Qatar Aluminium Manufacturing Co. (QAMCO)

Qatar Aluminium Manufacturing Co. (or QAMCO) is a holding company that owns a 50% stake in Qatar Aluminium (Qatalum), a primary aluminium smelter. *Qatalum currently operates above its nameplate capacity. On one hand, Qatalum's high margins, low indebtedness and lack of major expansion projects on the horizon warrant the continuation of* ***attractive dividend yields for QAMCO shareholders.*** *On the other hand, aluminium smelters' shares are prone to the fluctuations in the global equity markets, as well as to the volatility of aluminium prices, hence they trade at an average beta of 1.126. We note the current global macro backdrop is somewhat tepid, with growth forecasts being updated downward and industrial metal prices, including aluminium, on the decline.*

Key Data

Bloomberg Ticker	QAMC QD
ADR/GDR Ticker	N/A
Reuters Ticker	QAMC.QA
ISIN	QA000M2522L9
Sector	Industrials
52wk High/52wk Low (QR)	18.90 / 12.05
3-m Avg. Volume (000)	N/A
Mkt. Cap. ($ bn/QR bn)	2.0/7.3
EV ($ bn/QR bn)	2.7/9.7
FO Limit* (%)	49.0
Current FO* (%)	0.4%
Shares Outstanding (mn)	558.0
1-Year Total Return (%)	N/A
Fiscal Year End	December 31

Source: Bloomberg (as of December 16, 2018), *Qatar Exchange (as of as of December 16, 2018); Note: FO is foreign ownership

Highlights

- **Listed on the QSE on December 16, 2018, Qatar Aluminium Manufacturing Co. or QAMCO is a holding company that owns a 50% stake in Qatar Aluminium (Qatalum), a primary aluminium producer.** Qatar Petroleum (QP) has recently established QAMCO and placed its 50% stake of Qatalum into QAMCO as capital-in-kind, before offering QAMCO's shares to the public. QP will own 51% including a golden share in QAMCO, while 49% will be owned by public investors; the foreign ownership limit has been set at 49%. As is the norm, the IPO was open to Qatari individuals and selected Qatari institutions; non-Qatari investors can buy the shares in the secondary market. **QAMCO's shares are Shari'ah compliant**, which should result in a broader investor base. A key objective for QAMCO is to support Qatar's National Development Strategy by enabling Qataris to share in the country's growth and contribute to Qatar's economy.
- **Thanks to the support of its major shareholders, Qatalum is able to act like an integrated producer.** While QP provides natural gas to Qatalum via a 25-year agreement (with a 15-year extension provision), Norsk Hydro (enjoying the other 50% stake in Qatalum) supports Qatalum's alumina procurement efforts, provides technical support and markets Qatalum's products through its global sales network (via a 25-year agreement). Qatalum also has an alumina supply contract with Glencore expiring end-2019; however, the company has already entered into a tender process to replace this supply with 40+% of the total required alumina already secured.
- **Major aluminium player in the region:** In terms of the regional competitive landscape, UAE's Emirates Global Aluminium (EGA) is the GCC's largest producer with its estimated 2.6mn tons of capacity in 2017, followed by Aluminium Bahrain (c0.86mn ton), Qatalum (production: 650k), KSA's Maaden (720k) and Oman's Sohar Aluminium (375k).
- **Strong financials backed by low leverage and high EBITDA margins:** As of 1H18, Qatalum's total net debt was $1.37bn, accounting for 54% of the company's share capital, while its EBITDA to interest expenses ratio was 9.7x. Low capex ($85mn in 2016, $63.5mn in 2017 and an annualized $60mn as of 1H18), coupled with strong EBITDA margins, which are nearly double of its international peers, result in strong cash generation for Qatalum.
- **Strong dividend history.** Qatalum`s 2016 and 2017 dividend payments imply respective dividend yields of 6.3% and 7.2%. **We note QAMCO will only receive dividends from Qatalum's 2H18 profits for the 2018 fiscal year according to the IPO prospectus**.
- **As of 1H18, Qatalum recorded net revenues and net earnings growth of 11% and 53%, respectively, compared to 1H17,** thanks to an 18% rise in average aluminium prices, both increasing the company`s top line and its EBITDA margin**s. Qatalum`s EBITDA margins rose to 38.4% as of 1H18 vs. 37.2% as of 1H17.**
- **In 2H18, raw material prices rose while aluminium prices trended down.** Global industrial metal prices are on the decline with aluminium prices down 8.6%, steel down 15.9% and copper lower by 6.8% since 1H18. Moreover, aluminium producers also witnessed an increase in alumina prices during 2H18. Nevertheless, alumina prices are normalizing since Oct'18.

Catalysts

1) QAMCO is likely to be fast-tracked into the FTSE EM Index effective after close of business on Thursday December 20, 2018, 2) Announcement of dividends and 3) New capacity plans or other growth initiatives for Qatalum.

Risks

1) Geopolitical risks, 2) Increase in input prices due to procurement contract renewals, 3) A global slowdown, leading to lower aluminium prices and 4) Global aluminium over-capacity.

International Peers

Company	Country	Mcap USDmn	Beta	P/E 2017	P/E 2018e	P/E 2019e	EV/EBITDA 2017	EV/EBITDA 2018e	EV/EBITDA 2019e	EBITDA Margin 2017	EBITDA Margin 2018e	EBITDA Margin 2019e	Dividend Yield 2017	Dividend Yield 2018e	Dividend Yield 2019e
Alcoa	USA	5,336	1.5	9.5	7.8	7.7	2.3	2.6	3.1	20.2%	23.7%	21.2%	0.0%	0.0%	0.0%
Rusal	Russia	5,979	1.3	5.6	3.3	3.2	6.8	6.0	5.6	21.3%	21.0%	22.1%	0.0%	5.1%	5.8%
Hongqiao	China	4,996	1.1	6.6	5.4	4.2	7.8	4.1	3.8	11.6%	22.8%	25.3%	4.1%	5.5%	7.2%
China Aluminium Company (Chalco-H shares)	China	7,045	1.3	34.6	18.9	12.7	8.7	9.3	8.8	8.0%	8.6%	9.2%	0.0%	0.2%	0.5%
Norsk Hydro	Norway	9,590	1.1	9.8	12.2	10.3	5.0	5.4	4.8	15.9%	10.9%	12.1%	4.4%	4.1%	4.5%
Aluminium Bahrain	Bahrain	2,207	1.3	9.0	11.6	6.3	7.5	7.1	3.6	19.3%	19.7%	30.3%	3.6%	4.4%	8.8%
Hindalco	India	7,010	1.2	10.4	8.2	7.8	6.7	5.5	5.3	12.0%	12.0%	12.4%	0.5%	0.7%	0.8%
National	India	1,746	1.2	16.4	6.4	7.8	6.6	7.1	7.2	15.0%	24.0%	24.0%	0.9%	0.8%	0.8%
South32	Australia	12,293	0.9	10.0	9.0	10.4	4.4	4.0	4.4	33.3%	33.5%	30.7%	4.0%	6.0%	4.8%
Aluar Aluminio	Argentina	1,284	0.7	13.5	7.6	7.0	7.1	4.6	4.4	31.5%	27.9%	27.5%	4.2%	4.2%	4.2%
Egyptian Aluminium Company	Egypt	522	0.7	3.8	5.3	8.8	1.9	3.1	3.6	28.8%	26.1%	22.7%	20.5%	11.4%	8.5%
Peer Group Average			**1.13**	**17.5**	**10.8**	**9.5**	**6.3**	**5.7**	**5.4**	**17.9%**	**19.0%**	**19.6%**	**3.2%**	**3.2%**	**3.5%**

Source: Bloomberg consensus figures for international peers

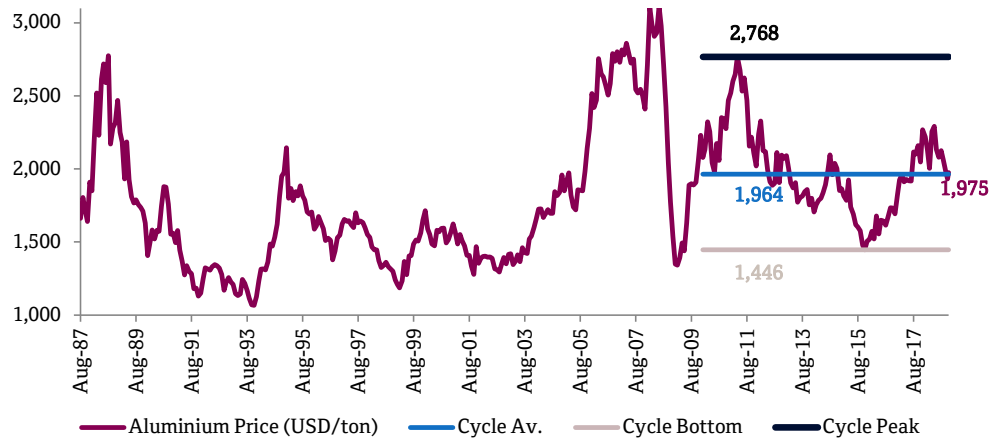
Investment Themes

- **QAMCO's shares are Shari'ah Compliant, which should result in a broader investor base.** We witnessed strong investor interest in the IPO as the offering was oversubscribed 2.5x.
- **Strong relations with its strategically important founding shareholders (Qatar Petroleum and Norsk Hydro) results in low production costs for Qatalum, which is the major edge of the company.** In general, we prefer commodity companies to be integrated with their own mines as such producers are less prone to spot market price volatilities and supply disruptions. Nevertheless, thanks to its committed major shareholders, Qatalum is able to act like an integrated producer. While Qatar Petroleum provides natural gas to Qatalum, Norsk Hydro supports Qatalum's alumina procurement efforts, gives technical support and markets Qatalum's products through its global sales network.
    - **QP's support in natural gas procurement.** Power is the largest cost component for aluminium smelters, accounting for 23-45% of production costs; hence a reliable and cost-effective NG supply is vital for Qatalum. Qatalum has secured a 25-year supply agreement with QP for its gas requirements with an option to extend it for 15 more years. Qatalum uses NG, both to fire up its 1,340MW power plant, as well as to heat its furnaces during casting. Although QP's indirect stake declines in Qatalum after the IPO, QP maintains its representation and control on 50% of Qatalum.
    - **Hydro's support in alumina procurement.** Following electricity, alumina is the second major cost item for an aluminium smelter, accounting for an average c.26% of production costs. Qatalum has an agreement with Hydro for the supply of alumina, which creates a stable source for Qatalum, meeting more than 50% of its alumina requirement. Hydro is the world's 10th largest aluminium producer with a 2017 primary aluminium production of 2.1mn tons and is a major player throughout the aluminium value chain (bauxite mining, alumina refining, co-generation, primary aluminium production, rolling, extrusion and recycling). Along with the world's largest alumina refinery (Alunorte, Brazil), Hydro also owns one the largest bauxite mines in the world (Paragominas, Brazil). Among the world's top 10 aluminium producers, only Chalco has such a wide integration in the aluminium value chain similar to Hydro, whereas the remaining players are either concentrated on the up-stream or the down-stream.
    - **Hydro's support in the global distribution of Qatalum's products.** Norske Hydro distributes 100% of Qatalum's products through its worldwide network. As a result of the Marketing and Offtake Agreement between parties signed in Dec'09, Hydro Aluminium is responsible for the offtake and marketing of 100% of Qatalum's production for 25 years. This agreement obliges Hydro to treat Qatalum no less favourable than other Hydro Aluminium smelters and Hydro Aluminium is obliged to undertake sales with the objective of maximizing Qatalum's net premium revenue. On the other hand, the distribution relationship is mutual as Qatalum acts as Hydro Aluminium's representative for marketing aluminium products in Qatar.
- **Ongoing improvement program (Phase II) targets to cut cash costs by 8% ($120 per ton) until 2021**. Phase I cost cutting project (commenced during 2013-2017) was completed successfully a year earlier than initially planned and reduced cash costs by $150/ton. In 2017, Qatalum launched its Phase II, which targets a further $120 (8%) reduction in cash

costs. If aluminium prices maintain their downward trend, low leverage, strong cash generation and ongoing cost reduction projects are likely to create an edge for the Qatalum shares vs. other listed aluminium producers.

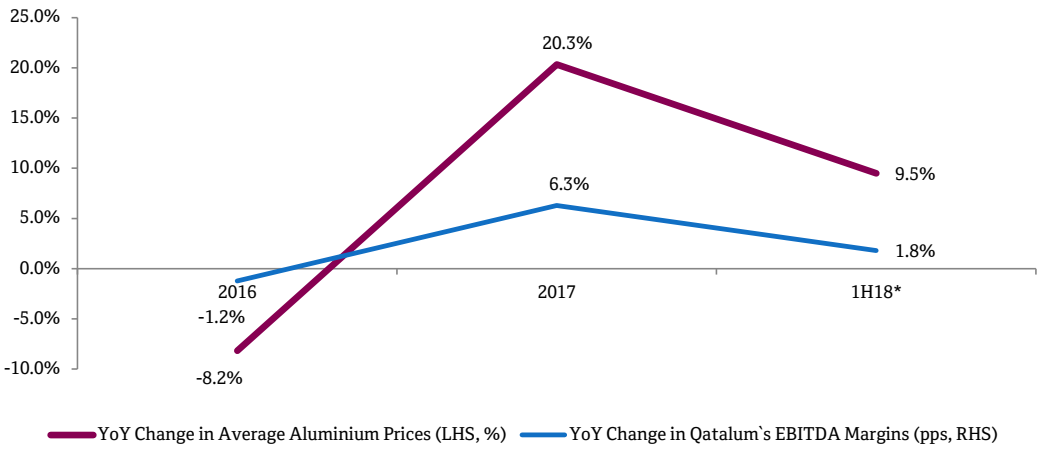
- **Strong financials backed by low leverage and high EBITDA margins.** As of 1H18, Qatalum's total net debt was $1.37bn, accounting for 54% of the company's share capital, while its EBITDA to interest expenses ratio was 9.7x. Low capex ($85mn in 2016, $63.5mn in 2017 and an annualized $60mn as of 1H18), coupled with strong EBITDA margins (38.4% as of 1H18, the highest in our global aluminium producers peer group and notably above the 2018 peer group average of 19%), result in strong cash generation for Qatalum.
- **Strong free cash flow generation may boost the already lucrative dividend yield in the coming years.** Especially due to its sizable depreciation charges (QR1bn in 2017 accounting for 153% of net profits) which depresses its bottom line, Qatalum may occasionally pay dividends based on its 'Distributable Free Cash' in excess of its net earnings, as it has already done in 2016 and 2017.
- **Going forward, Qatalum's tax holiday ends in September 2020 and the company will be due 10% corporate tax in 2021.** However, QAMCO is either expected to receive a tax exemption or (a more likely) a tax rebate for its 50% stake in Qatalum as is the case with Qatar Petroleum's other JVs with foreign partners. Meanwhile, QAMCO will maintain its tax amnesty and will only be obliged to pay its Social & Sports Fund Contribution, which will be 2.5% of PBT, similar to other listed companies.
- **Qatalum's production capacity has already surpassed its initial capacity. In order to sustain future growth, the company may require sizable capex.** The company has a nameplate capacity of 585k tons pa but operates at an annual production volume of 650k tons, as a result of the enhancements/de-bottlenecking realised so far. Qatalum's reduction plant (for smelting) operates at a 108% utilisation rate, whereas its cast house, carbon plant and power plant have CUR's of 105%, 95% and 81%, respectively. The company currently has no expansion plans despite its strong cash generation, which could limit QAMCO's future growth opportunities. Please note revenue expansion as of 1H18 (11% YoY) originates primarily from an 18% rise in average aluminium prices compared to the same period of 2017, not from volume growth.
- **Like any other commodity producer, Qatalum has no control on aluminium prices.** Downward trending prices might mean lower EBITDA margins, as aluminium product prices tend to directly correlate with raw material prices, although energy and labour prices tend to remain more resilient than metal prices during down cycles. **In 2017, average aluminium prices rose by 20.3% vs. 2016 and in 1H18 by 9.5% vs. year-end 2017, which resulted in 6.3pps and 1.8pps rises in Qatalum's EBITDA margins, respectively**.

Aluminium Prices



Source: QNBFS Research

Aluminium Prices vs. Qatalum's EBITDA Margins



*1H18 changes are on YTD basis
Source: QAMCO, QNBFS Research

- **In the long run, secondary aluminium production (using recycled aluminium scrap) may replace primary production to a large extent due to energy efficiencies & environmental issues.** According to the IAI, secondary production is 92-95% more energy efficient than primary production resulting in less emissions. Moreover, secondary production creates less waste and leads to lower transportation costs (alumina refiners have to be based close to bauxite mines and smelters are required to be placed where energy costs are lower. Hence aluminium industry has higher intra-industry transportation costs). Aluminium has a high recycling ratio; aluminium beverage cans can be recycled up to 98%, while aluminium used in construction and automotive industries can be recycled approximately by 90%. Inefficiencies in the scrap collection process (which effectively cuts the beverage can recycling ratio to around 70% even in the US) is likely to be reduced in time as nine EU countries have already reached >90% recycling ratios for beverage cans, with Germany and Finland at 99%. On the other hand, as the global aluminium final product base expands, high quality scrap will be more abundant, which may reduce the requirement for the primary aluminium supply. In 2015, around 27mn tons of recycled aluminium were produced from scrap by refiners and re-melters, compared with 58mn tons of primary aluminium production.

Catalysts

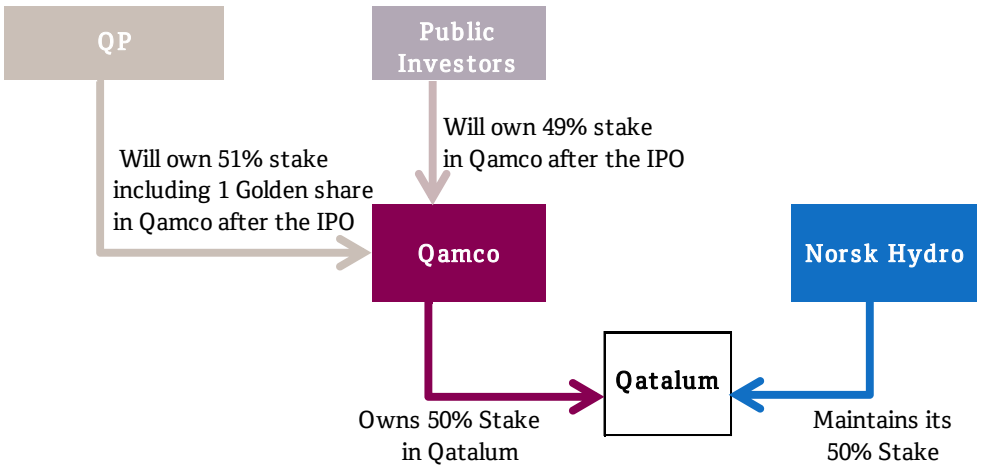
- **QAMCO is likely to be fast-tracked into the FTSE EM Index effective after close of business on Thursday December 20, 2018.**
- **Better than expected dividends.** With dividends being the major driver for investors, better than expected DPS could drive the stock price.
- **An important catalyst for QAMCO would be the announcement of a sizable capacity expansion project at Qatalum.** Given Aluminium Bahrain's ongoing 500k tpa capacity increase capex of $3bn (including a 1,800MW power plant), such an expansion might affect Qatalum's and thereby QAMCO's dividend yield. On the other hand, it will convert QAMCO into a growth stock, hence adding a growth premium to QAMCO's share price. **Although the IPO prospectus states that there are no specific plans for expansion for the time being, Norsk Hydro`s 3Q18 Investor Presentation mentions Qatar - Qatalum as an "expansion potential".** The Joint Venture Agreement between QP and Hydro provides an option to expand Qatalum as well.
- **Expiry or renegotiation of ongoing alumina supply contracts (except the one with Norsk Hydro) in 2020 and 2022 may result in higher alumina procurement costs for Qatalum.** Qatalum's alumina procurement contract with Glencore ends in 2019 and this is likely to be replaced with purchases from the spot market. Qatalum also has an ongoing supply contract with CVRD.

Company Overview

QAMCO is a holding company that owns a 50% stake in Qatar Aluminium (Qatalum), a primary aluminium producer. Qatar Petroleum has recently established QAMCO and placed its 50% stake of Qatalum into QAMCO as capital-in-kind, before offering QAMCO's shares to the public.

Qatalum was established as a JV of Qatar Petroleum and Norsk Hydro Aluminium of Norway in 2008. QAMCO is not expected to be engaged in any other businesses other than keeping Qatalum shares. Therefore, we are focused on Qatalum's operations in this report. In summary, Qatalum uses alumina as the main raw material and benefitting from low energy costs, produces extrusion ingots and foundry alloys, with respective capacities of 350k tpa and 275k tpa. Qatalum's products are used as raw material by the downstream producers, serving mainly automotive, construction, and food & beverage sectors.

QAMCO & Qatalum, (post-IPO)

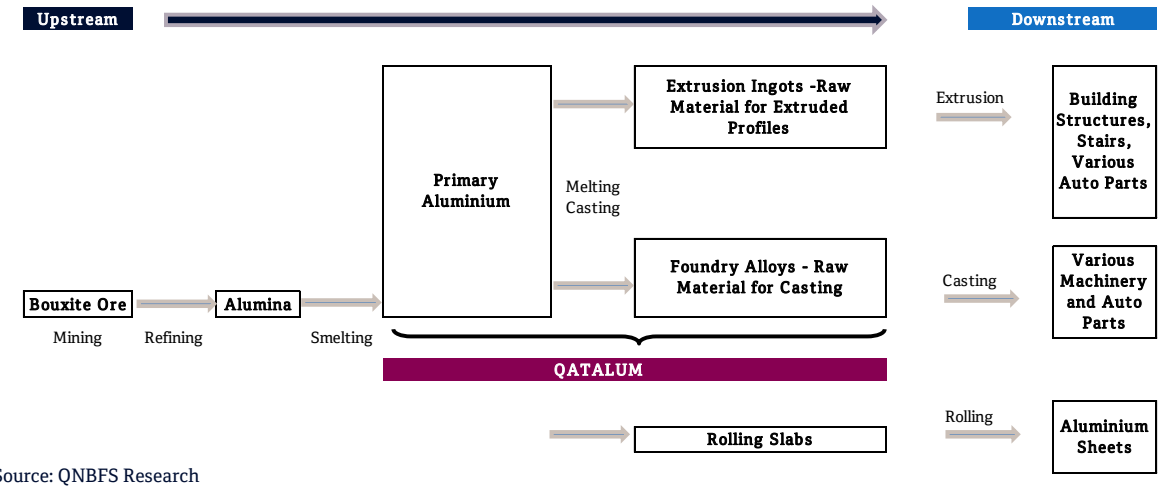


Source: QAMCO

Qatalum`s major shareholders are the strategic assets for the company. QP provides natural gas (NG) to Qatalum whereas Norsk Hydro supports the company in raw material (alumina) procurement, marketing Qatalum's products through Hydro's global sales network and by providing technical assistance to Qatalum. Norsk Hydro runs 10 primary aluminium plants worldwide and with its 2.1mn tons of total production, is the 10th largest global aluminium producer. Norsk Hydro (NHY NO) trades in the Oslo/Norway Stock Exchange with a current market capitalization of $9.6bn.

Qatalum is not a fully integrated operation as it does not have its own mines or aluminium refinery; it procures alumina to produce aluminium. In order to produce aluminium, bauxite ore is first converted to alumina (Aluminium Oxide - AL_2O_3) at alumina refineries. Qatalum does not have its own refinery; it procures alumina and smelts it into aluminium at its reduction plant (nameplate capacity: 585k tpa) by using the Hall-Heroult electrolysis process. Qatalum's reduction plant has two pot-lines of 1.2kms each, and produces liquid aluminium, which is then treated in fluxing stations to eliminate impurities.

Aluminium Value Chain & Qatalum



Source: QNBFS Research

Qatalum's cast-house produces extrusion ingots and foundry alloys with annual capacities of 350k tpa and 275k tpa, respectively, from the aluminium smelted by its reduction plant. Aluminium produced in the reduction plant is heated in the gas fired furnaces and cast into desired products. Meanwhile, Qatalum's carbon plant produces carbon anodes that are consumed during the smelting process and the anode service plant does the cooling of spent anodes, bath electrolyte handling as well as anode rodding.

- **Power Plant:** Aluminium smelting process is highly energy intensive (electricity and gas accounts for 23-45% of COGS of a smelter) and thanks to its natural gas-fired power plant capacity of 1,340MW, Qatalum is able to co-generate its electricity requirement itself cost effectively. Qatalum's power plant operates at an expected capacity utilisation of 81% in 2018. Qatalum procures the natural gas from Qatar Petroleum via a 25-year contract which grants an option to Qatalum for a 15-year extension.

Aluminium Industry Overview & Outlook

Overview

Aluminium is the second most consumed metal on earth, following steel. Aluminium is also the most abundant metal on earth making c8% of the earth's crust, and the third most abundant material, following oxygen and silicon. Aluminium is not found in pure form; hence, the main raw material for aluminium is mainly bauxite ore, which includes 30-60% aluminium oxide. Australia is the major bauxite ore supplier globally, providing 28% of the global supply (300mn tons as of 2017), followed by China (21%), Guinea (15%) and Brazil (12%). These four countries provide 76% of the global bauxite ore as of 2017. Meanwhile, according to the U.S. Geological Survey Mineral Commodity Summaries Report, global bauxite resources are estimated around 55-75bn tons; hence, there is no raw material depletion threat for primary aluminium producers in the horizon.

Although it is more expensive than steel, aluminium has substantial advantages vs. steel such as weighing c66% lighter vs. steel, which is a major selling point especially for the automotive sector as automotive producers are constantly looking for ways to reduce vehicle weights in an attempt to reduce carbon emissions. Aluminium does not corrode or rust; it is non-magnetic and similar to steel, and it can be welded, riveted, bonded and bolted and is recyclable. Aluminium can also be utilized as a cost-effective substitute of copper; although it has c60% of the copper's conductivity, it weighs and costs 30% and 31% of copper, respectively.

Global primary aluminium production rose by a CAGR of 5.2% during 2012-17, reaching 63.4mn tons as of 2017 according to the International Aluminium Institute (IAI). However, production growth might decelerate over the next 10 years in line with the decelerating global demand growth expectations. Asian (ex-China) demand rose by a CAGR of 9.3% over the last five years to 3.95mn tons, whereas Chinese production expanded at a CAGR of 8.8% reaching 35.9mn as of 2017. China

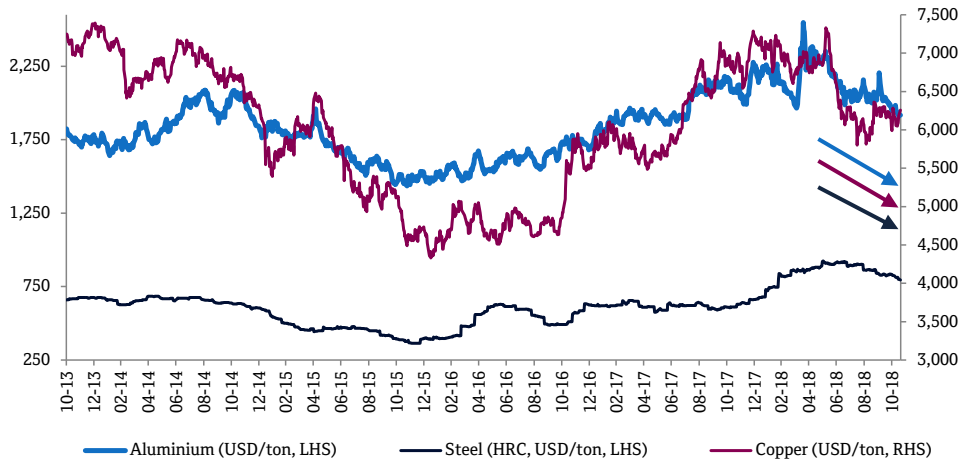
has the highest primary smelting capacity in the world and according to the CRU, Chinese smelting capacity is expected to reach 49mn tpa as of 2018, corresponding to 54% of the global capacity.

Following China, the GCC region is the second largest aluminium producer in the world, thanks to its low energy costs. With its 5.5mn tons pa capacity, the GCC ranks second in global aluminium production. Primary aluminium production in the GCC rose by a CAGR of 7.1% during 2012-17, reaching 5.15mn tons as of 2017, comprising 8% of the world's production. UAE's Emirates Global Aluminium (EGA) is the largest producer in the GCC with its estimated 2.6mn tons of capacity as of 2017, followed by Aluminium Bahrain (c0.86mn tons), Qatalum (production: 650k), KSA's Maaden (720k) and Oman's Sohar Aluminium (375k).

Aluminium Trends

In line with the expected US rate hikes in 2019, industrial commodity prices could maintain their downward trend in 2019. We expect aluminium to not to be an exception and decline by 5% in 2019. In Apr'18, US initiated sanctions on the world's second largest aluminium producer Rusal and it resulted in a spike in aluminium prices from $2,000/ton to $2,500. However, the rally was short lived, as prices fell back to $2,000 by Jul'18. With its 3.2mn tons aluminium production in 2017, Rusal comprises 6% of the global aluminium production, most of which is exported outside of Russia. Later during 2H18, we observed that aluminium smelters could not reflect the raw material price hikes (primarily at alumina) to their final products, which is another demonstration of the weakness in global aluminium demand. Since 1H18, aluminium prices fell by 8.6% as of Dec'18, whereas steel (generic hot rolled coil) declined by 15.9% and copper by 6.8%.

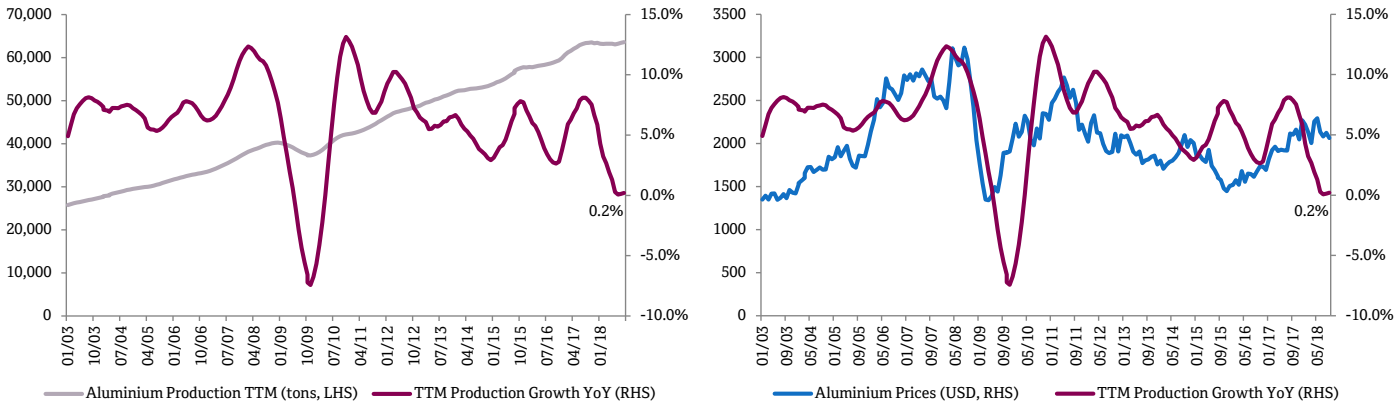
Aluminium Prices vs. Other Major Industrial Metals



Source: Bloomberg

Going forward, the macro backdrop in 2019 may also not be supportive for commodity prices with reduced global growth expectations. On top of an expected two rate hikes in the US, for the first time since the 2009 crisis, major central banks are expected to drain money from the global markets in 2019, with the ECB likely to stop its quantitative easing and the US Fed shrinking its balance sheet by $600bn. Rate hikes, bolstered with de-leveraging and coupled with trade war tensions may impact emerging markets growth, which has been a key driver for the aluminium demand growth over the last couple of years. In line with our slowdown expectations for 2019, in Oct'18 IMF reduced its global growth expectation for 2018 & 2019 by 0.2% to 3.7% each. For China, IMF cut its 2019 growth estimate by 0.4% to 6.2%.

Global Aluminium Production, Prices & Growth



Source: IAI

As of Sep'18, trailing 12 months global aluminium production was 63.2mn tons, flattish vs. Sep'17 with a 0.2% growth YoY. We note since the 2009 crisis, trailing 12 months global aluminium production growth never declined to the zero percent neighbourhood on a YoY basis. Even during Apr'11-Dec'15 when aluminium prices fell from $2,768 to $1,446, global TTM production growth did not retreat below 2.9%, which was the lowest level over that time period.

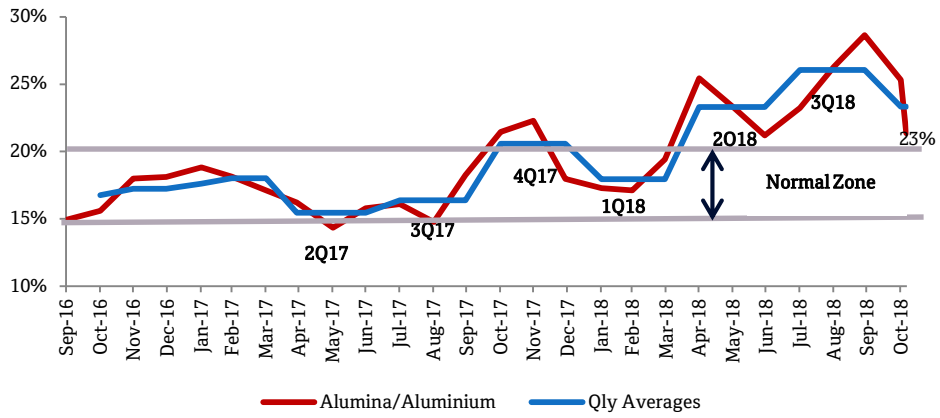
China continues to build aluminium smelting capacity in spite of its low capacity utilization rates (CUR). Given that ex-China CUR of primary aluminium plants are at an estimated 90%, China's CUR of 74% implies a 9mn tpa excess capacity. Despite its low capacity utilization rates, China added 1.3mn tpa new capacity in 2017, whereas the rest of the world added a mere 100k tpa to its established base. Regardless of the current excess capacity, approximately 3mn tpa new capacity (5% of China's 2017 capacity) is anticipated to be commissioned in China during 2018. Over the medium term, Chinese production growth is expected to slow down due to environmental concerns as 75% of the required energy for primary aluminium in China is produced via burning coal. During the 2018-19 winter heating season (from Nov 15, 2018 to March 15, 2019), the Chinese Ministry of Industry and Information Technology obliges aluminium and alumina producers to cut their production by an average of 30%. While the four-month cut effectively reduces the Chinese capacity by 10%, with the new capacity to be installed in 2018, China is still likely to have an effective excess capacity of 6mn tpa.

As Chinese smelting capacity is primarily held by state-controlled companies (privately owned companies comprise a mere 28% of the sector capacity), we think a natural selection process within market dynamics (that could lead to production capacity rationalization) may not take place in the foreseeable future. On the positive side, production rationing decisions (depending on the demand and/or environmental conditions) can be taken quickly in China, thanks to the concentrated state ownership. Meanwhile, Chinese local aluminium consumption is estimated as 36.9mn tpa for 2018, implying a 6% rise (2.1mn tons) over 2017. Given 37.3mn tons of production expectations for China, it seems Chinese supply and demand is barely balanced for the time being with local production is a mere 0.4mn tons above the local demand.

Cost pressures mount in 2H18 but may not be fully carried into 2019. Global alumina prices rose by 13% in 2H18 vs. 1H18 while they were 37% higher YoY as of Jan-Nov'18 due to supply concerns following: 1) Norsk Hydro's dispute with Brazilian authorities on its Alunorte alumina refinery, forcing the world's largest alumina refinery to operate at half capacity. In 2017, Alunorte was anticipated to produce 6.4mn tons of alumina, corresponding to 5.1% of global and 11.5% of ex-China global production. 2) Strikes at a number of bauxite mines and alumina refineries in Australia 3) Recent US sanctions, which has made many producers hesitant to purchase alumina from sanctioned Russian companies. As a result of these developments, alumina prices, which started 2018 at $400/ton, peaked at $625 in Sep'18, before falling to $412 as of Dec'18. Although Hydro reached an agreement with the Brazilian authorities in Oct'18, it may take a couple of months for its refinery to produce alumina at full capacity. Note that 1.9-2 tons of alumina is required as raw

material to produce 1 ton of aluminium; hence, alumina is one of the major items in aluminium producers' COGS.

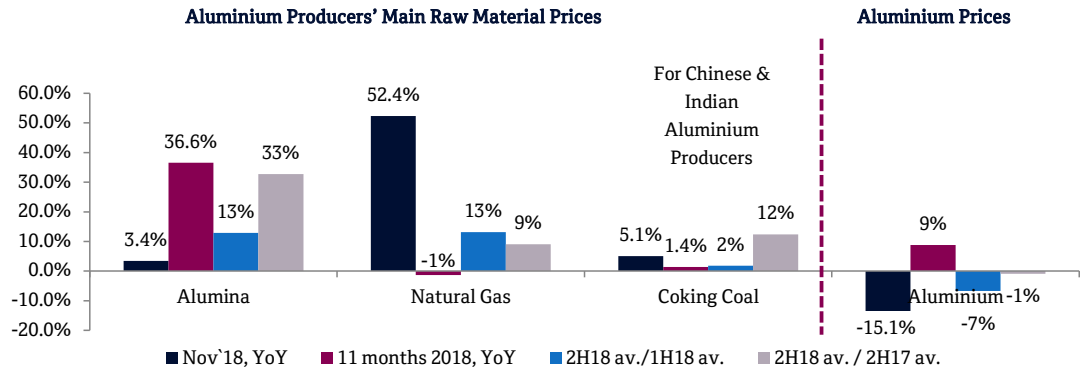
Aluminium Prices vs. Alumina Prices



Source: Bloomberg, QNBFS Research

Besides alumina, energy costs have also risen for aluminium producers in 2018, which may impact producers' margins. Electricity is a major cost item in the aluminium smelting process and feedstock prices for electricity generation also rose during 2H18, by 9% YoY for natural gas and a 12% for the coking coal. While GCC aluminium producers lean on natural gas to feed their power plants, 75% of Chinese producers' electricity supply is generated by coal-fired power plants. Due to the expectations for a cold winter, low US inventories (16% below their 5-year average), coupled with the ongoing short covering in secondary NG market contracts, secondary market natural gas prices surged by 40% since Oct'18 to $4.59/mmbtu. Compared to Nov'17, NG prices are also up 52.4% as of Nov'18.

Aluminium Producers' Main Raw Material Prices vs. Aluminium Prices



Source: Bloomberg

On the positive front, while alumina prices seem to be normalizing by Dec'18, natural gas prices may also follow the decline in oil prices with some time lag, once the short-covering ends. Agreement reached between Hydro-Alunorte and Brazilian authorities has brought alumina prices to $412/ton, implying a mere 3.4% rise vs. Nov'17. Since the beginning of Oct'18, oil prices (Brent) fell by 26% to $63/b, which may also bring NG prices lower in the following months, once the secondary NG market stabilizes.

Slower demand growth, falling aluminium prices, coupled with rising feedstock prices (alumina, natural gas and coal) may force low-margin producers to reduce their production, which may create an opportunity for high-margin players like Qatalum. Norsk Hydro expects global primary aluminium demand to increase by a moderate CAGR of 3% during 2017-2027. While Chinese producers' excess

capacity looms over the sector, cost pressures may limit the supply, reducing the pressure on aluminium prices and bringing at least a temporary balance to the aluminium sector.

Following the US, we do not anticipate any more countries to impose tariffs on imported aluminium. In 2018, United States imposed tariffs on steel and aluminium imports, which was retaliated by China imposing tariffs on U.S. soybeans and other food products. We do not anticipate other countries to follow the US' practice as: 1) Global capacity utilization in aluminium (ex-US & China) is at c.90% as of 2017; hence, introducing new tariffs should not bring economic benefit to any country (with the exception of the US, which has the lowest capacity utilization in aluminium production at 37%). 2) Even though US had ample unutilized aluminium capacity, U.S. aluminium prices rose by 11% relative to their LME benchmark after the tariffs, impacting negatively on local inflation and consumer welfare. 3) Such tariffs are also retailed by the adversely affected countries, reducing the benefits of tariffs and creating tension between countries.

Recommendations	
Based on the range for the upside / downside offered by the 12-month target price of a stock versus the current market price	
OUTPERFORM	Greater than +20%
ACCUMULATE	Between +10% to +20%
MARKET PERFORM	Between -10% to +10%
REDUCE	Between -10% to -20%
UNDERPERFORM	Lower than -20%

Risk Ratings	
Reflecting historic and expected price volatility versus the local market average and qualitative risk analysis of fundamentals	
R-1	Significantly lower than average
R-2	Lower than average
R-3	Medium / In-line with the average
R-4	Above average
R-5	Significantly above average

Contacts

Saugata Sarkar, CFA, CAIA
Head of Research
Tel: (+974) 4476 6534
saugata.sarkar@qnbfs.com.qa

Zaid Al Nafoosi, CMT, CFTe
Senior Research Analyst
Tel: (+974) 4476 6535
zaid.alnafoosi@qnbfs.com.qa

Shahan Keushgerian
Senior Research Analyst
Tel: (+974) 4476 6509
shahan.keushgerian@qnbfs.com.qa

QNB Financial Services Co. WLL
Contact Center: (+974) 4476 6666
PO Box 24025
Doha, Qatar