



# Norsk Hydro

OTCQX virtual conference

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June 20, 2019

# The global and complete aluminium company

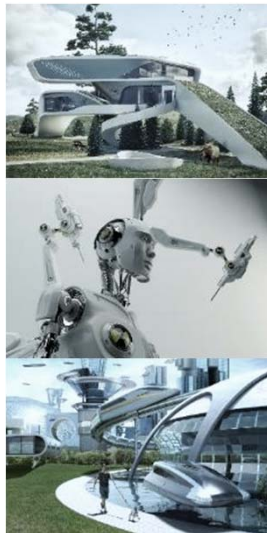


“...create a more viable society by innovative and efficient use of natural resources and products”

More than 110 years of industrial development and responsibility



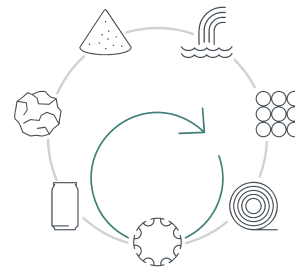
Aluminium – metal of the future



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

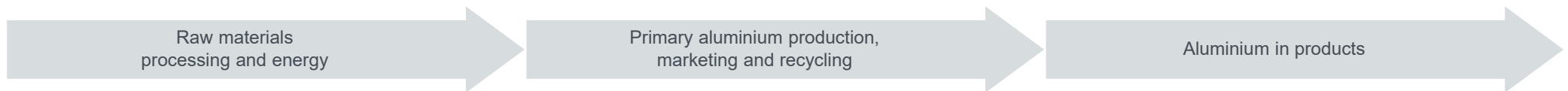
Involved and engaged



MEMBER OF  
**Dow Jones Sustainability Indices**  
In Collaboration with RobecoSAM



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



## Bauxite & Alumina

- High quality Gibbsite bauxite
- Bauxite capacity 10.8 million tonnes (100% Paragominas and 5% MRN)
- Paragominas expansion potential to 15 million tonnes
- World's largest alumina refinery outside China with capacity of 6.3 million tonnes; debottlenecking potential to 7.0 mill tonnes
- Expansion potential of 1.9 million tonnes first phase CAP refinery
- 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



## Primary Metal

- 2.3 million tonnes primary capacity
- 200 k mt technology-driven capacity creep by 2025
- Karmøy Technology Pilot in full 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
- Market leading in litho and foil, strong BiW position in Europe



## Extruded Solutions

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

100% of volumes for assets that are fully consolidated and pro rata volumes for other assets.

# Strong positions across the value chain



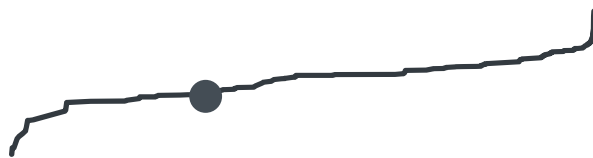
## Upstream

Competitive cash cost position upstream

Alumina BOC curve by company<sup>1</sup> (2018)  
USD/mt



Smelter BOC curve by company<sup>2</sup> (2018)  
USD/mt



Source: Republished under license from CRU International Ltd

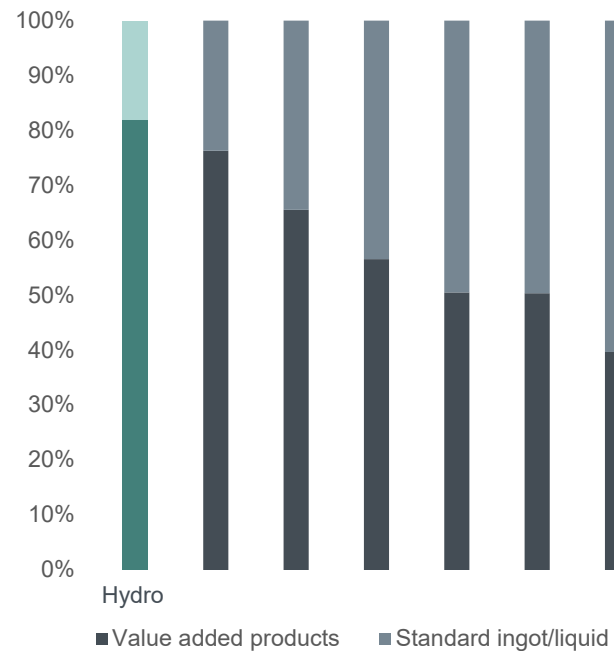
1) Alumina cost curve: caustic soda USD 600, USD/BRL 3.75

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 products<sup>1</sup>

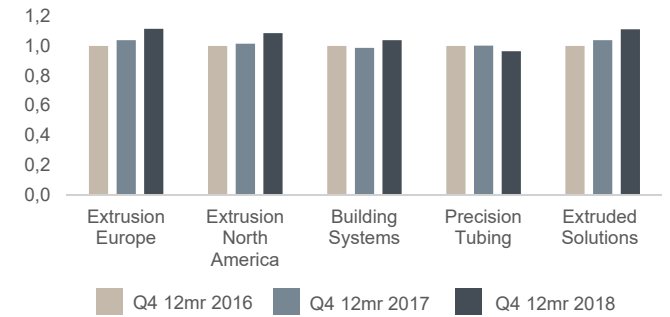


Source: Republished under license from CRU International Ltd  
Actual figures for Hydro sales 2017

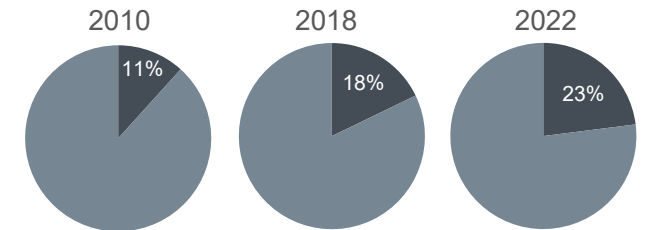
1) % of total shares being value added products; extrusion ingot, wire rod, sheet ingot and primary foundry alloy

## Downstream

Improving NAV<sup>1,2</sup> in Extruded Solutions



Increasing automotive share in Rolled Products<sup>3</sup>

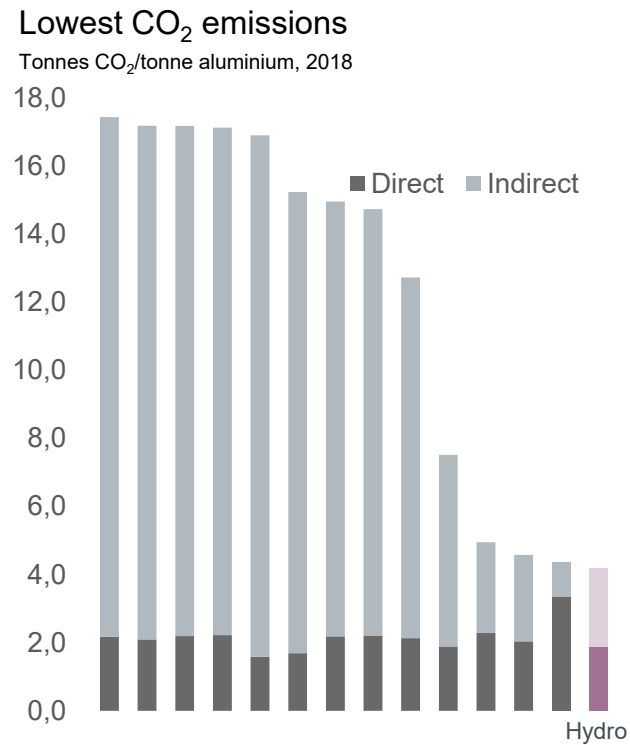
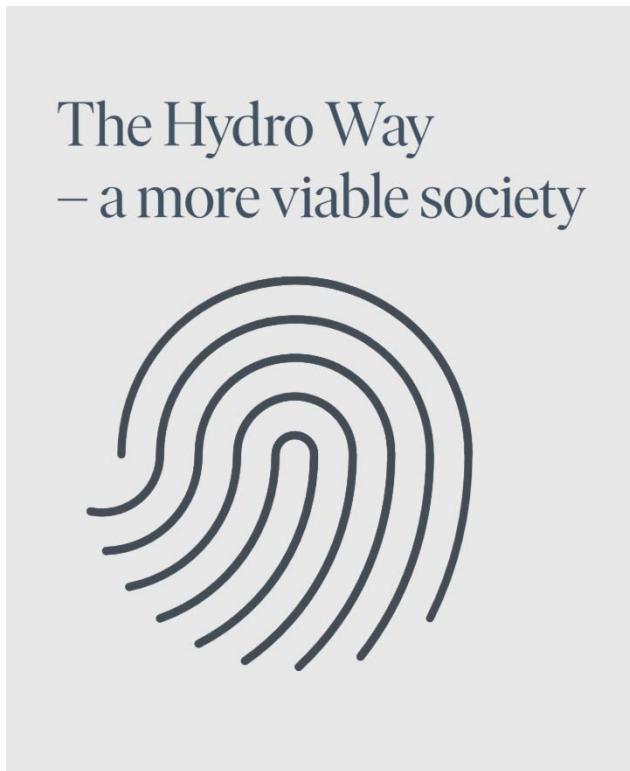


1) Net Added Value: calculated as operating revenues less cost of material, including freight costs out

2) NOK indexed, translated to NOK based on Q4 2018 12 m rolling currency rates

3) In percentage of total sales

# Sustainability and innovation – key competitive advantages



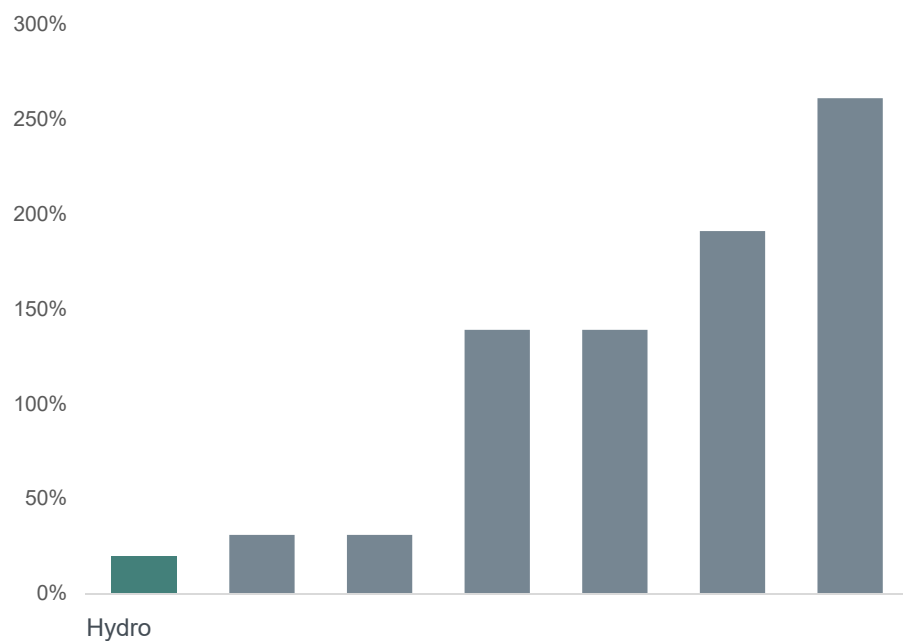
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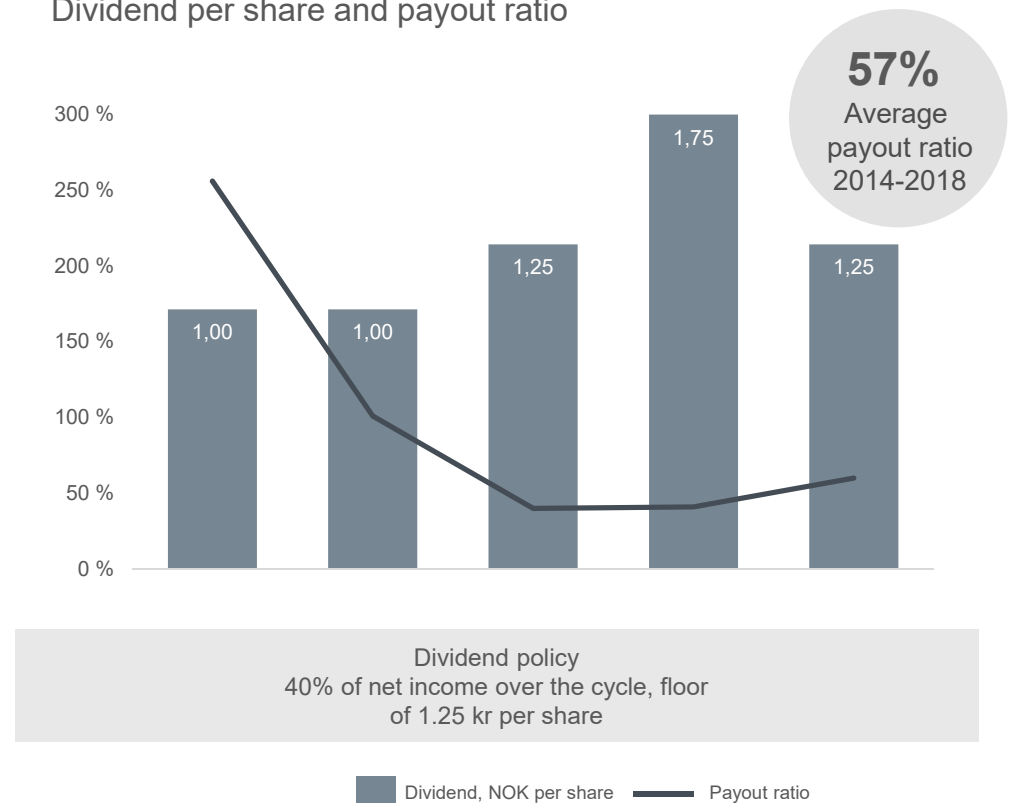
# Robus balance sheet, competitive pay-out ratio



Debt/equity compared to peers\*



Dividend per share and payout ratio



Source: Debt/equity - Nasdaq

\*Peers include Alcoa, Arconic, Rusal, Chalco, Century, Hindalco

Total debt/Total Equity end-2017 = (Long Term Debt + Short Term Debt & Current Portion of Long Term Debt) /Equity attributable to shareholders



# Market outlook

# Geopolitical events impacting our industry

Aluminium demand remains solid

Geopolitical events impacting trade flows, EU struggling with continued Brexit uncertainty



China moderating primary supply growth, global climate concerns continue to rise



Underlying demand remains solid

**1-3%** Global primary demand in 2019

**0-2%** World ex. China primary demand in 2019

**2-4%** China primary demand in 2019



\* Intercontinental panel on climate change

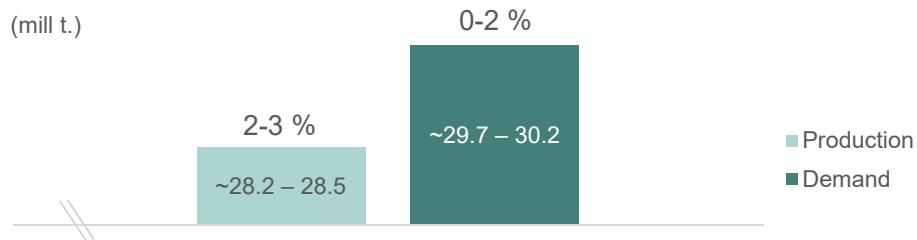


# Global market expected in deficit for 2019

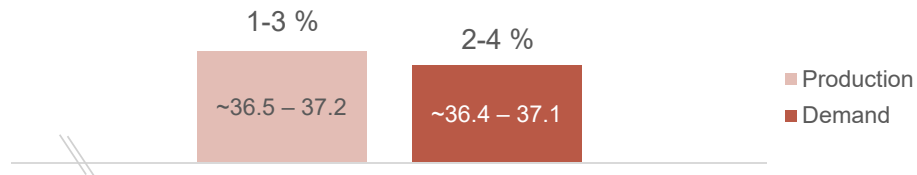


China largely balanced, world outside China in deficit

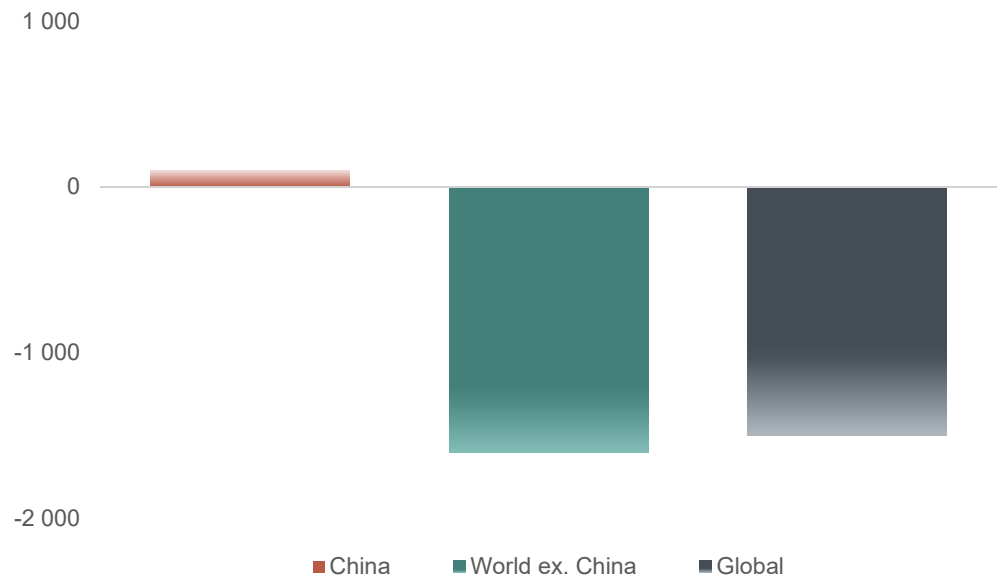
World ex. China 2019  
(mill t.)



China 2019  
(mill t.)



Estimated primary market balance 2019  
(‘000t)



Source: CRU, Hydro analysis  
%: Growth from 2018 to 2019

# Declining aluminium and alumina prices

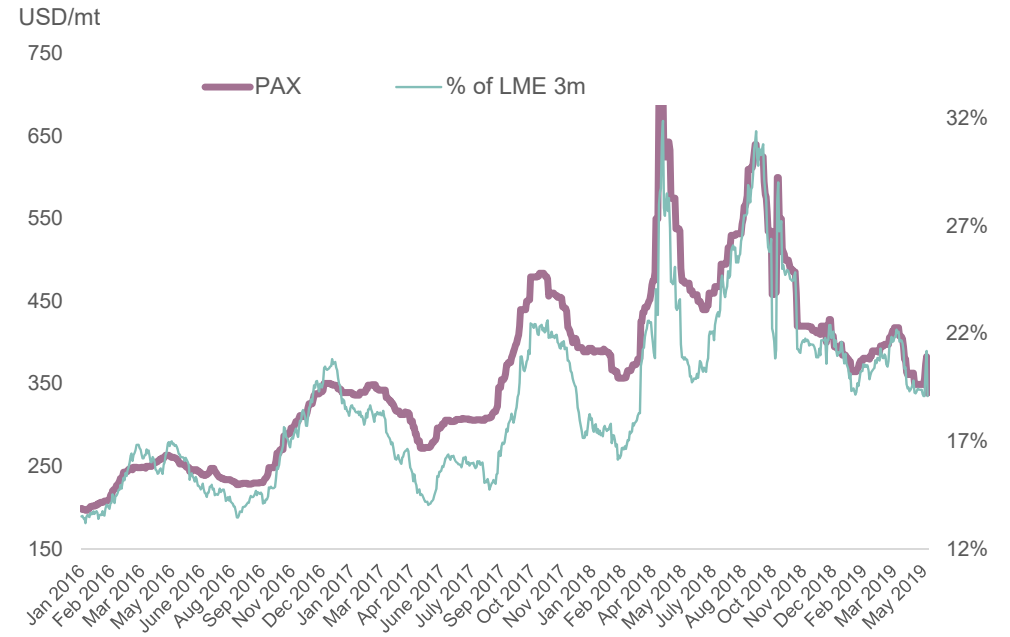


## LME and SHFE aluminium prices



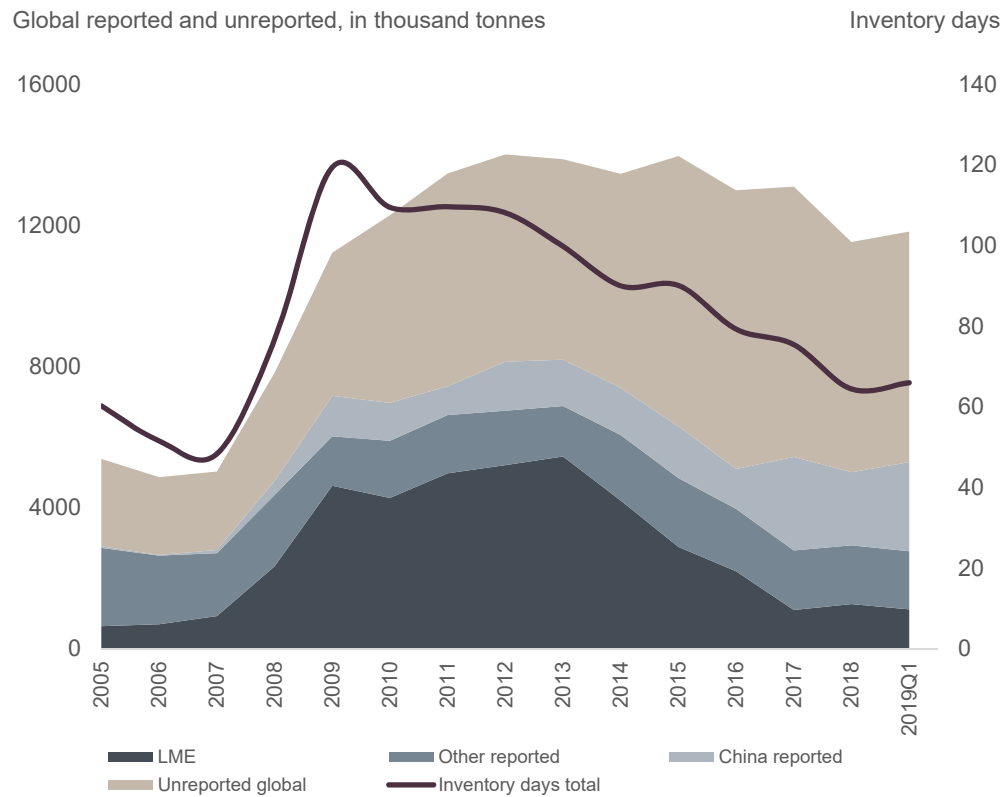
Source: Metal Bulletin, Platts, Reuters Ecowin, Hydro analysis  
 \* Shanghai Futures Exchange

## Platts alumina index (PAX)

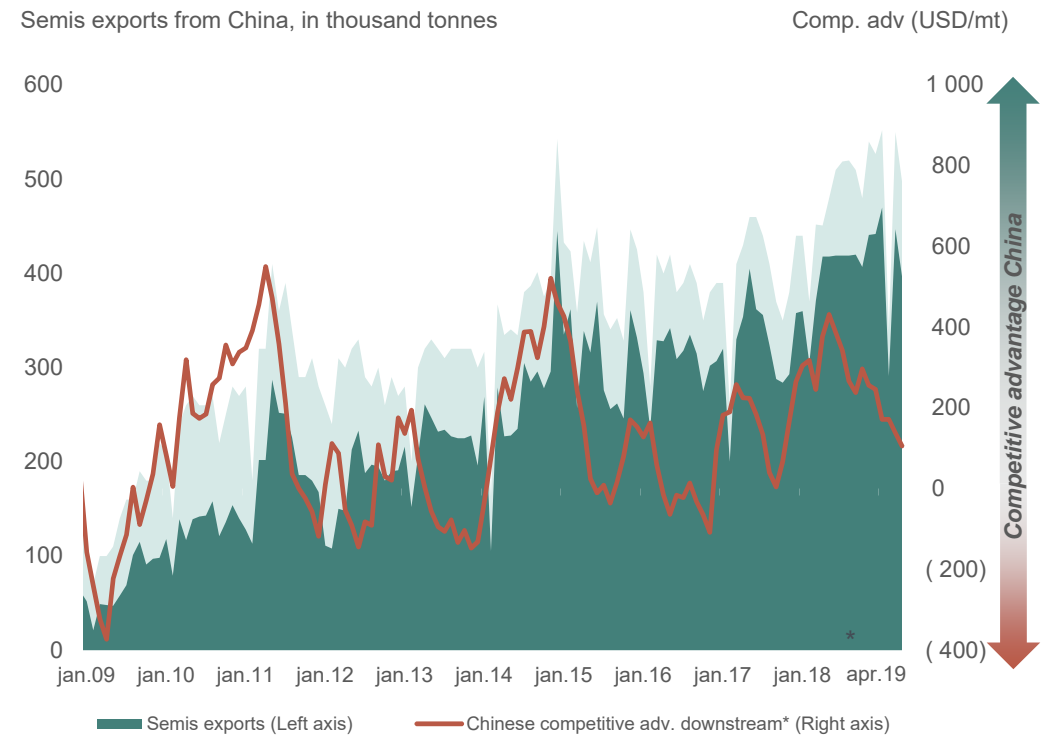


Source: Platts, Bloomberg, CRU, Metal Bulletin

# Inventories gradually trending downwards, increasing Chinese semis exports



\*2019 Q1 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's reach is growing over the next decade in response to key long-term trends

Substitution continues to be a key driver for aluminium

**Transport**  
3-4%



Light-weighting  
Substitution

**Packaging**  
2-3%



Urbanization  
Sustainability  
Substitution

**Building & construction**  
2-3%

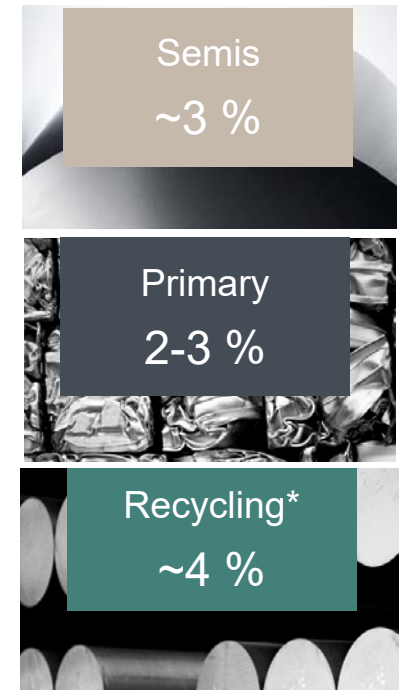


Urbanization  
China moderating  
Energy-efficient buildings

**Electrical**  
2-3%



Substitution  
Urbanization  
Electrification



Global semis demand for segment, CAGR 2018-2028  
Source: CRU, Hydro Analysis  
\* Post-consumer and fabrication scrap



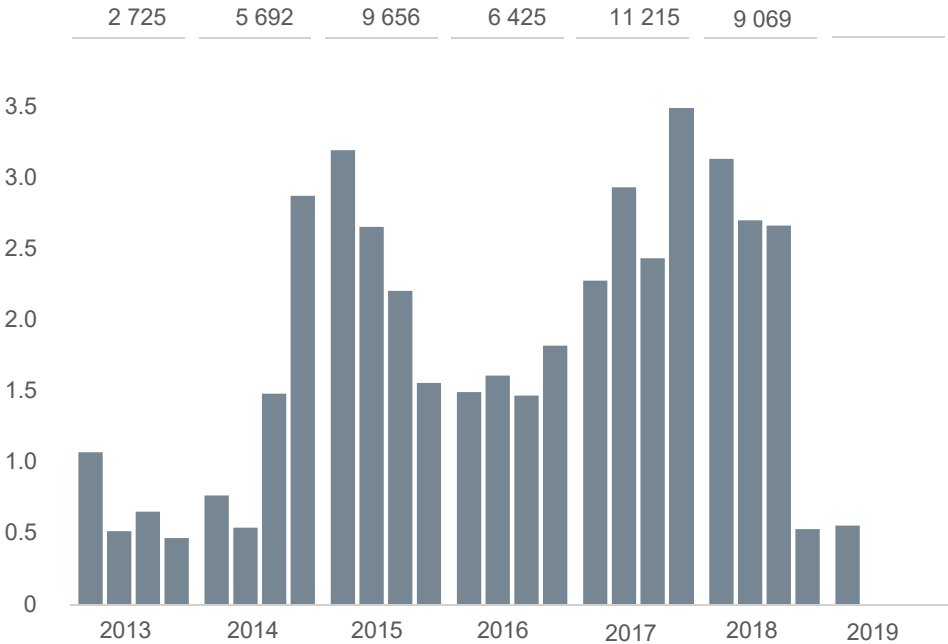


# Q1 highlights

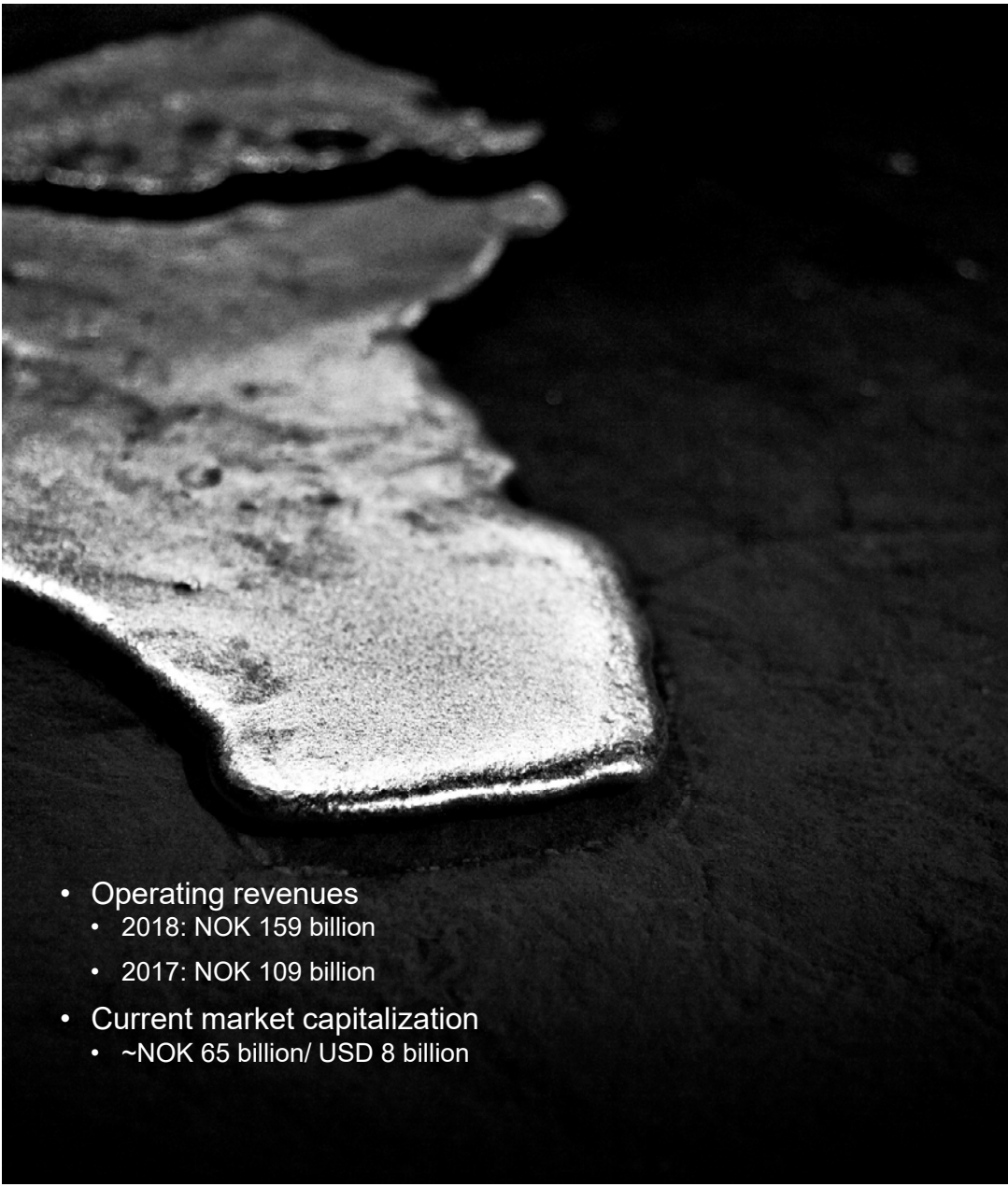


# Hydro: a resource rich global aluminium company

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 65 billion/ USD 8 billion



## First quarter highlights

- Underlying EBIT of NOK 559 million
- Production embargos at Alunorte lifted by Federal Court – Alunorte, Paragominas and Albras resuming production
- Financial impact of cyber attack NOK 300-350 million in Q1 – main impact in Extruded Solutions
- Strong performance in Extruded Solutions, in particular in North American operations
- Primary Metal results down on price and raw material cost
- Strong Energy results on high prices
- 2019 global primary market expected in deficit, continued macro uncertainty

All result explanations versus same quarter previous year



# Operations in Pará moving towards normal production

## Status

- Federal court in Belem, Brazil, lifted production embargoes May 15 and 20 – allowing full value chain in Pará to move towards normal production
- Federal court decision to keep embargos on the new bauxite residue disposal area (DRS2)

## Operations and ramp-up process

### *Alunorte*

- Estimated to reach 75-85% capacity utilization within two months
- The timing of return to nameplate capacity is dependent on further process optimization of press filters, as well as commissioning of 9th press filter starting during Q3 2019
- Further testing of press filters at higher capacity utilization necessary for evaluating overall capacity
- Lifetime of DRS1 estimated to ~1 year, further geotechnical studies is being conducted with the aim of verifying an extended lifetime
- DRS2 with leading press filter technology only long-term sustainable solution for Alunorte

### *Paragominas*

- Will be ramped up in line with the ramp-up speed at Alunorte

### *Albras*

- Estimated to reach full production within 3-4 months

## Going forward

- Safe ramp-up of Alunorte, Albras and Paragominas key priority
- Fully committed to deliver on obligations under technical and social agreement (TAC and TC)
- Continued dialogue with state environmental agency SEMAS and Ministerio Público on creating common platform – timing for embargoes on DRS2 being lifted remains uncertain



# Status update cyber attack

## Operational and financial impact

- Overall financial impact for Q1 NOK 300-350 million
  - Of which Extruded Solutions NOK 250-300 million
- Production running close to normal in Extruded Solutions, with value creation approaching 100%
- Production running as normal in other business areas, with only few manual operations
- Estimated financial impact for Q2 NOK 200-250 million
  - Of which Extruded Solutions NOK 100-150 million
- Hydro has a robust cyber insurance policy in place with recognized insurers

## Way forward

- Recovery towards normal IT operations progressing according to plan
- Increasing robustness through further strengthening IT infrastructure and cyber security







## 2019 priorities

- Safe and efficient operations
- Ramp up Alunorte, Paragominas and Albras, resume DRS2 operations
- Rolled Products restructuring and strategic review
- New improvement drive
- Focus on cash





# Hydro

*We are aluminium*

