



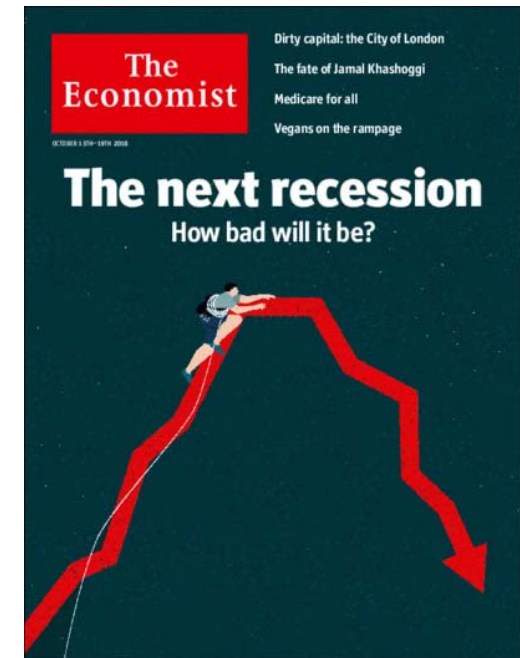
Norsk Hydro

Stian Hasle, Head of Investor Relations

Market Update

Increasing geopolitical unpredictability

Continued macro uncertainty and competitive pressures

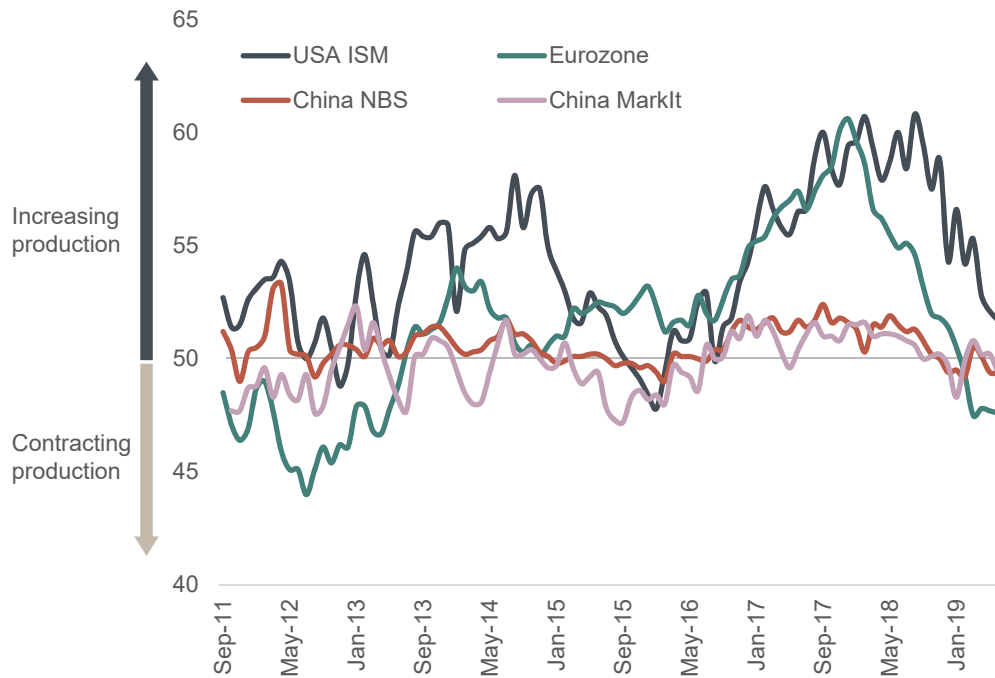


Macro sentiment worsening in Europe and China, continued declining trend in the US

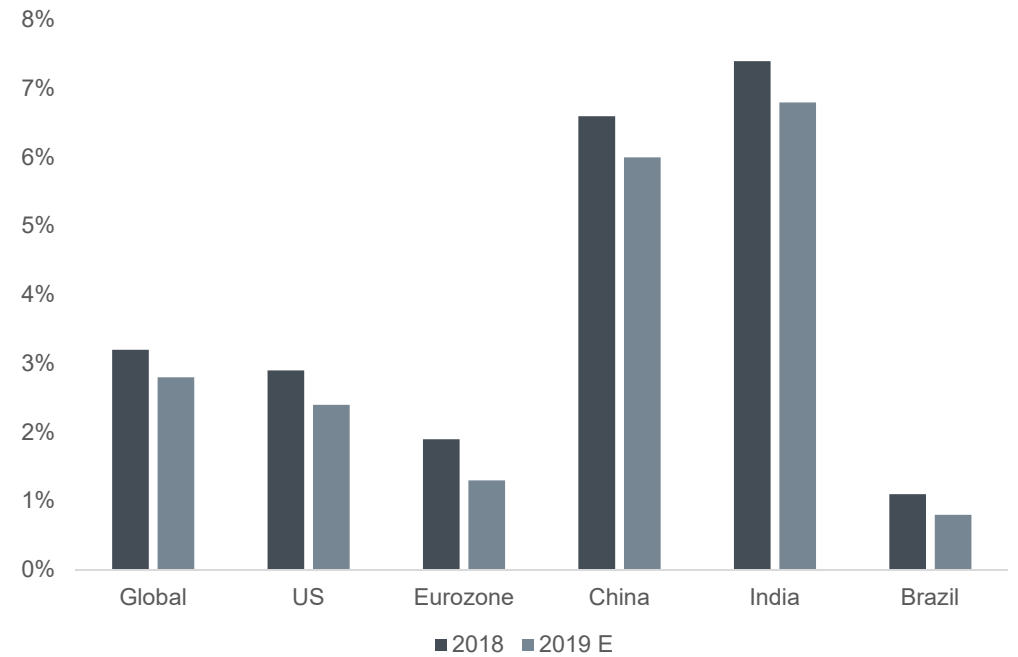


Increasing uncertainty on GDP-effects from trade disputes

Manufacturing PMI's



Annual GDP-growth, key regions



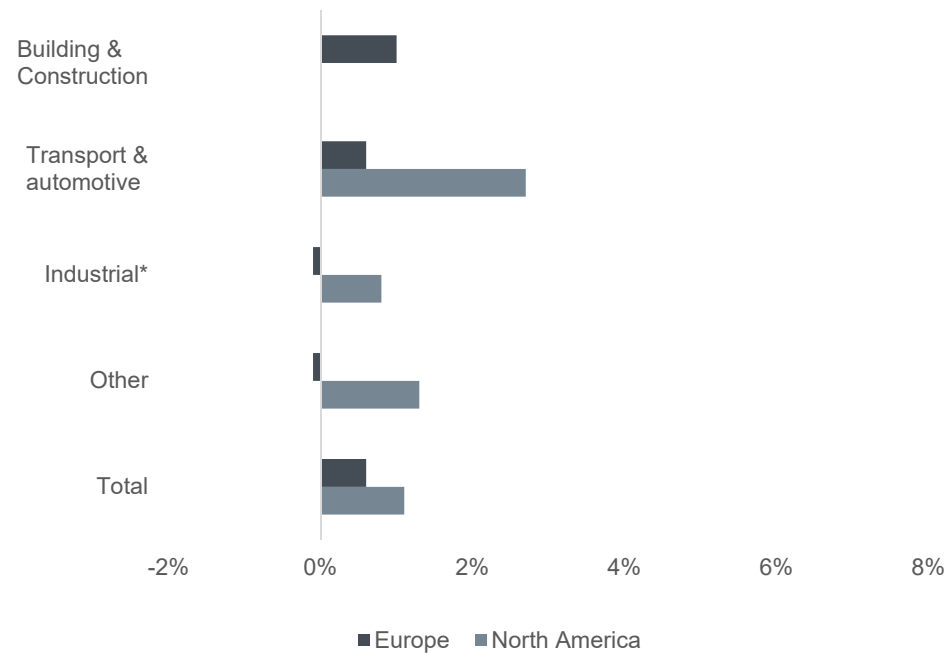
Source: Thomson Reuters, IHS Global Insight

Softening downstream demand growth

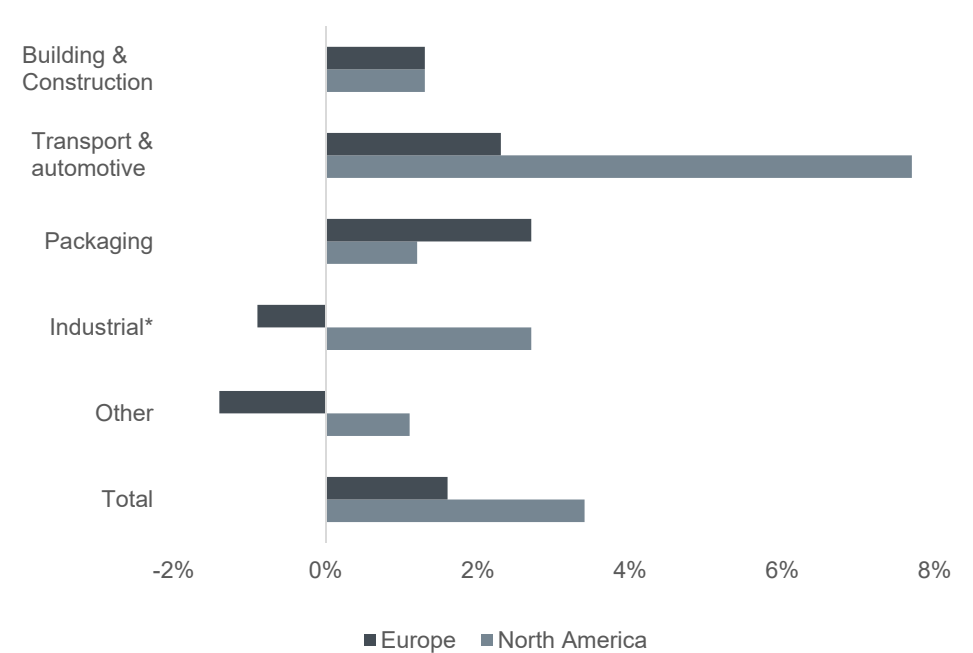


Weak demand in Europe, reduced extrusion growth in North America

Extrusions – estimated market growth 2019 vs 2018 (%)



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

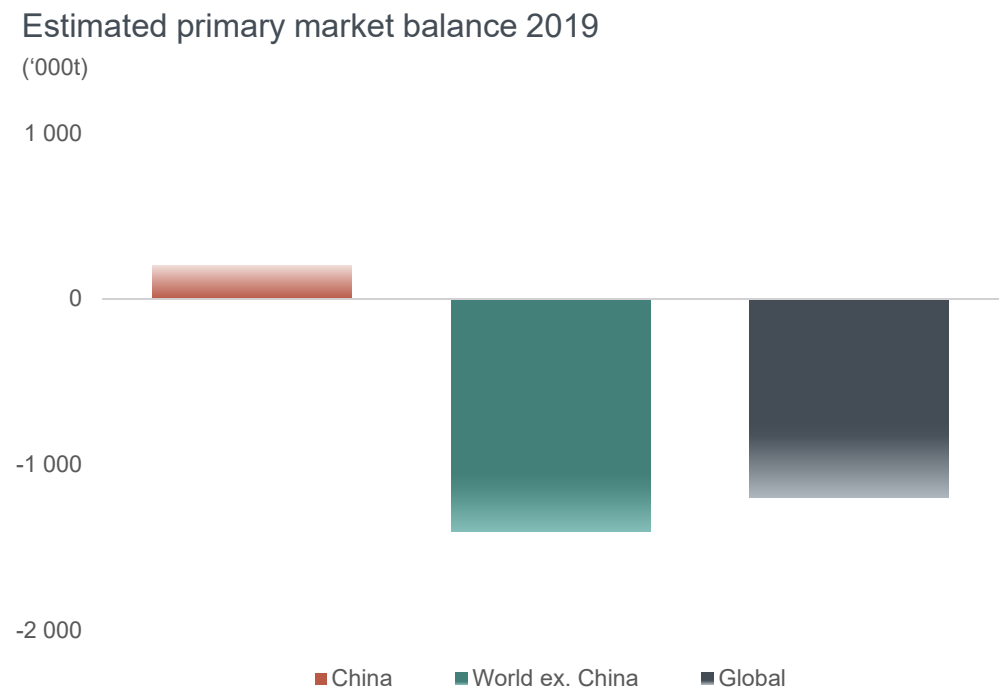
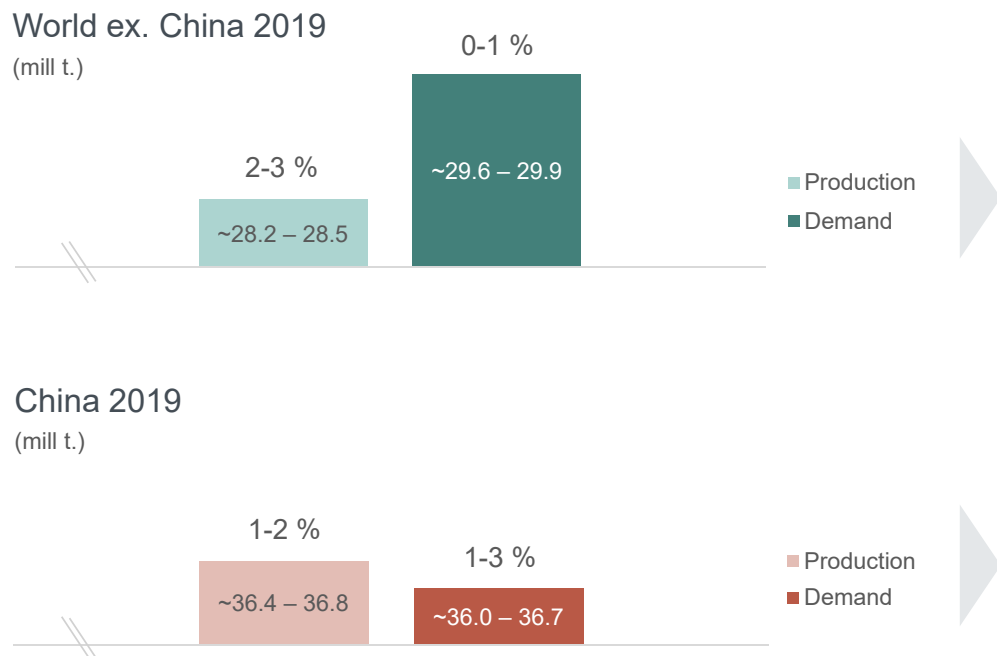


Source: CRU / Hydro analysis

* Industrial includes consumer durables, electrical and machinery
Europe excluding Russia/Turkey

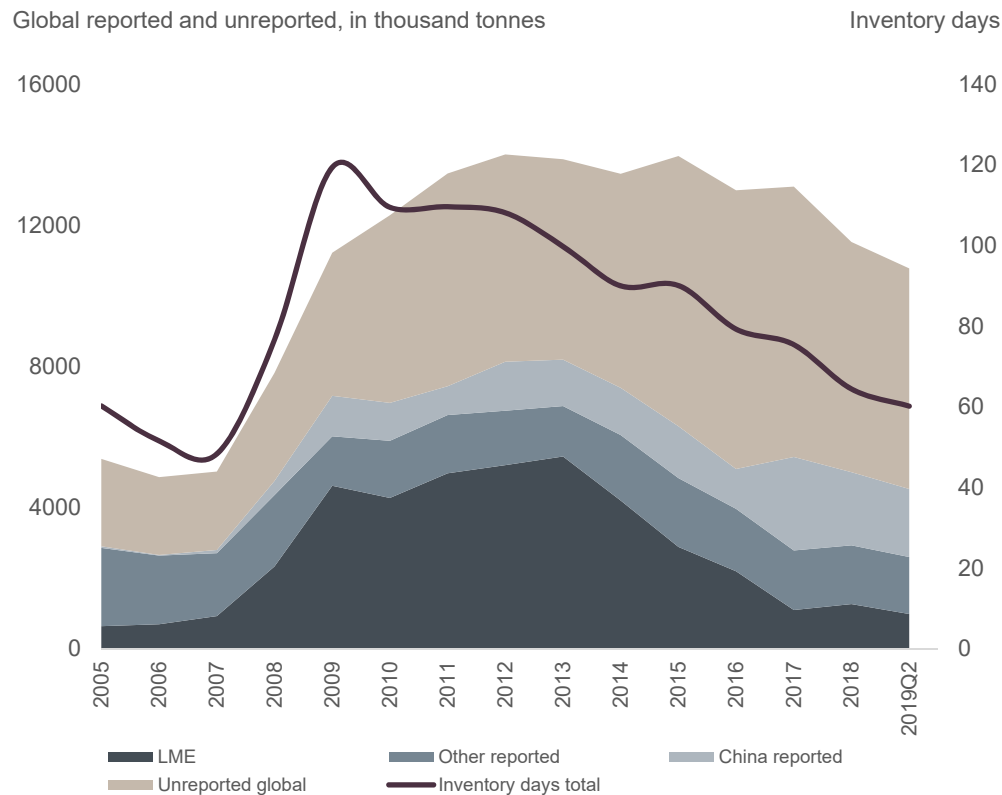
Global market expected in deficit for 2019

China largely balanced, world outside China in deficit

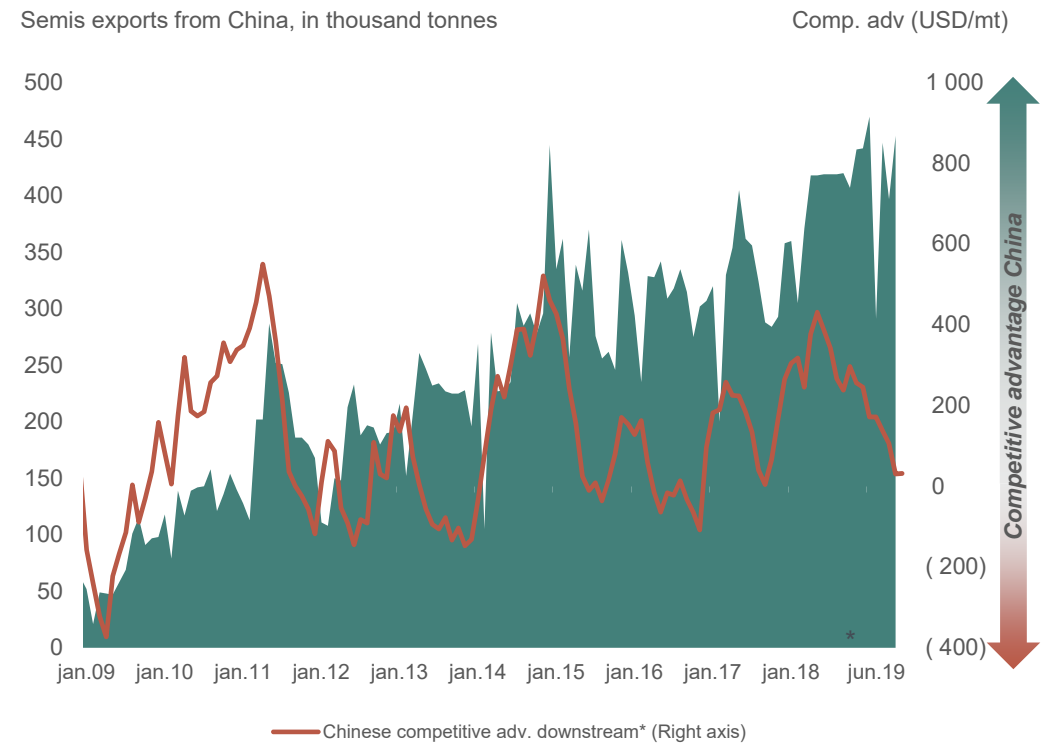


Source: CRU, Hydro analysis
%: Growth from 2018 to 2019

Inventories gradually trending downwards, increasing Chinese semis exports



*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

LME aluminium prices trending downwards

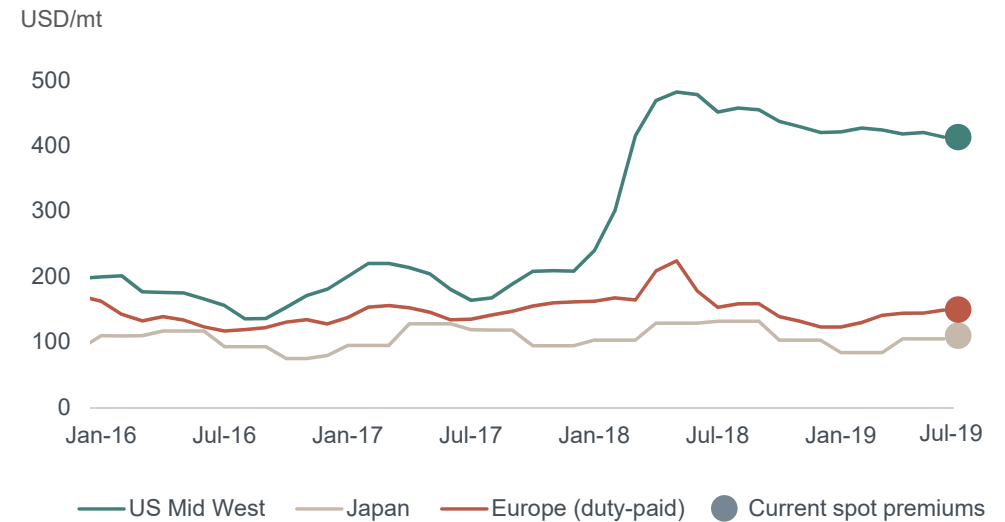


LME and SHFE aluminium prices



- LME averaged around 1 800 USD/t in Q2 2019, downward trend in quarter
- SHFE up in Q2, decreasing price differential between LME and SHFE

Regional standard ingot premiums



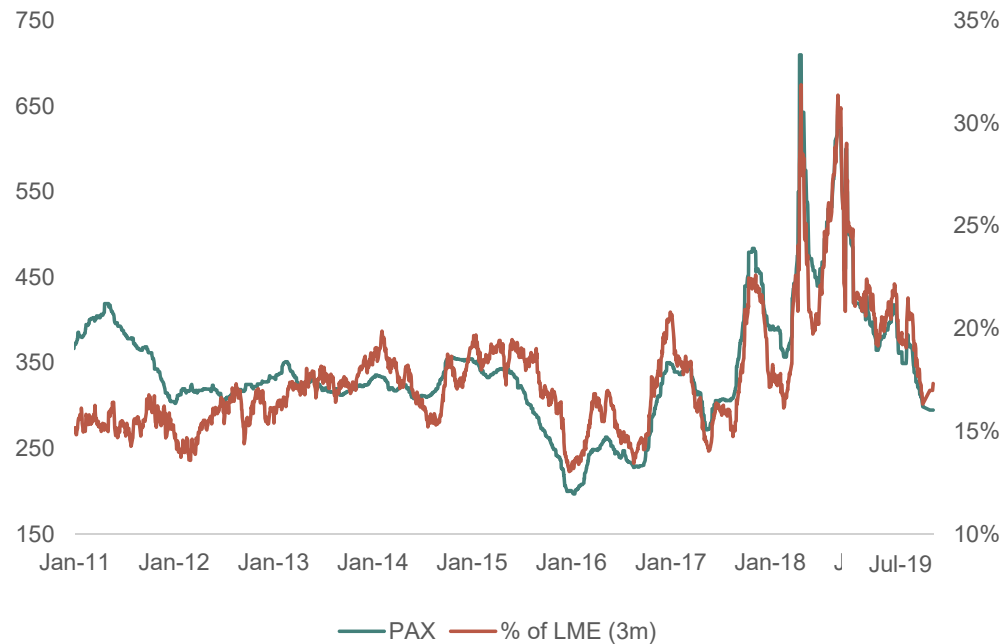
- US premium continuing its slow decline
- Slightly improving European and Japanese premiums during Q2

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

Alumina prices down in Q2, continued volatility



Platts alumina index (PAX)
USD/t



- Alumina prices trending downwards in 1H 2019 and into Q3
- Continued price volatility, impacted in Q2 by Chinese environmental curtailments and Alunorte restart
- Refinery cost in general trending downwards on lower input cost, primarily caustic soda
 - High Chinese domestic bauxite prices impacting competitiveness of inland Chinese refineries
- China moving from exporting alumina in 2018 and Q1 2019, to importing limited volumes in Q2 2019

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%



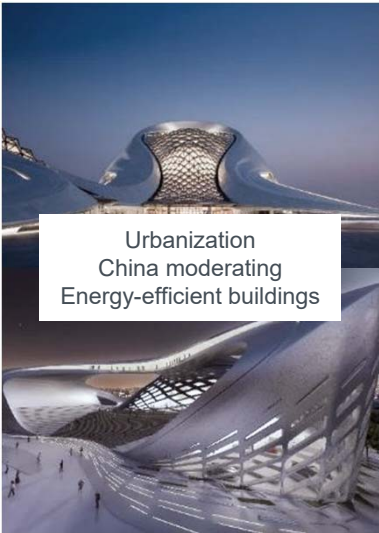
Light-weighting
Substitution

Packaging
2-3%



Urbanization
Sustainability
Substitution

Building & construction
2-3%

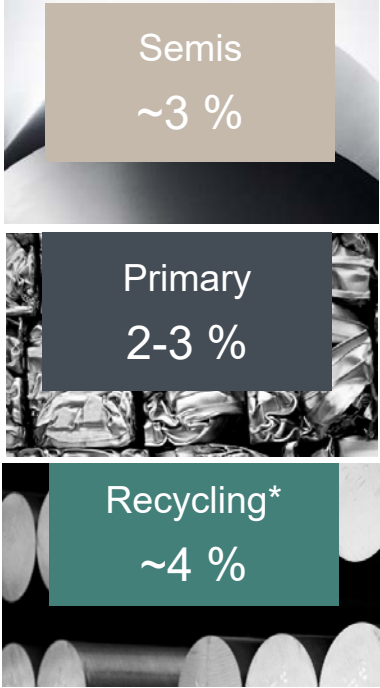


Urbanization
China moderating
Energy-efficient buildings

Electrical
2-3%



Substitution
Urbanization
Electrification

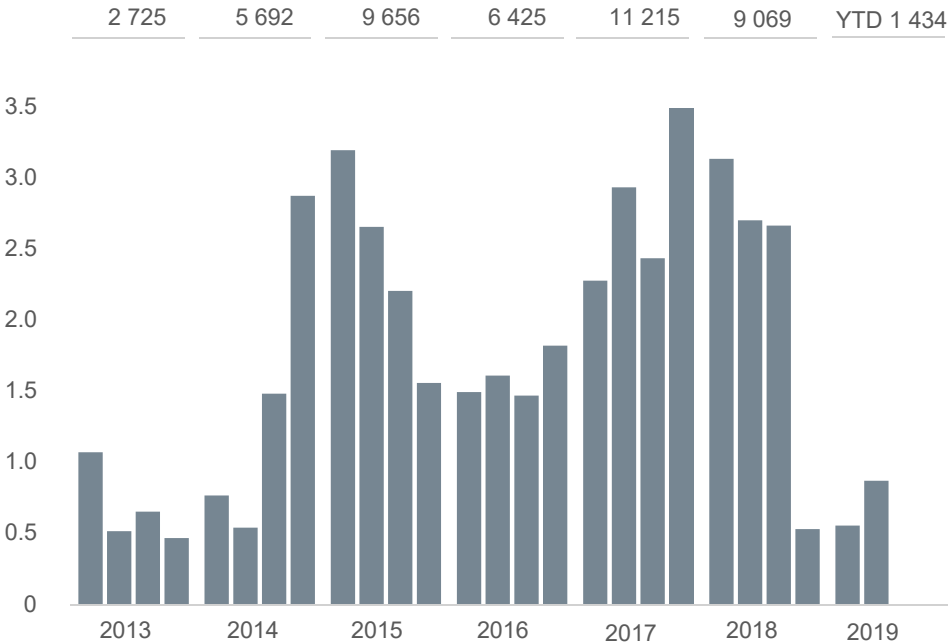


Global semis demand for segment, CAGR 2018-2028
Source: CRU, Hydro Analysis
* Post-consumer and fabrication scrap

Q2 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 in 2013. Figures for 2013 are adjusted reflecting IFRS 11
 1) As per August 20, 2019



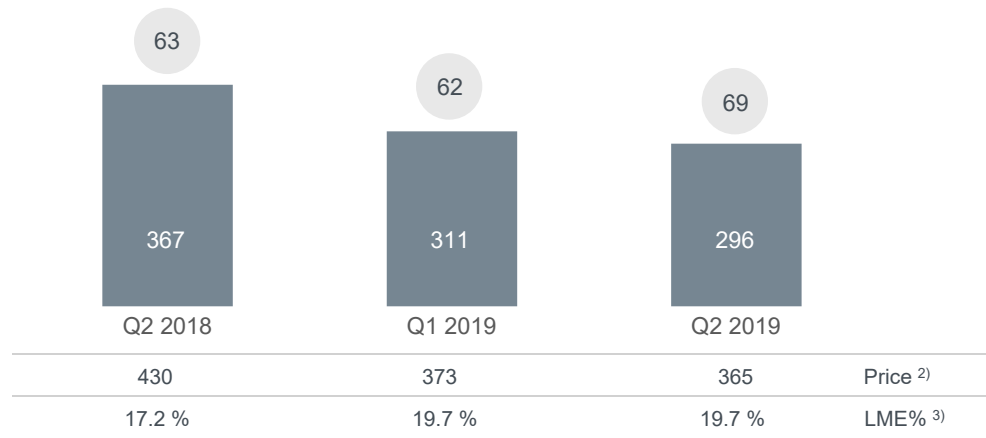
- Based in Norway, involved in activities in more than 40 countries
- ~35 000 employees
- Operating revenues
 - 2018: NOK 159 billion
 - 2017: NOK 109 billion
- Current market capitalization
 - ~NOK 60 billion/ USD 6.7 billion¹⁾

Upstream costs trending downwards



Implied alumina cost and margin

USD/mt ¹⁾



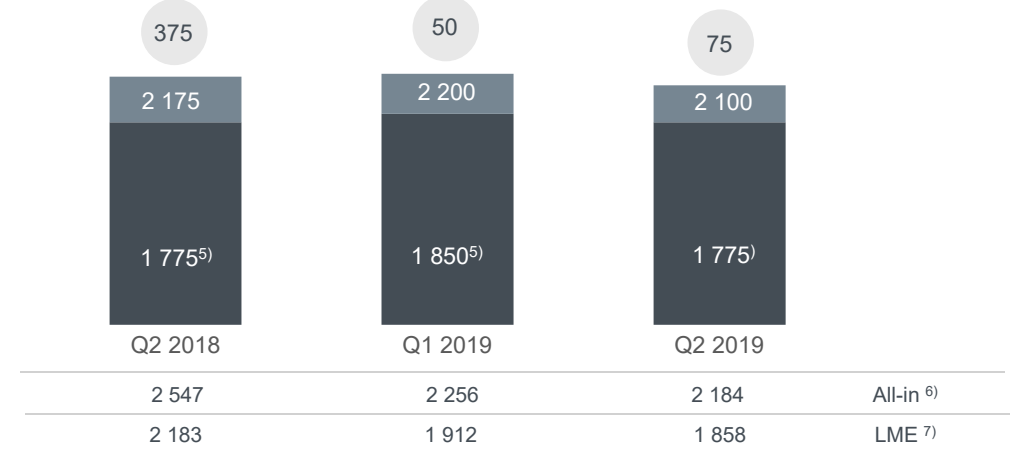
Implied alumina cost down in Q219 vs Q119, mainly increased production and lower raw material costs at Alunorte

■ 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 Q219 vs Q119 on reduced costs, mainly related to alumina

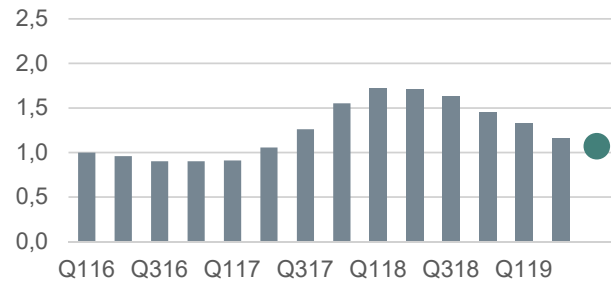
■ All-in Implied EBITDA cost per mt ■ LME Implied EBITDA cost per mt ● All-in EBITDA margin per mt

- 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

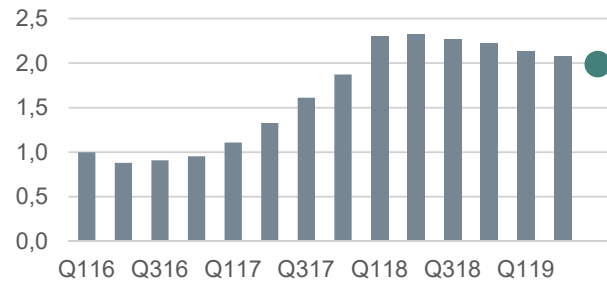
Raw material costs for the aluminium industry continue to trend downwards



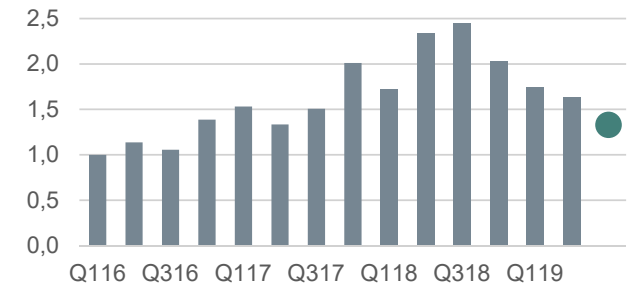
Petroleum coke FOB USG (indexed)



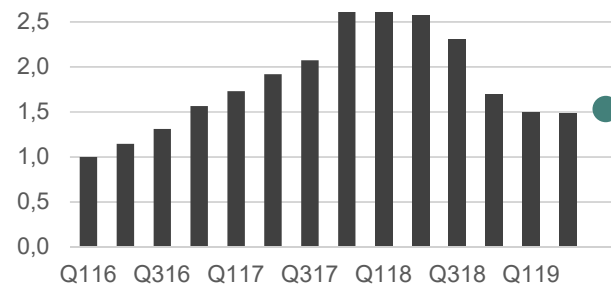
Pitch FOB USG (indexed)



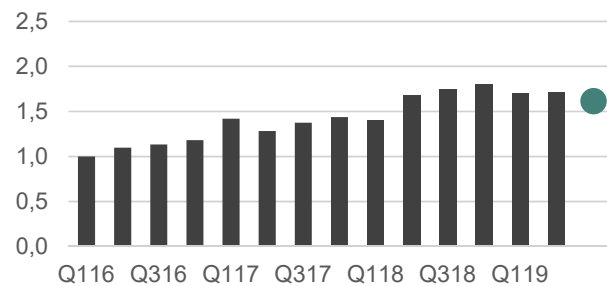
Alumina PAX index (indexed)



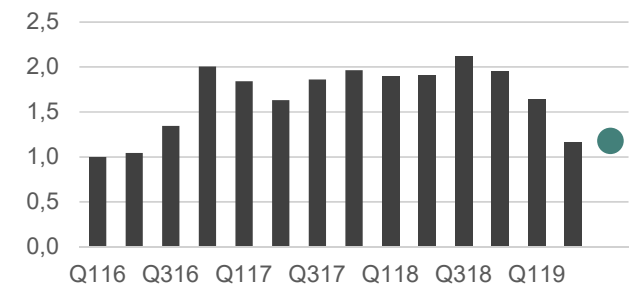
Caustic soda (indexed)



Fuel oil A1 (Indexed)



Steam coal (indexed)



● Indication of current market prices

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

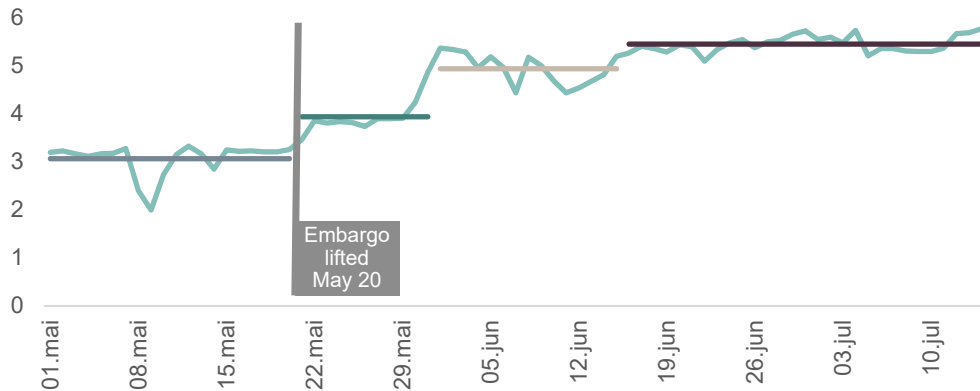
Ramp-up progressing successfully in Pará



Commissioning new press filter technology at Alunorte

Ramp-up process

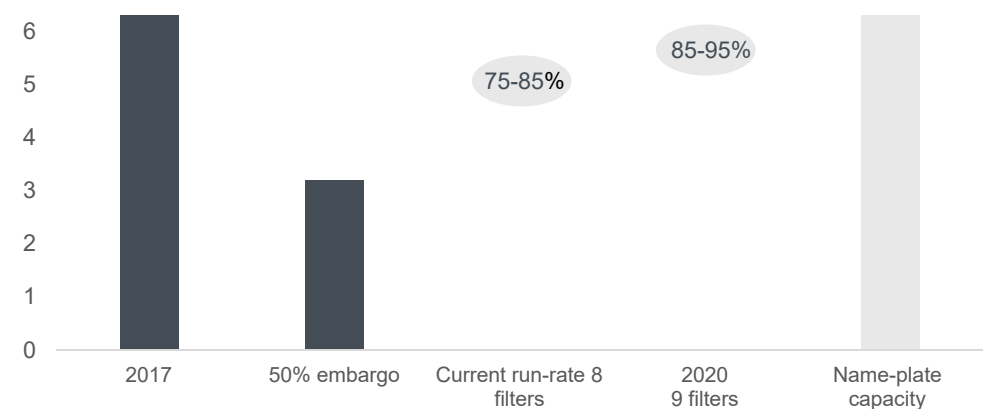
Alunorte production in ramp-up period, daily production annualized in million mt



- Successful ramp-up at Alunorte reaching targeted 75-85% production, steadily lifting and stabilizing at higher output
- Paragominas ramping up in line with ramp-up speed at Alunorte
- All electrolysis cells at Albras expected to be in operation by end-Q3 2019

Way forward Alunorte

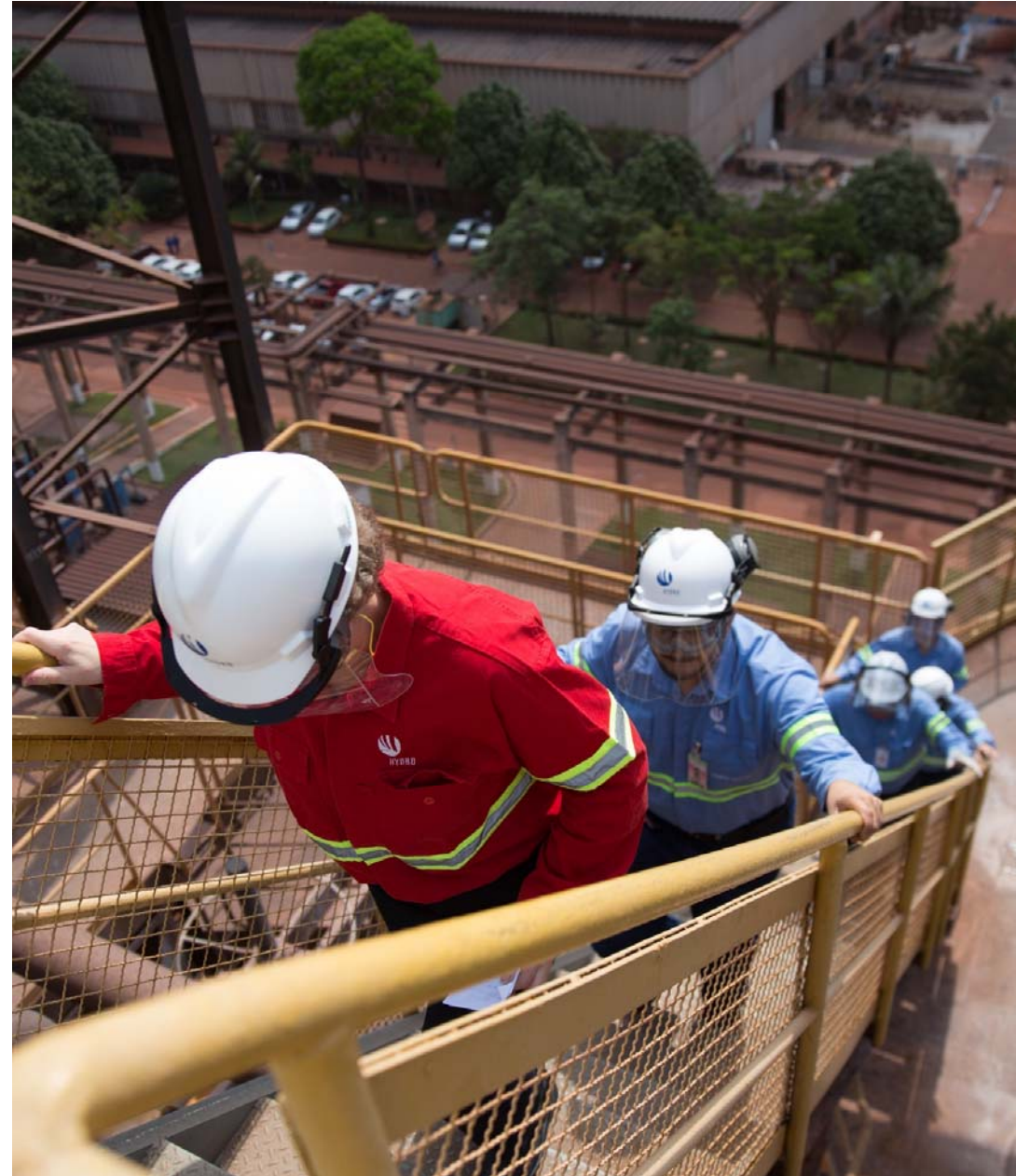
Alunorte production, annualized in million mt



- Commissioning of 9th press filter expected to start September/October 2019
- Current experience with press filters indicates capacity utilization of 85-95% with 9 press filters
- Further process optimization will continue, to reduce downtime and cycle time of press filters and further increase productivity

Brazil: key focus 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
 - Lifetime of DRS1 estimated to ~1 year



Status update cyber attack

Operational and financial impact

- 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
- At end-Q2 operations have largely returned to normal
- Limited financial impact estimated for Q3 2019
- Hydro has a robust cyber insurance policy in place with recognized insurers

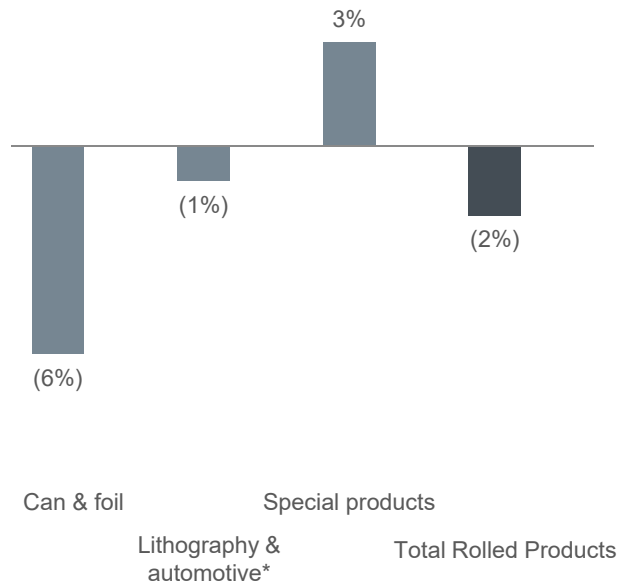


Rolled Products: Sales reduction driven by softening markets

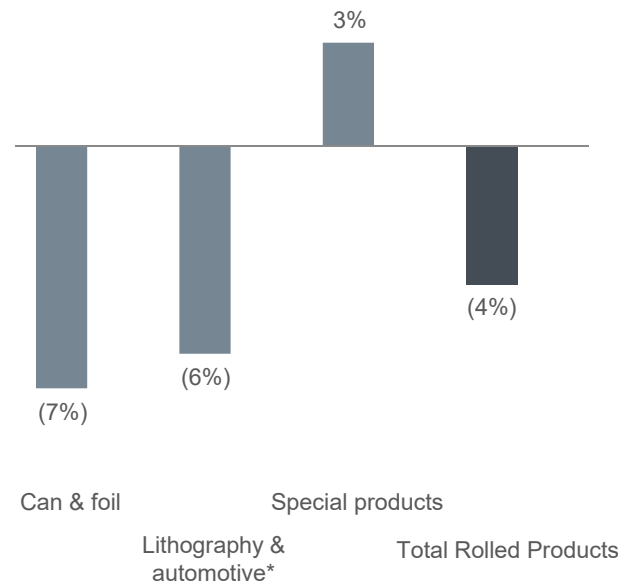


YTD 2019 vs YTD 2018

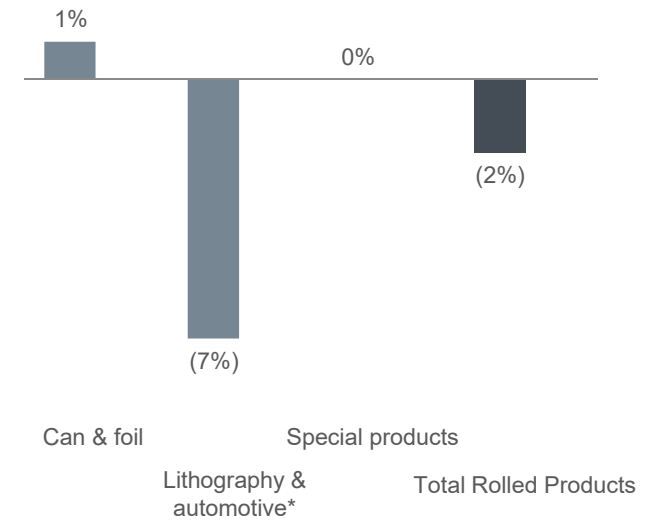
Sales volume
Growth in %



Q2 2019 vs Q2 2018



Q2 2019 vs Q1 2019



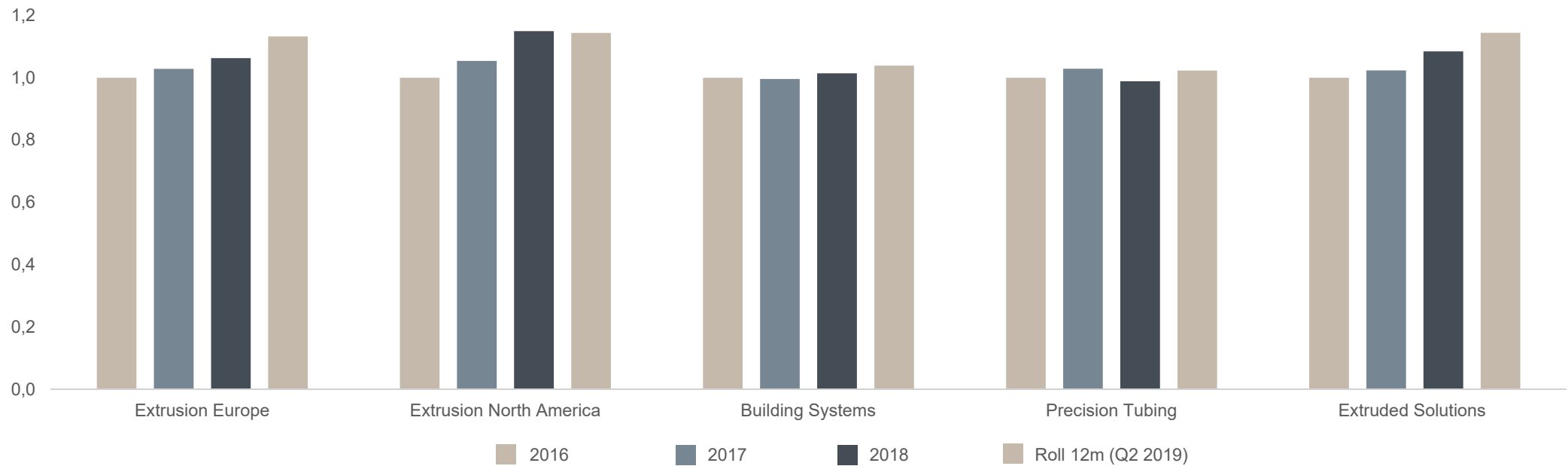
* Include Body-in-White sales growth of 21% YTD 2019 vs YTD 2018, 9% Q2 2019 vs Q2 2018, -5% Q2 2019 vs Q1 2019

Extruded Solutions: Continued improvements in net added value



Net added value* per kg

(NOK**, indexed to 2016)



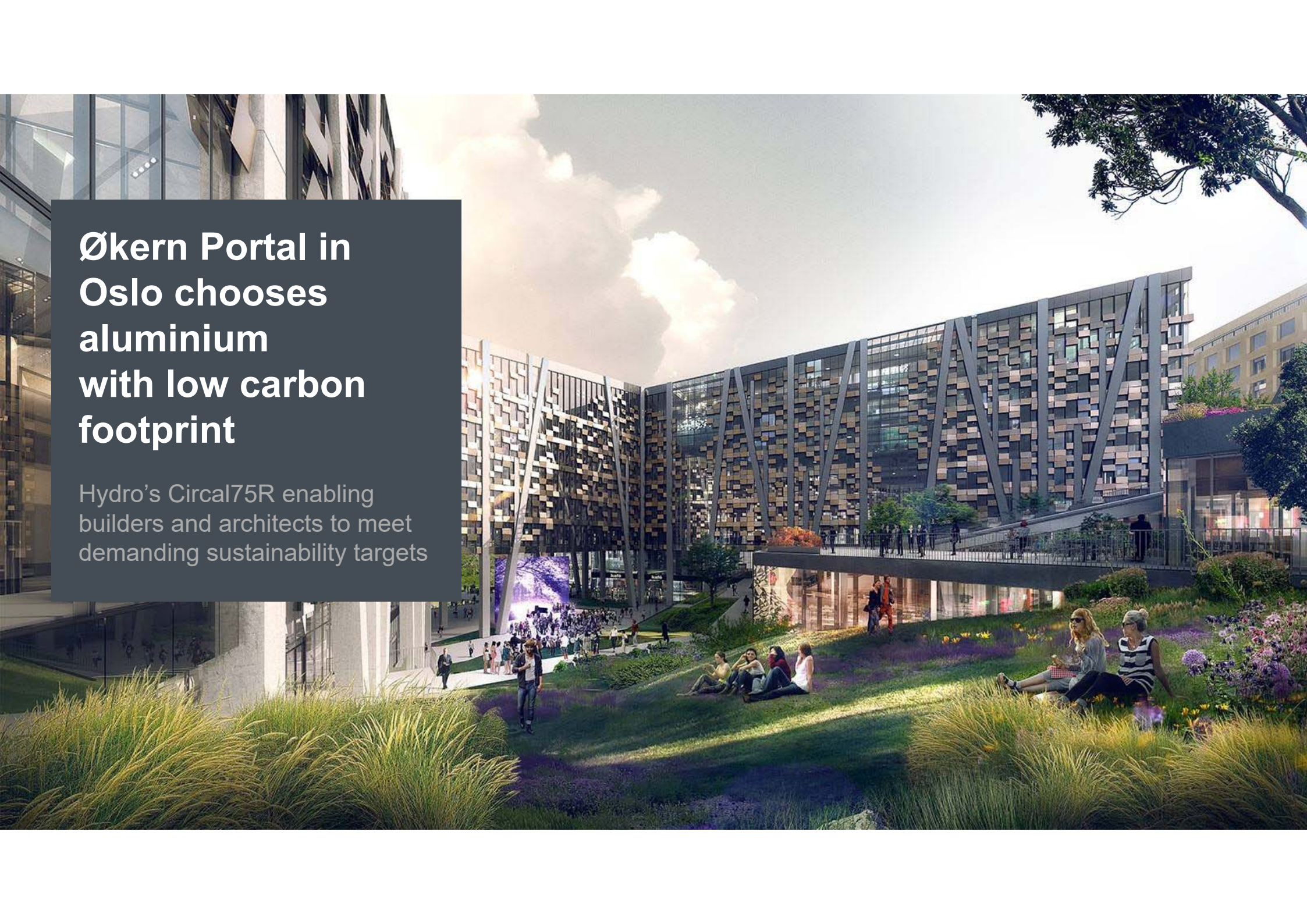
* Net Added Value: calculated as operating revenues less cost of material, including freight costs out

** Translated to NOK based on 2016 currency rates

Portfolio optimization in Extruded Solutions

- Constantly reviewing overall portfolio, aiming to optimize and streamline
- Several smaller restructuring efforts ongoing in Europe – simplifying footprint and addressing softening demand in several markets
- The following restructuring efforts are ongoing:
 - **Closure of UK fabrication and automotive site** – transfer of business to other plants in UK
 - **Closure of UK Building Systems warehouse** – transfer of business to other warehouse in UK
 - **Closure of Spanish extrusion plant** – transfer of business to other plants in Iberia
- Positive business case on simplification and reduced costs – business largely kept through other sites
 - Restructuring and impairment cost of MNOK 228 booked in Q2 2019 (items excluded)



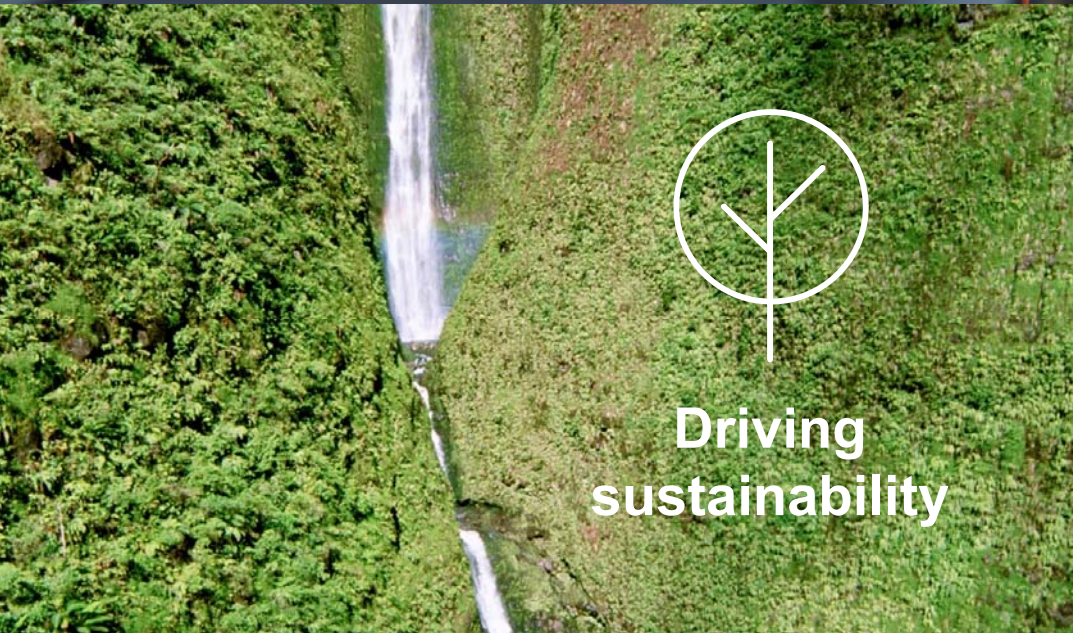


**Økern Portal in
Oslo chooses
aluminium
with low carbon
footprint**

Hydro's Circa175R enabling
builders and architects to meet
demanding sustainability targets



**Lifting
profitability**



**Driving
sustainability**

Measures to improve performance and cash generation

- Safe and efficient operations - always key priority
- Return Alunorte, Paragominas and Albras to full production and operational excellence
- Rolled Products restructuring and strategic review
- New improvement efforts across all business areas and staffs
- Strict capital discipline and capital allocation
- Differentiate through low-carbon position

- Hydro will host Investor Day in Oslo on September 24



Hydro

We are aluminium

