



## Norsk Hydro

Stian Hasle, Head of Investor Relations 2016 Credit Suisse Global Steel & Mining Conference

### Cautionary note in relation to certain forward-looking statements

Certain statements included within this announcement contain forward-looking information, including, without limitation, those relating to (a) forecasts, projections and estimates, (b) statements of management's plans, objectives and strategies for Hydro, such as planned expansions, investments 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, as well as (i) statements preceded by "expected", "scheduled", "targeted", "planned", "proposed", "intended" or similar statements.

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 aluminium business; 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.

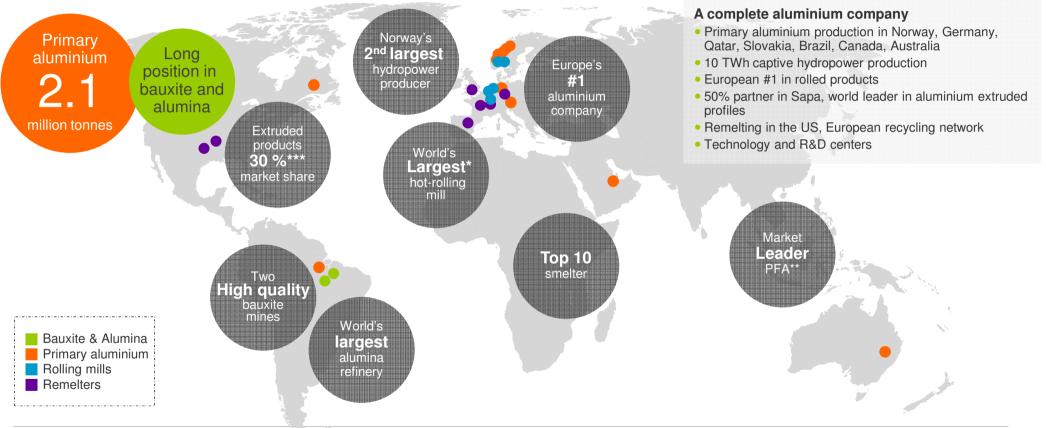






### A resource-rich, global aluminium company

Robust positions along the entire value chain



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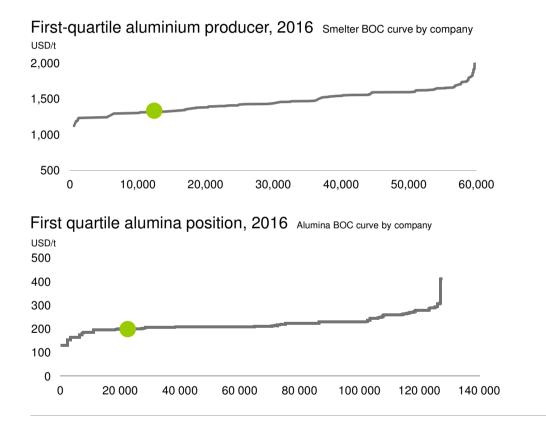
\* Outside China

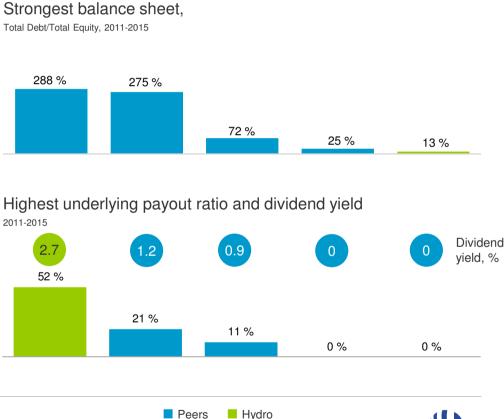
\*\* Primary Foundry Alloys

\*\*\* Sapa JV

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### Leading performance compared to aluminium peers





Source: ThomsonOne, CRU, company filings

Total debt/Total Equity= (Long Term Debt + Short Term Debt & Current Portion of Long Term Debt) /Equity attributable to shareholders Dividend yield = Dividend Per Share / Market Price at Year End

Underlying dividend payout ratio = Dividend Per Share / Underlying Consolidated Earnings Per share



### Building competitiveness through HSE, CSR and compliance



Safety performance (TRI) at industry benchmark

3.5/2.2\*



Carbon-neutral from a life-cycle perspective

On track



High focus on compliant behavior and practices

- HSE, CSR and compliance always first on the Hydro priority list and part of the company's license to operate
- Strong correlation between financial and non-financial performance
- Clear lines of responsibility throughout the organization and in all business areas on HSE and CSR
- · Leading practice on compliance culture



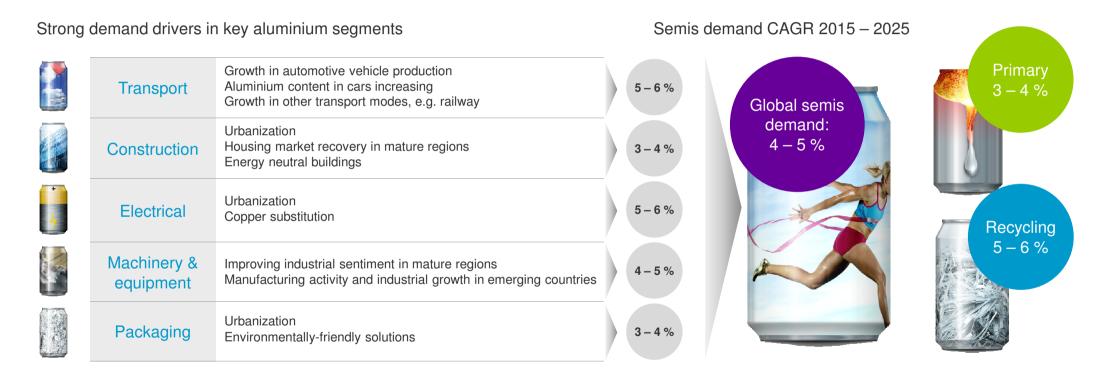






### Strong long-term growth drivers across all segments

Recycling taking a bigger share





Source: CRU, Hydro Analysis

### Environmental regulations accelerate substitution across segments

#### Steel substitution in automotive



Lighter vehicles in aluminium make a big impact on the climate challenge:

- US CAFE regulations
- EU CO2 emission reduction targets

Copper substituion in HVAC&R, cabling and transmission lines



Aluminium weight and price advantages vs copper on a volume conductivity equivalent basis Key enabler for energy-efficient buildings



Flexibility and formability of aluminium enable energy-efficient building solutions:

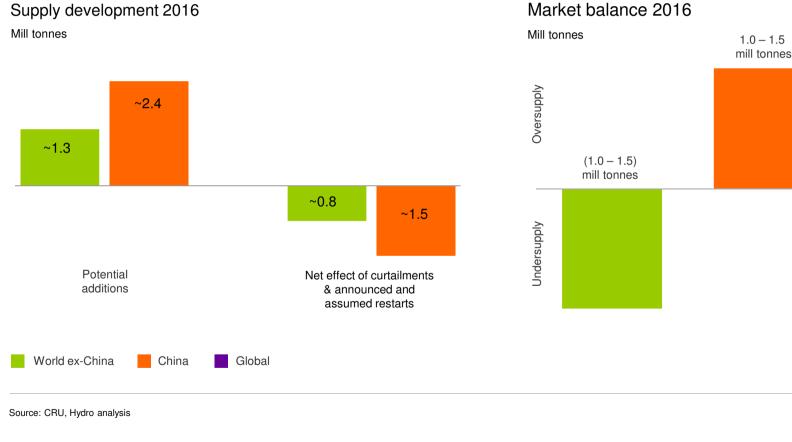
- US Building energy use laws
- EU 2012 Energy efficiency directive

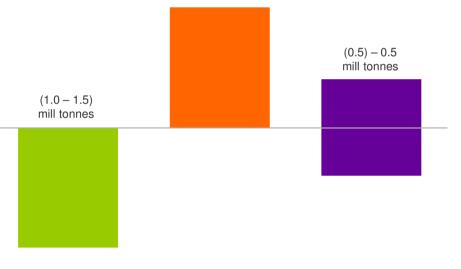
\* Heat, ventilation, air conditioning & refrigeration (HVAC&R) Source: Ducker Europe, CRU; Hydro analysis, Sapa analysis



### Primary aluminium market expected to be largely balanced in 2016

Limited effect of capacity restarts in China in first half, more expected in second half





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### Aluminium prices up Q2 vs Q1

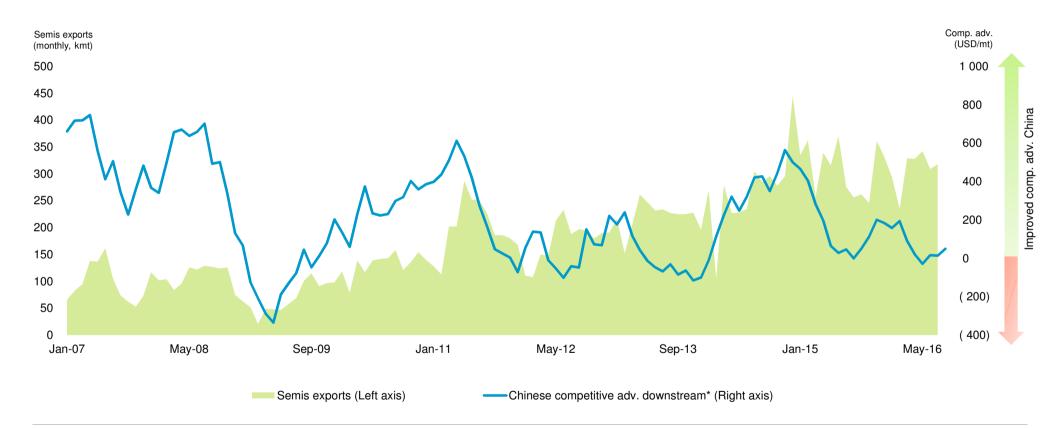


Source: Metal Bulletin, MW/MJP: Platts, Reuters Ecowin, Hydro analysis \* Shanghai Futures Exchange



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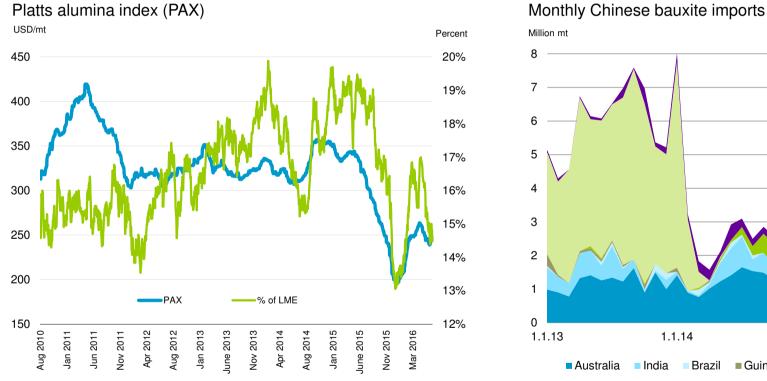
### Limited arbitrage, stable export levels given wider arbitrage in Q1

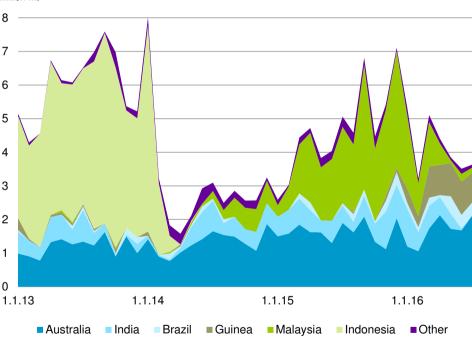


Est. metal cost China versus Europe Europe: LME cash + European duty-paid standard ingot premium China: SHFE cash + avg. local premium + freight – export rebates (~13 %)



### Alumina prices up in Q2, lower Chinese bauxite imports from Malaysia offset by Guinea





Source: Platts, Ecowin, China Customs



### Norsk Hydro

Strengthening relative industry position with ambitious targets





### Proven track-record of productivity gains continues



1) Includes USD 300 from 2009

2) Includes some larger investments of 3.2 billion NOK in 2015-2019: AL3 and UBC in Rolled Products, 100+100kt capacity creep in Primary Metal, Alunorte debottlenecking in B&A. 3) Real 2015 terms



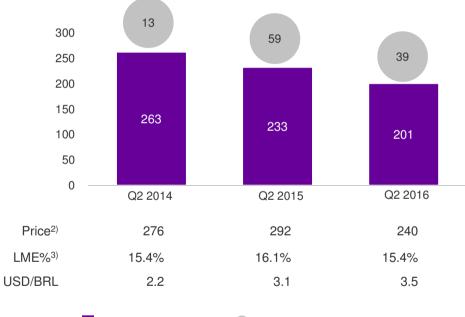
### Structurally improved cost position

Productivity gains supported by currency

#### 2400 325 550 2000 325 1 925 1 775 1600 1 500 1200 1 375<sup>2)</sup> 1 225<sup>2)</sup> 1 175<sup>2)</sup> 800 400 0 Q2 2014 Q2 2015 Q2 2016 All-in<sup>3)</sup> 2,244 2 3 2 3 1 819 LME<sup>4)</sup> 1.762 1 803 1 546 USD/NOK 6.1 7.8 8.3 All-in Implied EBITDA cost per mt LME Implied EBITDA cost per mt All-in EBITDA margin per mt

All-in implied primary cost and margin, USD/mt <sup>1)</sup>

Implied alumina cost and margin, USD/mt <sup>1)</sup>



Implied EBITDA cost per mt 💦 🔵 EBITDA margin per mt

- 1) Realized all-in aluminium price minus underlying EBITDA margin, including Qatalum, per mt aluminium sold
- 2) Realized LME aluminium price minus underlying EBITDA margin, including Qatalum, per mt primary aluminium produced
- 3) Realized LME plus realized premiums, including Qatalum
- 4) Realized LME, including Qatalum

- 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



### Extending the technology and innovation lead

Key to maintain and further improve Hydro's competitive position



#### Bauxite & Alumina

- Debottlenecking to go beyond nameplate capacity in Paragominas to 11 mill t/y and Alunorte up to 6,6 mill t/y
- Developing technology for utilization of residual bauxite
- Enhanced precipitation process control for improved quality and output

#### Primary Metal

- Testing aluminium production technology with world's lowest energy consumption of 11.5-11.8 KWh/kg
- Use technology development to create spin-off effects for existing capacity
- AFM technology to capture high-tech market auto segments in automotive
- Recycling strategy supported by worldleading sorting technology\*

#### **Rolled Products**

- Automotive line 3 to lift Body-in-White capacity to 200,000 t/yr\*\*
- State-of-the-art UBC recycling line
- Utilize leading technology competence to exceed customer expectations, e.g. step-change innovation in foil (HyFoil)
- De-bottlecking of Alunorf hot-rolling mill

#### Technology approach

- Hydro's technology strategy encompasses entire value chain from bauxite to recycling
- Gradual approach to ensure full stability at existing level ahead of step-change developments



\* Acquired WMR Recycling GmbH \*\* Refers to nominal capacity

### Taking productivity beyond lean operations with the Karmøy technology pilot

With spin-off effects for the entire portfolio

- Technology pilot with production of 75 000 mt
  - 48 cells HAL4e technology 12.3 kWh/kg
  - 12 cells HAL4e Ultra 11.5 11.8 kWh/kg
- · Spin-off technology elements for existing portfolio
  - 100 kt contribution to 2025 creep ambition
  - ~NOK 400 million annual EBITDA effect with CRU 2016 assumptions <sup>1)</sup>
- Verifying next-generation aluminium production technology
- · First metal expected in second half 2017
- Net capex NOK 2.7 billion
  - Total capex NOK 4.3 billion
  - NOK ~1.6 billion support from Enova



1) Using CRU 2016 assumptions, LME 1 500, Standard ingot EU DDP 130, Extrusion ingot EU 265, NOK/USD 8.53, estimated Hydro fixed costs USD 312



### Optimizing product portfolio by expanding in higher-margin segments

Pursuing attractive automotive growth opportunity

Increasing share of automotive in Rolled Products' portfolio 20 % Hydro in car models

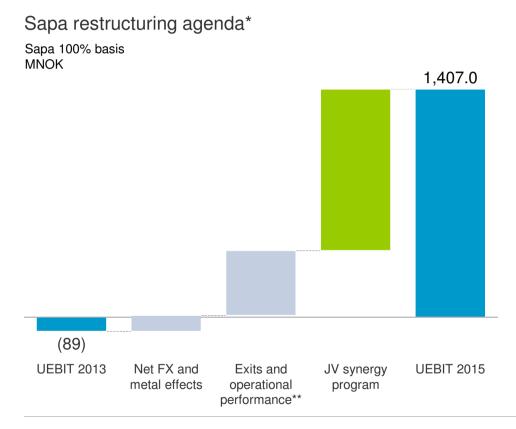




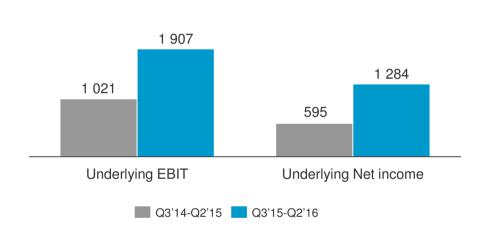
### Strong improvement trend in Sapa JV



1 BNOK in restructuring gains and synergies delivered one year ahead of plan



Sapa results (100 % basis), MNOK

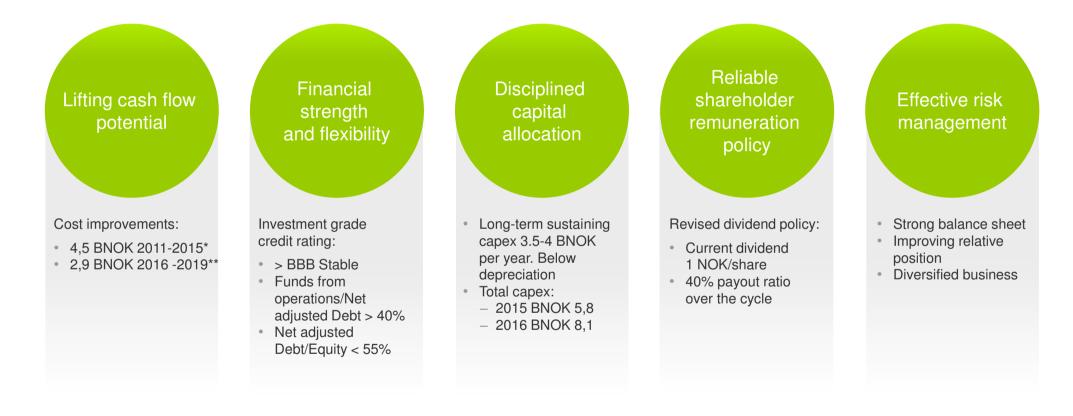


- Strong demand in North America, stable in Europe
- BNOK 1 in synergy gains delivered ahead of plan
- Positive currency effects

\*Other items not covered by the earnings waterfall net out to ~0  $^{\ast\ast}$  Exits which are not part of the JV synergy program



### Managing industry cyclicality through a prudent financial framework



## Hydro 2016

Well-positioned to create value in challenging markets

- Deliver on *Better* improvement program
- Strengthen competitive position through technology pilot and new automotive line
- Maintain financial strength and flexibility

### Better Bigger Greener



### Hydro aspiration supported with ambitious mid-term strategic goals

# Better

# Bigger

# Greener

Ambitions	Target	Timeframe
<ul> <li>Improve safety performance, strive for injury free environment</li> </ul>	TRI<2	2020
<ul> <li>Deliver on <i>Better</i> improvement ambition</li> </ul>	BNOK 2.9	2019
<ul> <li>Secure new competitive sourcing contracts in Norway post 2020</li> </ul>	4-6 TWh	2020
<ul> <li>Lift Paragominas production</li> </ul>	11 mill mt/yr	2018
Lift Alunorte production	6.6 mill mt/yr	2018
<ul> <li>Shift alumina sales to PAX-based pricing</li> </ul>	> 85% PAX*	2020
<ul> <li>Extend technology lead with Karmøy technology pilot</li> </ul>	Build decision	2016
<ul> <li>Realize technology-driven smelter capacity creep</li> </ul>	200,000 mt/yr	2025
<ul> <li>Lift equity bauxite production</li> </ul>	19 mill mt/yr**	Long-term
Expand BiW capacity	200,000 mt/yr***	2017
<ul> <li>Ramp up UBC line to full capacity</li> </ul>	>40 000 mt/yr	2017
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<ul> <li>Become carbon-neutral from a life-cycle perspective</li> </ul>	Zero	2020
<ul> <li>Increase recycling of post-consumed scrap</li> </ul>	>250,000 mt/yr	2020
<ul> <li>Deliver of reforestation ambition</li> </ul>	1:1	2017

\* Based on sourcing volume of ~ 2.3 million tonnes per annum \*\* Provided the acquisition of the 40% stake in MRN from Vale \*\*\* Refers to nominal capacity

