

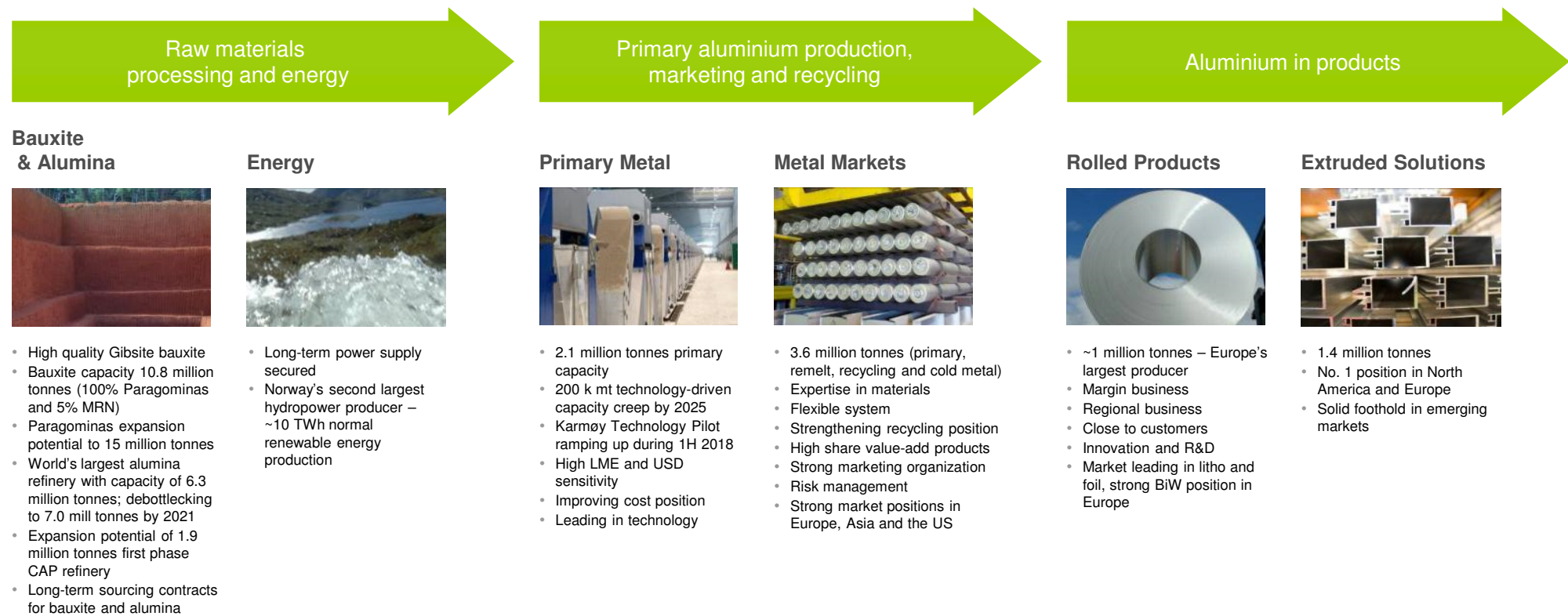


# Norsk Hydro

Exane BNP conference, March 20, 2018

# Fully-integrated value chain

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



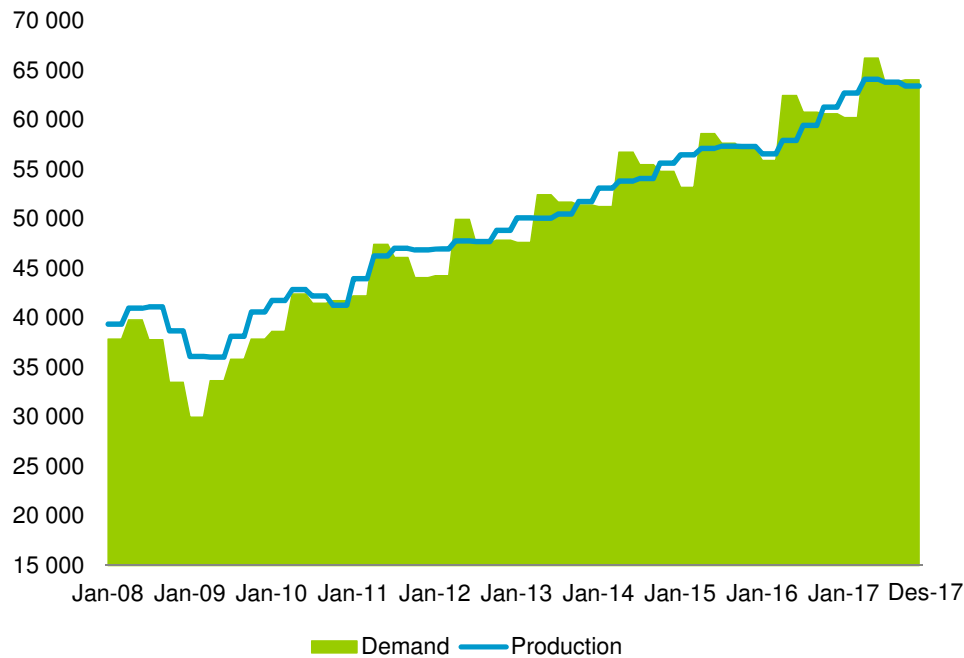
100% of volumes for assets that are fully consolidated and pro rata volumes for other assets.

# Global market balanced in 2017

Continued deficit in world outside China, offset by similar surplus in China

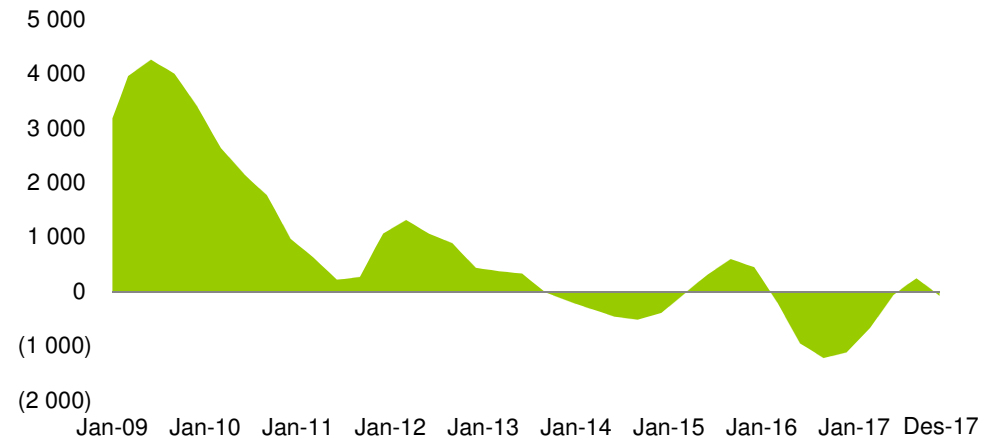
Demand and production (quarterly annualized)

1 000 mt primary aluminium



Production less demand<sup>\*)</sup>

1 000 mt primary aluminium



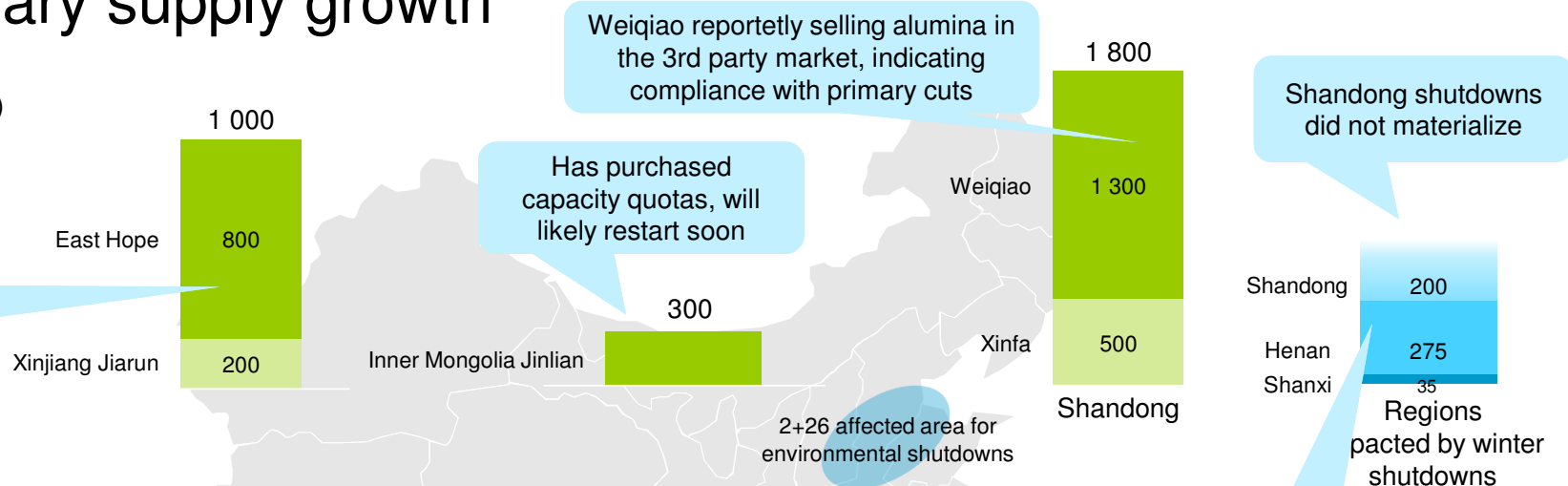
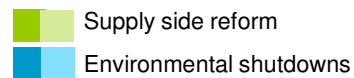
- ~5.8% demand growth vs ~7.7% supply growth in 2017
- ~5.6% demand growth Q4-17 vs Q4-16
  - ~6.9% China
  - ~4.1% World ex. China
- 2018 demand growth expected at 4-5%

Source: CRU/Hydro

\* Yearly rolling average of quarterly annualized production less demand

# Supply-side reform and environmental shutdowns moderating Chinese primary supply growth

Annual production effect ('000t)



The East Hope smelter has the best cost position in China, but so far no news of potential restarts

Weiqliao reportedly selling alumina in the 3rd party market, indicating compliance with primary cuts

Has purchased capacity quotas, will likely restart soon

Shandong shutdowns did not materialize

## Supply-side reform

- Due to lack of approvals several operational smelters have been forced to shut down production
- Private companies such as Weiqliao, East Hope and Xinfa have been most affected to date
- Planned and potential projects have also been affected by the policy, subduing production growth going forward

## Environmental shutdowns

- Several industries, including steel, cement, coal and aluminium have been ordered to halt production during the winter heating from November 15th and January 15th
- The winter season shutdowns are also impacting carbon anode and alumina production
- The primary shutdowns in Shandong are related to Xinfa, as Xinfa is not estimated to further cut its aluminium production during the winter season. The impact largely overlap with supply-side reform

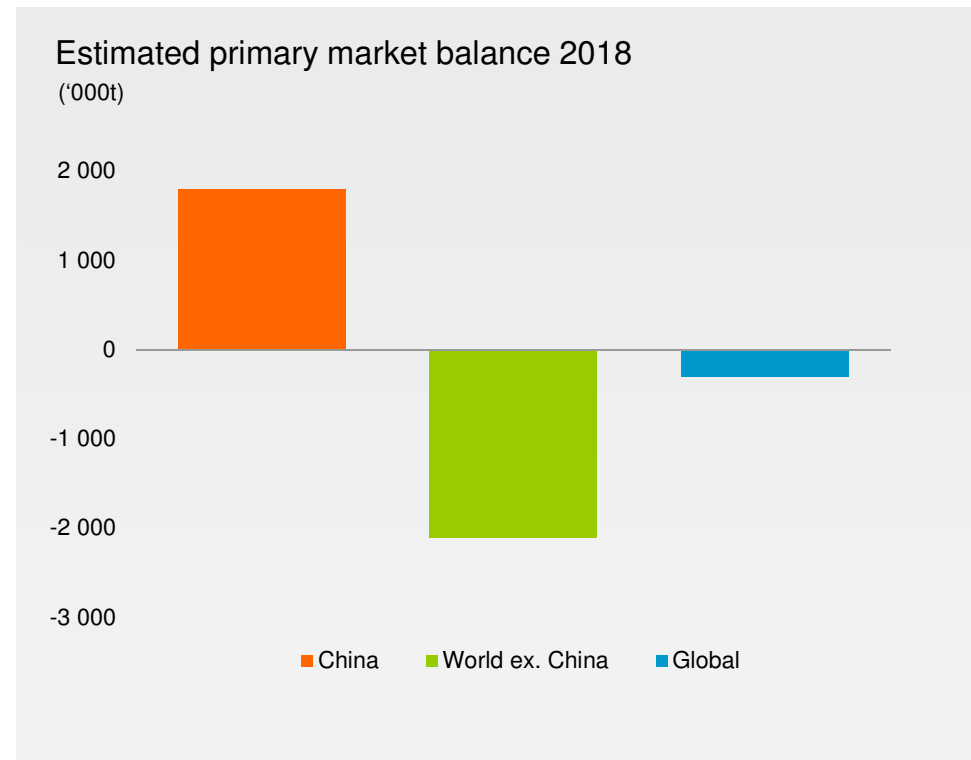
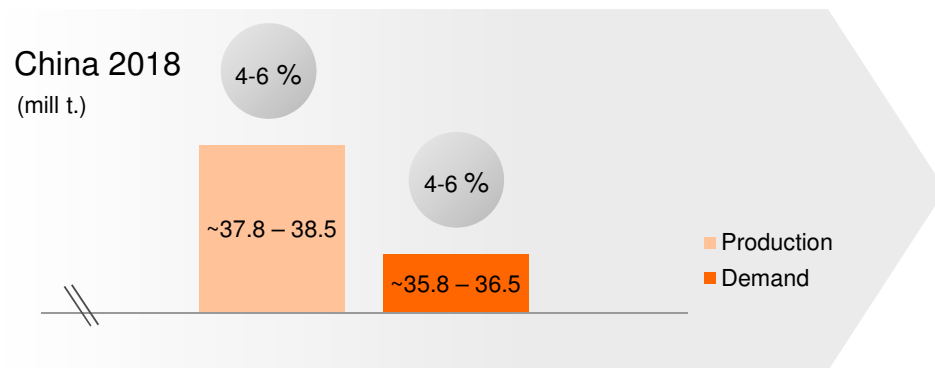
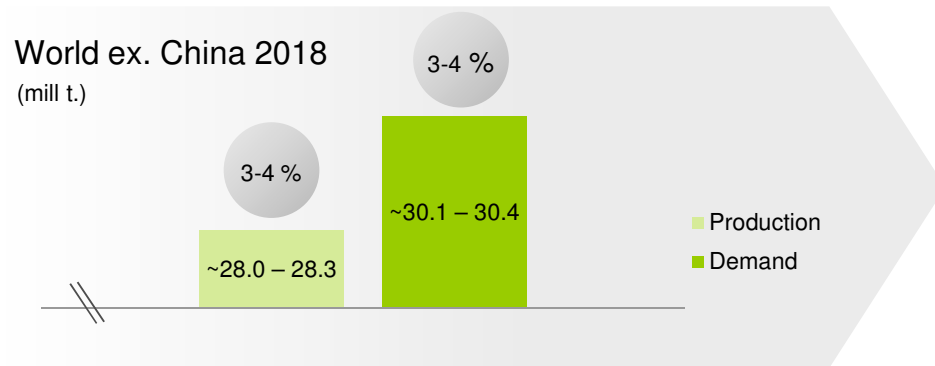
«Air quality has vastly improved in Beijing during the winter»  
Hydro Beijing office

Henan: shutdowns took place, expected to restart. Smelters below 100 ktpy not expected to restart after **next** winter season

Source: CRU, Hydro Analysis

# Primary aluminium market expected to be largely balanced in 2018

2018 global demand growth expected at 4-5%

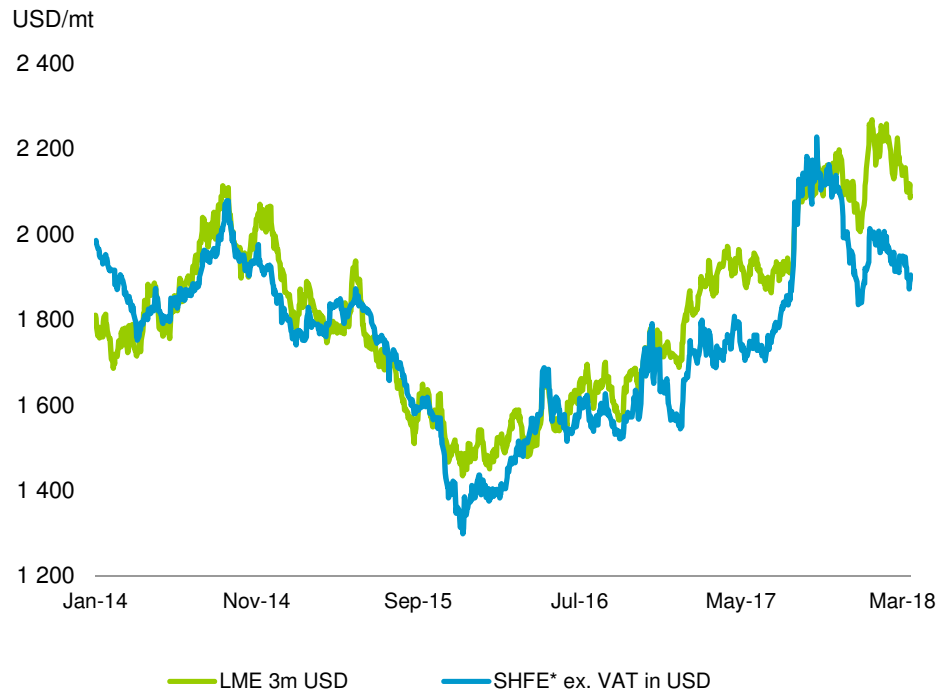


Source: CRU, Hydro analysis

% Growth from 2017 to 2018

# Aluminium and alumina prices

## LME and SHFE aluminium prices



## Platts alumina index (PAX)

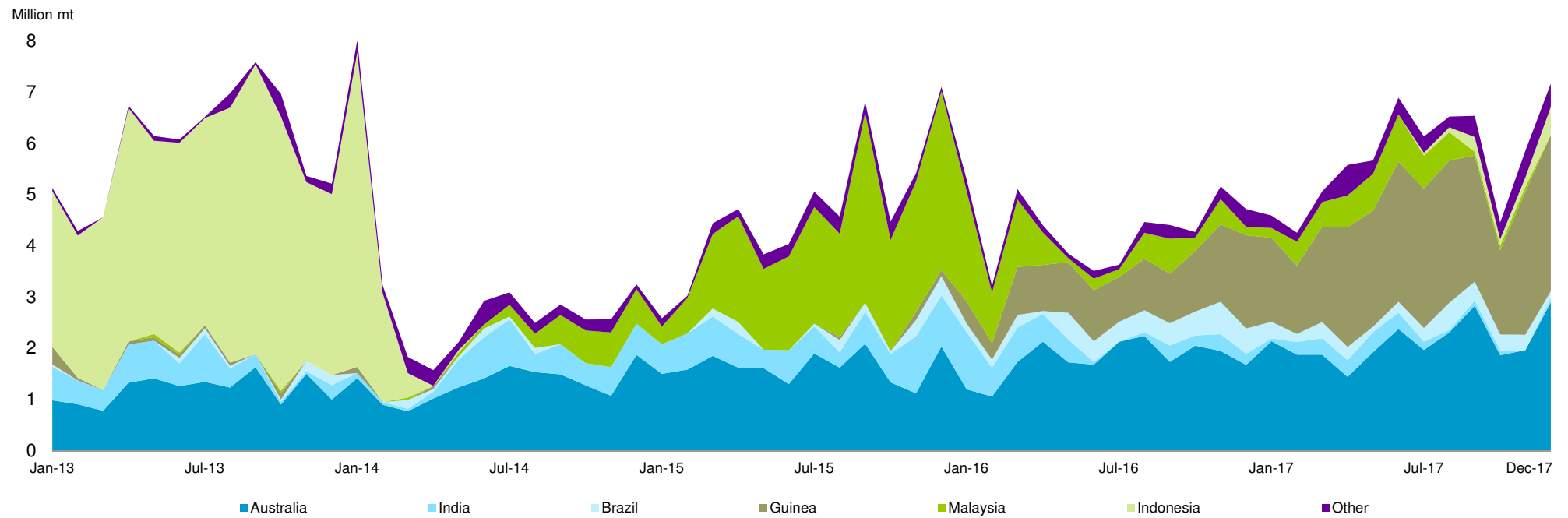


• Source: Metal Bulletin, Platts, Reuters Ecowin, Hydro analysis Shanghai Futures Exchange

Source: Platts, Ecowin, China Customs

# Increasing Atlantic bauxite exports to China, primarily from Guinea

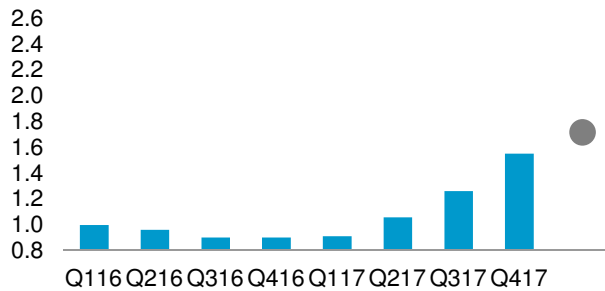
Monthly Chinese bauxite imports



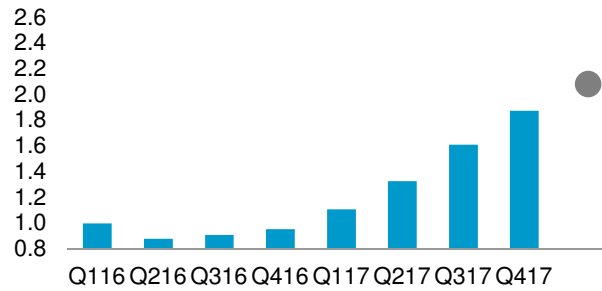
# Continued cost increases in the aluminium industry

Increasing market prices for all input factors, expected to continue into 2018

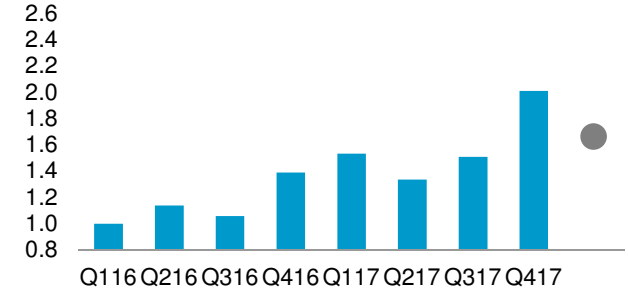
Petroleum coke FOB USG (indexed)



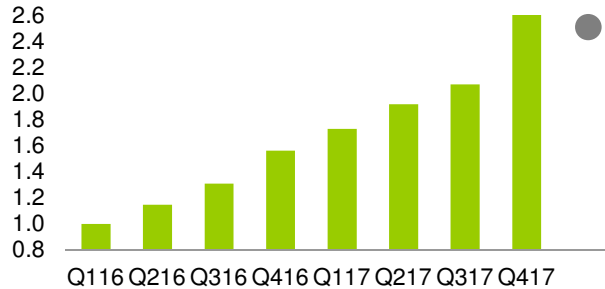
Pitch FOB USG (indexed)



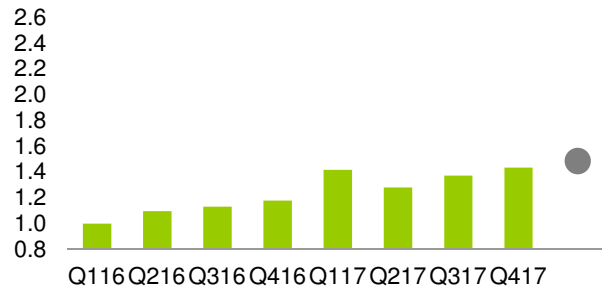
Alumina PAX index (indexed)



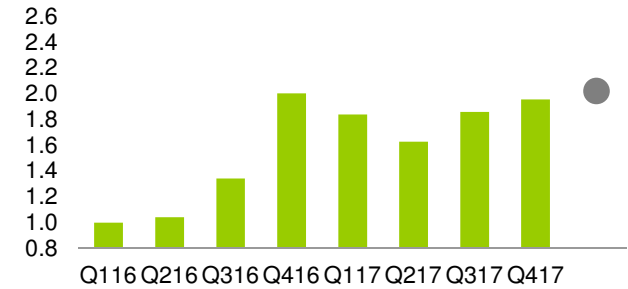
Caustic soda (indexed)



Fuel oil A1 (Indexed)



Steam coal (indexed)



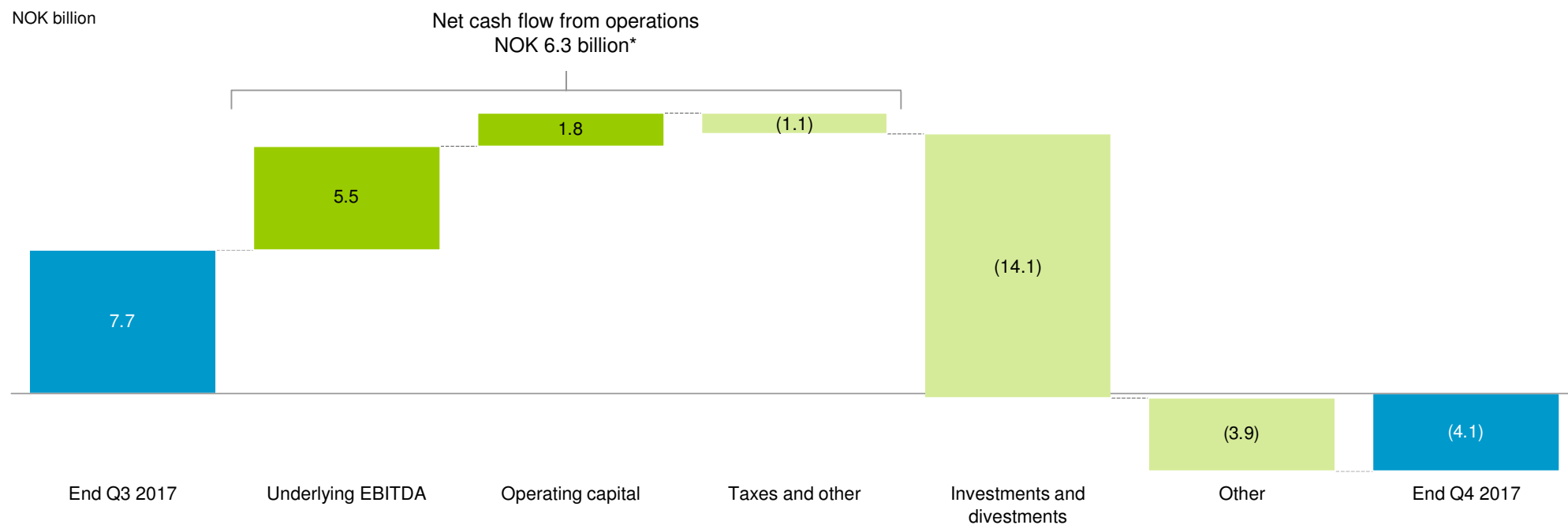
Source: Reuters Ecwin, PACE, UHS Markit, Platts, ANP, CRU

● Indication of current market prices February 2018





# Net cash development Q4 2017



\* Net cash provided by operating activities, less change in restricted deposits of ~0.1 BNOK

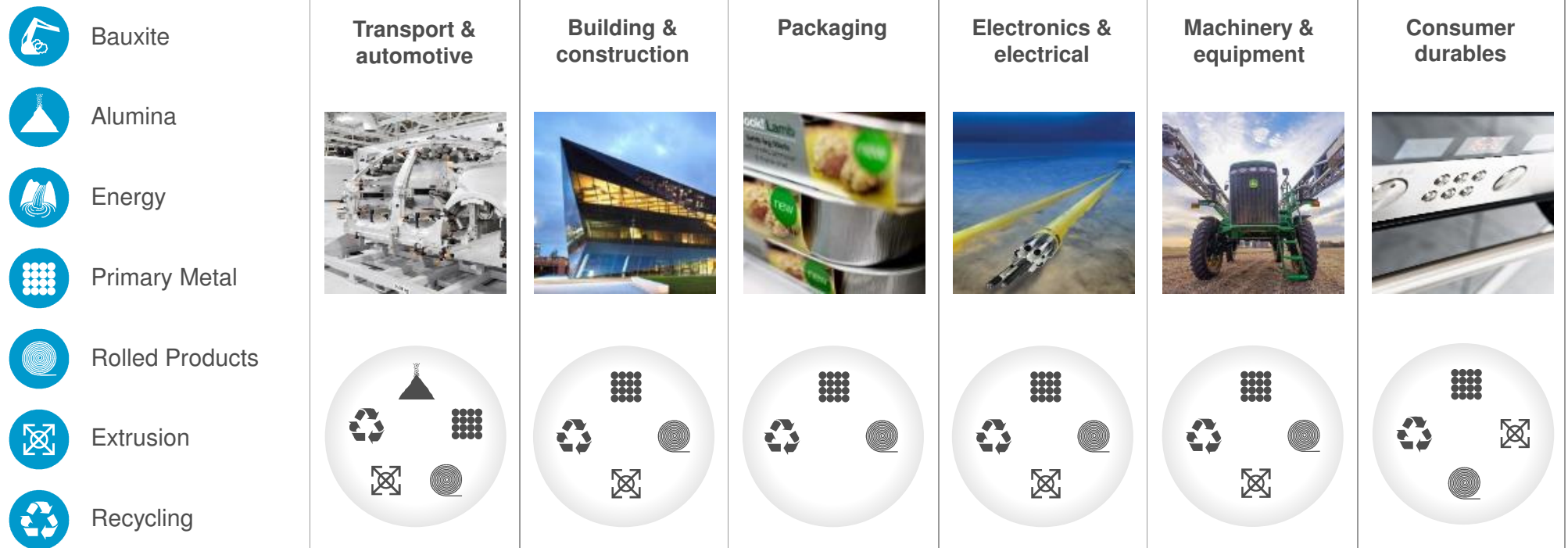
# Barcarena site layout





















# Fully integrated across the aluminium value chain and markets

Broad products and solutions offering from bauxite to end-user products



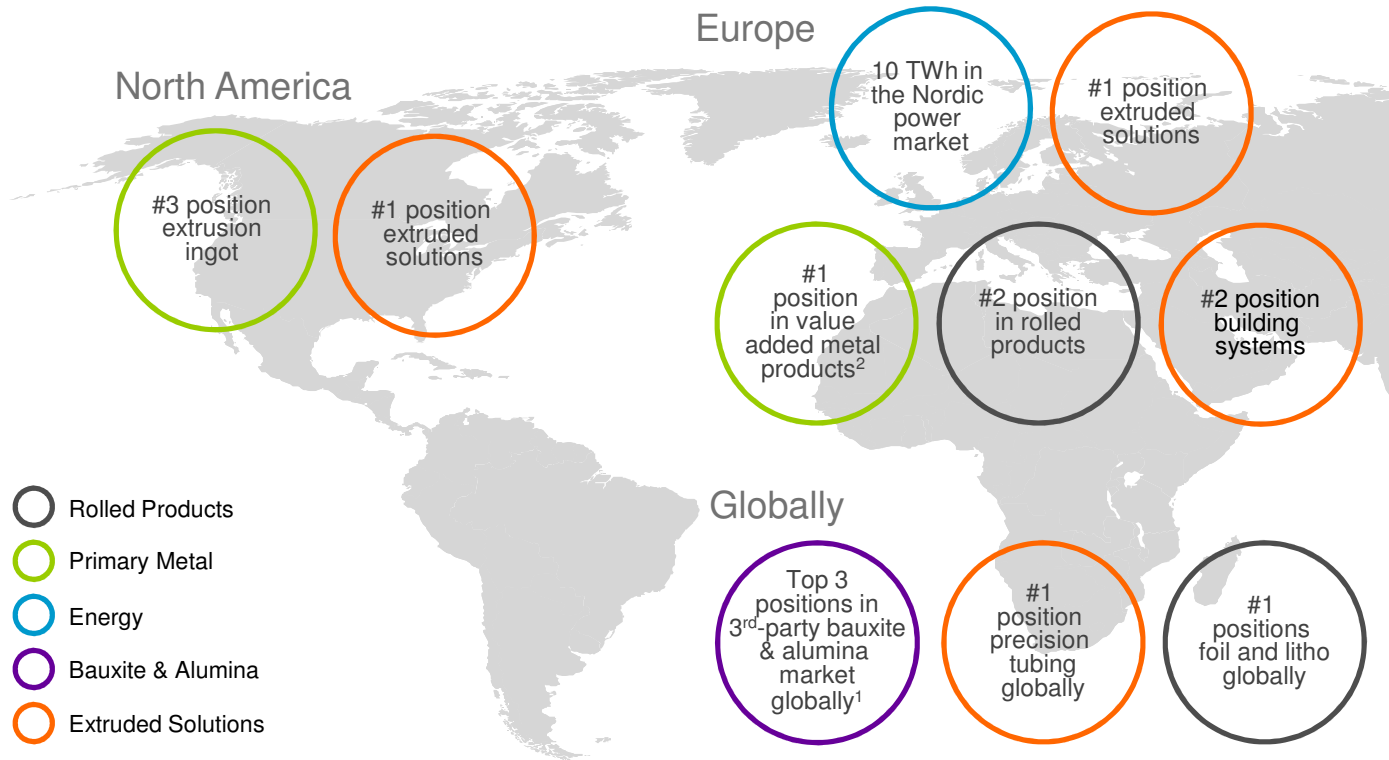
# Hydro – differentiating through the integrated model

		RioTinto						CenturyALUMINUM	Novelis			
 Bauxite	●	●	●	●	●						●	●
 Alumina	●	●	●	●	●						●	●
 Energy	●	●	●		●						●	●
 Primary Metal	●	●	●	●	●			●			●	●
 Rolled Products	●		●		●	●	●		●	●	●	●
 Extrusion	●					●	●			●		●
 Recycling	●					●	●		●	●		●

Source: graphical illustration based on company websites/reports, CRU

# Strong global presence throughout the aluminium value chain

Built on market understanding, customer closeness and competence



## The complete aluminium company

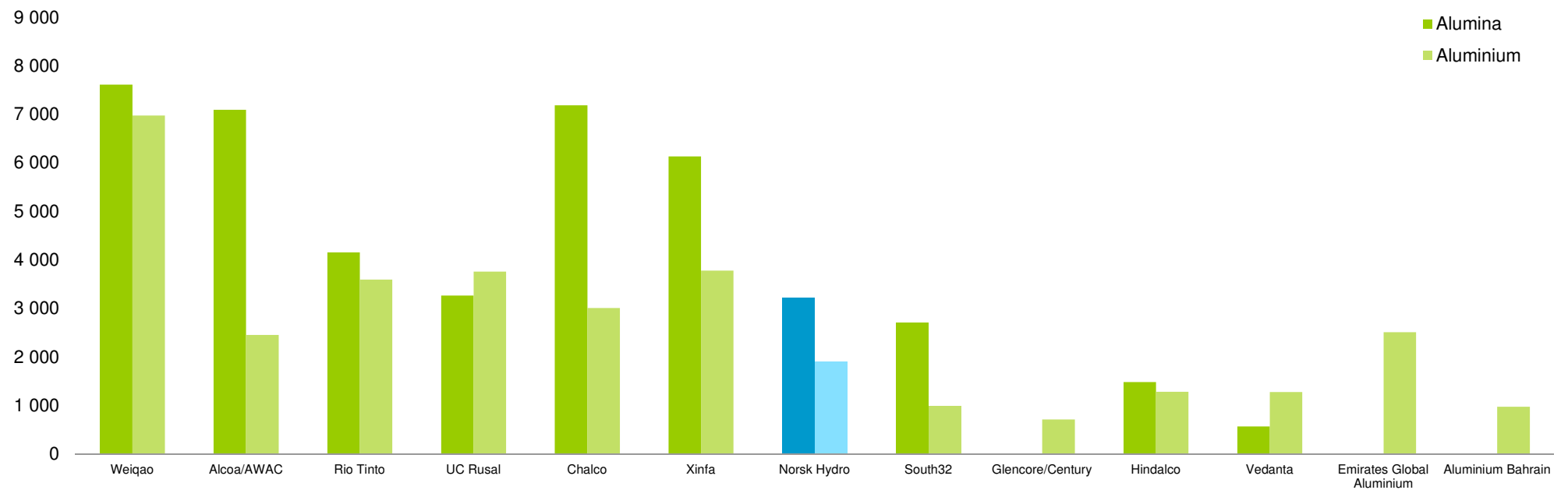
- High-quality bauxite and alumina production in Brazil
- Primary production in Norway, Germany, Qatar, Slovakia, Brazil, Canada, Australia
- 10 TWh captive hydropower production
- European #2 in rolled products
- World leader in aluminium extruded profiles
- Remelting in the US, European recycling network
- Unparalleled technology and R&D organization



1) Outside China  
 2) Extrusion ingot, sheet ingot, primary foundry alloys and wire rod  
 3) Primary Foundry Alloys

# Hydro - a first tier aluminium company

Equity production in 2017 in aluminium equivalents, thousand mt








Source: CRU

# Strong growth drivers across segments providing solid demand outlook

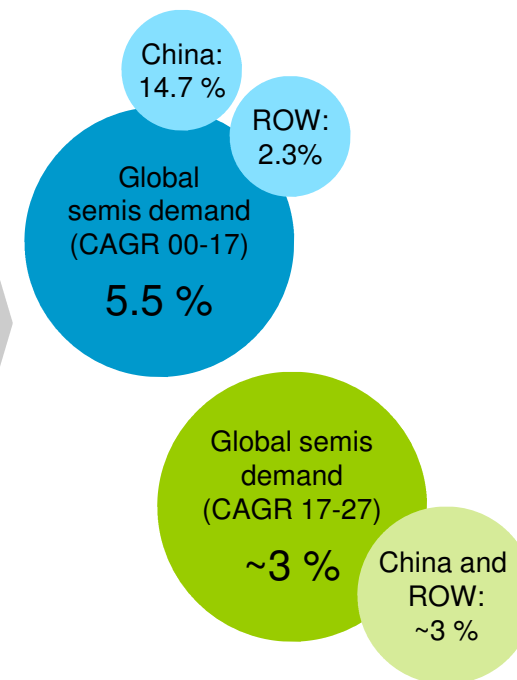
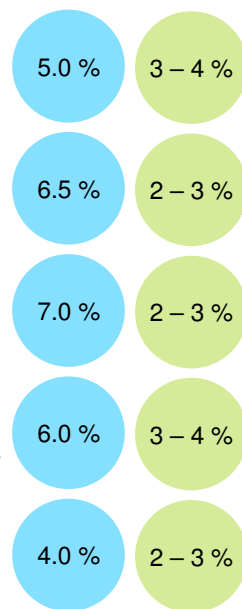
Still encouraging demand outlook from strong base – converging demand China and outside China

## Strong demand drivers in key aluminium segments

	<b>Transport</b>	Growth in automotive vehicle production Aluminium content in cars increasing Growth in other transport modes, e.g. railway
	<b>Construction</b>	Urbanization Housing market recovery in mature regions Energy neutral buildings
	<b>Electrical</b>	Urbanization Copper substitution
	<b>Machinery &amp; equipment</b>	Improving industrial sentiment in mature regions Manufacturing activity and industrial growth in emerging countries
	<b>Packaging &amp; foil</b>	Urbanization Environmentally-friendly solutions

## Global semis demand per segment, CAGR

2000-17 2017-27



Source: CRU, Hydro Analysis



# On track for increased 2019 target of BNOK 3.0, despite 2017 setback

Realized 2017 improvements of MNOK 350 vs MNOK 500 target

*Better*

BNOK  
3.0<sup>1)</sup>  
2016-19

BNOK  
0.5<sup>1)</sup>  
2018

## Bauxite & Alumina

Target BNOK 1.3 in 2019

- Delivered MNOK 1 100 in 2016/17, of which MNOK 200 in 2017
- Original 2019-target of BNOK 1.0 delivered already in 2017
- High production at Alunorte and Paragominas
- Commercial and procurement contributing positively

## Primary Metal

Target BNOK 1.0 in 2019

- Delivered MNOK 550 in 2016/17, of which MNOK 200 in 2017
- Improved overall performance, behind 2017 target due to slower than expected progress at Albras
- On track for 2019 target

## Rolled Products

Target BNOK 0.7 in 2019

- Delivered MNOK 125 in 2016/17, of which MNOK -50 in 2017
- Behind 2017 target due to operational and ramp-up issues reducing improvement speed
- Expect to reach original BNOK 0.9 target, but with 1-year delay

1) Real 2015 terms. Includes some larger investments of NOK 3-3.5 billion NOK in 2015-2019: AL3 and UBC in Rolled Products. Creep projects in Primary Metal. Alunorte debottlenecking in B&A.



- Karmøy pilot now producing the world's most climate and energy-efficient aluminium
- Ramp-up during first half 2018
- Positive spin-off effects for the existing smelter portfolio
- Net Hydro capex 2015-2018 BNOK 2.7
  - Total capex BNOK 4.3
  - Enova support BNOK 1.6

# Hydro acquires ISAL, Aluchemie and Alufluor

Strengthening Hydro's position as Europe's #1 aluminium company and the integrated value chain

## Transaction details

- Binding offer to Rio Tinto to acquire
  - 100 % in Icelandic aluminium plant ISAL
  - Remaining 53 % in Dutch anode facility Aluchemie
  - 50 % in Swedish aluminium fluoride plant Alufluor AB
- Agreed enterprise value of USD 345 million, subject to post-closing adjustments
- Significant improvement potential, including technology, freight and anode investment synergies
- Expected closing in Q2 2018\*

## Strategic rationale

- Increases Hydro's total primary aluminium capacity to 2.4 million tonnes per year\*\*
- Further improving Hydro's position as the low-carbon aluminium producer by lifting the share of renewables-based aluminium production to more than 70 %
- Strengthens Hydro's position as Europe's leading supplier of extrusion ingot
- Reinforces Hydro's strategic direction as a fully-integrated aluminium company



ISAL



Alufluor



Aluchemie

\* Pending statutory consultation with Rio Tinto employees and stakeholders, in accordance with French and Dutch law

\*\* Consolidated capacity

# Husnes to resume full production

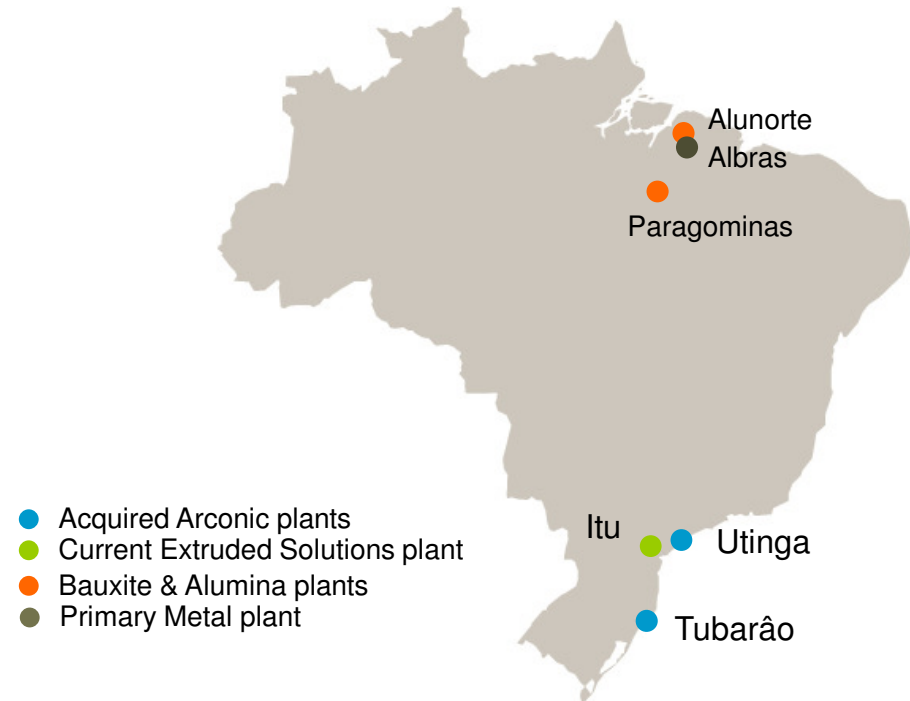


- Investment decision to upgrade and start up the second line at Husnes, lifting production from current 95 000 mt/yr to 190 000 mt/yr
- New technology elements to be introduced, leading to increased efficiency and profitability
- Expected to begin production first half 2020
- Estimated investment of NOK 1.3 billion\*

\* In 2017 terms

# Hydro acquires Arconic's two extrusion plants in Brazil

- Acquisition strengthens downstream position in Brazil
- Transaction in line with strategy of selected growth within Extruded Solutions
- Synergy potential with existing Extruded Solutions plant in Brazil
- Agreed cash payment of USD 10 million
- Tubarão and Utinga facts:
  - 1 casthouse
  - 7 presses and value-added capabilities
  - ~ 600 employees



# Proposing increased 2017 dividend of NOK 1.75<sup>1</sup> per share

Payout ratio of ~41% for the year



- Aiming for competitive shareholder returns compared to alternative investments in peers
- Reflects strong operational performance in 2017 and solid financial position, taking into account the volatility in the aluminium industry
  - Dividend of 1.25 NOK/share remains the floor, as communicated since Q4-16
- Average five-year payout ratio<sup>2</sup> of ~70%
  - Dividend policy 40% payout ratio of reported net income over the cycle
- Represents payout of ~NOK 3.6 billion

1) Pending approval from the AGM on May 7, 2018

2) Dividend paid divided by net income from continuing operations attributable to equity holders, including proposed 2017 dividend