

Research

Norsk Hydro ASA

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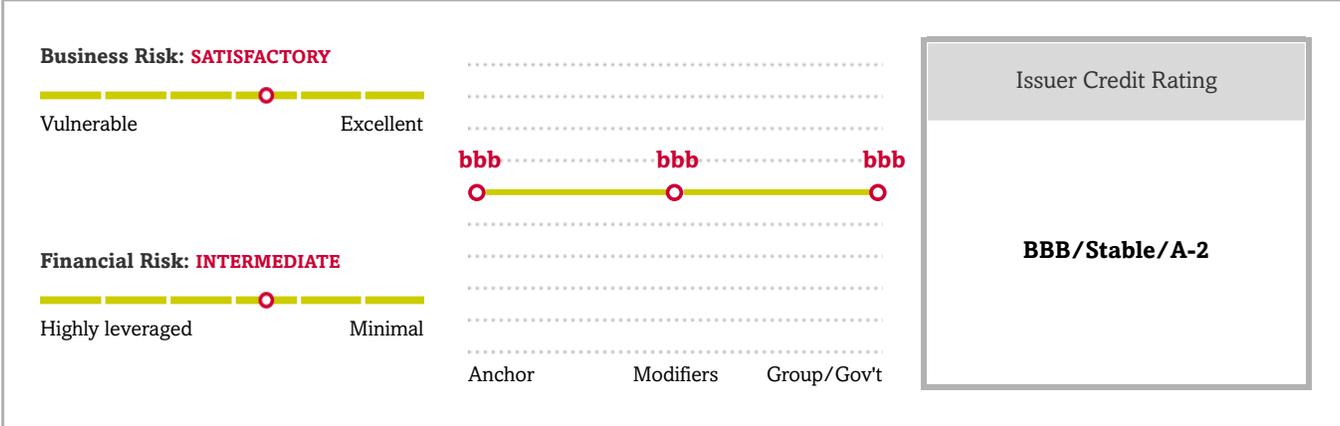
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Norsk Hydro ASA



Credit Highlights

| Overview | |
|--|--|
| Key Strengths | Key Risks |
| Tenth-largest producer of primary aluminum (2.1 metric tons [mt] annually) globally, fully integrated into bauxite, alumina, power, and downstream operations. | Exposure to volatile aluminum industry conditions. |
| Position in the second quartile of the industry's cost curve. | High cash flow volatility, mainly driven by the cyclicity of aluminum prices. |
| Relatively stable profit and free cash flow contribution from its own electricity generation hydro plants in Norway. | Limited pressure on dividends. |
| Conservative financial policies and demonstrated commitment to keep modest leverage, with limited pressure on dividends. | Achieving sustainable operations in Brazil with a positive contribution after multiple accidents previously. |

Norsk Hydro's Brazil-based assets are on the path to full ramp-up. In May 2019, restrictions to limit the operations of the Alunorte plant at 50% of capacity were lifted, and since then the company has been ramping up its production to achieve a utilization rate of about 75%-85%. It aims to reach 90% or more in 2020. The restrictions not only affected production at Alunorte, but also bauxite production in Paragominas--which had to cut 50% of its production--and the company's primary aluminum operations.

Operation disruptions hit the company's Brazilian operations in February 2018 following heavy rainfalls and flooding. This led to the bauxite and alumina divisions performing weakly in 2018 and 2019 and also saw the primary aluminum division suffer side effects.

Risks of civil and criminal charges were cleared in September 2019 when the Brazilian federal court lifted the final embargo on Alunorte's new bauxite residue disposal (DRS2). Hydro can now resume its transition from the old bauxite-residue-deposit area (DRS1) to a new one (DRS2).

The main challenge facing the company is to ensure sustainable and profitable operations in Brazil. Since the company bought the assets in 2010 from Vale, it has recorded disappointing results and has had multiple operational issues leading to under performance and low returns (e.g. external power outages that led to higher alumina sourcing costs for FY2013).

After weak results in 2019, we expect credit metrics to recover in 2020 This year's likely soft results will stem from a combination of declining aluminum prices (about \$1,800/mt in 2019 versus \$2,100/mt in 2018), a Norwegian krone (NOK) 550 million EBITDA loss from a cyber-attack, and Alunorte-driven cost profile pressures. Under our base case, we expect adjusted funds from operations (FFO) to debt to be slightly below 40% compared to the multi-year average of 40% or more that we view as commensurate with the rating at the bottom of the cycle.

While weak industry conditions are here to stay, a recovery from the multiple business interruptions in 2019 should translate into higher EBITDA. Together with other cost-cutting initiatives we believe that the company should be able to restore its adjusted FFO to debt to more than 40% starting 2020 and gradually build headroom under the rating.

Outlook: Stable

Our stable outlook reflects that Norsk Hydro will likely materially improve its operations starting 2020 and meet its own financial objectives while current aluminium industry conditions remain very challenging.

Under our base-case for 2020, which incorporates an aluminium price of \$2,000 per ton in 2020, we expect the company to report S&P Global Ratings-adjusted EBITDA of NOK17 billion-NOK20 billion in 2020. We also forecast S&P Global Ratings-adjusted FFO to debt in the range of 40%-45% in 2020 after an estimated trough of slightly less than 40% in 2019. In addition, we expect a positive discretionary cash flow (free cash flow after capex and dividends) of about NOK4 billion-NOK6 billion in 2020.

We view adjusted FFO to debt of 40% through the cycle--together with positive discretionary cash flow (free cash flow after capex and dividends)--as commensurate with the current rating. Furthermore, during the low point of the cycle the ratio could drop temporarily to 35% or slightly lower without putting immediate pressure on the rating. On the flipside, when aluminium prices are high we expect the company to present an adjusted FFO to debt well about 45%, building some headroom to absorb the cyclicity of the industry.

Downside scenario

Despite the current weak industry conditions, we do not view a rating downgrade as likely in the coming 12 months. Such a scenario would probably be triggered by:

- A material decline in demand for aluminium leading to further pressure on prices. According to our calculations, a drop of \$100/ton in aluminium prices from our current base case, would lead to our adjusted FFO to debt remaining below the 40% threshold in 2020, all else being equal.
- A delay ramping up the Brazilian operations.

Other triggers may include a large debt funded acquisition or a material revision in the capex program. However, we do not see this scenario as realistic over the short term.

Upside scenario

At this stage, we see a higher rating on Norsk Hydro as unlikely in the coming 12-18 months. An upgrade would be supported by Norsk Hydro consistently achieving the following:

- A financial policy consistent with adjusted FFO to debt above 60% over the cycle. To date, the financial policy includes a commitment to maintain FFO to debt above 40% over the cycle.
- Maintaining a low debt level and positive DCF through the cycle.

Our Base-Case Scenario

Industry Trends

Global trade tensions and the potential risks to global growth have led to lower demand for aluminium, albeit staying positive, in the world (excluding China) and translated into weak prices of about \$1,800/mt in 2019, compared to more than \$2,100/ton in 2018.

The global aluminium cost curve has also come down as a result of lower alumina prices. Alumina and the LME aluminium price have been trading recently at 16%-17% in line with historical levels, which should provide a respite to smelters following the sharp alumina price spike in 2018. However, at current prices of about \$1,800/mt, we note a significant portion of capacity is currently producing at a cash loss, which may lead to more capacity curtailments, further supporting a price recovery.

Our positive outlook for aluminium prices continues to factor in the demand and supply imbalance in the industry. In our view, even with muted demand of about 1%-2% in 2020, the aluminium industry (excluding China) will remain in a structural deficit (about 1.0mt-1.5mt), leading to lower inventory levels, which should support a recovery in prices over time.

At this stage, we believe the downstream activities will remain the most vulnerable to the weaker economy. For example, Norsk Hydro expects the demand for extruded products to fall by 3% in both Europe and North America in 2019.

Our Base-Case Scenario

With weak aluminium prices and operations distributions, we expect Norsk Hydro to post very weak results, with an adjusted EBITDA of about NOK13 billion for FY2019, compared to more than NOK17 billion in 2018.

In March 2019 the company was a victim of a cyber-attack, with an overall impact of about NOK550 million. The ransom attack caused disruptions across the organization with some operations switching to manual mode or shutting down production. The extrusion division fared the worst. We understand that the company's insurance policy should compensate for the related losses (at this stage it has received relative small amounts with additional proceeds to be received in the coming months). The company used the accident as an opportunity to improve its IT and cyber security systems.

Another drag on performance was restrictions on the company's operations in Brazil. In the first half of the year, it utilized only 50% of its upstream capacity with only a gradual ramp up during the second half. The limitations on its upstream operations had a knock-off effect on its primary aluminium operations (increasing its proportion sourced externally to compensate for the lowered alumina output). The company expects to further ramp up its production, aiming to achieve utilization rates of 90% or more by the end of the year, leading to an improvement of NOK2.7 billion.

Despite weak results and relatively high capex and a sizable dividend payout, Norsk Hydro will be able to achieve breakeven discretionary cash flows (free cash flows after capex and dividends) in 2019. This will maintain its current favorable debt position; as of Sept. 30, 2019 reported net debt was NOK14.5 billion and adjusted debt was 33 billion.

To address the challenging industry conditions the company is focusing on restructuring its downstream businesses, closing two extrusion plants in the U.S. and six plants in Europe, and further improving its product mix in favor of growth markets like automotive and package cans from packaging foil and lithographic sheets. With these initiatives, Hydro targets to add NOK3.7 billion (or NOK6.4 billion including Brazil) to EBITDA sustainably by 2024. As part of our base-case scenario, we have factored in a modest contribution from those initiatives.

Looking to 2020, which promises slightly better aluminium prices and no operation disruptions, we expect the company to record EBITDA of NOK17 billion-NOK20 billion. This will translate into positive discretionary cash flow (free cash flow after capex and dividends) and ultimately adjusted FFO to debt above 40%. We believe that in the coming 12-18 months, the company will aim to further build some financial capacity to accommodate market uncertainty rather than increasing capex or shareholder returns.

However, this is subject to aluminium prices. According to our calculations, a change of \$200/t in the 2020 aluminium price would alter Norsk Hydro's S&P Global Ratings-adjusted EBITDA by about NOK3 billion all else being equal.

| Assumptions | Key Metrics | | | |
|--|---|--------------|--------------|--------------|
| <ul style="list-style-type: none"> On top of aluminium prices we continue to factor in a significant physical premium. We think that that elevated premium levels (around \$400/mt in the U.S., \$150/mt in Europe and Asia) may persist in the medium term. In the Energy Division, an EBITDA contribution of about NOK1.2 billion compared to NOK1.3 billion-NOK2.1 billion in the last five years. Proportional consolidation of 50% in the Qatalum JV. We estimate Norsk Hydro's share in the venture's EBITDA at NOK1.7 billion-NOK2.2 billion in 2019-2021 (NOK2.1 billion in 2018). Restructuring costs of about NOK1 billion over 2020-2022. Working capital inflow of NOK2.5 billion in 2019 and NOK1.5 billion in 2020 (which is largely a reversal of the NOK6.3 billion outflow in 2018). Consolidated capex, including the share in Qatalum, at NOK9.0 billion-NOK10.0 billion per year in 2019-2021 (NOK7.4 billion in 2018). Dividends of about NOK2.6 billion in line with the stated policy of 40% of net income (NOK3.6 billion in 2018). No significant M&A activity. | | 2018A | 2019E | 2020E |
| | U.S. GDP growth (%) | 2.9 | 2.3 | 1.7 |
| | Eurozone GDP growth (%) | 1.9 | 1.2 | 1.1 |
| | US\$/NOK | 8.7 | 8.7 | 8.3 |
| | US\$/R\$ | 3.8 | 4.1 | 4.2 |
| | Aluminium Production (million mt) | 2.0 | 2.0-2.1 | 2.0-2.1 |
| | Aluminium prices (\$/mt) | 2,108 | 1,800 | 2,000 |
| | Adjusted EBITDA (bil. NOK) | 18 | 13 | 17-20 |
| | Adjusted Debt/EBITDA* (x) | 1.7 | 2.2-2.3 | 1.4-1.6 |
| | Adjusted FFO/debt (%) | 44.7 | 35-40 | 40-45 |
| | DCF @1 (bil. NOK) | (3.0) | Breakeven | 4.0-6.0 |
| | <p>@1 Discretionary cash flow (free cash flow after capex and dividends). A--Actual. E—Estimate</p> | | | |

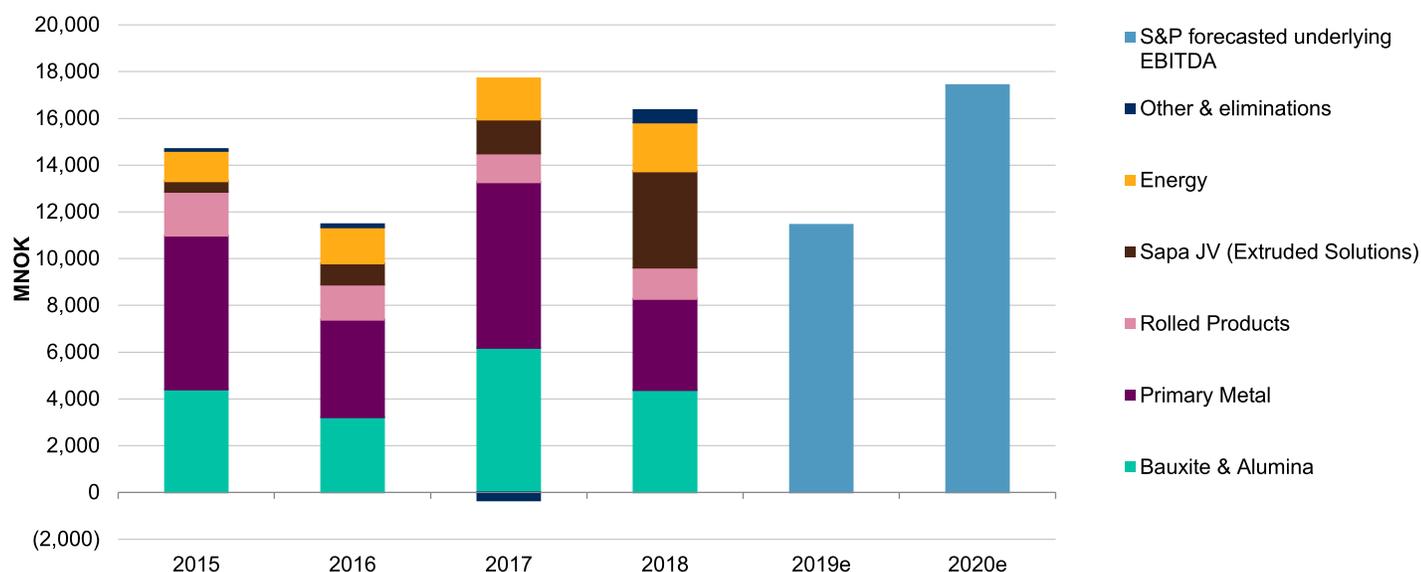
Company Description

Norsk Hydro is the world's tenth-largest primary aluminium producer and is fully integrated. Norsk Hydro's portfolio includes:

- Primary aluminium (27% of EBITDA in 2018) with nine smelters with capacity of 2.1mt, of which about 50% is in Norway, and the remainder in Germany, Qatar, Canada, Australia, Brazil, and Slovakia. The smelters are in the second quartile of the global cost curve.
- Bauxite and alumina operations in Brazil (24%), covering their own smelting operations' needs but also sold to other companies. Norsk Hydro's Alunorte refinery is positioned in the second quartile of the global cash cost curve.
- Hydro power plants (13%).
- Downstream business (33%), including recycling, rolling, and extruded products.

Chart 1

Norsk Hydro's reported underlying EBITDA 2015-2020



e: S&P Global Ratings estimate. Source: Norsk Hydro company presentation and S&P Global Ratings. Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Business Risk: Satisfactory

Our assessment of Norsk Hydro's business risk profile balances the cyclicity of the mining industry against the company's competitive advantage and its operations across the aluminium chain value. The company is a key player

in the aluminium market, which is characterized by high barriers to entry (being very capital-intensive) and a moderate degree of concentration among the biggest producers. The company is fully integrated into bauxite, alumina, power, and downstream, where it has a leading position in certain sub-segments.

Bauxite and Alumina Division

Norsk Hydro's upstream operations include a single bauxite mine, Paragominas. The mine is located in Brazil with an annual production of about 12mt. In addition, the company has a minority stake (5%) in the Mineração Rio do Norte (MRN) bauxite mine.

The mine's output is further processed by the company's first quartile 6.5mt alumina refinery, Alunorte. The company is more than self-sufficient (about 140%), and the excess production is being sold to third parties. Historically the company's alumina sales were linked to aluminium prices. As the legacy contracts are being wound-up, the division's results will be more closely linked to the evolution of alumina prices.

Despite the competitive nature of the assets, the company has seen only modest returns on its assets since the acquisition from Vale in 2010, with EBITDA ranging between NOK0.7 billion and NOK5.8 billion. It has experienced two operational issues (in 2013 and in 2018) that resulted in low productivity. The company's main objective in the coming year is to achieve operational reliability. After getting the regulatory approvals in May 2019, the company is making progress toward restoring its refinery production, reaching a utilization rate of 90% or more by the end of 2020 (currently at about 75%).

Primary Aluminium Division

The company is considered a sizable aluminium producer, with nine smelters with capacity of 2.1mt (representing a market share of less than 10%, excluding China). About 50% of capacity is in Norway, with the remainder in Germany, Qatar, Canada, Australia, Brazil, and Slovakia. The smelters are in the second quartile of the global cost curve.

Energy Division

Norsk Hydro is the largest private-owned power producer in Norway with operating ownership interests in 26 hydroelectric power plants, and 11 terawatt hours production covering about one-third of Norsk Hydro's internal needs.

The company's future energy needs is broadly secured, either from current captive power plants or under contracts with third parties.

We consider the company's energy portfolio to be a stable cornerstone of Norsk Hydro's business risk profile, supporting its competitive position. If the division's earnings were credited to the primary aluminium division, we estimate it would reduce the company's average smelter unit cash cost by \$150-\$200 per ton. In comparison to the volatile nature of the aluminium business, the energy division's cash flows are rather stable (some variation from one year to another will be a function of rainfalls and weather conditions). We identify two pockets of concerns:

- Lower prices and more volatility over the medium term with the ramp up of new renewable projects, mainly wind.
- Asset reversion. Norsk Hydro currently operates its power plants under Norwegian state concession terms, under which the assets return to public use. We understand that the company is working on different restructuring alternatives within the regulatory framework to secure future access to physical power and maintain the value of its

assets. The first milestone is set to be in 2022 when the 3TWh Roldal-Suldal hydro power plant reaches the reversion year.

Downstream Division

The segment includes rolled products, extruded solutions, and secondary aluminium recycling. The aluminium downstream industry is considered to be highly fragmented, with many small players operating in different sub-segments and locations. Norsk Hydro is a leading player: the second largest in European rolled products and the largest in North American extrusion solutions. With the full consolidation of SAPA from 2017, Norsk Hydro has become the world leader in extruded aluminium products used in construction and car-making.

Compared to the company's other divisions, the downstream business is very low margin (rolled products reported underlying EBITDA margins of 5.0% in 2018 and extruded solutions underlying EBITDA margins of 24% in 2018). At the moment we see two opposite trends that would have also been mirrored by profitability levels. Extrusion products face shrinking demand both in Europe and the U.S. while rolled products are seeing demand growth mainly from the automotive industry.

Peer comparison

Table 1

| Norsk Hydro--Peer Comparison | | | |
|--|-----------------|---------------|-------------------|
| Industry sector: Mining | | | |
| | Norsk Hydro ASA | Alcoa Corp. | Arconic Inc |
| Ratings as of November 27, 2019 | BBB/Stable/A-2 | BB+/Stable/-- | BBB-/Negative/A-3 |
| --Fiscal year ended Dec. 31, 2018-- | | | |
| (Mil. \$) | | | |
| Revenue | 19,105 | 13,403 | 14,014 |
| EBITDA | 2,033 | 3,001 | 2,034 |
| Funds from operations (FFO) | 1,567 | 2,354 | 1,523 |
| Interest expense | 166 | 168 | 424 |
| Cash interest paid | 93 | 140 | 437 |
| Cash flow from operations | 949 | 503 | 1,241 |
| Capital expenditure | 854 | 385 | 745 |
| Free operating cash flow (FOCF) | 95 | 118 | 496 |
| Discretionary cash flow (DCF) | (323) | (610) | 377 |
| Cash and short-term investments | 804 | 1,113 | 2,277 |
| Debt | 3,507 | 3,352 | 7,373 |
| Equity | 10,473 | 7,394 | 5,548 |
| Adjusted ratios | | | |
| EBITDA margin (%) | 10.6 | 22.4 | 14.5 |
| Return on capital (%) | 7.4 | 20.2 | 11.5 |
| EBITDA interest coverage (x) | 12.3 | 17.9 | 4.8 |
| FFO cash interest coverage (x) | 17.9 | 17.8 | 4.5 |
| Debt/EBITDA (x) | 1.7 | 1.1 | 3.6 |
| FFO/debt (%) | 44.7 | 70.2 | 20.7 |

Table 1

| Norsk Hydro--Peer Comparison (cont.) | | | |
|---|------------------------|--------------------|--------------------|
| Industry sector: Mining | | | |
| | Norsk Hydro ASA | Alcoa Corp. | Arconic Inc |
| Cash flow from operations/debt (%) | 27.1 | 15.0 | 16.8 |
| FOCF/debt (%) | 2.7 | 3.5 | 6.7 |
| DCF/debt (%) | (9.2) | (18.2) | 5.1 |

The primary aluminium industry is fairly fragmented. In this respect, Norsk Hydro's capacity (2.1mt) is in line with Alcoa Corp (about 2.2mt), but smaller than Chalco (3.8mt).

We believe that Norsk Hydro's position along the aluminium value chain makes it more diversified than its immediate peers, which are mainly focused on primary aluminium. However, Norsk Hydro's exposure to downstream activities translates into overall lower EBITDA margins.

We understand the Alcoa's smelters are better positioned on the global cash cost curve, while Chalco's smelters are positioned in the third and fourth quartiles. On the other hand, we view Alcoa's operating efficiency as somewhat inferior compared to Norsk Hydro's, which results in our stronger assessment of Norsk Hydro's competitive position.

Arconic has a strong footprint in the high-value added aerospace and automotive sectors, and benefits from the solid positions of many of its products and long-standing customer relations. This, we think, should stabilize earnings through diversification and economies of scale. Norsk Hydro, in comparison, is more exposed to market and prices volatility, in our view, but also enjoys relatively stable earnings and cash flows from its energy division.

Financial Risk: Intermediate

Our assessment of Norsk Hydro's financial risk profile is based on the company's ability to maintain adjusted FFO to debt of 40% through the cycle, together with positive discretionary cash flow (free cash flow after capex and dividends). Furthermore, during the low point of the cycle the ratio could drop temporarily to 35% or slightly lower without putting immediate pressure on the rating. On the flipside, during periods of high aluminium prices we expect the company to present adjusted FFO to debt well about 45%, building some headroom to absorb the cyclicality of the industry. In the last five years it has maintained material rating headroom, allowing it to accommodate low aluminium prices and material acquisitions without pressuring the rating.

On the back of weak aluminium prices and operational issues in 2019, the company's adjusted FFO to debt is expected to be 35%-40%, before bouncing back to 40% or more in 2020.

As of Sept. 30, 2019, its reported net debt was NOK14.5 billion, or close to NOK20 billion when adding the reported net debt at Qatalum and other equity accounted investments. We view the company's maturity profile as manageable when fully covered by an ample cash balance.

Long track record of a supportive financial policy

We consider that Norsk Hydro's financial policy, which includes a commitment to an investment grade rating and maintaining FFO to debt of at least 40% (its own definition is slightly different and less demanding compared to our measure). Additionally, it targets less than 55% adjusted net debt to equity target.

In terms of growth, the company targets long-term sustainable capex below its depreciation level (NOK5.5 billion-NOK6.0 billion), with additional investments in selective value-add projects. In 2017-2018 the company spent about NOK7.5 billion per year, and plans to increase its spend to NOK9.0 billion-NOK10.0 billion in the coming years, mainly focusing on automation, energy efficiency, and selective customer driven growth projects.

The company is also aiming for reliable shareholder returns. Its dividend policy consists of a 40% payout ratio of net income over the cycle with a floor of NOK1.25/share (equivalent to about NOK2.6 billion). We believe that the Norwegian government's significant stake in Norsk Hydro reduces the pressure on dividends, which should allow the company to restore its balance sheet over the coming year while distributing dividends close to the floor level.

M&A activities are less likely in the coming years

Historically, Norsk Hydro has pursued M&A activities as part of its strategy of strengthening its market positions in the high-value-added segment of the value chain. For example, in the past two years it made several acquisitions of varied size, the largest of which was the NOK11.9 billion acquisition of a 50% stake in the SAPA JV from Orkla in 2017. In our view, the company's operations along the aluminium chain value may result in different opportunities.

That said, given the current industry conditions and relatively weak credit metrics, we assume the company will prioritize restoring its balance sheet and pursuing organic growth in the coming few years.

Financial summary

Table 2

| Norsk Hydro--Financial Summary | | | | | | |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Industry sector: Mining | | | | | | |
| --Fiscal year ended December 31-- | | | | | | |
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 |
| Rating history | BBB/Stable/A-2 | BBB/Stable/A-2 | BBB/Stable/A-2 | BBB/Stable/A-2 | BBB/Stable/A-2 | BBB/Stable/A-2 |
| (Bil. NOK) | | | | | | |
| Revenue | 165.6 | 136.8 | 111.0 | 117.8 | 103.4 | 85.1 |
| EBITDA | 17.6 | 18.9 | 14.1 | 17.0 | 12.3 | 8.1 |
| Funds from operations (FFO) | 13.6 | 16.3 | 12.3 | 14.6 | 9.8 | 6.4 |
| Interest expense | 1.4 | 1.0 | 1.2 | 1.0 | 1.2 | 0.8 |
| Cash interest paid | 3.2 | 2.2 | 1.1 | 1.8 | 1.8 | 1.1 |
| Cash flow from operations | 8.2 | 16.6 | 12.9 | 17.1 | 8.1 | 7.0 |
| Capital expenditure | 7.4 | 7.5 | 8.0 | 6.4 | 4.1 | 3.5 |
| Free operating cash flow (FOCF) | 0.8 | 9.0 | 4.9 | 10.7 | 3.9 | 3.5 |
| Discretionary cash flow (DCF) | (2.8) | 6.0 | 2.5 | 8.3 | 2.0 | 1.5 |

Table 2

| Norsk Hydro--Financial Summary (cont.) | | | | | | |
|---|--|-------------|-------------|-------------|-------------|-------------|
| Industry sector: Mining | | | | | | |
| | --Fiscal year ended December 31-- | | | | | |
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 |
| Cash and short-term investments | 7.0 | 13.1 | 12.6 | 12.7 | 11.0 | 10.9 |
| Gross available cash | 6.1 | 12.1 | 11.5 | 11.5 | 9.9 | 9.8 |
| Debt | 30.4 | 25.1 | 14.1 | 18.2 | 24.4 | 19.1 |
| Equity | 90.8 | 92.3 | 87.6 | 79.3 | 79.9 | 75.2 |
| Adjusted ratios | | | | | | |
| EBITDA margin (%) | 10.6 | 13.8 | 12.7 | 14.4 | 11.9 | 9.5 |
| Return on capital (%) | 7.4 | 11.6 | 8.3 | 10.7 | 6.4 | 2.2 |
| EBITDA interest coverage (x) | 12.3 | 18.9 | 11.4 | 16.4 | 9.9 | 9.8 |
| FFO cash interest coverage (x) | 17.9 | 37.1 | 28.8 | 33.8 | 17.2 | 11.8 |
| Debt/EBITDA (x) | 2.4 | 2.0 | 1.1 | 1.0 | 1.3 | 1.7 |
| FFO/debt (%) | 44.7 | 64.8 | 87.3 | 80.4 | 40.3 | 33.3 |
| Cash flow from operations/debt (%) | 27.1 | 66.2 | 91.2 | 94.1 | 33.1 | 36.4 |
| FOCF/debt (%) | 2.7 | 36.2 | 34.6 | 59.0 | 16.1 | 18.2 |
| DCF/debt (%) | (9.2) | 24.0 | 17.9 | 45.9 | 8.2 | 7.8 |

Liquidity: Strong

We view Norsk Hydro's liquidity as strong. We estimate that liquidity sources will cover uses by more than 2x in the next 12 months. Our assessment is supported by high cash balances, availability of US\$1.7 billion under the committed credit line expiring in November 2020, and minimal short-term maturities. Our assessment is further supported by Norsk Hydro's generally prudent liquidity management, good access to capital markets, and well-established relationships with banks.

We believe that Norsk Hydro's liquidity and its ability to generate free cash flow through the cycle provide it material headroom to absorb high-impact, low-probability events without the need for refinancing.

In our view, a stronger liquidity assessment would need to be supported by a track record of maintaining the liquidity ratio above 2x when incorporating a potential acquisition. In 2017-2018, the company completed a number of acquisitions, including the 50% (NOK11.9 billion) stake in the SAPA JV, which resulted in a temporary deterioration of the liquidity ratio.

| Principal Liquidity Sources | Principal Liquidity Uses |
|--|---|
| <p>In the 12 months commencing Oct. 1, 2019, Norsk Hydro has the following sizable liquidity sources:</p> <ul style="list-style-type: none"> • Cash and cash equivalents of NOK10.6 billion; • FFO of NOK14 billion-NOK15 billion in our base-case scenario; and • Availability under the committed credit line of \$1.7 billion (about NOK15 billion) maturing in November 2020. | <p>In the same period, the company has the following liquidity uses:</p> <ul style="list-style-type: none"> • Modest short-term debt of about NOK6.1 billion; • Capex of about NOK9 billion-NOK10 billion; • An intra-year working capital swing of several billion NOK, closely linked to aluminium prices. In the coming 12 months we expect a positive working capital inflow (which is largely a reverse of NOK6.3 billion outflow in 2018); and • Dividends of NOK2.6 billion. |

Environmental, Social, and Governance

We believe Norsk Hydro's diversified operations across the aluminium value chain and regions should enable the company to avoid rating volatility from most one-off environmental, social, and governance events (such as a major environmental accident or the revocation of a license). At the same time, the company's global reach, with dozens of facilities, creates an extra layer of complexity to monitor and follow local compliance.

A recent example is the company's operational issue in Brazil.

Aluminium operations are considered highly energy intensive. As a result, any future legislation and social pressure could materially affect the company's activities. At the same time, aluminium is lighter, stronger, and has better connectivity than steel. This benefits auto manufacturers, for example, who are in a race to build lighter--thereby more fuel-efficient--vehicles. Moreover, once produced, aluminium can be easily recycled at very low cost.

However, the production of aluminium consumes about 10 times more energy than the production of steel, and about 70%-80% of the costs of aluminium production are energy related. In our view, Norsk Hydro mitigates this exposure by sourcing most of its energy needs from environmentally-friendly hydro-electric power and other renewable non-polluting sources.

Green initiatives are at the forefront of the company's strategy, with Norsk Hydro's objective to reduce CO2 emissions by 10% by 2025 and 30% by 2030 and to reach carbon neutrality by 2020 (from a life-cycle perspective). This strategy is based on three pillars: 1) Reduce emissions from own production--Hydro invest in a greener energy mix at Alunorte or by using technologies such as carbon capture and storage; 2) Avoidance of emissions during the use of Norsk Hydro's products; 3) Increase recycling of post-consumer scrap. As of today, at least one-third of its energy consumption comes from hydroelectricity produced by Norsk Hydro itself.

On the regulatory side, there is the risk of a further increase in the price at which the EU Emissions Trading Scheme (ETS) trades hands: carbon prices have more than tripled since 2018. There is also the potential risk that the EU will impose tariffs on carbon contained in imports of primary materials that would impact Norsk Hydro when it exports raw materials to Europe.

That said, Norsk Hydro's greenhouse gas emissions were stable from 2014 to 2017 before decreasing by 11% in 2018 (albeit mainly due to the embargo at Alunorte).

Governance, in terms of disclosure and board and management processes, is at least on a par with other large metals and mining players.

Government Influence

We continue to view Norsk Hydro as a government-related entity (GRE) with a low likelihood of extraordinary state support. This view reflects the purely commercial nature of the company's business, being one investment in Norway's diversified portfolio. In the past few years, Norsk Hydro has invested in mining assets in Brazil and a new smelter in Qatar (the Qatalum JV). Moreover, the company's potential growth projects are outside of Norway. This makes it more of a global player, with a smaller proportion of its total business connected to the Norwegian economy than in the past. We also understand that the government has no plan to increase its current 34.3% stake. In our view, other Norwegian GREs--for whom we factor in one notch of uplift for extraordinary state support--such as Equinor (67% government-owned) and Telenor (54%) benefit from a stronger link with or role for the Norwegian government. On the other hand, we see the company's Norwegian hydro power plants as an important factor that differentiates Norsk Hydro from other state-owned companies that we do not consider to be GREs such as Yara (36%).

Reconciliation

Table 3

| Reconciliation Of Norsk Hydro's Reported Amounts With S&P Global Ratings Adjusted Amounts (Mil. NOK) | | | | | | | |
|--|---------|----------------------|--------|------------------|-------------------------------------|---------------------------|---------------------|
| --Fiscal year ended December 31, 2018-- | | | | | | | |
| Norsk Hydro's reported amounts | Debt | Shareholders' equity | EBITDA | Interest expense | S&P Global Ratings' adjusted EBITDA | Cash flow from operations | Capital expenditure |
| | 15,623 | 85,834 | 15,891 | 698 | 17,618 | 7,025 | 7,219 |
| S&P Global Ratings' adjustments | | | | | | | |
| Cash taxes paid | -- | -- | -- | -- | (3,231) | -- | -- |
| Cash interest paid | -- | -- | -- | -- | (653) | -- | -- |
| Operating leases | 2,369 | -- | 732 | 151 | (151) | 581 | -- |
| Postretirement benefit obligations/deferred compensation | 8,813 | -- | -- | 115 | -- | -- | -- |
| Accessible cash and liquid investments | (5,094) | -- | -- | -- | -- | -- | -- |
| Deconsolidation/consolidation | 5,584 | -- | 2,085 | 250 | -- | 1,835 | 180 |

Table 3

| Reconciliation Of Norsk Hydro's Reported Amounts With S&P Global Ratings Adjusted Amounts (Mil. NOK) (cont.) | | | | | | | |
|---|-------------|---------------|---------------|-------------------------|------------------------------|----------------------------------|----------------------------|
| Asset retirement obligations | 3,095 | -- | -- | 220 | -- | -- | -- |
| Income (expense) of unconsolidated companies | -- | -- | (765) | -- | -- | -- | -- |
| Noncontrolling interest/minority interest | -- | 4,936 | -- | -- | -- | -- | -- |
| EBITDA: Gain/(loss) on disposals of PP&E | -- | -- | (37) | -- | -- | -- | -- |
| EBITDA: Derivatives | -- | -- | (221) | -- | -- | -- | -- |
| EBITDA: Business divestments | -- | -- | 6 | -- | -- | -- | -- |
| EBITDA: Inventory | -- | -- | (73) | -- | -- | -- | -- |
| Operating cash flow: Other | -- | -- | -- | -- | -- | (1,219) | -- |
| Total adjustments | 14,768 | 4,936 | 1,727 | 737 | (4,035) | 1,197 | 180 |
| S&P Global Ratings' adjusted amounts | | | | | | | |
| | Debt | Equity | EBITDA | Interest expense | Funds from operations | Cash flow from operations | Capital expenditure |
| | 30,391 | 90,770 | 17,618 | 1,435 | 13,583 | 8,222 | 7,399 |

Ratings Score Snapshot

Issuer Credit Rating

BBB/Stable/A-2

Business risk: Satisfactory

- **Country risk:** Low
- **Industry risk:** Moderately high
- **Competitive position:** Satisfactory

Financial risk: Intermediate

- **Cash flow/leverage:** Intermediate

Anchor: bbb

Modifiers

- **Diversification/portfolio effect:** Neutral (no impact)
- **Capital structure:** Neutral (no impact)
- **Financial policy:** Neutral (no impact)
- **Liquidity:** Strong (no impact)
- **Management and governance:** Satisfactory (no impact)
- **Comparable rating analysis:** Neutral (no impact)

Stand-alone credit profile

- **Related government rating:** AAA
- **Likelihood of government support:** Low (no impact)

Related Criteria

- General Criteria: Methodology For Linking Long-Term And Short-Term Ratings, April 7, 2017
- General Criteria: Rating Government-Related Entities: Methodology And Assumptions, March 25, 2015
- Criteria - Corporates - General: Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- Criteria - Corporates - Industrials: Key Credit Factors For The Metals And Mining Upstream Industry, Dec. 20, 2013
- Criteria - Corporates - Industrials: Key Credit Factors For The Metals And Mining Downstream Industry, Dec. 20, 2013
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013
- General Criteria: Group Rating Methodology, July 1, 2019
- Criteria - Corporates - Industrials: Methodology For Standard & Poor's Metals And Mining Price Assumptions, Nov. 19, 2013
- Criteria - Corporates - General: Corporate Methodology: Ratios And Adjustments, April 1, 2019
- Criteria - Corporates - General: Corporate Methodology, Nov. 19, 2013
- General Criteria: Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- General Criteria: Methodology: Management And Governance Credit Factors For Corporate Entities And Insurers, Nov. 13, 2012
- General Criteria: Stand-Alone Credit Profiles: One Component Of A Rating, Oct. 1, 2010
- General Criteria: Use Of CreditWatch And Outlooks, Sept. 14, 2009

Related Research

- S&P Global Ratings Cuts Copper And Zinc Price Assumptions And Lifts Those On Nickel And Gold, Oct. 9, 2019
- Norsk Hydro's Financial Headroom Will Absorb The Impact Of The Asset Closures In Brazil For Now, Oct. 5, 2018
- ESG Industry report Card: Metals and Mining, June 3, 2019
- The Top Five Global Miners Remain Sensitive To Environmental And Social Risks, June 18, 2019
- Industry Top Trends 2020: Metals And Mining, Nov. 21, 2019FAQ: How S&P Global Ratings Formulates, Uses, And Reviews Commodity Price Assumptions, Sept. 28, 2018

Business And Financial Risk Matrix

| Business Risk Profile | Financial Risk Profile | | | | | |
|-----------------------|------------------------|--------|-----------------|-------------|------------|------------------|
| | Minimal | Modest | Intermediate | Significant | Aggressive | Highly leveraged |
| Excellent | aaa/aa+ | aa | a+/a | a- | bbb | bbb-/bb+ |
| Strong | aa/aa- | a+/a | a-/bbb+ | bbb | bb+ | bb |
| Satisfactory | a/a- | bbb+ | bbb/bbb- | bbb-/bb+ | bb | b+ |
| Fair | bbb/bbb- | bbb- | bb+ | bb | bb- | b |
| Weak | bb+ | bb+ | bb | bb- | b+ | b/b- |
| Vulnerable | bb- | bb- | bb-/b+ | b+ | b | b- |

Ratings Detail (As Of December 3, 2019)*

Norsk Hydro ASA

Issuer Credit Rating

BBB/Stable/A-2

Issuer Credit Ratings History

19-Nov-2010

BBB/Stable/A-2

06-May-2010

BBB-/Watch Pos/A-3

20-Mar-2009

BBB-/Negative/A-3

*Unless otherwise noted, all ratings in this report are global scale ratings. S&P Global Ratings' credit ratings on the global scale are comparable across countries. S&P Global Ratings' credit ratings on a national scale are relative to obligors or obligations within that specific country. Issue and debt ratings could include debt guaranteed by another entity, and rated debt that an entity guarantees.

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