



Opportunities and challenges in the global B&A market

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Hydro – a fully integrated aluminium company

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



- Global provider of alumina, aluminium and aluminium products
- Leading businesses along the value chain
- 13 000 employees involved in activities in more than 40 countries

- Market capitalization ~USD 12 billion
- Annual revenues ~USD 11 billion

Hydro in Brazil: Uniquely positioned as #1 in aluminium in South-America

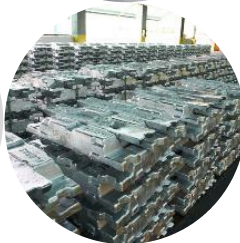
No.1 in
bauxite



No.1 in
alumina



No.1 in
aluminium



- 100% equity in Paragominas (11 mtpy), 5% equity and 45% off-take of MRN (18 mtpy)
- Total access to bauxite in Brazil: ~19.5 mtpy
- Hydro owns 92.13% of Alunorte (6.3 mtpy), Brazil's and the world's largest alumina refinery
- Hydro owns 51% of Albras, Brazil's and South-America's largest aluminium smelter in operation
- Hydro has 50% market share in Brazilian bauxite 3rd party trading and refines more than half of Brazil's alumina



Our first priority – conducting business the Hydro Way

Safety and environment



Safety performance (TRI) at industry benchmark

2.6*

2020 ambition of a TRI rate below 2.0 and zero fatalities



Carbon-neutral from a life-cycle perspective

Close the rehabilitation gap by 2020

Corporate responsibility



* TRI rate for own employees YTD end-October 2016 – total recordable incidents per million hours worked



Opportunities and challenges in the global bauxite and alumina landscape

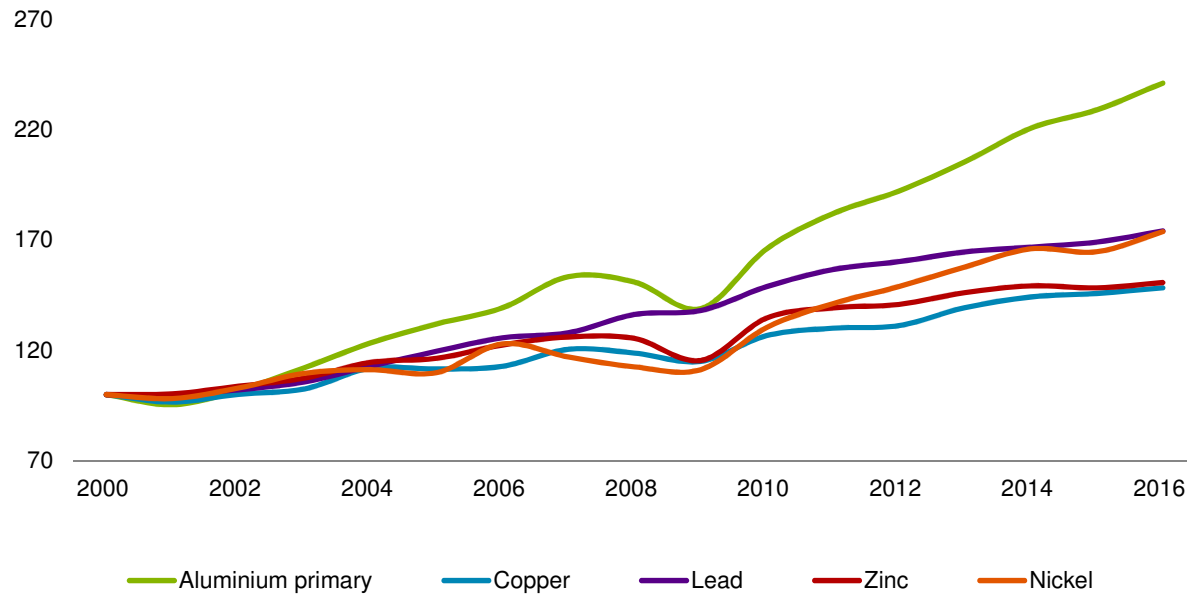
Aluminium demand continues to outpace other base metals

Driving bauxite and alumina demand

Aluminium continues to be the fastest growing base metal

Global demand base metals

Index 2000=100



CAGR 2016 – 2025



Global semis demand:
3-4 %

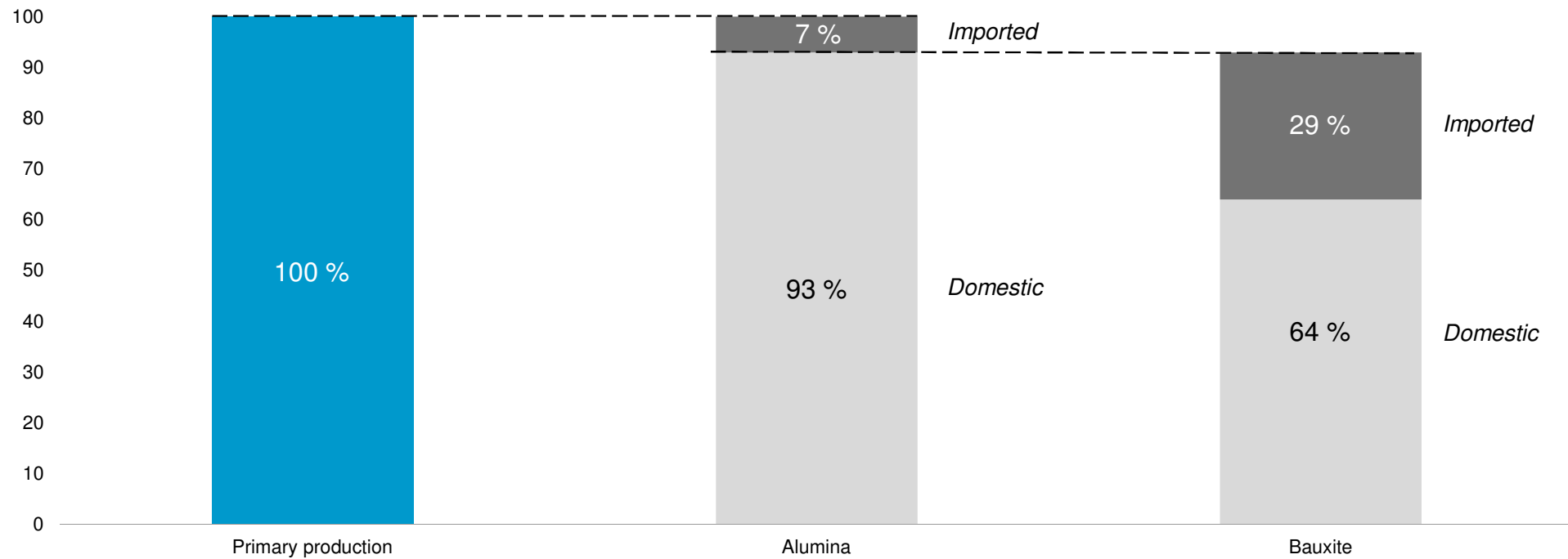
Source: CRU, Hydro analysis

Chinese primary production dependent on resource imports



Around 36% of production based on imported raw material (average 2013-2016)

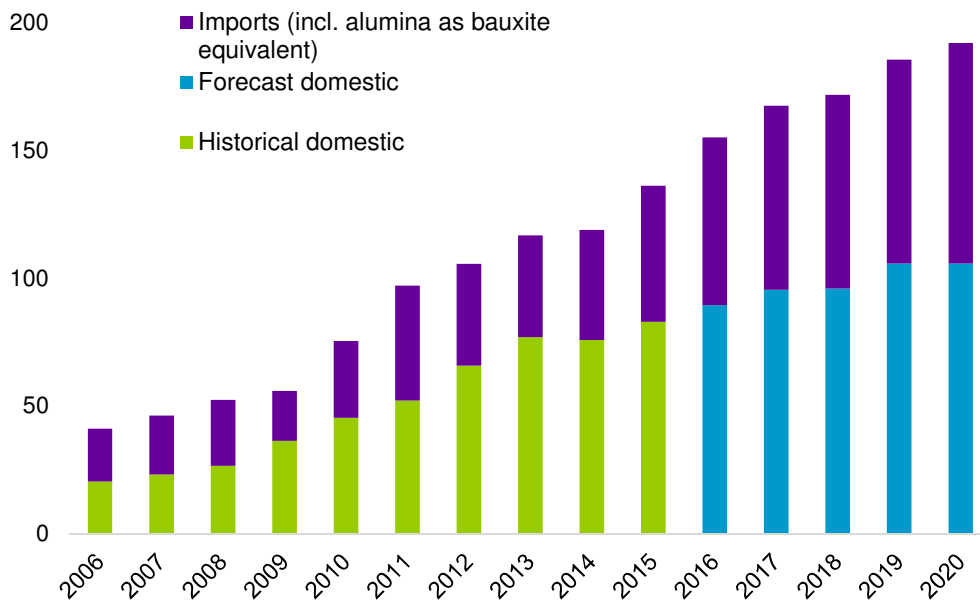
% of Primary Production



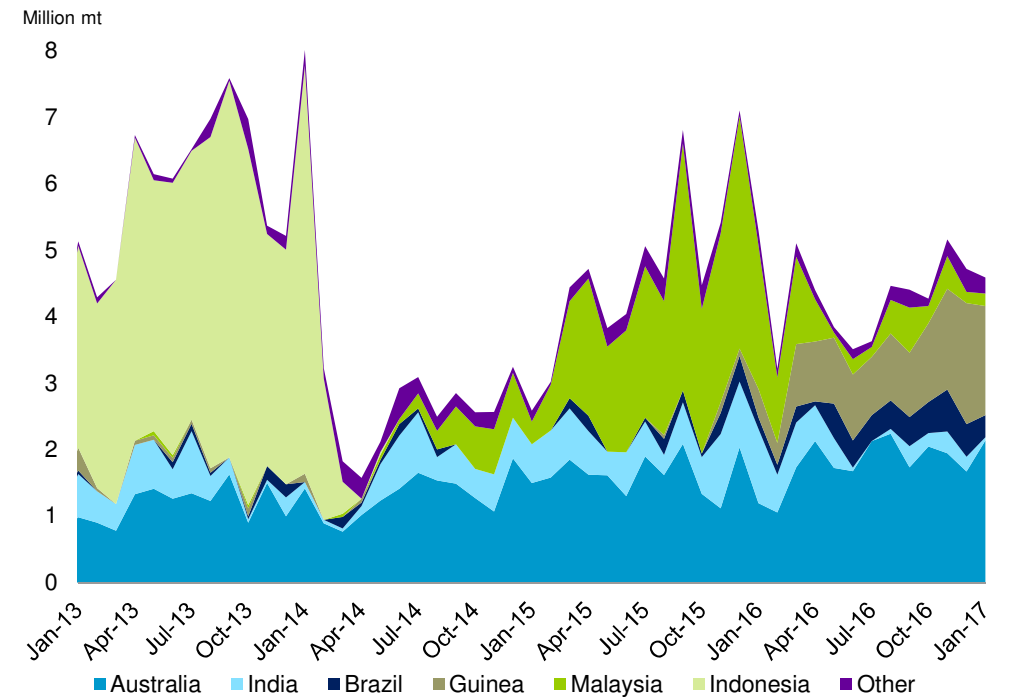
Source: CRU, China customs, 2016 forecast

Bauxite production in China to level off, higher bauxite imports from the Atlantic increases freight exposure

Chinese bauxite production and imports
Mtpy



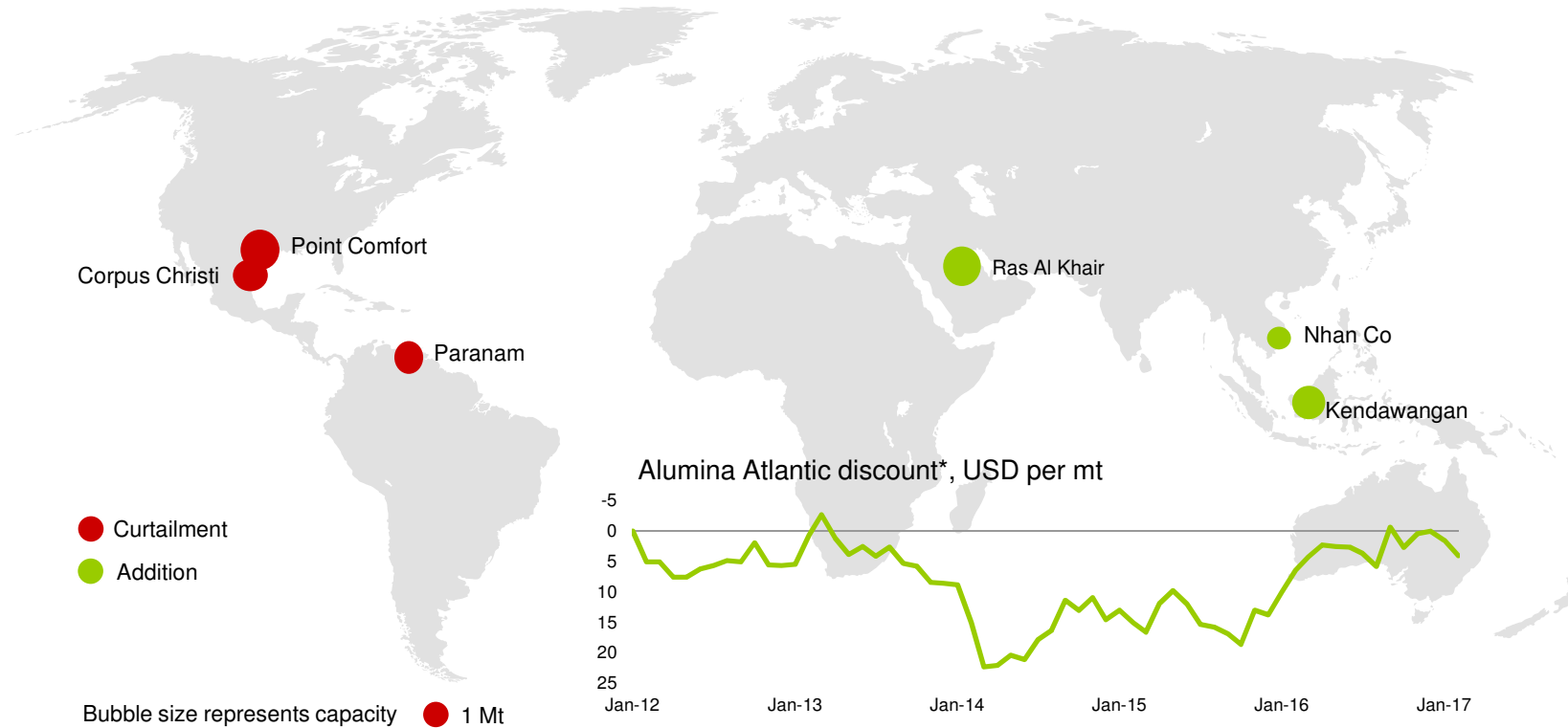
Monthly Chinese bauxite imports
Million mt



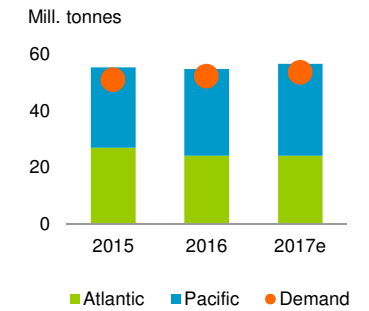
Source: CM Group, China customs

Alumina curtailments reduce oversupply outside China

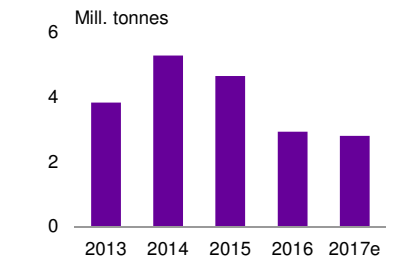
Capacity curtailments in the Atlantic basin, offset by growth in Pacific



World ex-China alumina supply/demand balance



China alumina imports



Source: China customs, CRU, Hydro analysis

* Alumina Atlantic discount is the difference between Alumina Price Index FOB Western Australia and Atlantic Basis index (ABP) FOB Brazil

Alumina prices rising amid smelter restarts and cost inflation

Recent alumina price drivers

Market balances

- Smelter restarts and new projects ramping up in China
- Tight markets ex. China amid curtailments

Cost inflation

- Rising coal prices
- Higher caustic soda costs
- Higher transport costs (road & rail)

Other factors

- Transport bottlenecks
- Environmental issues

Platts alumina index (PAX)

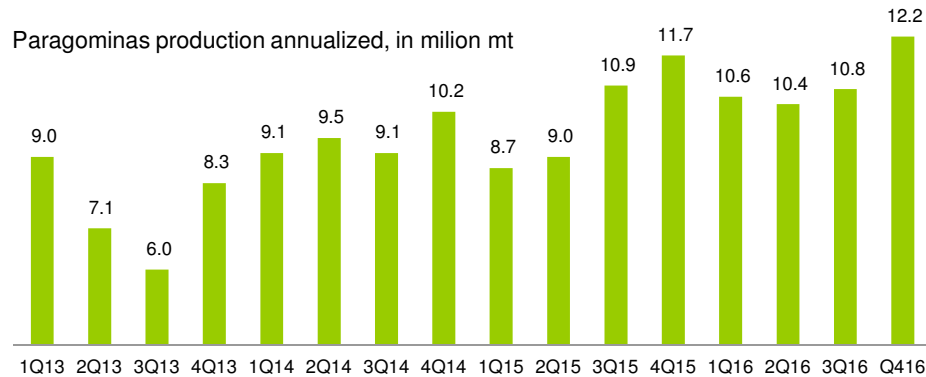


Source: Platts, Bloomberg



Hydro Bauxite &
Alumina – strong
operational and
commercial
performance

Paragominas: Lifting and stabilizing production



Record high 2016 production

- Successfully implemented Bauxite & Alumina Business System
- Improved equipment conditions, operating standards and process control
- Improved ore quality control in the mining process
- Long term bauxite resources

Tailing dam investments on track



- BRL 600 million investment - on time and budget
- Improved safety of disposal areas, reduced environmental footprint and cost due to higher solid concentration of tailings

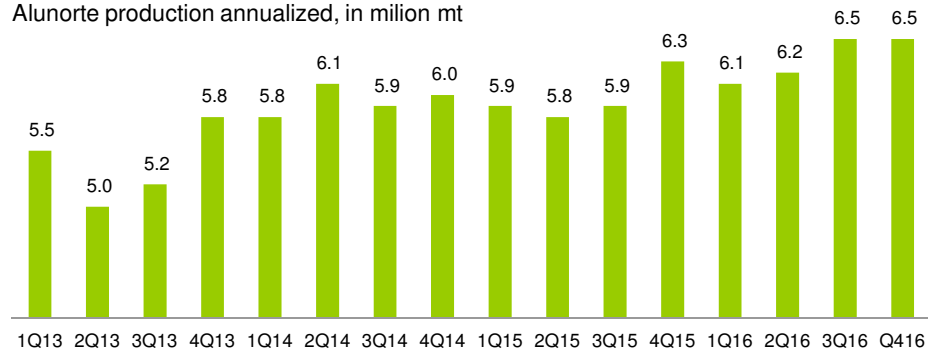
Reforestation ambition well on track, our license to operate



- Close the rehabilitation gap by 2020
- Research partnerships creates basis for state-of-the-art approach to mining rehabilitation

Alunorte: Record 2016 production above nameplate capacity

Alunorte production annualized, in million mt



Significantly improved production stability

- 6.3 million mt last 12 months production at nameplate capacity
- Improved equipment effectiveness and process stability based on Bauxite & Alumina Business System
- Further debottlenecking needed for 6.6 million mt target
- Exploring switch from fuel oil to natural gas

Red mud deposit investments on track

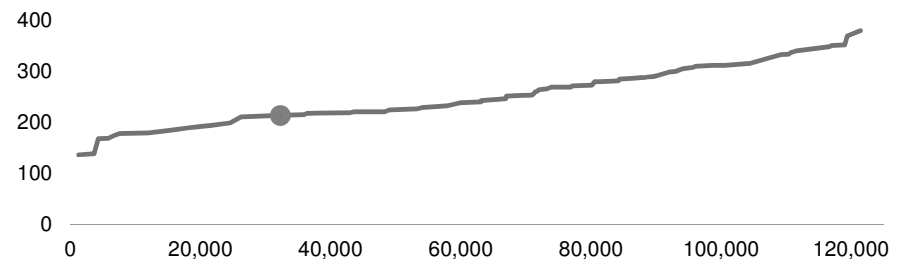


- BRL 1 billion investment - on time and budget
- State-of-the-art dry disposal of bauxite residue using press filtration
- Reduced required storage area, environmental footprint and cost

Competitive cost position

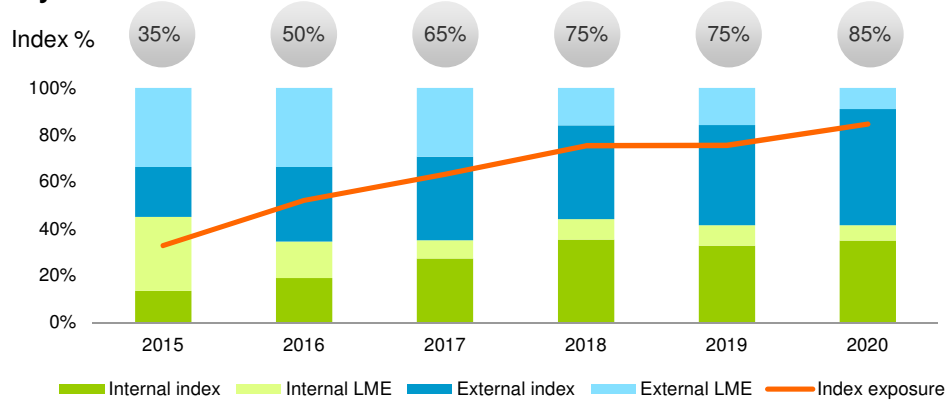
Alumina BOC curve by company (2016)

USD/mt



Exposure to index pricing increasing for Hydro's alumina sales

Hydro alumina sales



Alumina sales

- Large majority of new contracts priced on index
- External sales 3-4 million mtpa

Bauxite sales

- Mostly 3-4 year contracts based on % of PAX + fixed USD/mt element
- External sales 2.5-3.5 million mtpa:

Strong commercial organization maximizing value of B&A assets

- Strategic sales and purchases to capture long-term value
- Supply chain optimization
- Reduced demurrage cost on optimized scheduling
- Utilizing China domestic entity to gain market intelligence and increase flexibility

Further strengthening the competitiveness of Bauxite & Alumina

Strong progress on operational and commercial efforts



Improvement categories

Alunorte

- Support production above nameplate capacity
- Improve energy consumption and matrix
- Reduce fixed costs

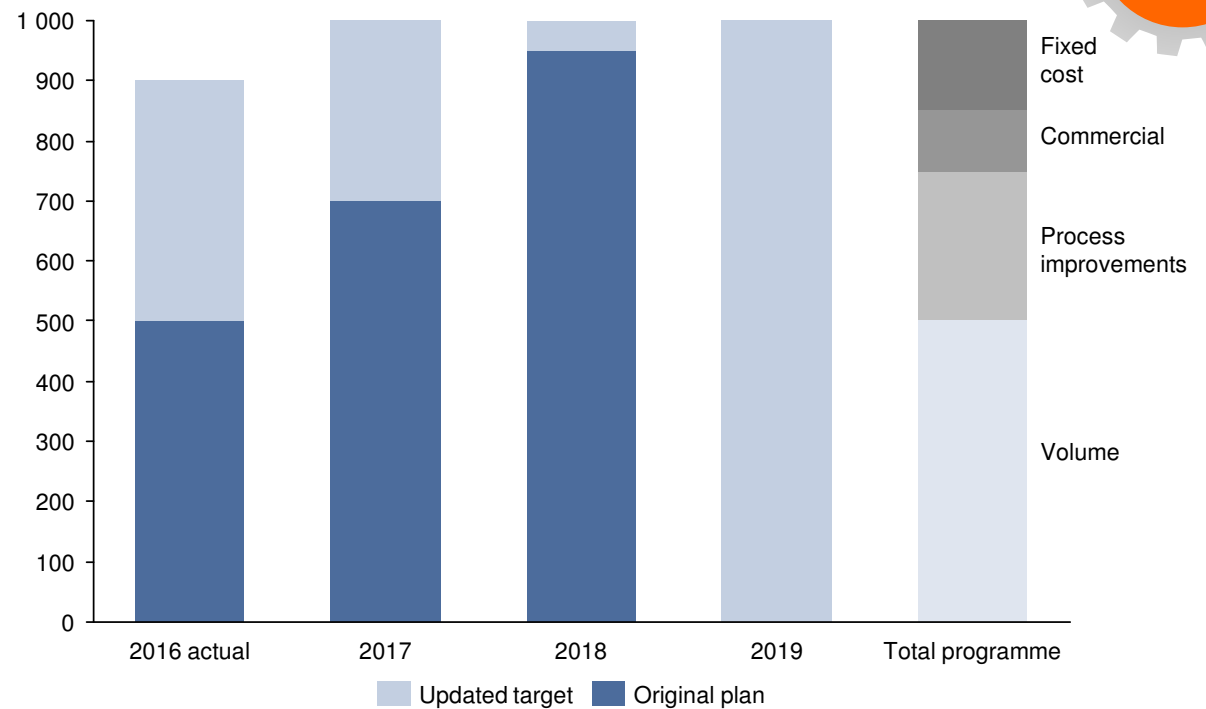
Paragominas

- Support production above nameplate capacity
- Reduce fixed costs

Commercial

- Reduce demurrage costs
- Lift optimization margin

Improvements in NOK million



Challenges and opportunities for Hydro in Brazil

Main challenges

- Deforestation
- Red mud handling
- Social impact



Hydro response

- Close the rehabilitation gap by 2020
 - Research partnerships creates basis for state-of-the-art approach to mining rehabilitation
- Installation of press filter at Alunorte
 - Best available technology for bauxite residue filtration and disposal implemented
 - Reduced environmental footprint and improved caustic recovery
- Actively engaging with local communities and other stakeholders

Hydro's strategic priorities for the bauxite and alumina area

Aiming for operational and commercial leadership

Better

- Strive for an injury free environment
- Continue operational improvement drive, ensure world class operations
- Price bauxite and alumina on own fundamentals

Bigger

- Secure and develop resources for future decades
- Further mature CAP alumina project and Paragominas expansion for when time is right
- Develop production creep potential at Alunorte

Greener

- Further improve organizational capabilities and HSE performance
- Closing the rehabilitation gap by 2020



Better Bigger Greener