



Norsk Hydro

Nordnet presentation

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November 7, 2019

Agenda

- Norsk Hydro - strong positions across the value chain
- Market outlook
- Lifting profitability, driving sustainability



The global and complete aluminium company



“...create a more viable society by innovative and efficient use of natural resources and products”

More than 110 years of industrial development and responsibility



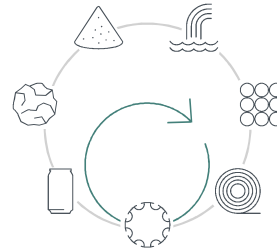
Aluminium – metal of the future



Hydropower – infinitely recyclable energy



Engaged in the entire value chain – R&D, innovation and tailor-made solutions



Global reach, local presence

35,000 employees

150 locations

40 countries

Involved and engaged



MEMBER OF
Dow Jones Sustainability Indices
In Collaboration with RobecoSAM

ICMM
International Council on Mining & Metals



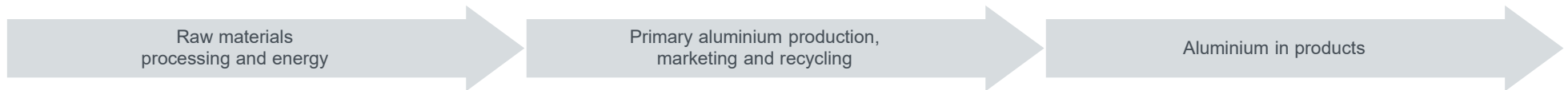
asi
Association of Steel Industry



EITI
Extractive Industries Transparency Initiative

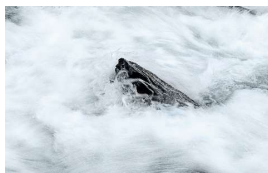
TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

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



Bauxite & Alumina

- High quality Gbtsite bauxite
- Bauxite capacity 10.8 million tonnes (100% Paragominas and 5% MRN)
- World's largest alumina refinery outside China with capacity of 6.3 million tonnes
- Long-term sourcing contracts for bauxite and alumina



Energy

- Long-term power supply secured
- Norway's second largest hydropower producer – ~10 TWh normal renewable energy production
- New business opportunities within wind and batteries/storage solutions



Primary Metal

- 2.3 million tonnes primary capacity
- Karmøy Technology Pilot testing world's most climate and energy efficient aluminium production
- High LME and USD sensitivity
- Improving cost position
- Leading in technology



Metal Markets

- ~3.4 million tonnes (primary, remelt, recycling and cold metal)
- Expertise in materials
- Flexible system
- Strengthening recycling position
- High share value-add products
- Strong marketing organization
- Risk management
- Strong market positions in Europe, Asia and the US



Rolled Products

- ~1 million tonnes – Europe's largest producer
- Margin business
- Regional business
- Close to customers
- Innovation and R&D
- Restructuring and strategic review



Extruded Solutions

- 1.4 million tonnes
- No. 1 position in North America and Europe
- Solid foothold in emerging markets

Strong positions across the value chain



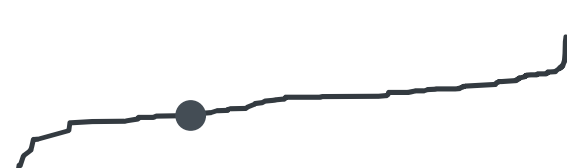
Upstream

Competitive cash cost position upstream

Alumina BOC curve by company¹ (2018)
USD/mt



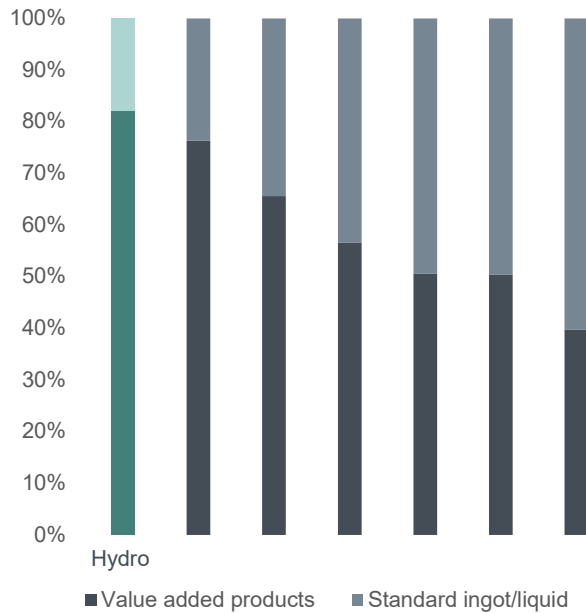
Smelter BOC curve by company² (2018)
USD/mt



Source: Republished under license from CRU International Ltd
 1) Alumina cost curve: caustic soda USD 600, USD/BRL 3.75
 2) Aluminium cost curve: LME USD 1 945, alumina USD 412, NOK/USD 8.5
 Assumed 100% production at Alunorte and Albras

Midstream

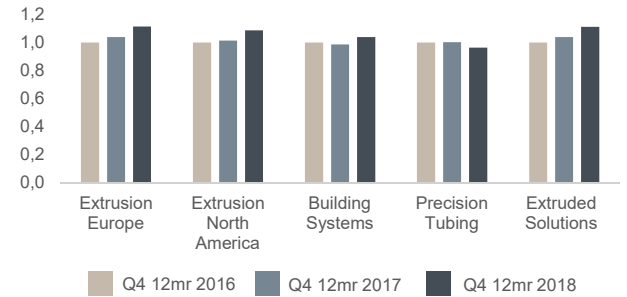
Strong position in value added products¹



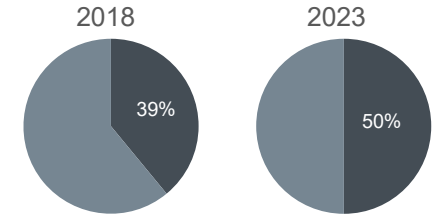
Source: Republished under license from CRU International Ltd
 Actual figures for Hydro sales 2017
 1) % of total shares being value added products; extrusion ingot, wire rod, sheet ingot and primary foundry alloy

Downstream

Improving NAV^{1,2} in Extruded Solutions



Increasing auto and can share in Rolled Products³



1) Net Added Value: calculated as operating revenues less cost of material, including freight costs out
 2) NOK indexed, translated to NOK based on Q4 2018 12 m rolling currency rates
 3) In percentage of total sales

Sustainability – key competitive advantage

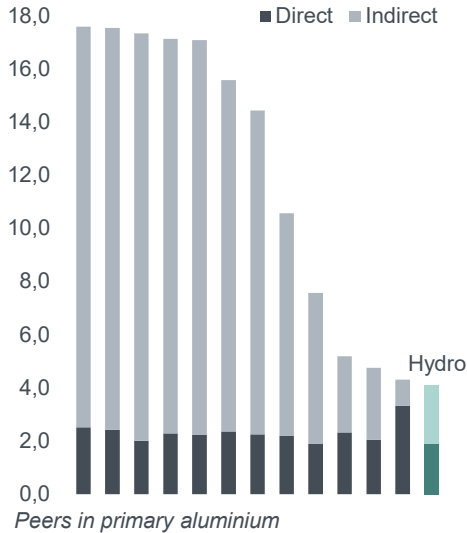


The Hydro Way – a more viable society



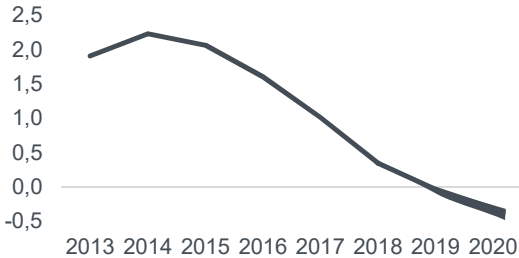
Lowest CO₂ emissions

Emissions from electrolysis, in tonne CO₂/t Al, 2019



Net carbon-neutral from a life-cycle perspective by 2020

Net emissions (life-cycle) Million mt



Climate roadmap towards 2030 and beyond: **Ambition to reduce own emissions by 10% in 2025, 30% by 2030**

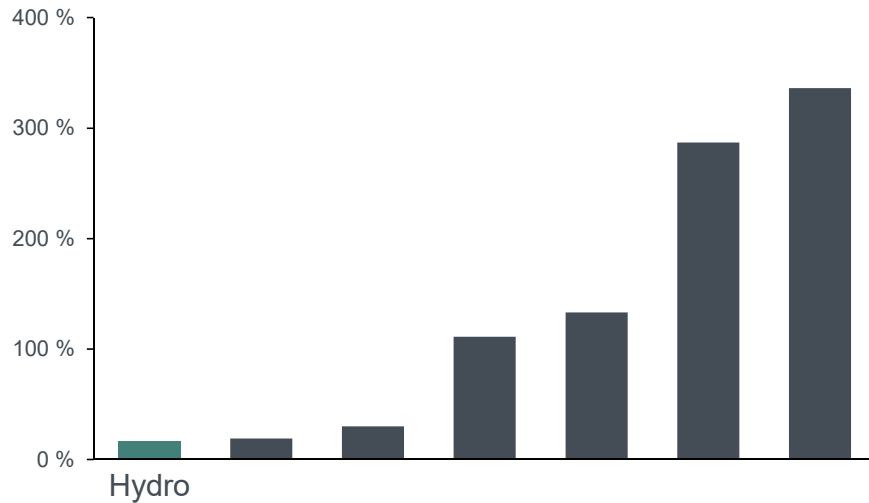


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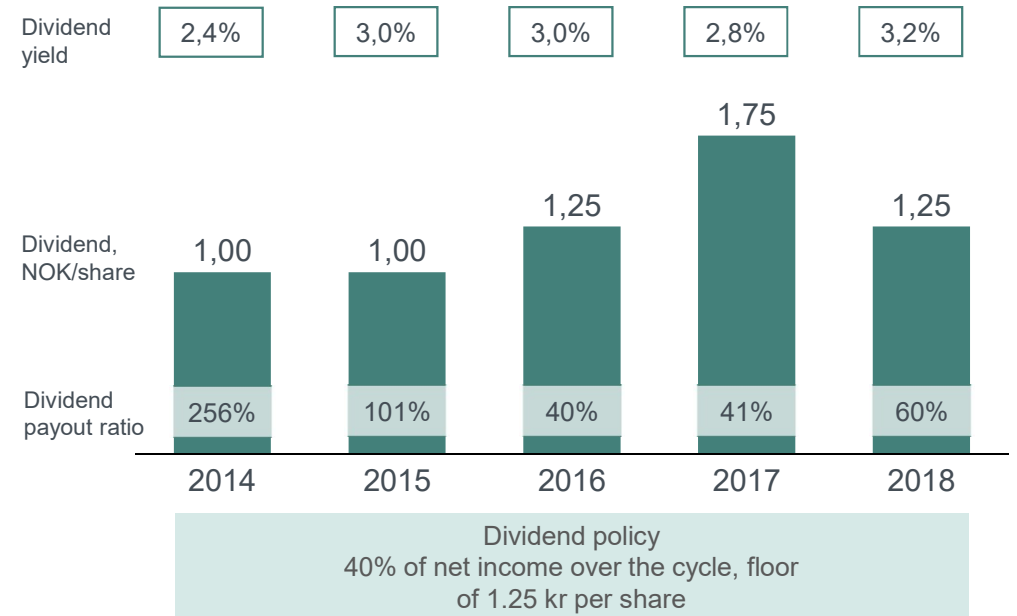
Robus balance sheet, competitive pay-out ratio



Strongest balance sheet among aluminium peers
Total debt/total equity 2014-2018



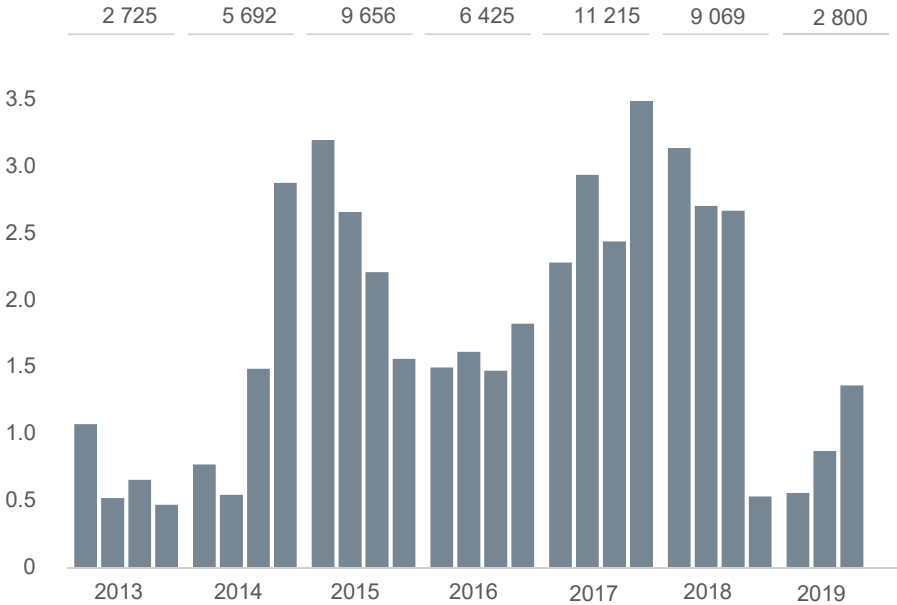
Reliable dividend and payout ratio above the targeted 40% over the cycle



Aluminium peer group includes Alcoa, Arconic, Hindalco, Chalco, Rusal, Century Nasdaq IR, Hydro analysis

Hydro: a resource rich global aluminium company

Hydro underlying EBIT quarterly, NOK billion



Extruded Products classified as discontinued operations, and thereby excluded from revenues and underlying EBIT for 2011, 2012 and 2013. Figures for 2013 are adjusted reflecting IFRS 11



- Operating revenues
 - 2018: NOK 159 billion
 - 2017: NOK 109 billion
- Current market capitalization
 - ~NOK 70 billion/ USD 8 billion



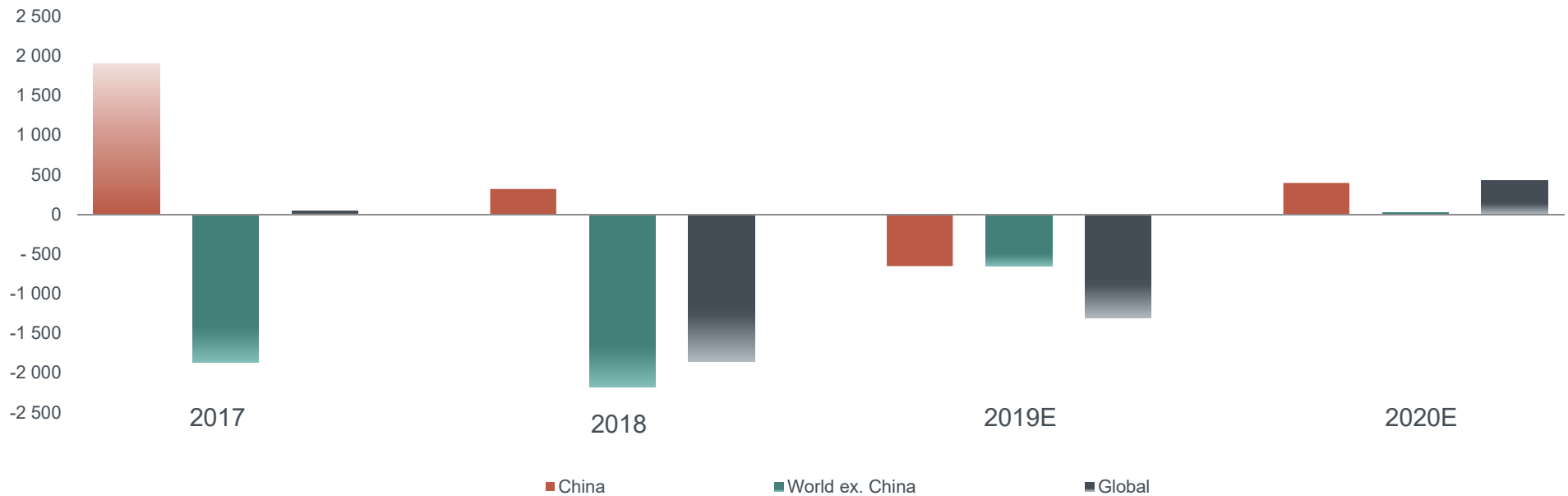
Market outlook

Primary market in deficit last two years, expecting a largely balanced market in 2020



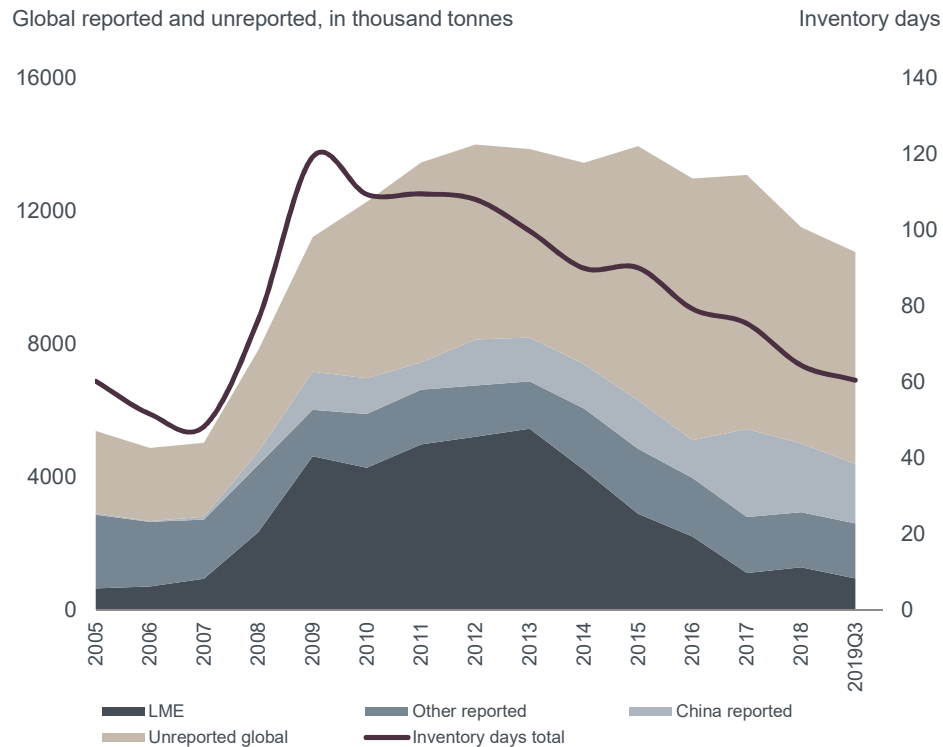
Higher production growth and continued subdued demand

Primary market balance 2017, 2018, E2019 and E2020 ('000t)

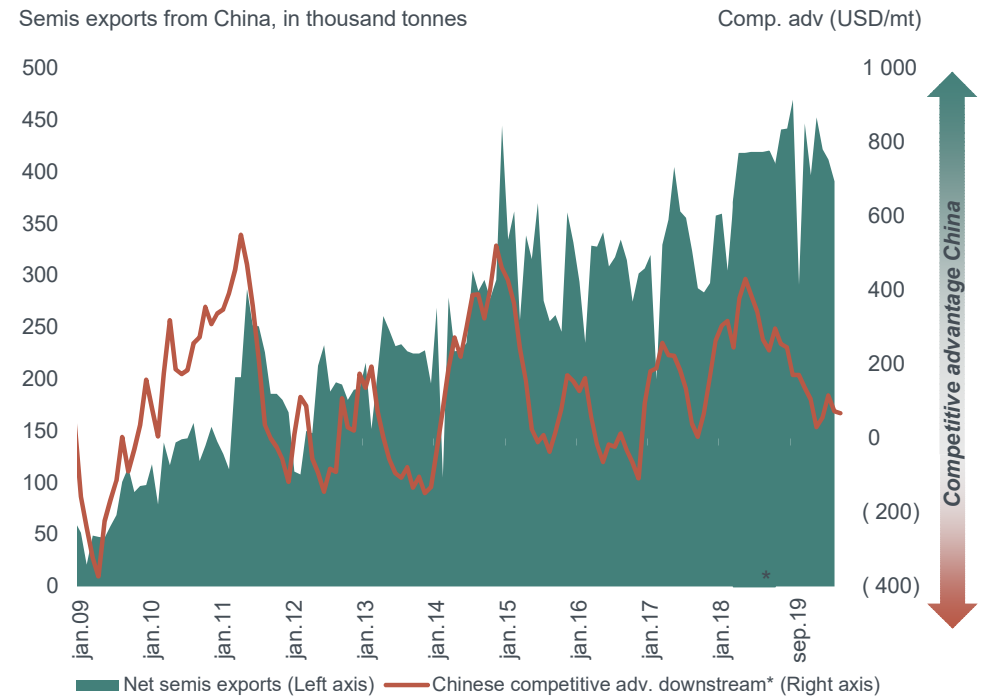


Inventories gradually trending downwards

Chinese semis exports moderating

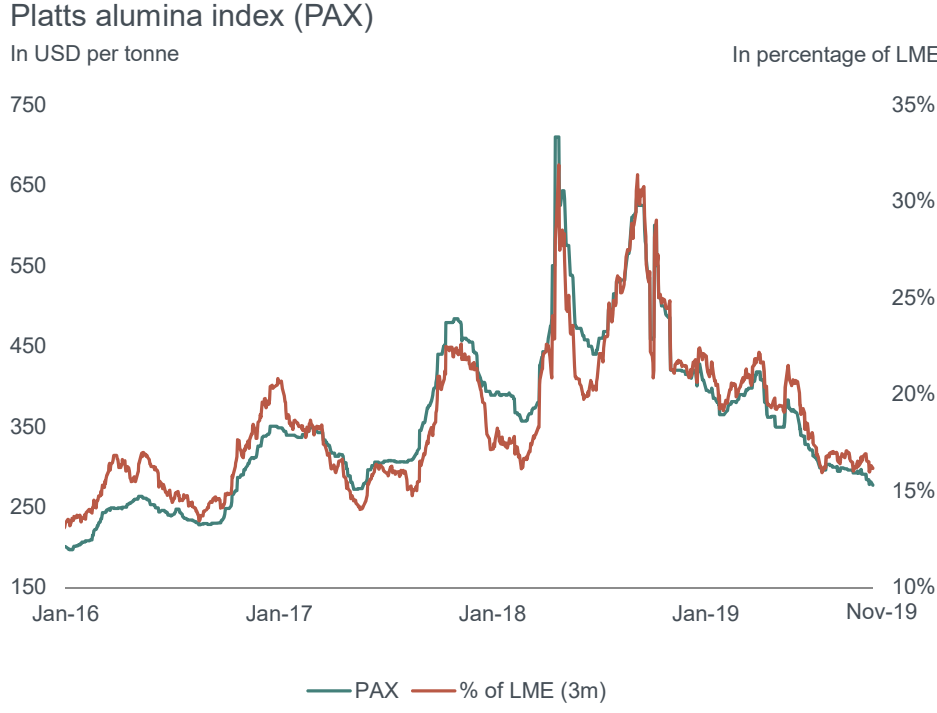


*2019 Q2 inventory days estimated on 12-months rolling historic consumption
 Source: Republished under license from CRU International Ltd, Hydro analysis



Source: CRU, Thomson Reuters
 Estimated metal cost China versus Europe
 Europe: LME cash + European duty-paid standard ingot premium
 China: SHFE cash + avg. local premium + freight - export rebates (~13%)
 * No detailed data for April to September 2018, semis months for these months distributed flat

Aluminium and alumina prices down from 2018-highs

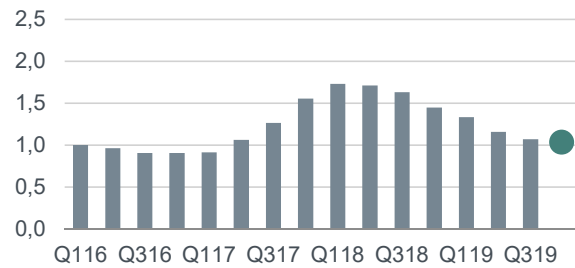


Source: Metal Bulletin, Platts, Reuters Ecowin, Hydro analysis

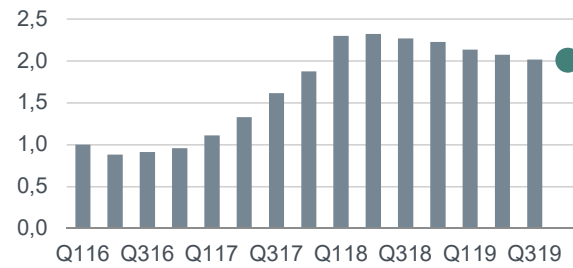
Industry raw material costs down in Q3



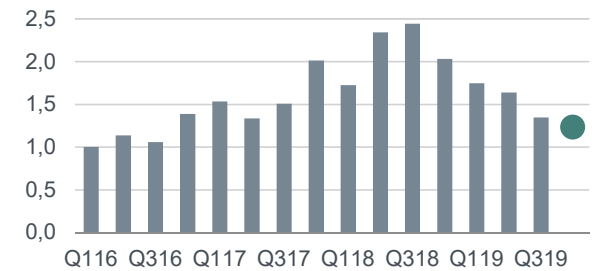
Petroleum coke FOB USG (indexed)



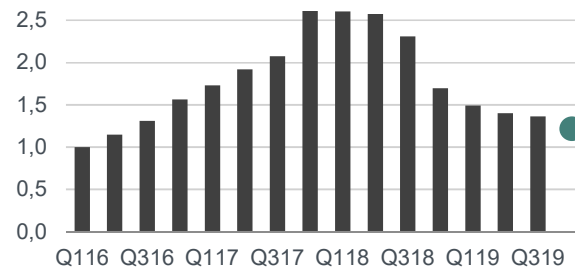
Pitch FOB USG (indexed)



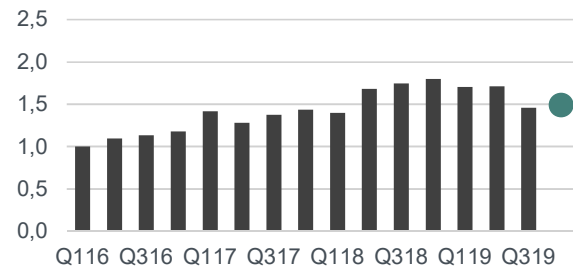
Alumina PAX index (indexed)



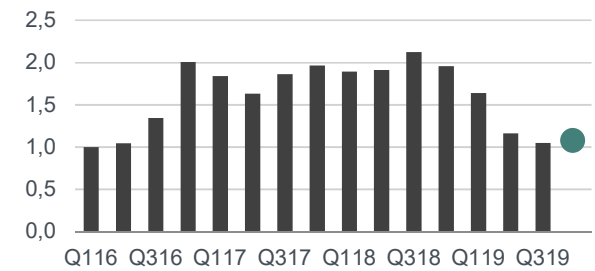
Caustic soda (indexed)



Fuel oil A1 (Indexed)



Steam coal (indexed)



● Indication of current market prices

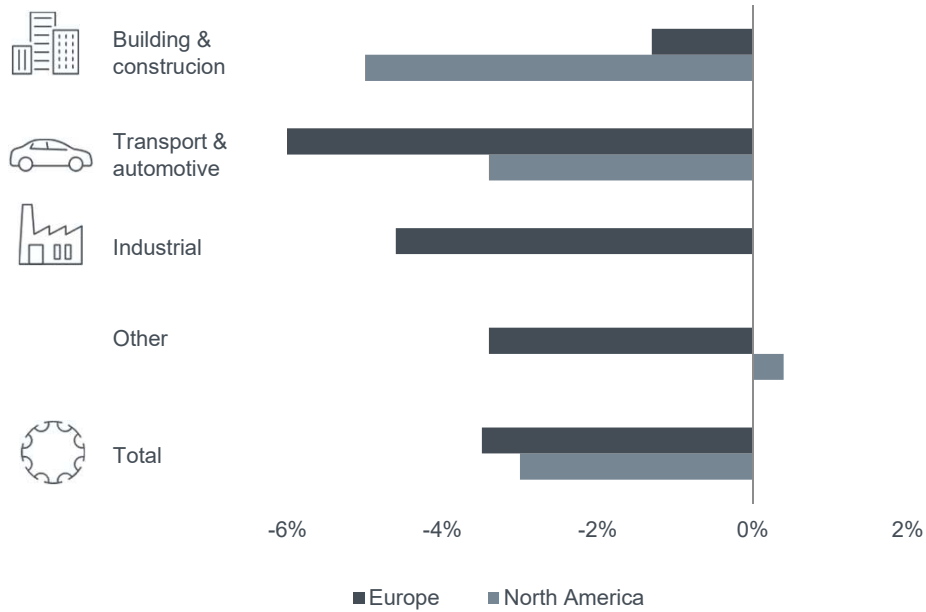
Source: Thomson Reuters, PACE, IHS Markit, Platts, ANP, CRU

Negative extrusions demand in Europe and North America

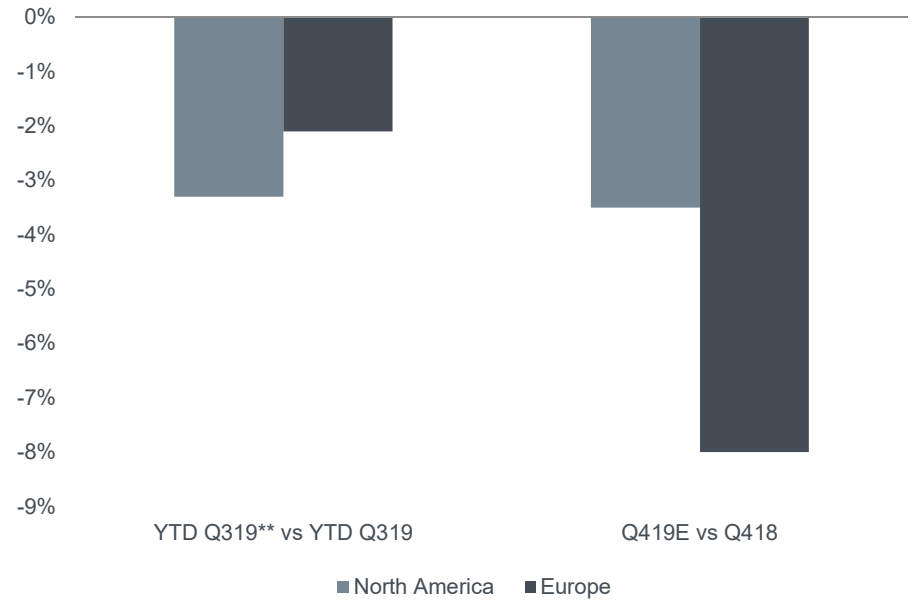


Driven by weak macroeconomic development

Extrusions – estimated market growth 2019 vs 2018 (%)



Extrusions – estimated market growth 2019 vs 2018 (%)



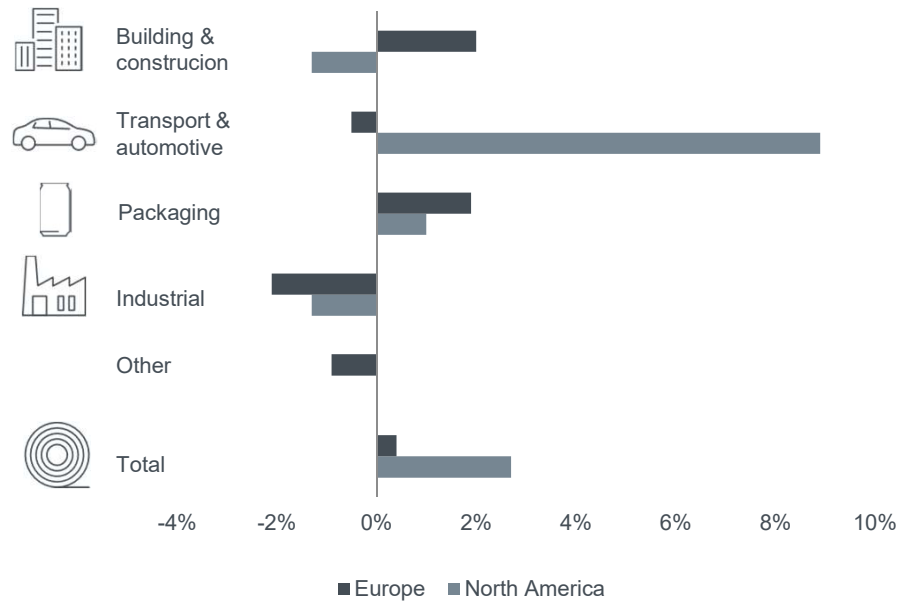
Source: CRU / Hydro analysis

* Industrial includes consumer durables, electrical and machinery

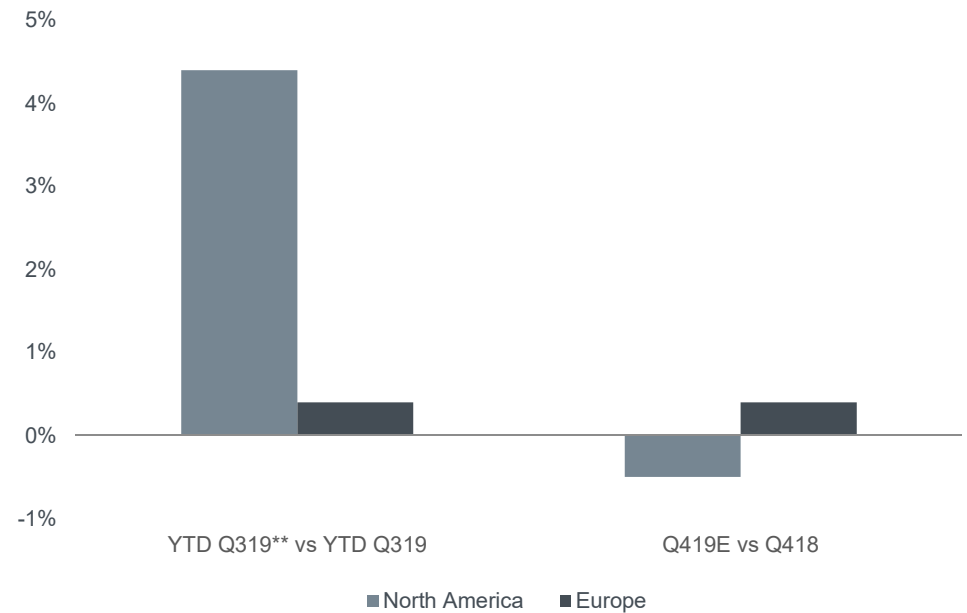
** Q319 numbers for North America are based on July and August estimates as September numbers have not yet been published
Europe excluding Russia/Turkey

Transport and packaging demand remains firm, overall rolled products demand weakening

Rolled products – estimated market growth 2019 vs 2018 (%)



Rolled products – Estimated market growth 2019 vs 2018 (%)



Source: CRU / Hydro analysis

* Industrial includes consumer durables, electrical and machinery

** Q319 numbers for North America are based on July and August estimates as September numbers have not yet been published
Europe excluding Russia/Turkey

We believe in aluminium



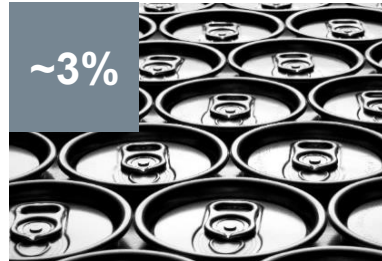
Solid demand growth across main segments and regions

Solid demand growth across main segments

Transport



Packaging



Buildings and construction

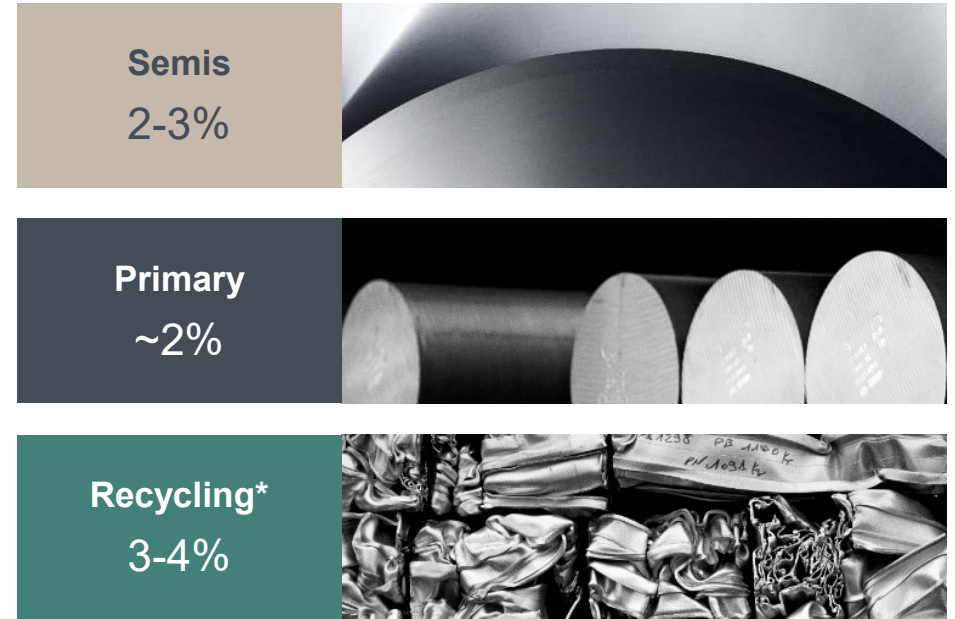


Electrical, consumer durables & industrial



Semis demand growth in segment, CAGR 2018-23

Global demand increasingly supplied by recycled material



Demand growth, CAGR 2018-23

Source: CRU, IAI, Hydro

* Includes both post consumer and fabricated scrap



Lifting profitability, driving
sustainability

Ramping up production at Alunorte

- Final embargo lifted on September 26, allowing Alunorte to resume installation and commissioning activities at DRS2
- 83% average capacity utilization in Q3, targeting 75-85% in Q4
- Commissioning of 9th press filter during November, expected to reach full utilization end-2019 – estimated average capacity utilization 85-95% in 2020
- Expect to reach full capacity utilization in 2021 with further process optimization
- Fully committed to deliver on obligations under technical and social agreement (TAC and TC)

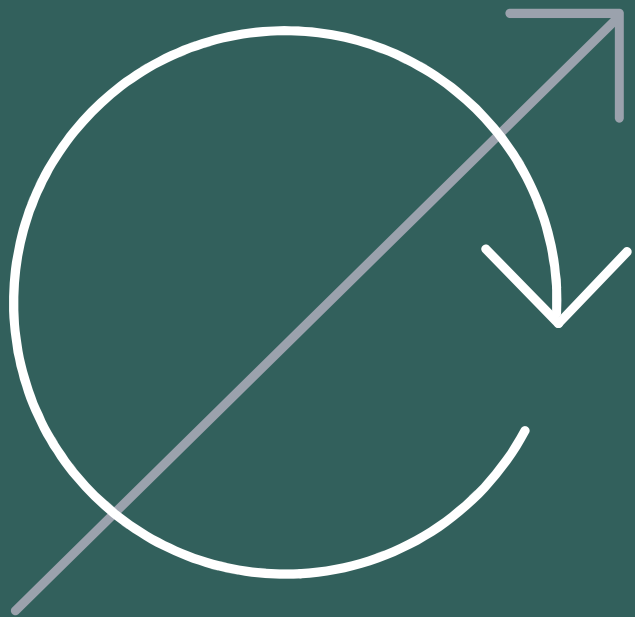


Status update cyber attack

Operational and financial impact

- Limited financial impact in Q3 2019
- Overall financial impact for Q2 NOK 250-300 million
 - Of which Extruded Solutions NOK 150-200 million
- Overall financial impact for Q1 NOK 300-350 million
 - Of which Extruded Solutions NOK 250-300 million
- Hydro has a robust cyber insurance policy in place with recognized insurers





Lifting profitability, driving sustainability

Mobilizing for change

- BNOK 6.4 improvement ambition
- Restructuring of Rolled Products
- New capital allocation framework
- 10% RoaCE target over the cycle
- Cut CO₂ emissions by 30% by 2030

10% target is Underlying Return on Average Capital Employed



**Lifting profitability,
driving sustainability**

Priorities

- Safe and efficient operations
- Portfolio optimization, restructuring and compensating measures in challenging market
- Delivering on improvement programs, including returning Brazilian assets to full production and operational excellence
- Net operating capital release and strict capital discipline
- Differentiating through low-carbon position



Profitability

ROACE > 10%



Sustainability

CO₂ - 30%



Hydro

We are aluminium



Adjusted net debt up in Q3

Driven by increased net pension liability on lower discount rates

NOK billion	Sep 30, 2019	Jun 30, 2019	Mar 31 2019
Cash and cash equivalents	10.6	10.6	6.1
Short-term investments	0.9	1.1	1.3
Short-term debt	(6.1)	(8.2)	(8.9)
Long-term debt	(20.0)	(18.6)	(10.6)
Net cash/(debt)	(14.5)	(15.1)	(12.1)
Net pension liability at fair value, net of expected tax benefit	(10.3)	(8.8)	(8.4)
Other adjustments ¹⁾	(4.8)	(4.0)	(3.9)
Adjusted net debt ex. EAI	(29.6)	(27.9)	(24.4)
Net debt in EAI	(5.4)	(5.4)	(5.7)
Adjusted net debt incl. EAI	(35.0)	(33.3)	(30.1)

1) "Other adjustments" include, e.g., asset retirement obligations, cash and short-term investments in Industriforsikring.

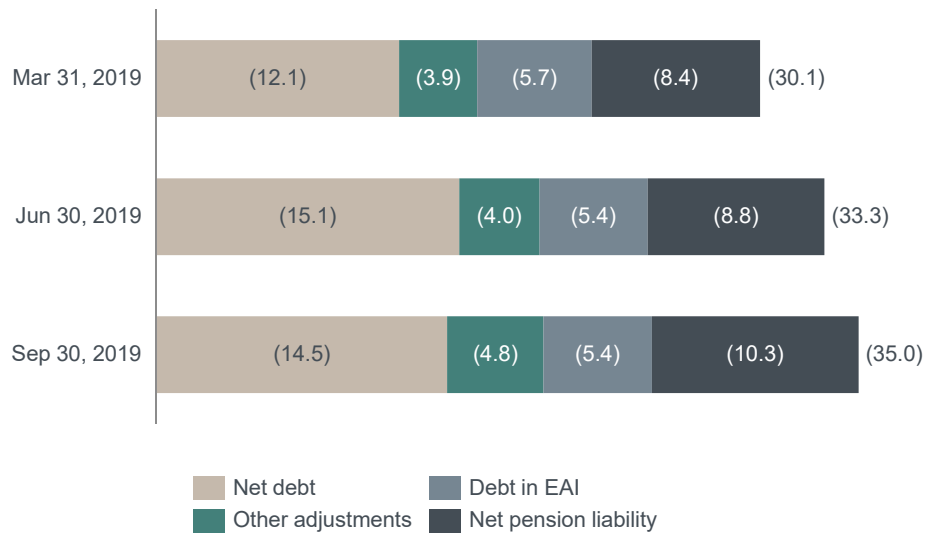


Maintaining a solid balance sheet and investment-grade credit rating

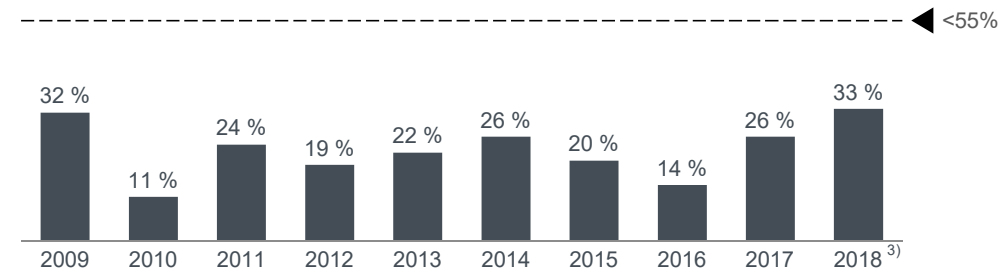


Funds from operations determine the balance sheet structure

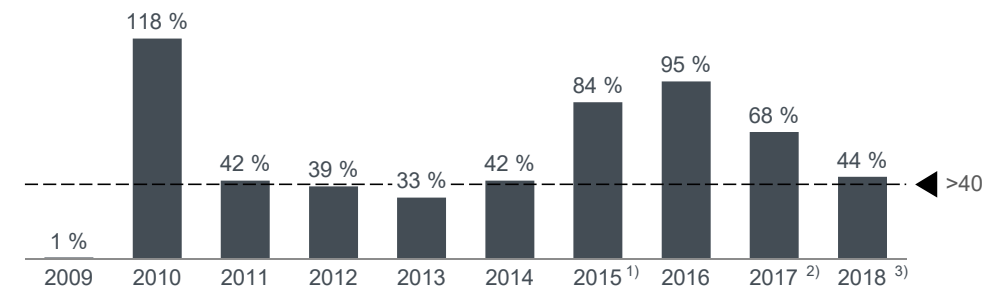
Adjusted net debt
BNOK



Adjusted net debt / Equity



Funds from operations / Adjusted net debt



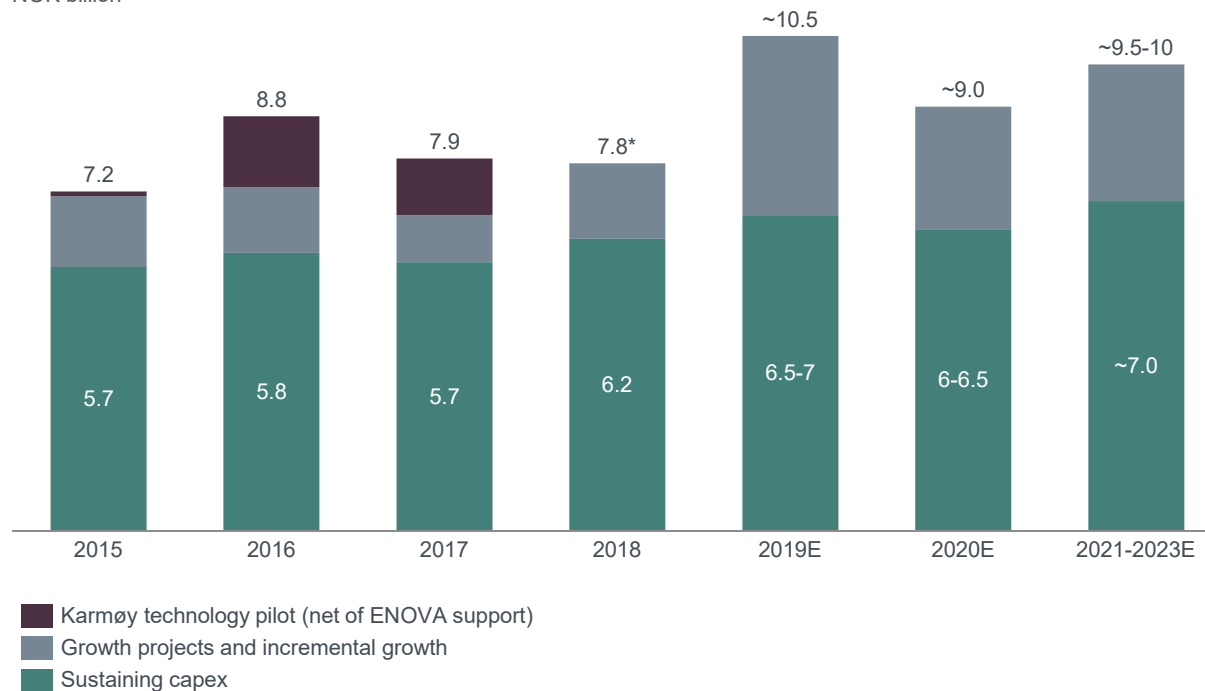
1) 2015 FFO/aND ratio has been restated due to change of definition
2) Extruded Solutions reflected as 50% equity accounted investment Q1-Q3 2017 and fully consolidated in Q4 2017

Project pipeline to be based on updated capital allocation framework and strategic priorities



Majority of sustaining capex allocated upstream

NOK billion



Main sustaining projects

- Alunorte robustness
- Pipeline replacement in B&A
- Smelter relining and asset integrity in PM
- Paragominas new mine area (from 2022)

Main growth and return-seeking projects

- Husnes restart and upgrade
- Automation, process control and efficiency in PM
- Selected customer-driven growth in ES
- Energy wind and battery storage
- Fuel switch project in B&A

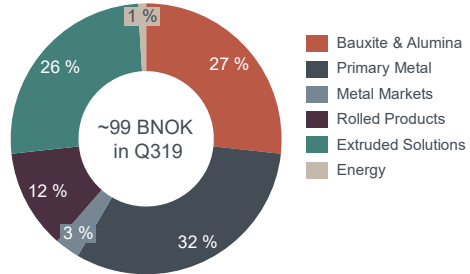
*Excluding the Pis/Cofins adjustments in Brazil in 2018. Including the adjustment, 2018 capex amounted to BNOK 7.0
 Capex including Extruded Solutions
 Growth and return-seeking capex guidance only includes capex necessary for delivering on targeted improvement ambitions

Capital return dashboard for Hydro Q3 2019



Hydro targets URoaCE above 10% over the cycle

Capital employed¹⁾



URoaCE
2.4%
 LTM Q3 2019³⁾

10% target over the cycle

FFO/aND
24%
 LTM Q3 2019⁴⁾

>40% target over the cycle

Free cash flow
0.7 BNOK
 YTD Q3 2019⁵⁾

Improvement program
On track for 2019 target

2023 target 6.4 + 0.9 BNOK²⁾
 2019 target 0.5 BNOK

Net operating capital
2.3 BNOK release
 YTD Q3 2019

Target 12 NOC days reduction
 (~ 4 BNOK) from end-2018 to end-2020

Capex
6.5 BNOK
 YTD Q3 2019

2019 estimate ~10.5 BNOK



1) Graph excludes (7.8) BNOK in capital employed in Other & Elimination
 2) 6.4 BNOK in improvement ambitions, 0.9 BNOK in Rolled Products restructuring. 2019 Rolled Products target ~ 0 BNOK
 3) URoaCE calculated as underlying EBIT last 4 quarters less 30% tax / average capital employed last 4 quarters. RoaCE tax is calculated on UEBIT excluding net income from equity accounted investments.
 4) Funds from operation LTM/Average LTM adjusted net debt
 5) Free cash flow – operating cash flow less investing cash flow excl. sales/purchases of short-term investments

Different strategic modes for the business areas, leading to differentiated capital allocation



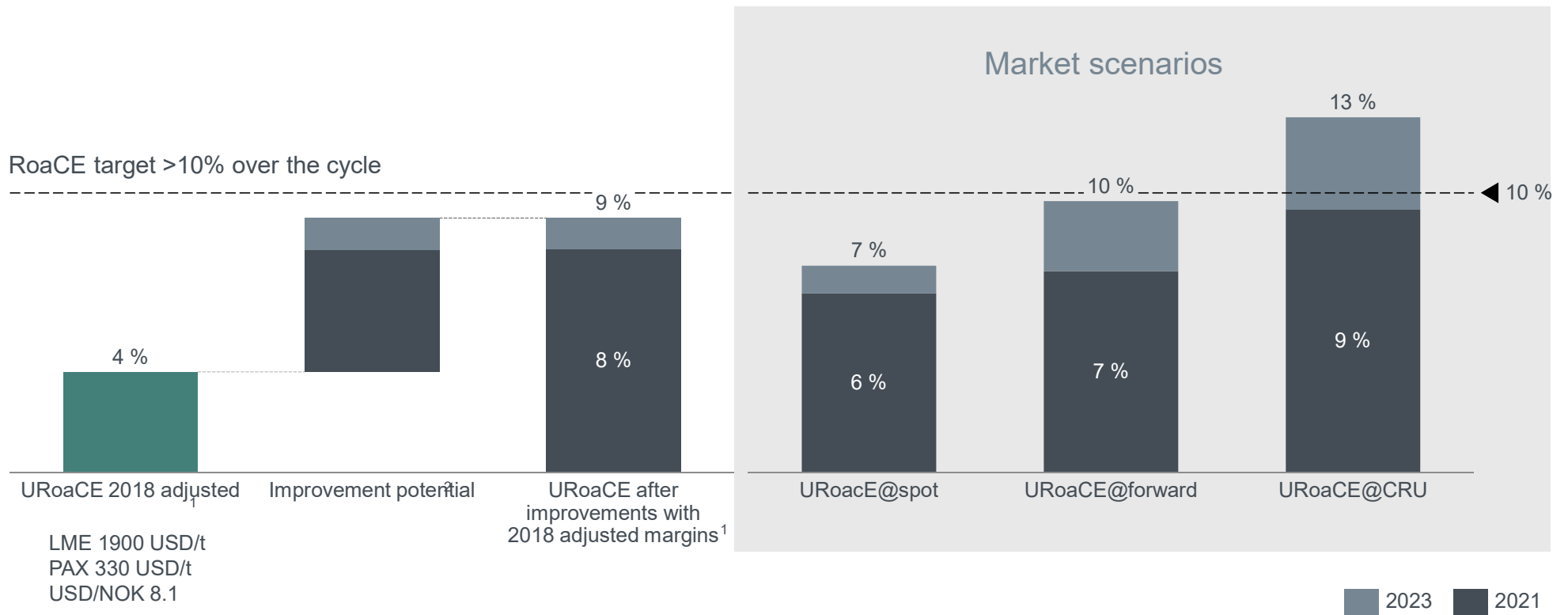
Safe, compliant and efficient operations
– The Hydro Way



Business area	 Bauxite & Alumina	 Primary / Metal Markets	 Energy	 Rolled Products	 Extruded Solutions
Strategic mode	Sustain and improve*		Selective growth	Strategic review	Selective growth
Impact on capital allocation	Sustaining capex and cost efficiency (Creep and recycling with high profitability)		Selected growth investments	Sustaining CAPEX and cost efficiency	Selected growth investments both organic and M&A

*Creep and recycling with high profitability

Hydro's roadmap to targeted profitability

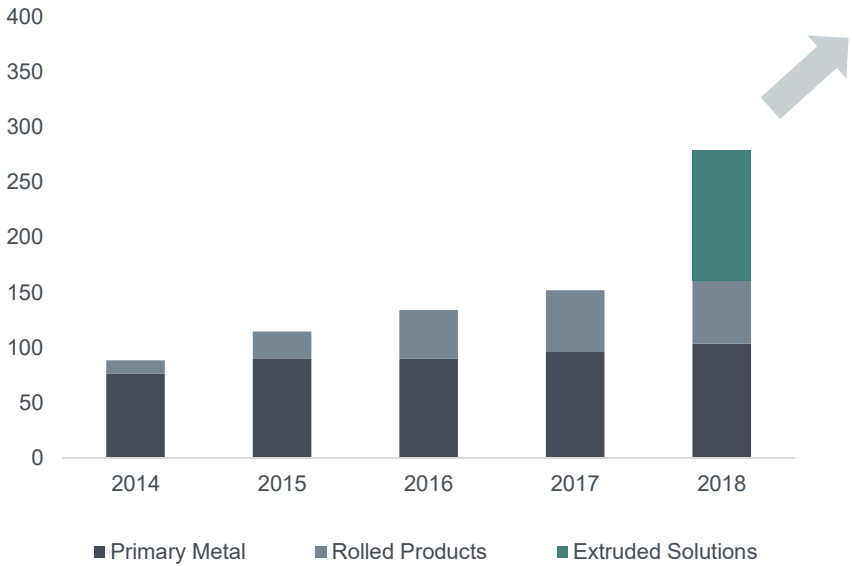


2023 2021

Growing in recycling – expanding CIRCAL portfolio

Competence, technology,
integrated value chain

Recycled post-consumer scrap 2014-2018*
In '000 mt



* Total post-consumer scrap – only a certain amount currently utilized in the CIRCAL product

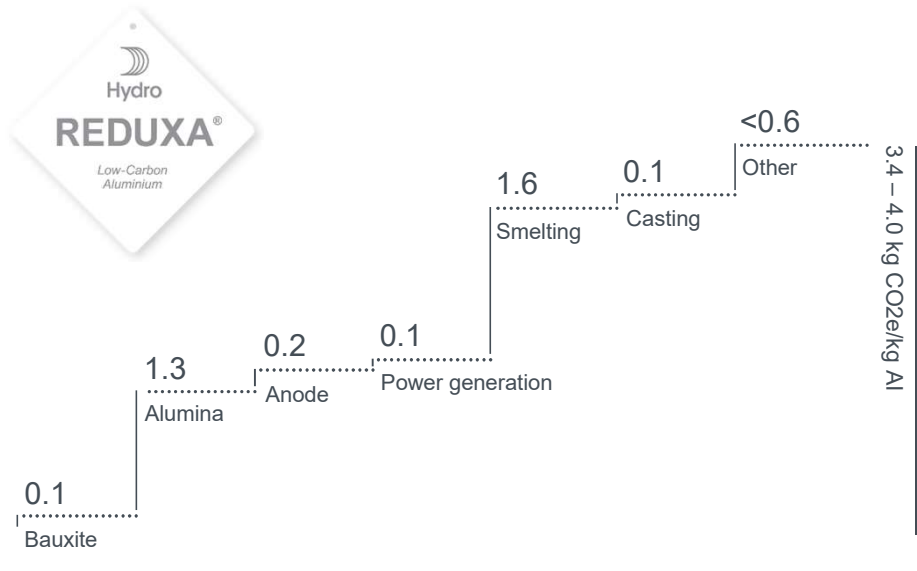


Greener products: From REDUXA 4.0 to 2.0



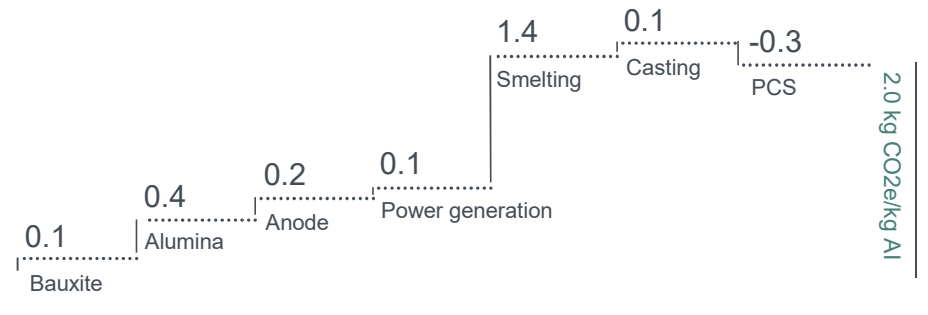
New energy mix in Alunorte important enabler to reach 2.0

From REDUXA 4.0



Typical production values

Towards REDUXA 2.0 by 2030



Potential production values

Restructuring and strategic review in Rolled Products

- Improvement and restructuring
 - Organizational efficiency
 - Operational efficiency
 - Commercial excellence
 - Shifting volumes to more attractive market segments: automotive and can
- BNOK 0.9 improvement targeted by 2023, in addition to BNOK 0.9 release in net operating capital by 2021
- Total restructuring costs BNOK ~1.6
 - Restructuring and impairment cost of MNOK 1 145 booked in Q3 (excluded from underlying EBIT)
- Improvements to be realized while continuing strategic review



Extruded Solutions taking firm measures in weak markets

- Restructuring in Europe
 - Full closures: Pinto (Spain), Redditch (UK), Rotherham (UK), Wakefield warehouse (UK), Lodz warehouse (Poland), Dusseldorf office (Germany)
 - Divestments: Chisineu Cris (Romania)
- Restructuring in North America
 - Full closures: Belton (South Carolina), Kalamazoo (Michigan)
- Business largely transferred to other sites
- Additional restructuring and cost reduction initiatives under way
- These initiatives support ongoing BNOK 1.0 improvement target for Extruded Solutions
- Restructuring and impairment cost of MNOK 156 booked in Q3 (excluded from underlying EBIT)
 - MNOK 228 booked in Q2



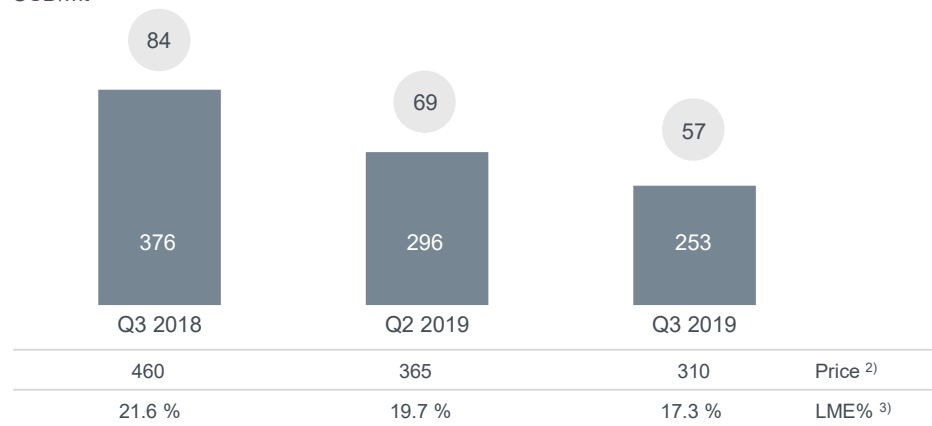
Upstream costs trending downwards



Implied costs approaching pre-curtailment levels

Implied alumina cost and margin

USD/mt ¹⁾



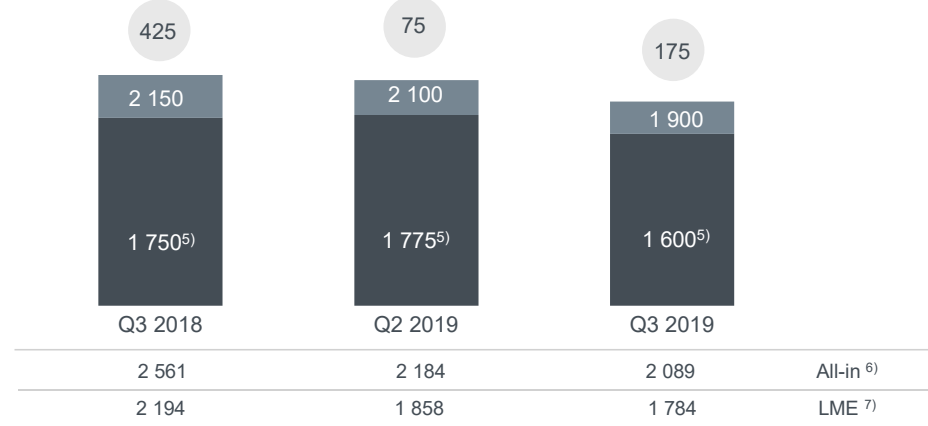
Implied alumina cost down in Q319 vs Q219, mainly on increased production, lower raw material costs and reduced external alumina sourcing and cost

■ Implied EBITDA cost per mt ● EBITDA margin per mt

- 1) Realized alumina price minus underlying EBITDA for B&A, per mt alumina sales
- 2) Realized alumina price
- 3) Realized alumina price as % of three-month LME price with one month lag
- 4) Realized all-in aluminium price less underlying EBITDA margin, incl Qatalum, per mt aluminium sold.
Implied primary cost and margin rounded to nearest USD 25

All-in implied primary cost and margin

USD/mt ⁴⁾



Implied primary cost down in Q319 vs Q219 on reduced costs, mainly related to alumina

■ All-in Implied EBITDA cost per mt ■ LME Implied EBITDA cost per mt ● All-in EBITDA margin per mt

- 5) Realized LME aluminium price less underlying EBITDA margin, incl Qatalum, per mt primary aluminium produced
- 6) Realized LME plus realized premiums, including Qatalum
- 7) Realized LME, including Qatalum