78</b>

NOK million	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Income (loss) from continuing operations	1 880	2 397	1 127	8 525	6 411	11 136	6 676	158	1 144	5 056	13 930	24 381
Net income (loss)	1 500	2 805	1 108	8 529	6 411	11 136	6 676	194	1 144	5 056	13 942	24 417
<b>Adjusted net income (loss) from continuing operations</b>	<b>2 448</b>	<b>3 150</b>	<b>3 498</b>	<b>5 810</b>	<b>6 785</b>	<b>7 731</b>	<b>6 258</b>	<b>2 371</b>	<b>3 326</b>	<b>3 410</b>	<b>14 905</b>	<b>23 145</b>
Earnings per share from continuing operations	0.89	1.06	0.50	3.47	2.80	5.49	3.34	0.12	0.62	2.56	5.92	11.76
Earnings per share attributable to Hydro shareholders	0.70	1.26	0.49	3.47	2.80	5.49	3.34	0.14	0.62	2.56	5.93	11.78
<b>Adjusted earnings per share from continuing operations</b>	<b>1.15</b>	<b>1.45</b>	<b>1.60</b>	<b>2.57</b>	<b>3.17</b>	<b>3.63</b>	<b>2.91</b>	<b>0.99</b>	<b>1.70</b>	<b>1.77</b>	<b>6.77</b>	<b>10.70</b>

# Balance sheet



NOK million	Jun 30, 2023	Mar 31, 2023	Dec 31, 2022	Sep 30, 2022	Jun 30, 2022	Mar 31, 2022
Cash and cash equivalents	22 453	30 873	29 805	25 852	24 507	21 161
Short-term investments	1 158	2 696	4 173	2 511	1 882	8 588
Trade and other receivables	27 561	28 350	23 988	28 442	29 164	25 955
Inventories	28 808	30 216	30 035	31 394	29 415	25 237
Other current financial assets	2 722	1 302	1 127	4 887	6 543	4 719
Property, plant and equipment	72 985	67 827	62 656	62 369	58 920	56 599
Intangible assets	10 215	9 839	9 280	9 810	9 374	8 986
Investments accounted for using the equity method	24 277	22 566	21 222	22 613	20 055	18 257
Prepaid pension	9 981	9 040	8 573	9 352	9 814	9 837
Other non-current assets	8 346	8 684	7 759	9 598	8 400	12 398
<b>Total assets</b>	<b>208 506</b>	<b>211 395</b>	<b>198 618</b>	<b>206 829</b>	<b>198 074</b>	<b>191 737</b>
Bank loans and other interest-bearing short-term debt	5 271	5 899	6 746	11 085	7 796	7 072
Trade and other payables	25 529	25 702	24 374	26 703	29 156	25 130
Other current liabilities	9 593	10 741	11 688	11 653	10 724	12 536
Long-term debt	29 756	29 615	26 029	20 790	21 054	21 073
Provisions	6 243	5 692	5 289	5 779	5 539	5 164
Pension liabilities	8 388	8 669	8 252	8 064	7 882	8 409
Deferred tax liabilities	6 197	5 289	4 796	5 178	5 304	5 281
Other non-current liabilities	5 687	5 429	3 648	4 481	5 585	7 564
Equity attributable to Hydro shareholders	106 873	108 582	102 455	107 129	99 347	93 906
Non-controlling interests	4 968	5 777	5 343	5 967	5 688	5 603
<b>Total liabilities and equity</b>	<b>208 506</b>	<b>211 395</b>	<b>196 618</b>	<b>206 829</b>	<b>198 074</b>	<b>191 737</b>

# Operational data



Hydro Bauxite & Alumina	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Alumina production (kmt)	1 540	1 586	1 579	1 600	1 519	1 536	1 579	1 559	1 550	1 542	6 305	6 193
Sourced alumina (kmt)	698	737	806	765	741	758	764	593	686	553	3 006	2 856
Total alumina sales (kmt)	2 269	2 349	2 355	2 655	2 251	2 305	2 344	2 220	2 171	2 153	9 628	9 121
Realized alumina price (USD) <sup>1)</sup>	287	287	284	393	391	430	364	342	367	373	313	382
Implied alumina cost (USD) <sup>2)</sup>	235	244	233	310	327	378	337	337	347	336	254	345
Bauxite production (kmt) <sup>3)</sup>	2 813	2 660	2 756	2 696	2 638	2 736	2 814	2 824	2 648	2 630	10 926	11 012
Sourced bauxite (kmt) <sup>4)</sup>	1 103	1 676	1 472	1 427	856	1 674	1 220	1 861	1 078	1 100	5 677	5 611
Adjusted EBITDA margin <sup>11)</sup>	16.6%	14.3%	15.1%	27.8%	16.1%	11.9%	7.3%	1.3%	5.3%	9.2%	19.3%	9.2%

Hydro Aluminium Metal <sup>5)</sup>	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Realized aluminium price LME, USD/mt	1 994	2 210	2 419	2 675	2 662	3 031	2 497	2 246	2 291	2 273	2 317	2 599
Realized aluminium price LME, NOK/mt <sup>7)</sup>	17 008	18 528	20 910	23 087	23 542	28 461	24 706	22 813	23 566	24 417	19 819	24 739
Realized premium above LME, USD/mt <sup>6)</sup>	264	332	449	565	786	870	801	577	503	456	400	756
Realized premium above LME, NOK/mt <sup>6)7)</sup>	2 253	2 780	3 878	4 873	6 954	8 167	7 920	5 857	5 169	4 894	3 420	7 197
Realized NOK/USD exchange rate <sup>7)</sup>	8.53	8.38	8.64	8.63	8.84	9.39	9.89	10.16	10.29	10.74	8.55	9.52
Implied primary cost (USD) <sup>8)</sup>	1 500	1 525	1 450	1 600	1 550	1 500	1 550	1 650	1 700	1 725	1 500	1 550
Implied all-in primary cost (USD) <sup>9)</sup>	1 825	1 900	1 925	2 175	2 450	2 500	2 350	2 250	2 275	2 250	1 950	2 375
Hydro Aluminium Metal production, kmt	539	561	573	571	540	532	543	522	499	506	2 244	2 137
Casthouse production, kmt	534	553	560	568	555	542	547	522	513	519	2 214	2 166
Total sales, kmt <sup>10)</sup>	599	594	583	572	600	581	533	542	559	577	2 347	2 256
Adjusted EBITDA margin <sup>11)</sup>	19.6%	29.6%	42.8%	33.0%	43.0%	28.4%	38.8%	36.2%	26.1%	17.7%	31.7%	35.1%

1) Weighted average of own production and third party contracts, excluding hedge results. The majority of the alumina is sold linked to either the LME prices or alumina index with a one month delay. Sourced alumina volumes have been re-calculated, with Q1 2018 being adjusted accordingly

2) Implied alumina cost (based on EBITDA and sales volume) replaces previous apparent alumina cash cost

3) Paragominas production, on wet basis

4) 40 percent MRN offtake from Vale and 5 percent Hydro share on wet basis

5) Operating and financial information includes Hydro's proportionate share of production and sales volumes in equity accounted investments. Realized prices, premiums and exchange rates exclude equity accounted investments

6) Average realized premium above LME for casthouse sales from Hydro Aluminium Metal

7) Including strategic hedges /hedge accounting applied

8) Realized LME price minus Adjusted EBITDA margin (incl. Qatalum) per mt primary aluminium produced. Includes net earnings from primary casthouses

9) Realized all-in price minus Adjusted EBITDA margin (incl. Qatalum) per mt primary aluminium sold. Includes net earnings from primary casthouses

10) Total sales replaces previous casthouse sales due to change of definition

11) Adjusted EBITDA divided by total revenues

# Operational data



Hydro Metal Markets	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Remelt production (1 000 mt)	143	154	132	144	151	158	124	115	132	146	572	548
Third-party sales (1 000 mt)	77	78	72	85	72	74	76	81	78	81	311	304
Hydro Metal Markets sales excl. ingot trading (1 000 mt) <sup>1)</sup>	742	735	675	681	731	710	635	614	674	691	2 833	2 691
Hereof external sales excl. ingot trading (1 000 mt)	588	607	573	574	610	607	536	530	566	590	2 342	2 284
External revenue (NOK million)	10 789	12 552	13 831	16 993	18 472	24 420	18 796	15 132	17 308	19 837	54 165	76 821

Hydro Extrusions	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Hydro Extrusions external shipments (1 000 mt)	338	342	315	301	347	338	301	265	301	293	1 296	1 251
Hydro Extrusions – Pro-forma adjusted EBIT per mt, NOK	3 680	3 706	2 629	(404)	4 568	4 740	2 123	636	4 937	4 184	2 482	3 194
Adjusted EBITDA margin <sup>2)</sup>	10.7%	10.5%	8.1%	3.6%	9.9%	9.4%	6.1%	4.7%	9.8%	8.9%	8.1%	7.7%

Hydro Energy	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Year 2021	Year 2022
Power production, GWh	2 857	2 374	1 688	2 136	2 730	1 602	1 330	2 002	2 610	2 431	9 055	7 664
Net spot sales, GWh	1 126	334	(401)	305	986	(433)	(703)	511	817	333	1 364	361
Nordic spot electricity price, NOK/MWh	435	423	704	969	1 090	1 211	1 757	1 414	934	647	634	1 370
Southern Norway spot electricity price (NO2), NOK/MWh	469	493	807	1 271	1 504	1 752	3 519	1 719	1 182	958	762	2 128
Adjusted EBITDA margin <sup>2)</sup>	35.9%	34.4%	22.0%	49.5%	52.5%	33.6%	11.2%	50.8%	21.0%	39.5%	37.3%	39.0%

1) Includes external and internal sales from primary casthouse operations, remelters and third party Metal sources

2) Adjusted EBITDA divided by total revenues

# Hydro Extrusions, information by business area



Precision Tubing	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Year 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Year 2022	Q1 2023	Q2 2023
Volume (kmt)	35	33	30	29	127	31	28	30	28	117	31	32
Operating revenues (NOKm)	1 718	1 742	1 715	1 822	6 997	2 091	2 038	2 129	2 020	8 278	2 279	2 429
Adjusted EBITDA (NOKm)	210	173	184	56	622	184	95	135	50	464	152	185
Adjusted EBIT (NOKm)	157	103	115	(38)	337	82	(3)	35	(51)	63	61	87

Building Systems	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Year 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Year 2022	Q1 2023	Q2 2023
Volume (kmt)	21	22	20	22	85	24	24	19	18	85	19	19
Operating revenues (NOKm)	2 315	2 434	2 268	2 448	9 465	2 854	3 168	2 657	2 617	11 296	3 056	3 208
Adjusted EBITDA (NOKm)	245	299	212	161	918	264	287	152	171	873	261	240
Adjusted EBIT (NOKm)	149	196	108	44	497	156	179	43	57	435	149	116

Other and eliminations	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Year 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Year 2022	Q1 2023	Q2 2023
Adjusted EBITDA (NOKm)	(78)	(47)	(65)	(90)	(280)	(47)	(83)	(47)	(91)	(268)	(22)	(44)
Adjusted EBIT (NOKm)	(82)	(51)	(68)	(94)	(294)	(50)	(86)	(50)	(94)	(281)	(25)	(48)

Extrusion Europe	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Year 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Year 2022	Q1 2023	Q2 2023
Volume (kmt)	144	147	129	130	550	151	144	119	106	520	124	121
Operating revenues (NOKm)	6 529	6 916	6 827	7 527	27 799	9 532	10 147	8 696	7 787	36 162	9 035	8 926
Adjusted EBITDA (NOKm)	705	716	563	471	2 456	1 035	1 025	669	480	3 209	867	819
Adjusted EBIT (NOKm)	501	502	318	203	1 525	782	767	415	231	2 196	623	564

Extrusion North America	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Year 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Year 2022	Q1 2023	Q2 2023
Volume (kmt)	137	140	136	120	534	142	141	134	112	529	126	121
Operating revenues (NOKm)	5 904	6 501	7 319	7 002	26 726	9 096	10 263	9 412	7 750	36 522	8 684	8 304
Adjusted EBITDA (NOKm)	663	689	562	67	1 980	895	1 042	476	330	2 743	965	813
Adjusted EBIT (NOKm)	518	517	355	(238)	1 152	618	743	196	25	1 582	677	508



Next event

**Third quarter results  
October 24, 2023**

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

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**Hydro**

*Industries that matter*