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Vattenfall AB

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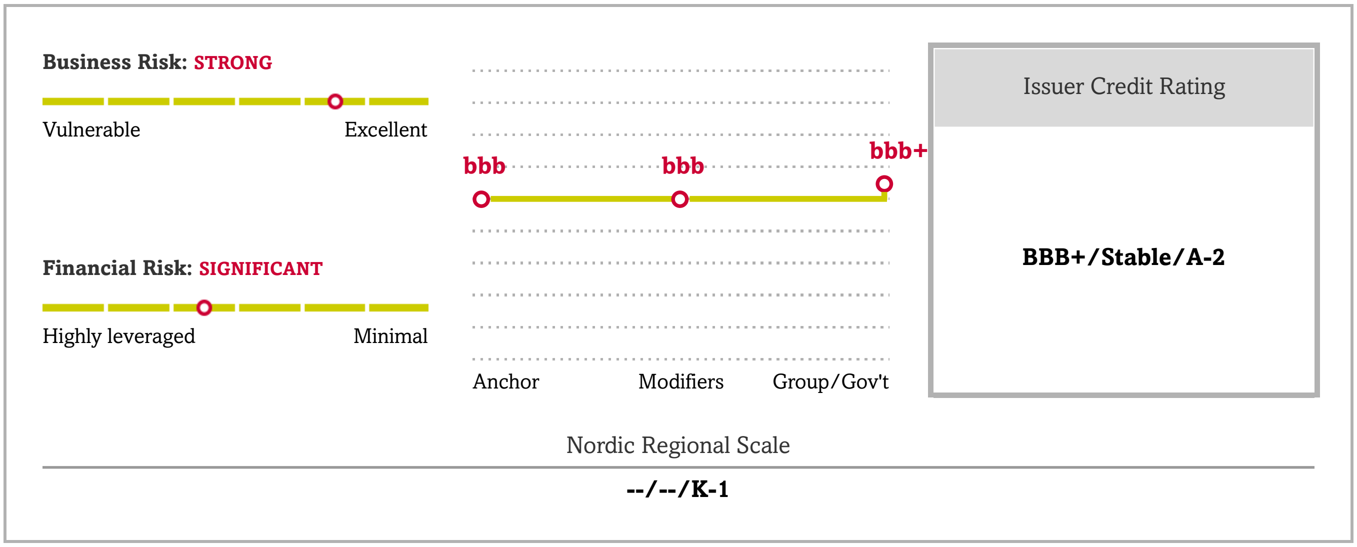
Vattenfall AB



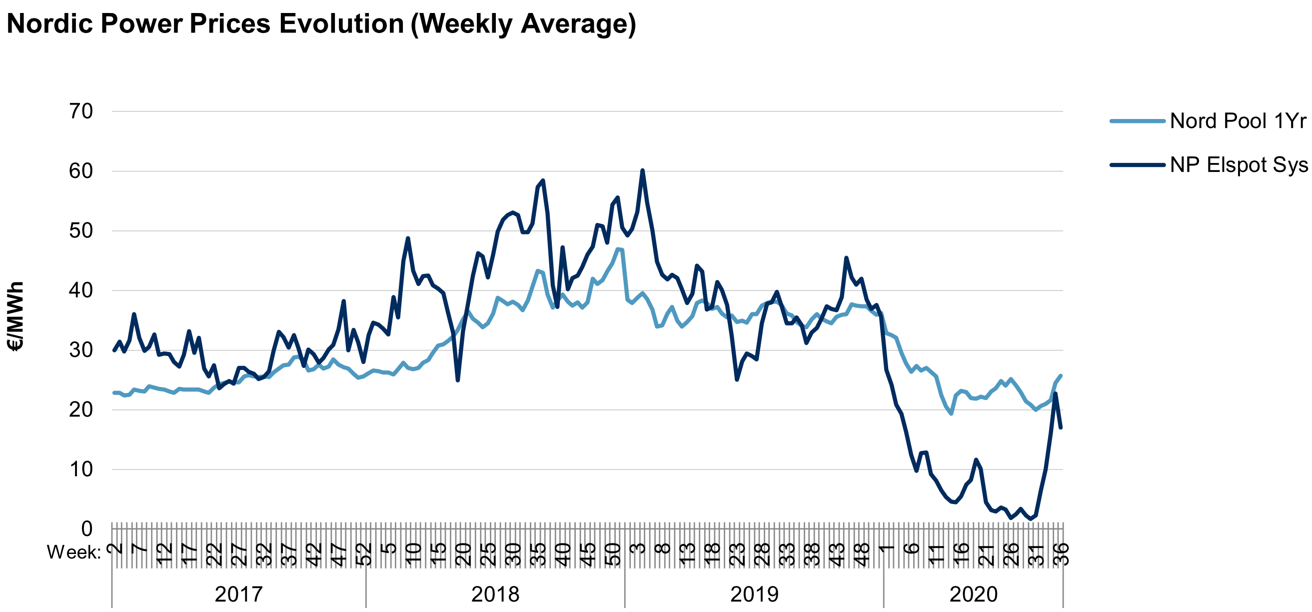
Credit Highlights

Overview

Key strengths	Key risks
A high share of underlying EBITDA (SEK23 billion-SEK26 billion), about 50%, from relatively stable cash flow and low-risk regulated electricity distribution networks, wind, and district heating operations.	High sensitivity to volatile power prices from relatively high exposure to merchant hydro and nuclear power generation(40%-45% of underlying EBITDA).
Leading position in Swedish power generation market, supported by large nuclear fleet and flexible low-cost hydropower generation, giving strong supports to Vattenfall's long-term environmental (fossil-free) strategy.	Challenging market conditions, with spot power prices expected to remain depressed in the Nordic region over 2020-2021. This will weigh on cash flow and reduce rating headroom.
Cash flow contribution from wind expected to increase to about 30% of EBITDA in 2024 from about 22% of underlying EBITDA in 2019, supported by long-term contracts.	Decreasing cash flow contribution from regulated networks operations over 2020-2023, because of the WACC decline in Sweden to 2.35% from 5.85% and because Vattenfall is likely to dispose of its Berlin DSO operations.
Strong commitment to the rating as demonstrated by credible remedy measures available to offset economic uncertainties and weak Nordic power markets.	Large quarterly working capital movements in 2019-2020, created by margin calls.
Expected timely support from the 100% owner, Sweden (AAA/Stable/A-1), providing Vattenfall with a one-notch uplift from its stand-alone credit profile.	Execution risks on large offshore wind projects gearing capital expenditure program up to the SEK24 billion-SEK28 billion range annually in 2020-2021, from SEK24 billion in 2019.

Very low power prices will lead to lower earnings from power generation. S&P Global Ratings therefore expects EBITDA contribution from Vattenfall AB's power generation business will decline to about Swedish krona (SEK) 16 billion-SEK18 billion in 2021 from SEK19 billion in 2019. We expect the effect to become more visible in 2021, because the company's has hedges that mitigate most price effects in 2020--65% of production is hedged at €33 per megawatt-hour (MWh). In addition, there is a large price difference between various areas in Sweden, owing to limitations in the electricity grid. The combination has given good support to Vattenfall's achieved prices which was €31 per MW for the first nine months of 2020, comparable with that of the same period in 2019 and well above the average spot price of about €9.50 per MW. In 2021 and 2022, the hedge ratio are 63% and 36% of output, respectively, and we therefore expect achieved prices and earnings to weaken in 2021 and 2022. Lower power prices are mostly because of very high water levels in Nordic reservoirs, and, to a much less extent, lower demand due to COVID-19's impact. Power prices in 2020 have fallen such that average spot prices in 2020 averaged a mere €9.50 per MWh, well below the 2019 average of €39. We expect power prices in the region will remain depressed over 2020-2023, below €25 per MWh on average. We expect this will lead to a decline in Vattenfall's ratios, notable because the company is also ramping up investment in its wind division.

Chart 1



MWh--Megawatt-hour. Source: S&P Global Ratings.

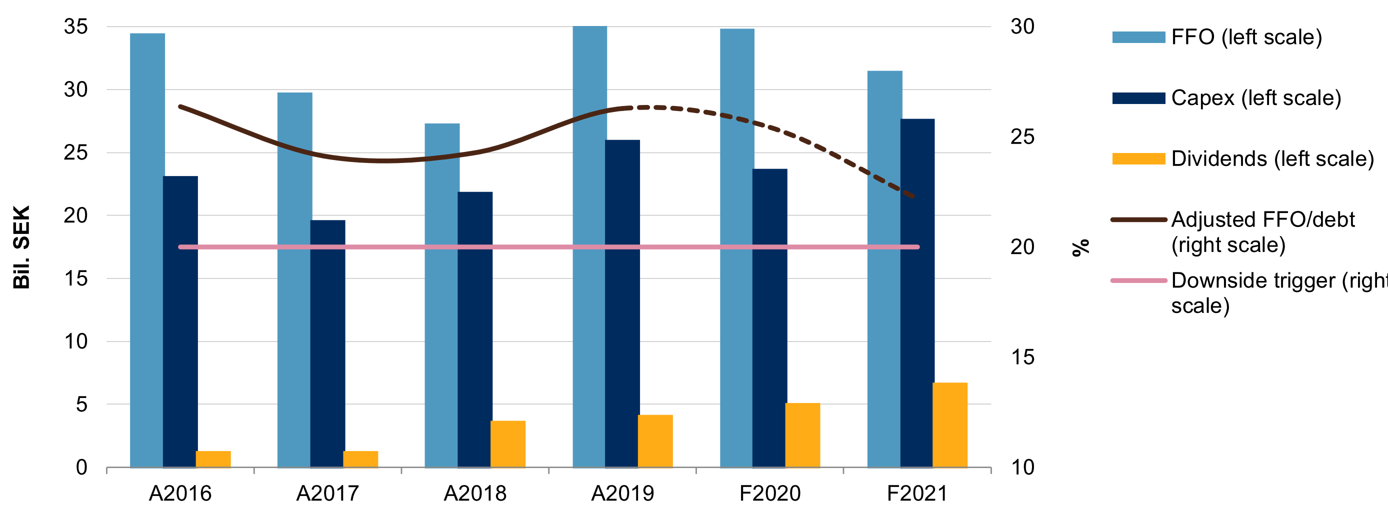
The ramp-up of investment, with a clear focus on expanding the wind portfolio in 2021-2023, will lead to a debt buildup but also more cash flow from renewables. We expect Vattenfall will invest significantly in renewables, in line with its strategy. The company's capex program for the coming period is massive. For 2020-2021, it is SEK58 billion, but we expect continued large growth investment also in following years. This includes growth investment, of which about SEK25 billion is dedicated mainly toward wind generation. Vattenfall is therefore set to build a strong foundation. It includes megaprojects like Kriegers Flak, and Hollandse Kust Zuid 1-4, the latter being the first global subsidy free offshore wind farm. Beside the large size, 1,500 MW of capacity, which should help Vattenfall to reach economy of scale, this implies Vattenfall depends on timely execution and tight budget control to make the project economical. The company had experienced a roughly two-year delay in projects such as Vesterhav Syd and Nord (350 MW). We therefore do not expect operating cash flow to cover planned capex and dividends during this period, and free operating cash flow will depend significantly on working capital movements, which has been very volatile in recent years. In 2019 working capital outflow was about SEK18 billion. We believe, however, it will be less volatile, and be positive for 2020. Investment should lead to increasing EBITDA up until 2025, due to the significant capacity addition. More than 3 gigawatts (GW) is under construction and more than 4 GW in development, compared with installed capacity of 3.3 GW as of Dec. 31, 2019. Also positively, we expect management is considering sharing investment commitments of key projects with partners, and signing long-term power purchase agreements (PPAs) to lower project volatility and safeguard credit ratios, which could decrease pressure on them.

We expect a decline in credit ratios because of market conditions, but previous headroom and strong commitment from management to its financial policy mean that they will remain commensurate with the rating. We expect funds from operations (FFO) to debt will decline during 2021 and again in 2022, to 20%-21%, which is still above our threshold of 20% for the rating, but a material decline from the strong ratios at year end 2019, including FFO to debt of about 28%. We forecast debt to EBITDA of 3.5x-4.0x, and expect debt to increase to SEK145 billion-SEK155 billion at year-end 2021 from SEK126 billion at year-end 2019. We view these ratios as at the lower end of the range commensurate with the rating, but believe management, if needed, will take measures such as delaying investments or disposing noncore assets to support ratios. We perceive management very committed to honor its financial policy, to keep FFO to debt at 22%-27%. As an example, dividends have decreased by 50% from what was proposed by board and decided by the owner pre-COVID-19. We also expect proceeds from the recent announcement of the disposal DSO operations in Berlin will lower debt. Increased cash flow after the investment peak in 2021-2023, and our positive long-term view on power prices is also supporting the rating.

Chart 2

We Forecast Declining Credit Ratios

Subdued power prices shrinking the trigger headroom



SEK--Swedish krona. FFO--Funds from operations. Capex--Capital expenditure. Source: S&P Global Ratings.

Pressure on network activities and remunicipalization in Germany will lead to a lower share of earning from distribution system operator (DSO) operations and negatively affect Vattenfall's business risk. For the new regulatory period, which started in 2020 for DSO activities in Sweden, the weighted–average cost of capital (WACC) has fallen to about 2.35% from 5.85%, which will result in a lower contribution from Vattenfall's network activities (19% of company-reported underlying EBITDA in 2019). In addition, the company announced it plans to sell its German network activities. While we believe the transaction will likely proceed, we have not fully factored this into our forecast. We view the potential impact on the business risk as marginally negative, because it will lower the share of the stable earnings from DSO operations with to about 14% of total underlying EBITDA, compared with 19% including the German DSO operations. Together with increasing contribution from heat, we expect underlying EBITDA contribution from stable regulated and heat activities to remain at 25%-30% from just above 30% previously. We view this as a marginal decline, and expect that increasing contributions from wind and heat will mitigate this somewhat, although we don't view them as stable as the DSO operations.

Outlook: Stable

The stable outlook reflects our assumption that Vattenfall will manage earning pressure stemming from lower power prices and increasing investment such that it will maintain a financial risk profile in line with our expectations for the rating, namely FFO to debt above 20%. The group's significant share of stable cash flows from electricity distribution and district heating support the rating. The company's proven flexibility in making dividend payouts might somewhat mitigate any operating underperformance.

Downside scenario

We could lower the rating if we believe that Vattenfall's position in the power generation business was weakening; for example, if power prices remains subdued or if the wind portfolio's planned expansion is delayed or unsuccessful. These factors could have negative financial consequences for the company and, unless countermeasures are implemented, could lead to weaker credit measures such as prolonged FFO to debt falling below 20%. We could also downgrade Vattenfall if the EBITDA contribution from regulated or semiregulated operations, for example its distribution system operator and district heating operations, declined materially, or if government support weakened; for example, if the government privatized a significant part of its ownership in Vattenfall. However, we consider this as unlikely over the near-to-medium term.

Upside scenario

We see an upgrade as unlikely given market conditions and Vattenfall's high capex plan, but it could occur if the financial risk profile strengthened, with FFO to debt increasing toward 25% sustainably. This could occur if power prices strengthened more than we expect.

Our Base-Case Scenario

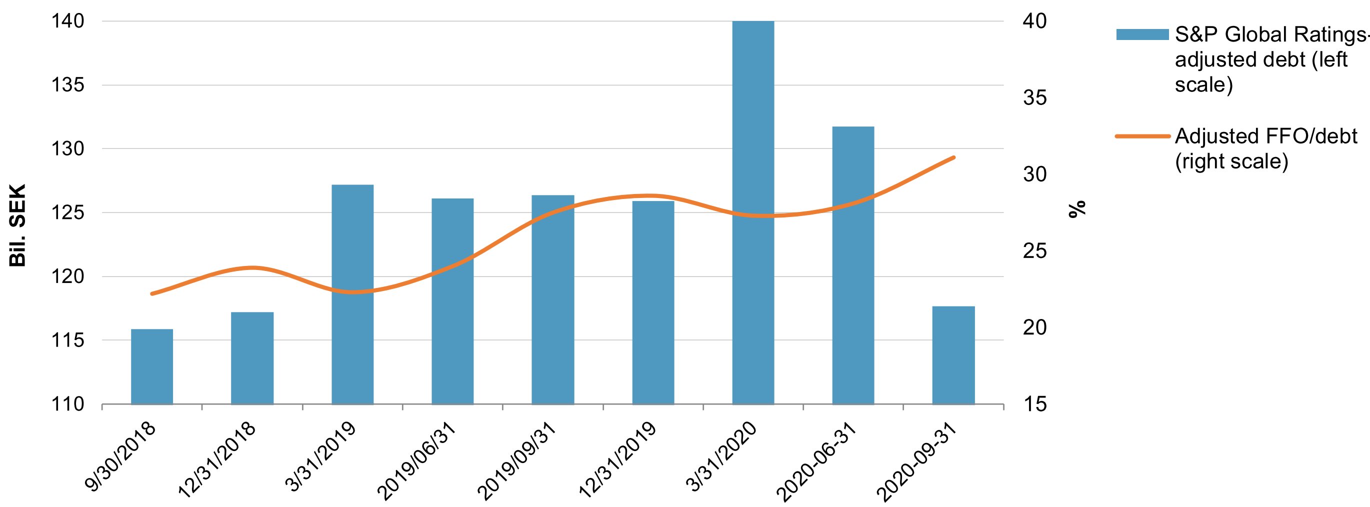
Recent developments

Lower sales volumes and declining prices resulted in 4% less revenue in the first nine months of 2020, but credit ratios are holding up well. Lower sales volumes and declining prices resulted in 4% less revenue in the first nine months of 2020, but credit ratios are holding up well. Power production and sales decreased by 14% and 5%, respectively, while achieved prices were stable at €31 per MWh, compared with €32 per MWh in 2019. The lower production was predominantly due to the closure of Ringhals2, a nuclear plant. Despite this, S&P Global Ratings-adjusted EBITDA for the first nine months of 2020 reached SEK31 billion, compared with SEK30 billion in 2019. Performance was supported by good trading results and its customer and solution operations benefited from an increased customer base. However, burdening the operating result was a large impairment for the Moorburg coal-fired power plant and Nordic onshore windfarms, totaling SEK10.6 billion.

Vattenfall's S&P Global Ratings-adjusted net debt decreased by about SEK8 billion in 2020. There were, however, large swings in debt over the year, primarily explained by working capital movement (see chart 3) which has made it difficult to forecast its debt movements. Based on the group's results, adjusted FFO to debt was about 30% at Sept. 30, 2020 compared with 28.5% for 2019.

Chart 3

Large Swings In Debt, Ultimately Explained By Quarterly Working Capital Movements Over 2019-2020



SEK--Swedish krona. FFO--Funds from operations. Source: S&P Global Ratings.

Assumptions

- Swedish GDP to decline 6.2% in 2020, then rising 4% in 2021.
- Power prices in the Nordic region on average €10-€15 per MWh in 2020 and €17.50-€22 per MWh in 2021.
- Revenue to decrease up to 5% in 2020, with 2%-3% growth in 2021.
- Capex of about SEK24 billion and SEK28 billion in 2020 and 2021, respectively.
- Vattenfall's generation segment hedged, with approximately 65% at €33 per MWh and 63% at €29 per MWh in 2020 and 2021, respectively.
- WACC under the Swedish regulatory framework for the DSO at 2.35%.
- Contribution from Berlin DSO activities included throughout 2022, although Vattenfall has offered the electricity grid operations to the state of Berlin.
- No major acquisitions.
- Dividends payments in 2020 of about SEK5 billion (SEK3.6 billion to owners, SEK1.4 billion to minority stakeholders).

Key Metrics

Vattenfall AB--Key Metrics*

	--Fiscal year ended Dec. 31--				
	2018a	**2019a**	**2020e**	**2021f**	**2022f**
(Mil. SEK)					
EBITDA	34,162	40,138	40,000-45,000	40,000-45,000	40,000-45,000
Funds from operations (FFO)	27,245	35,860	33,000-36,000	29,000-33,000	29,000-33,000
Capital expenditure	21,807	25,939	23,000-24,000	27,000-29,000	31,000-33,000
Debt	109,029	125,828	142,000-147,000	145,000-150,000	152,000-157,000
Debt to EBITDA (x)	3.2	3.1	3.3-3.8	3.3-3.8	3.5-4
FFO to debt (%)	25.0	28.5	22-25	20-23	19-22

*All figures adjusted by S&P Global Ratings. Insert here footnotes highlighting the key debt adjustments. a--Actual. e--Estimate. f--Forecast. SEK--Swedish krona.

We expect credit measures to weaken in 2021 and 2022. We expect credit ratios to stay close to our threshold for the rating, with FFO to debt approaching 21% in 2021. The trend of weakening ratios is from weaker power prices in the Nordic region, and Vattenfall's plans to increase investment in 2021-2023. We therefore expect the substantial financial headroom that Vattenfall enjoyed since 2019, with adjusted FFO to debt of 28.5%, to decline.

A heavy investment period ahead leading to neutral free operating cash flow at best. We estimate that capex in 2022 and 2023 will increase to SEK28 billion–SEK33 billion annually, from SEK24 billion in 2019, resulting in a relatively weak discretionary cash flow profile that we expect to be neutral at best or slightly negative. We therefore expect debt to EBITDA to decline to 3.3x-3.7x in 2021-2022.

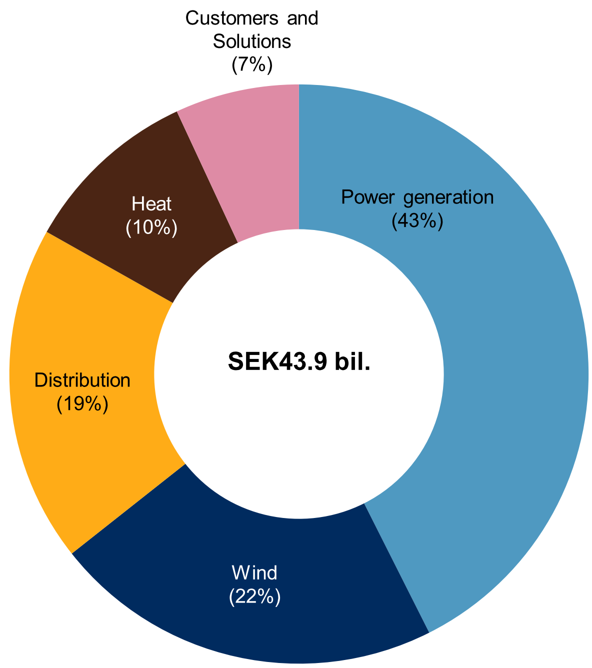
Company Description

Vattenfall is one of the largest electricity and heat producers in Europe and is 100% owned by the Swedish state. At year-end 2019, the company reported sales of about SEK166 billion and underlying EBITDA of about SEK43.9 billion. Vattenfall's business portfolio is split between unregulated power generation and supply, mainly in Sweden, the Netherlands, and Germany (44% of 2019 underlying EBITDA); electricity distribution networks in Sweden and Germany (19%); heat businesses in Germany, Sweden, Denmark, and the Netherlands (10%); and the customers and solutions segment (7%). The company is also expanding its largely subsidized wind generation network (22%). The group generated about 130 terawatt-hours (TWh) of electricity and sold about 17.1 TWh of heat in 2019.

Vattenfall's generation portfolio includes about 100 hydro plants (which produced about 28% of the generated power in 2019); Three nuclear power plants are currently operational (including Vattenfall's minority share in Brokdorf; about 41%); fossil-based power, primarily including gas, hard coal, and oil (23%); wind (7%); and solar and biomass peat (less than 1%). Due to massive ongoing investments in wind, we expect the share of generated power from the wind segment to expand in the near future. The group serves about 10 million customers through its power supply activities and is one of Europe's largest producers and distributors of heat. Its heating network activities serve about 2 million customers, mainly in expanding metropolitan areas in Europe, including Berlin, Amsterdam, and Uppsala. Its power distribution network activities are in Sweden and Germany (Berlin) and comprised 170,000 kilometers of network lines in 2019.

Chart 4

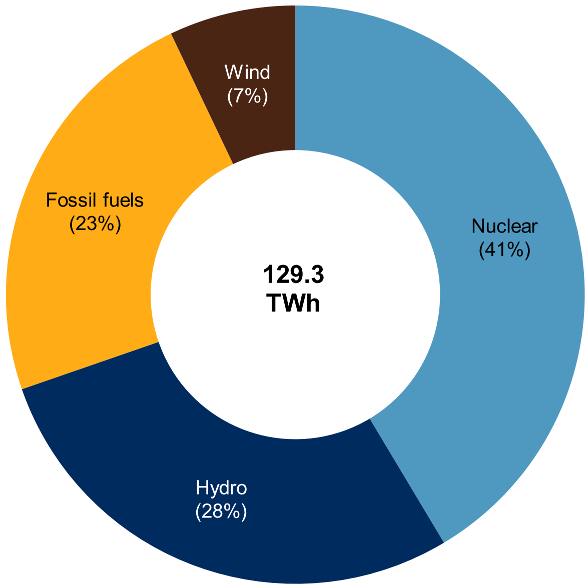
Operating Segments 2019 (As % Of Underlying EBITDA)



SEK--Swedish krona. Source: S&P Global Ratings.

Chart 5

Power Generation By Production Source, 2019



Source: S&P Global Ratings. TWh--Terawatt-hours.

Peer Comparison

Table 1

Vattenfall AB--Peer Comparison				
Industry sector: Energy				
	Vattenfall AB	**Fortum Oyj**	**Orsted A/S**	**Statkraft AS**
Ratings as of Oct. 2, 2020	BBB+/Stable/A-2	BBB/Negative/A-2	BBB+/Stable/A-2	A-/Stable/A-2
	--Fiscal year ended Dec. 31, 2019--			
(Mil. SEK)				
Revenue	166,360.0	57,103.0	95,179.1	46,989.1
EBITDA	40,138.0	21,050.6	24,773.3	21,227.3
Funds from operations (FFO)	35,860.5	17,465.3	14,787.1	12,876.6
Interest expense	4,003.0	2,201.5	4,089.6	687.6
Cash interest paid	2,749.5	1,855.6	3,252.0	1,018.1
Cash flow from operations	16,679.5	21,124.0	17,772.6	12,160.4
Capital expenditure	25,939.0	7,286.0	31,006.7	6,143.4

Table 1

Vattenfall AB--Peer Comparison (cont.)

Industry sector: Energy

	Vattenfall AB	Fortum Oyj	Orsted A/S	Statkraft AS
Free operating cash flow (FOCF)	(9,259.5)	13,838.1	(13,234.1)	6,017.0
Discretionary cash flow (DCF)	(14,468.0)	3,354.7	(25,672.6)	(3,068.0)
Cash and short-term investments	33,155.0	15,012.2	31,221.3	17,680.0
Debt	125,828.1	67,908.3	45,666.1	18,523.8
Equity	118,604.0	138,737.1	116,369.3	107,081.1
Adjusted ratios				
EBITDA margin (%)	24.1	36.9	26.0	45.2
Return on capital (%)	8.8	10.1	10.5	14.9
EBITDA interest coverage (x)	10.0	9.6	6.1	30.9
FFO cash interest coverage (x)	14.0	10.4	5.5	13.6
Debt/EBITDA (x)	3.1	3.2	1.8	0.9
FFO/debt (%)	28.5	25.7	32.4	69.5
Cash flow from operations/debt (%)	13.3	31.1	38.9	65.6
FOCF/debt (%)	(7.4)	20.4	(29.0)	32.5
DCF/debt (%)	(11.5)	4.9	(56.2)	(16.6)

SEK--Swedish krona.

Among its Nordic peers, Vattenfall has the strongest market position, followed by Statkraft. Vattenfall is the market leader in the Nordic region (Sweden in particular) and has a strong position in both Germany and the Netherlands. The company's portfolio is the most geographically diversified among its peers, although it has become less so over the past few years, and we expect the German presence to shrink because of forced divestments and the eventual closure of its coal-fired plant Moorburg (1,654 MW electrical capacity). Vattenfall also has the most diverse portfolio by procurement, with a mix between renewables (mainly low cost flexible hydro and wind), low-cost nuclear, and thermal (coal and gas).

Business Risk: Strong

Vattenfall benefits from its leading position as the largest electricity generator in northern European countries, especially in Sweden, where it generates about 50% of all electricity, as well as its diversified portfolio. Given its recent strategy update, we believe Vattenfall will continue to strive for an integrated operation model, with a clear focus on lowering emission intensity by increasing generation from wind. We view this as positive, because the integrated model should provide stability to cash flow and profitability, at least over the business cycle. Vattenfall will nevertheless remain exposed to volatile power prices, while regulated (DSO) and activities in the form of distribution, heat, and subsidized wind, which are more stable then merchant operations, represent 45%-50% of underlying EBITDA in 2020-2023, which supports cash flow.

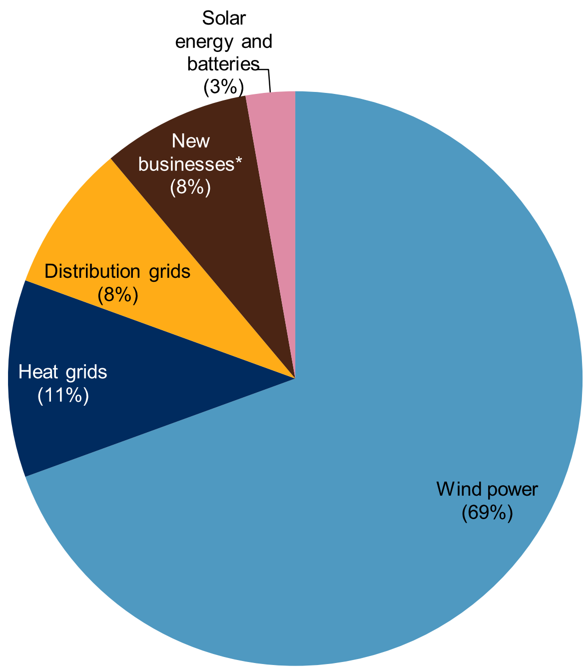
Vattenfall has an attractive asset mix. It primarily consisting of low-cost and flexible hydropower and nuclear power, both of which are well placed on the merit order and should ensure a competitive cost of production. At the same time, due to low profitability, the company has been required to make significant write-downs for its therminal assets, mainly in Germany. As late as this year, the impairment booked was SEK9 billion. In total, SEK99 billion (€9.9 billion) of coal assets have been impaired since 2010. Vattenfall is participating in the ongoing coal exit bid for its largest asset, the Moorburg coal plant. Whatever outcome, which we expect in December 2020, we expect Vattenfall to eventually close its coal operations, and we don't expect any further write-downs of its coal assets. As the largest power company in Sweden, and state-owned, the company may need to adjust its strategy subject to political decision and pressure on issues such as environmental investment, national strategy of nuclear power, power supply and power prices. We can therefore not rule out negative political intervention.

Hydro power is the backbone of Vattenfall's generation fleet, providing low and flexible production. We consider Vattenfall's low-cost flexible hydro assets highly competitive, with hydro among the best-ranked sources of energy in terms of relative cost competitiveness over the cycle. However, for 2020, we expected to see the assets' profitability being rather sensitive to power price developments. Typically, this is mitigated somewhat by flexibility in production from programmable hydro reservoirs and an active hedging policy. Total Nordic running water hydro power capacity (excluding German pump storage) is about 8,827 MW.

Wind generation is swiftly becoming an important platform, and critical for Vattenfall to deliver on its path to reduce decarbonization. We believe this will continue to strengthen the company's business mix, in Northern Europe. We therefore see Vattenfall emerging as one of the leaders in offshore wind in all of Europe, and that contribution will increase materially in the next five years, approaching 30% in 2025 from the 22% in 2019. This would make the company's portfolio of offshore capacity the third-largest in Europe, after Orsted and RWE. This will require massive investment, and absorb about 70% of Vattenfall's growth investment in 2020-2021, implying that its 3.3 GW of installed wind capacity will increase meaningfully in the near term. Currently, more than 3 GW is under construction and more than 4GW under advanced development. We believe the expansion into wind will increase the stability of the company's earnings, because roughly 80% of wind projects are under locked-in subsidy schemes that will last the next 10 years. The largest project, Hollandse Kust Zuid 1-4, with about 1.5 MW of capacity, is on a nonsubsidised project.

Chart 6

Total Growth Capex, 2020-2021



*Mainly decentralised solutions, energy storage, and e-mobility. Source: S&P Global Ratings.

A lower WACC will burden the DSO's profitability. We expect a lower contribution from Vattenfall's DSO activities in Sweden because of the lower WACC for the new regulatory period, which started from 2020 to negative affect profitability and possibly, at least temporary lower investment. This is because the WACC has been reset to 2.35% from 5.85% previously. Although we expect this will lead to lower revenue and EBITDA in the regulatory period 2020-2023, there is still a legal process ongoing, in which all DSO operators in Sweden, of which there are about 120, has opined against the WACC outcome or the process used by the regulator. Furthermore, the regulator recently revised the WACC to 2.16% before revising it again to 2.35% from 2.16%. It can therefore not be fully excluded that more changes could occur also this regulatory period.

We expect that Vattenfall's contribution from regulated activities could fall, especially in Germany. This is partly because of observed trend of remunicipalization in Germany, as seen with network activity in Berlin and Hamburg's district heating system. Vattenfall recently announced that it plans to sell its DSO activity in Berlin, which we view as negative for the business risk, because we see the DSO operation as the most stable and predictable part of the company's business. To some extent, this trend is offset by increasing contribution from wind and heat.

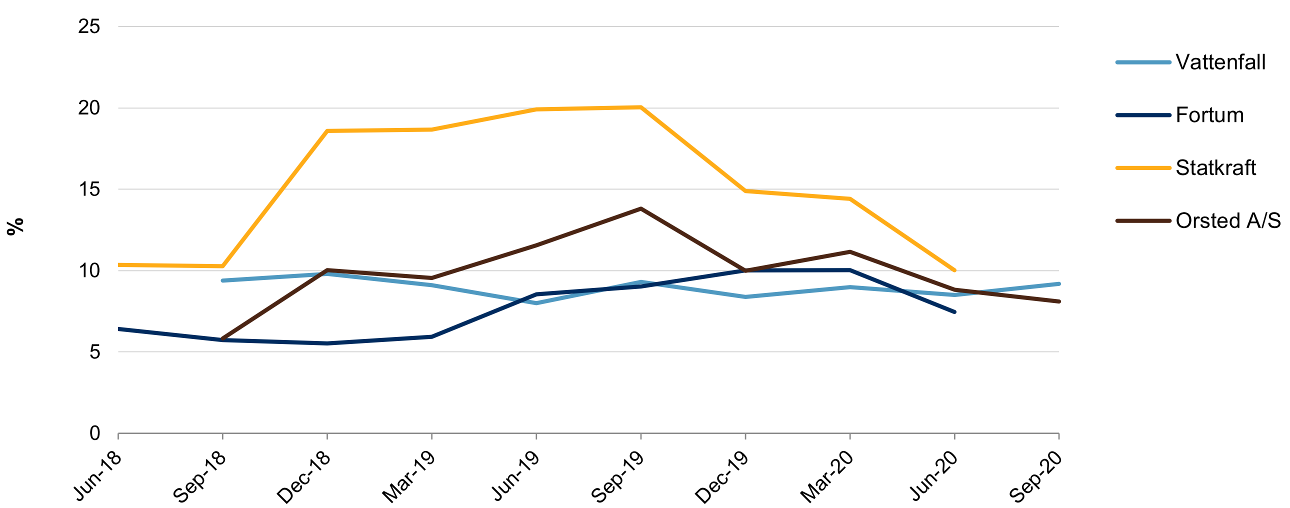
Profitability likely to suffer from low prices, but supported by its diversification. Vattenfall's profitability in 2021-2022 is likely to be negatively affected by falling power prices, and the depressed demand environment. We believe profitability will be affected by power prices that are increasingly volatile across Europe, mainly due to the significant addition of intermittent renewable electricity generation. Long term, we have a more positive view on power prices in the Nordic region, because we think the general trend with increased electrification will support demand. As seen in

2020, Nordic power prices are also highly volatile and seasonal, owing to their dependence on weather and hydro generation. Despite this, Vattenfall's return on capital has been fairly stable at 8%-10%, excluding years with sizable write-downs such 2015 and 2016. This return is slightly lower than that of peers with more merchant and generation exposure, such as Fortum, Statkraft and Orsted, but this is balanced in our view by Vattenfall's more diversified operating model that should provide more stability. Operating leverage and, consequently, the need for high capacity use, especially in nuclear plants, adds to the group's risk profile.

A material decrease in Nord Pool power prices, which reached historical lows in 2020, has affected cash flow in the power generation business. We expect Nordic system spot prices to average €10-€15 per MWh in 2020, substantially below the 2019 average of about €39. The higher-than-usual hydro balance and decreased demand due to warmer winter and COVID-19 are the primary reason for the lower power prices. We expect the region's power prices to be below €25 MWh from 2020-2023, but subsequently see good prospects for improving power prices over the medium term. For more information, see "Nordic Utilities Are Suffering From Low Power Prices And Structural Changes," published Oct. 15, 2020, on RatingsDirect.

Chart 7

Profitability Comparison Among Nordic Peers
Return on capital (%)



Source: S&P Global Ratings.

Financial Risk: Significant

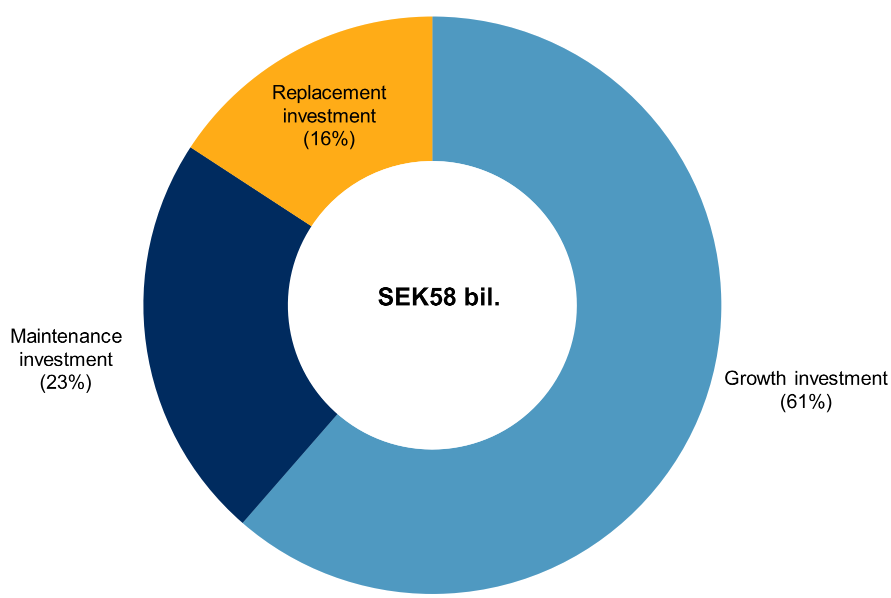
We believe that Vattenfall's financial headroom will diminish in 2021, due to declining earnings and increasing capex. We expect the company's financial ratios to decline to levels just above our 20% over in 2021 and 2022. Although we anticipate that power prices will remain subdued through 2023, we expect Vattenfall's regulated activities and hedging reduce that impact and support its key metrics.

We expect the company's investment levels to increase. In total SEK58 billion, of capex is planned for 2020, and 2021, respectively. However, we expect continued large growth investment also after 2022. We understand that most growth investments over the next five years will be dedicated to renewables. About 70% of growth capex is for wind under different supportive subsidy schemes and long-term PPA contracts.

Vattenfall has substantial flexibility in capex and assets disposal, implying upside to our base-case scenario. We believe management is committed to its financial policy, including keeping FFO to debt at 22%-27%. This implies that we expect management will take proactive measures such as reducing its interest in large projects, sign PPAs, or sell noncore assets to honor its financial policy if needed. We believe an assumed sale of 50% in any of the largest projects, namely Hollandse kust Zuid, Kriegers Flak and Vesterhav, could lower capex by €1 billion or more, as the projects runs over several years, supporting FFO to debt at least 100 bps. We also believe some assets sale are likely, although we are not including this in our base-case scenario yet. No price has been disclosed for the DSO operation in Berlin, but with EBITDA of €210 million, we would expect Vattenfall to receive no less than €2 billion if the transaction closes. Assuming no other changes, we would expect FFO to debt after the transaction to improve to the 25%-27% range in our base-case scenario.

Chart 8

Vattenfall Investment Plan, 2020-2021



SEK--Swedish krona. Source: S&P Global Ratings.

Financial summary

Table 2

Vattenfall AB--Financial Summary

Industry sector: Energy

	--Fiscal year ended Dec. 31--				
	2019	**2018**	**2017**	**2016**	**2015**
(Mil. SEK)					
Revenue	166,360.0	156,824.0	135,295.0	139,208.0	164,510.0
EBITDA	40,138.0	34,162.0	37,904.5	36,698.5	32,692.0
Funds from operations (FFO)	35,860.5	27,245.4	29,692.2	34,408.4	27,285.5
Interest expense	4,003.0	4,114.1	7,091.3	7,134.6	7,252.5
Cash interest paid	2,749.5	3,218.6	4,994.3	3,580.1	4,066.5
Cash flow from operations	16,679.5	41,693.4	26,133.2	31,088.4	41,036.5
Capital expenditure	25,939.0	21,807.0	19,573.0	23,024.0	28,232.0
Free operating cash flow (FOCF)	(9,259.5)	19,886.4	6,560.2	8,064.4	12,804.5
Discretionary cash flow (DCF)	(14,468.0)	16,251.4	5,373.2	6,860.9	12,240.5
Cash and short-term investments	33,155.0	40,071.0	26,897.0	43,292.0	44,256.0
Gross available cash	33,155.0	40,071.0	26,897.0	43,292.0	44,256.0
Debt	125,828.1	109,029.0	120,359.3	120,114.3	133,553.6
Equity	118,604.0	113,513.0	103,604.0	93,382.0	125,229.0
Adjusted ratios					
EBITDA margin (%)	24.1	21.8	28.0	26.4	19.9
Return on capital (%)	8.8	8.0	10.6	4.5	(8.1)
EBITDA interest coverage (x)	10.0	8.3	5.3	5.1	4.5
FFO cash interest coverage (x)	14.0	9.5	6.9	10.6	7.7
Debt/EBITDA (x)	3.1	3.2	3.2	3.3	4.1
FFO/debt (%)	28.5	25.0	24.7	28.6	20.4
Cash flow from operations/debt (%)	13.3	38.2	21.7	25.9	30.7
FOCF/debt (%)	(7.4)	18.2	5.5	6.7	9.6
DCF/debt (%)	(11.5)	14.9	4.5	5.7	9.2

SEK--Swedish krona.

Reconciliation

Table 3

Vattenfall AB--Reconciliation Of Reported Amounts With S&P Global Ratings' Adjusted Amounts (Mil. SEK)

	--Fiscal year ended Dec. 31, 2019--								
Vattenfall AB reported amounts									
	Debt	**Shareholders' equity**	**EBITDA**	**Operating income**	**Interest expense**	**S&P Global Ratings' adjusted EBITDA**	**Cash flow from operations**	**Dividends**	**Capital expenditure**
Reported	93,059.0	93,631.0	42,445.0	22,141.0	3,126.0	40,138.0	16,719.0	3,714.0	26,335.0
S&P Global Ratings' adjustments									
Cash taxes paid	--	--	--	--	--	(1,528.0)	--	--	--

Table 3

Vattenfall AB--Reconciliation Of Reported Amounts With S&P Global Ratings' Adjusted Amounts (Mil. SEK) (cont.)									
Cash interest paid	--	--	--	--	--	(2,969.0)	--	--	--
Reported lease liabilities	4,568.0	--	--	--	--	--	--	--	--
Intermediate hybrids reported as debt	(10,082.0)	10,082.0	--	--	(359.0)	356.5	356.5	356.5	--
Postretirement benefit obligations/deferred compensation	39,286.8	--	63.0	63.0	871.0	--	--	--	--
Accessible cash and liquid investments	(27,292.0)	--	--	--	--	--	--	--	--
Capitalized interest	--	--	--	--	137.0	(137.0)	(137.0)	--	(137.0)
Capitalized development costs	--	--	(259.0)	(209.0)	--	--	(259.0)	--	(259.0)
Dividends received from equity investments	--	--	136.0	--	--	--	--	--	--
Asset-retirement obligations	40,641.3	--	--	--	228.0	--	--	--	--
Income (expense) of unconsolidated companies	--	--	(422.0)	--	--	--	--	--	--
Nonoperating income (expense)	--	--	--	296.0	--	--	--	--	--
Noncontrolling interest/minority interest	--	14,891.0	--	--	--	--	--	--	--
Debt: Other	(14,353.0)	--	--	--	--	--	--	--	--
EBITDA: Gain/(loss) on disposals of PP&E	--	--	(3,513.0)	(3,513.0)	--	--	--	--	--
EBITDA: Derivatives	--	--	1,688.0	1,688.0	--	--	--	--	--
Total adjustments	32,769.1	24,973.0	(2,307.0)	(1,675.0)	877.0	(4,277.5)	(39.5)	356.5	(396.0)
S&P Global Ratings' adjusted amounts									
	Debt	**Equity**	**EBITDA**	**EBIT**	**Interest expense**	**Funds from operations**	**Cash flow from operations**	**Dividends paid**	**Capital expenditure**
Adjusted	125,828.1	118,604.0	40,138.0	20,466.0	4,003.0	35,860.5	16,679.5	4,070.5	25,939.0

SEK--Swedish krona.

We make significant adjustments to Vattenfall's reported debt. As of Dec. 31, 2019 the main adjustments were:

- We added SEK40.6 billion, after deducting related deferred tax assets of about SEK3.4 billion, of decommissioning liabilities relating to Vattenfall's proportional share of nuclear operations. We calculate the asset retirement obligation related to Vattenfall's Swedish nuclear operations net of the group's share of the Swedish nuclear decommissioning fund.
- We have reclassified to equity from debt 50% of the nominal value of hybrid instruments (in total SEK10 billion) that

we consider having intermediate equity content. The first call day on the hybrid bond is in 2022 for the SEK-denominated bonds, 2023 for the U.S.-dollar-denominated bond, and 2027 for its euro-denominated hybrid bond.

- We reduced Vattenfall's reported debt with the margin calls received (SEK3.7 billion), and liabilities to minority owners (SEK10.6 billion).
- We view the surplus cash (SEK27.3 billion), which we view as readily available, and deduct it from gross debt. We thereby assume SEK5.8 billion is tied to its operations.
- Unfunded postretirement obligations added about SEK39.3 billion.

From reported gross debt of SEK93 billion we thereby arrive to S&P Global adjusted debt figure of SEK125.8 billion.

When we analyze Vattenfall's credit ratios we apply our standard volatility table, because the share of regulated earnings is below one-third.

Liquidity: Adequate

We assess Vattenfall's liquidity position as adequate. We expect the group will maintain liquidity sources exceeding liquidity uses of about 1.45x over the next 12 months. We also assume liquidity sources will exceed uses even if EBITDA decreases by 15%, and understand that the company's credit facilities are free from onerous financial covenants. We also view Vattenfall as having solid relationships with banks and a high standing in credit markets, as demonstrated by several issuances--in 2020, it obtained SEK10 billion in bank or bond debt despite major market turmoil stemming from the COVID-19 outbreak, and recently the extension of its back up credit facility. We also believe the status as state-owned and the position as the largest utility company in Sweden facilitates market access. All in all, we view risk management as prudent.

Principal liquidity sources	Principal liquidity uses
According to our calculations, Vattenfall's liquidity sources as of Sept. 30, 2020, comprised: • Available cash and marketable securities of about SEK44 billion • Access to committed undrawn credit lines of about SEK21 billion maturing in December 2023, with two one-year extension options. The facility was renewed in November 2020 • Forecast FFO of SEK32 billion-SEK35 billion	Principal liquidity uses as of Sept. 30, 2020 are: • Reported financial liabilities of SEK35 billion due within one year • We expect capex in the SEK24 billion–SEK28 billion range annually in 2020 and 2021, respectively • Dividends of about SEK5 billion-SEK6 billion in 2020

Debt maturities

Vattenfall has debt maturities of about SEK35 billion in the coming 12 months.

Environmental, Social, And Governance

In line with its strategy of becoming climate neutral (generating zero net greenhouse gas emissions) in the Nordic area by 2030, Vattenfall is massively investing in renewables, the bulk of which benefits from a long-term remuneration framework. Recently, Vattenfall signed a credit facility in which a margin reduction will be applied if the carbon dioxide equivalent emissions intensity falls below its target, which signal the company's ambitions. As a government-owned company, Vattenfall aligns with the Swedish government's environmental and climate goals. However, merchant and fossil-fuel generation still accounts for a significant share of its production (30.2 TWh, or 23% of production in 2019) and its carbon footprint is therefore substantial (about 18 million tons). In addition, after the closure of Ringhals 1 (planned for December 2020) and 2 (in December 2019), the company operates five (Ringhals 3 and 4; Forsmark 1, 2, and 3) nuclear power plants in Sweden (5.5 GW). Sweden has a relatively supportive approach to nuclear and no remaining nuclear reactors have planned decommissioning dates. The operator is responsible for dismantling and nuclear waste. We believe the company is also exposed to extreme weather conditions, which could affect the operation both of its generation assets and network. In early 2019, a severe snowstorm affected its network north of Stockholm, which led to significant outages and as a result exposed the company to penalties and extra costs. However, the company has a good track record of meeting the regulator's targets on network service quality, and we believe it manages its regulatory environment well.

In November 2020, the previous CFO, Anna Borg, took over as the CEO and Kerstin Ahlfont was appointed CFO. Despite the recent changes in top management positions, we don't expect any major shift in strategy.

Government Influence

The ratings on Vattenfall benefit from one notch of uplift owing to our view of a moderate likelihood of timely and sufficient extraordinary government support for the company in case of financial distress. This reflects our assessment of

Vattenfall's:

- Strong link with the Swedish government, which owns 100% of the company through the Ministry of Enterprise and Innovation, and the government's influence on the group's high-level strategic decision-making; and
- Limited role for the state, given the group's strong, but not dominant, market position in Sweden, significant exposure to non-Nordic markets, and its operations in a fully unregulated electricity market, which implies that it could conceivably be replaced by a private-sector entity.

Issue Ratings - Subordination Risk Analysis

Capital structure

Vattenfall's capital structure consisted of SEK125 billion of unsecured debt as of Dec. 31, 2019.

Analytical conclusions

We rate Vattenfall's senior unsecured debt at the same level as the 'BBB+' long-term issuer credit rating (ICR) because all the debt is issued by the parent company.

We rate the company's commercial paper program 'A-2' (global scale) and 'K-1' (Nordic regional scale), which aligns with our 'BBB+' long-term ICR on Vattenfall. We rate the company's euro medium-term note program (senior unsecured at ICR level and senior subordinated one notch below the ICR), although Vattenfall has not issued any subordinated debt under the program. All senior unsecured debt is rated at ICR level.

Vattenfall's hybrid bonds (SEK20.1 billion), which we assess as having intermediate equity content (50%), are rated 'BB+', two notches lower than the SACP. The difference stems from our deduction from the 'bbb' SACP level of:

- One notch for the notes' subordination; and
- Another notch for payment flexibility to reflect that the deferral of interest is optional.

Ratings Score Snapshot

Issuer Credit Rating

BBB+/Stable/A-2

Business risk: Strong

- **Country risk:** Very low
- **Industry risk:** Intermediate
- **Competitive position:** Strong

Financial risk: Significant

- **Cash flow/leverage:** Significant

Anchor: bbb

Modifiers

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

- **Comparable rating analysis:** Neutral (no impact)

Stand-alone credit profile : bbb

- **Related government rating:** AAA
- **Likelihood of government support:** Moderate (+1 notch from SACP)

Related Criteria

- General Criteria: Hybrid Capital: Methodology And Assumptions, July 1, 2019
- General Criteria: Group Rating Methodology, July 1, 2019
- Criteria | Corporates | General: Corporate Methodology: Ratios And Adjustments, April 1, 2019
- General Criteria: Methodology For National And Regional Scale Credit Ratings, June 25, 2018
- 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 Unregulated Power And Gas Industry, March 28, 2014
- Criteria | Corporates | General: Corporate Methodology, Nov. 19, 2013
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013
- Criteria | Corporates | Utilities: Key Credit Factors For The Regulated Utilities Industry, 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, 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

Business And Financial Risk Matrix

	Financial Risk Profile					
Business 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 November 18, 2020)*		
Vattenfall AB		
Issuer Credit Rating		BBB+/Stable/A-2
Nordic Regional Scale		--/--/K-1
Commercial Paper		
Foreign Currency		A-2
Junior Subordinated		BB+
Senior Unsecured		BBB+
Issuer Credit Ratings History		
07-Jun-2017		BBB+/Stable/A-2
19-May-2016		BBB+/Negative/A-2
26-Feb-2016		BBB+/Watch Neg/A-2
19-May-2016	*Nordic Regional Scale*	--/--/K-1
26-Feb-2016		--/Watch Neg/K-1
02-Sep-2010		--/--/K-1

*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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