

## Vattenfall AB

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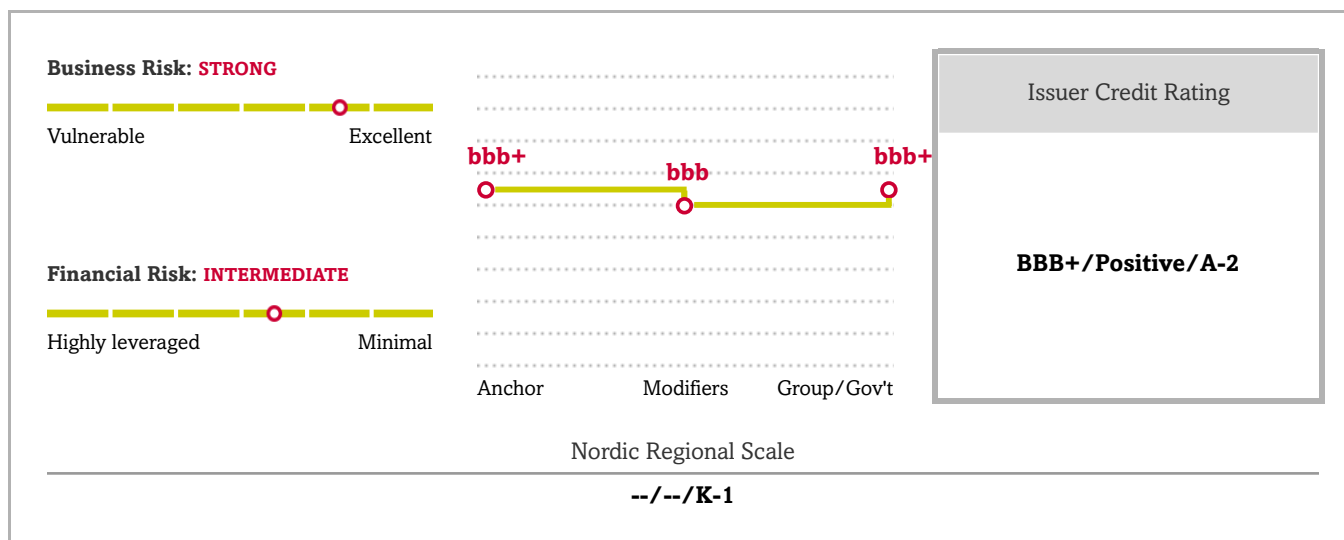
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# Vattenfall AB



## Credit Highlights

### Overview

Key strengths	Key risks
Integrated utility, with substantial share of low-risk activities such as regulated electricity distribution networks, district heating operations, and expanding wind operations.	Continued low price realization (€17 per megawatt hour [€/MWh] for the first nine months of 2022) in its Nordic power production.
Leading position in the Swedish power generation market, supported by its large fossil-free nuclear fleet (5.5 gigawatts [GW]) and flexible low-cost hydropower generation (11.5 GW).	Temporary decrease in cash flow contribution (about 10% in 2022) from its regulated network operations over 2020-2023.
Clear path toward energy transition; a massive increase in wind generation investment will raise wind capacity to about 30% of Vattenfall's total generation capacity.	Huge quarterly working capital inflow, created by temporary margin calls received leading to temporary volatility in debt.
Good credit rating headroom, with funds from operations (FFO) to debt expected above 35%-40% in 2023-2024.	Execution risks on large offshore wind projects pushing capital expenditure (capex) up to Swedish krona (SEK) 55 billion over 2022-2023, up from SEK21 billion in 2020.
Expected timely support from the 100% owner, the government of Sweden (unsolicited AAA/Stable/A-1+), which provides Vattenfall with a one-notch uplift from its stand-alone credit profile.	Risk of price and political interventions, as the new government have expressed its intention to change Vattenfall's strategy and investment directions.

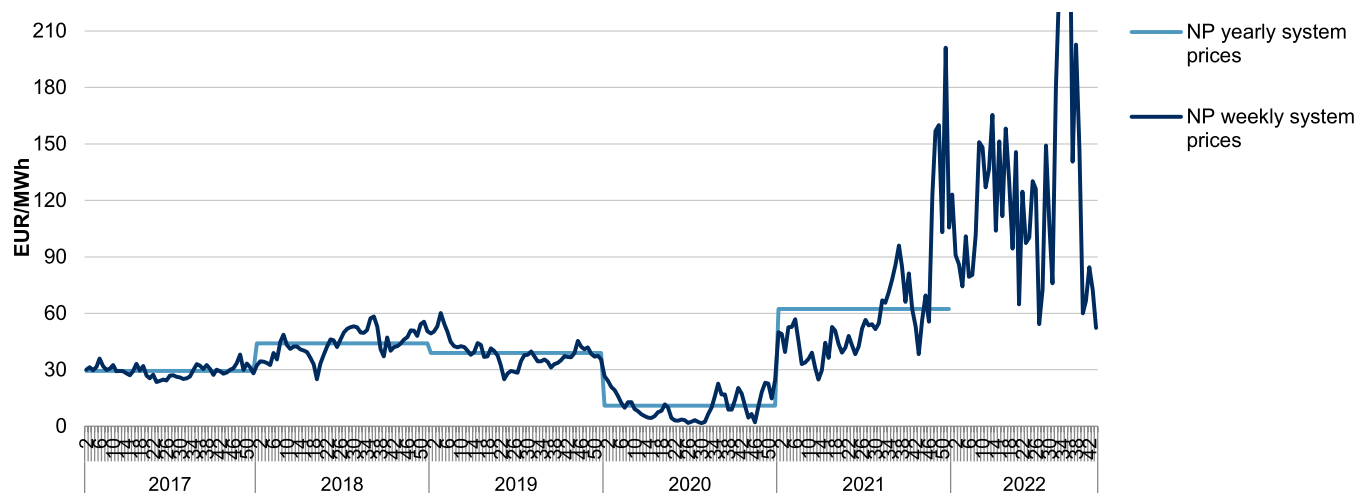
*Thanks to Vattenfall's integrated business model, operating performance proved resilient despite exceptionally low prices for the generations segment in the first nine months of 2022.* We view Vattenfall' results for the first nine months of 2022 as strong, showcasing the robustness of its integrated business model. The results were in line with our base case, despite very low achieved prices in its power generation segment, thanks to its wind segment's strong performance. We now expect full-year EBITDA of SEK50 billion-SEK55 billion. Over the nine months to September, the wind segment generated underlying EBITDA of SEK16 billion, up from SEK7 billion in the previous year. This was substantially higher than expected, largely as a result of merchant upside when prices rose above the subsidized level. This fully mitigated lower results in the power generation segment, which was depressed by low achieved prices, a mere €17MWh. Underlying EBITDA therefore declined to SEK13.5 billion from SEK17.6 billion in the previous year.

This was due to low prices in the price areas 1 and 2 in Sweden where most of Vattenfall power production takes place. Regulated operations reported EBITDA of SEK3.3 billion, which is in line with last year. This supports Vattenfall's business risk profile, as meaningful contributions—from stable distribution system operator (DSO) and heat operations from highly rated countries, namely Sweden and northern Europe--will continue to support cash flow over time. These contributions should also, to some extent, offset the volatility in earnings from the various business segments. We acknowledged that the regulated share has decreased as a consequence of the sale of the DSO operations in Berlin in 2021, but we expect this to gradually increase over the coming years as investment increases. We continue to view the regulatory framework in Sweden as strong. The weighted-average cost of capital (WACC) for the 2021-2023 regulatory period is however, still not final. The framework gives good protection for inflation, since the regulated asset base (RAB) is annually updated in line with inflation. We therefore do not expect currently high inflation (we forecast 8.4% for Sweden for the full-year 2022) to meaningfully weaken any credit ratio.

Over the past year, there has been a large differences between the prices in Northern Sweden and the system price. This has become a structural issue in the Nordic region. Because of the price differences--combined with Vattenfall's hedges and the fact it produces the most in Northern Sweden--the company did not benefit from the high system prices. During the period, the system price was €136/MWh compared with Vattenfall's price realization of €17/MWh. We understand Vattenfall will opt to lower its hedge ratio going forward, which gradually should improve profitability from the generation division, although it could potentially become more volatile. For the rest of 2022 and 2023 Vattenfall already has hedges in place that cover 66% and 57% of its production, respectively, at €25/MWh and €30/MWh. We therefore expect that Vattenfall won't benefit fully from high system prices in the medium term.

### Chart 1

#### Nordic Power Prices Evolution (Annual And Weekly Average)



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

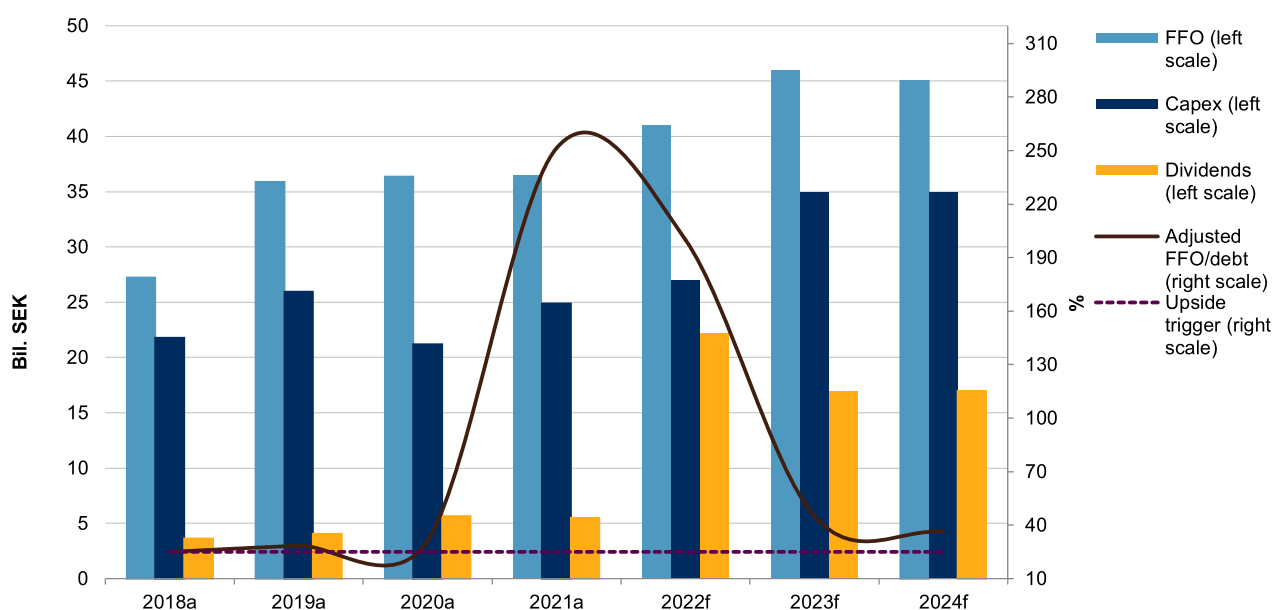
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*The temporary spike in credit ratios is expected to soften over 2022-2023 as margin calls flow back; ratios are likely to remain strong for the rating.* Vattenfall's credit ratios continued to strengthen over 2021 and 2022, mainly due to higher-than-expected margin call inflows. In our updated forecast we assume a ratio of 33%-38% excluding the margin call effect, for the full-year 2022 and 2023. This is still a very robust ratio compared with the expectation for the rating, thanks also to asset sales in 2021. In our analysis, we assume that the margin calls will be neutralized over the coming quarters as Vattenfall delivers on power and gas contracts and prices normalize. We therefore view this as a temporary peak and expect ratios to gradually soften in 2023 toward FFO to debt of 35%-40%.

This assumes that Vattenfall will continue to pay dividends in line with its financial policy of 40%-70% of the year's profit after tax. We expect dividends of about SEK15 billion-SEK20 billion in 2023 and 2024. We also expect investment to remain high, see our Base-Case Scenario section below, and that they will largely consume the cash flow generated over the coming years. The company has guided SEK55 billion in total over 2022-2023.

**Chart 2**

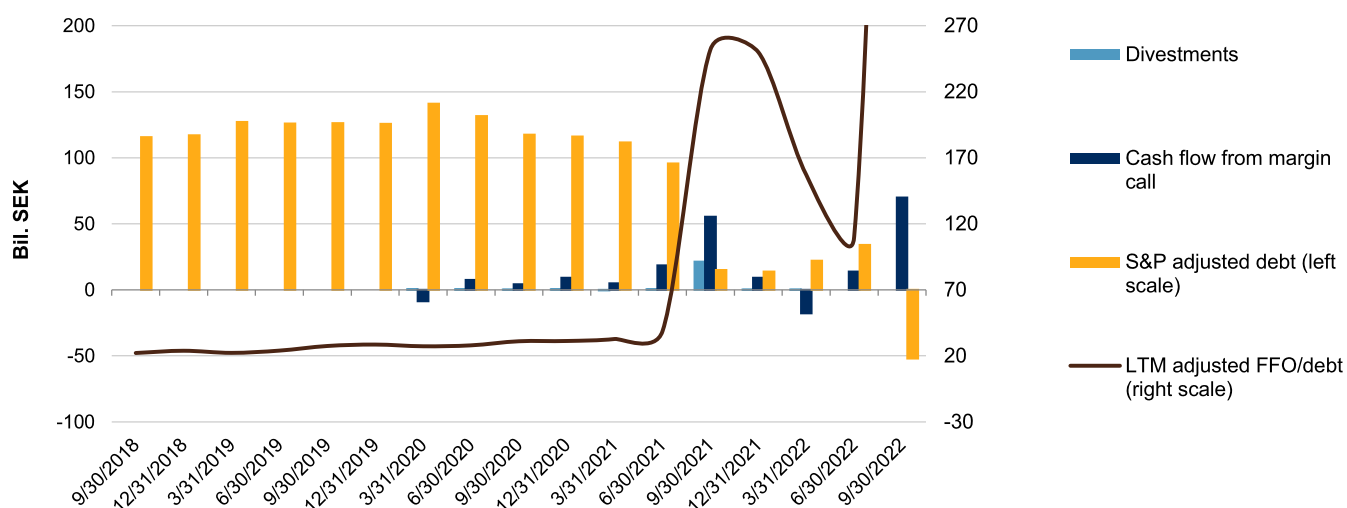
**Temporary Spike In Credit Ratios To Soften Over 2023-2024; Ratios To Remain Strong For The Rating**  
 Materially higher 2021 net income from assets sales resulted in high 2022 dividends; expected to normalize in 2023



a--Actual. f--Forecast. Capex--Capital expenditure. SEK--Swedish krona. FFO--Funds from operations.  
 Source: S&P Global Ratings.  
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Chart 3

## Large Reduction In Adjusted Debt, Mostly Driven By Margin Call Inflow



SEK--Swedish krona. FFO--Funds from operations. LTM--Last 12 months. Source: S&P Global Ratings. Copyright © 2022 by Standard & Poor's Financial Services LLC. All rights reserved.

*The 2021-2025 strategic plan entails ambitious investment in renewables and networks, bringing credible growth and a gradually more stable cash flow profile.* Vattenfall plans to invest significantly in renewables and its regulated distribution networks. We believe the company is in a good position to transition its generation mix to fossil-free, compared with many peers, because it already has a high share of very low carbon dioxide-emitting hydro in the portfolio (11.5 gigawatts [GW]) and has credible path to net zero. However, over the coming year, the company needs to address that 17% of its total electricity generation still stems from fossil fuels.

Vattenfall's announced capex program for the coming period is very large, with SEK55 billion (€5.7 billion) total guided for 2022-2023, a significant increase from the previous 2012-2021 total of about SEK47 billion. Given the ample rating headroom, we believe it could increase further in coming years. Of this amount, about SEK34 billion will fund growth projects, mainly wind (70%) and distribution operations (10%).

The existing plans, if not changed, should allow the company to expand its wind generation fleet rapidly, from 4.3 GW installed capacity as per end of third quarter 2022, toward 10.5 GW over the next years (2.0 GW under construction and 6.9 GW under development) and over 16 GW by 2030. We see this as transformational for the generation portfolio. In addition, the planned investment in distribution will broadly double to about SEK7 billion per year, from SEK3.5 billion on average during 2010-2019, which likewise should allow for good growth in the RAB and increase cash flow streams from regulated assets.

Recent changes in the political power in Sweden could however alter those plans, as the new government is more pro-nuclear investments, domestically. Please see our Base-Case Scenario section below for more details.

***Vattenfall's investment should lead to increased cash flow from wind and regulated assets from 2023-2025.*** We expect Vattenfall's share of wind to increase substantially, as the group is reshaping its generation portfolio. In 2024, we expect the wind business unit to generate sustainable EBITDA of 35%-40%, up from about 27% in 2021 and 21% in 2020 of underlying EBITDA. As the share of subsidized earnings are decreasing, partly due to high power prices and less subsidized projects, they are increasingly exposed to volume and price risk. This is mitigated by low operating costs. Vattenfall's largest ongoing projects include Hollandse Kust Zuid 1-4, the first global subsidy-free offshore wind farm. Its large size, with 1,500 MW of capacity, should provide Vattenfall with economies of scale, although timely execution and tight budget control will be key to making the project economical. While the first turbines have operated since August 2022, the project is scheduled to fully be completed 2023. We expect Vattenfall to occasionally farm down interest in key projects to lower investment and construction risk as well as to keep its balance sheet strong. For example, 49.5% of Hollandse Kust was sold to BASF in 2021 for €300 million. BASF will also be responsible for its share of the remaining investment.

***The recent change in political power might impact Vattenfall's strategy, which creates long term uncertainty for the group.*** Following general elections in September 2022, Sweden is ruled by a right-wing minority government, supported by the nationalist party, the Sweden Democrats. The new government has already announced its intention to guarantee SEK400 billion for new nuclear power investments, and declared that Vattenfall must immediately start planning for new nuclear power constructions at the existing nuclear plan Ringhals, among others. We therefore foresee some changes to the ownership steering of Vattenfall in the near term. To what extent Vattenfall will re-direct its investment from renewable energy toward nuclear is still unclear, and raises some uncertainty as to the strategic direction of the company and for its credit ratio trajectory over the medium-to-long-term, as investments could rise significantly. We intend to seek clarity on those matters over the coming quarters. As investment in nuclear is a long process, we don't foresee any major changes in the investment profile over the coming two years however, albeit some pre-studies are likely.

**Outlook: Positive**

The positive outlook reflects that we could raise the rating by one notch in 2023 should Vattenfall execute its planned investment, which should lead to a higher share of cash flow from wind and regulated assets combined, while maintaining a strong balance sheet. Before any potential upgrade, we would seek clarity to what extent, and to what magnitude, Vattenfall will change its investment level and direction following new government directives and what impact this would have on the credit ratios.

**Upside scenario**

We could raise the rating over the next year should Vattenfall execute its ongoing investment without any significant cost overruns or delays. If we believe the company could sustain its financial risk profile, with FFO to debt above 25%, this could also lead to a one-notch upgrade.

**Downside scenario**

We could revise the outlook to stable if we believe that the financial risk profile is not sustainable, meaning FFO to debt could return to 20%-25% without any material improvement in business risk. This could follow a major capex step-up, capex delay, or major cost overruns hitting Vattenfall's finances, leading to weaker credit measures than we assume for the company. A lower EBITDA contribution from regulated or long-term contracted operations, for example its distribution system operator and district heating operation declining materially, could also lead us to take a negative rating action.

Our rating includes one notch of uplift for government support. We could take a negative rating action if government support weakened—for example, if the government privatized a significant part of its ownership in Vattenfall could lead us to consider a downgrade. However, we consider this unlikely over the near-to-medium term.

## Our Base-Case Scenario

### Assumptions

- Swedish GDP growth of 2.2% and consumer price index (CPI) inflation at 8.4% in 2022.
- Power prices in the Nordic region to remain elevated; we assume system prices will remain above €100/MWh for the rest of 2022 and 2023, compared with €53/MWh in 2021.
- EBITDA of SEK50 million-SEK55 million in 2022-2023.
- Capex of about SEK55 billion in total over 2022 and 2023.
- Vattenfall's hedged generation segment, with approximately 66% at €25 per MWh and 57% at €30 per MWh in 2022 and 2023, respectively, then falling sharply.
- WACC under the Swedish regulatory framework for the DSO at least at 2.35%.
- No major acquisitions.
- No major disposal.
- Dividend payments around 40%-70% of profit.

### Key metrics

#### Vattenfall AB--Key Metrics\*

(Mil. SEK)	--Fiscal year ended Dec. 31--			
	2020a	2021a	2022f	2023f
EBITDA	41,627.0	46,084.0	50,000-55,000	52,000-58,000
Funds from operations (FFO)	36,396.0	36,489.0	40,000-45,000	42,000-48,000
Capital expenditure	24,877.0	24,909.0	25,000-29,000	30,000-35,000
Debt	116,068.0	14,516.0	20,000-30,000	110,000-130,000
Debt to EBITDA (x)	2.8	0.3	Less than 1	2-3
FFO to debt (%)	31.4	200.0	Above 100	33-38

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

**EBITDA expected to improve to above SEK50 billion in 2022.** We now expect Vattenfall's S&P Global Ratings-adjusted EBITDA to improve to above SEK50 billion, compared with SEK46 billion in 2021, ultimately thanks to the higher power prices that already allowed the wind segment in the first nine months to outperform our expectations. The impact on earnings from the elevated prices is however muted as 66% of the merchant exposure being hedged at €25/MWh for 2022. A relatively high share of production is also based in the Northern part of Sweden, where prices have been much lower than the Nord pool SYS price, due to limited transmission capacity. We have not assumed any major deviation in power generation from the previous year (111.4 terawatt hours [TWh] were generated in 2021). In 2022 and 2023, we expect the EBITDA from its distribution business to decrease somewhat



from the SEK5.9 billion reported in 2021, as the disposal of Stromnetz Berlin was effective from July 1, 2021. We expect however the increasing generation from wind to compensate for this (SEK9.7 billion in underlying EBITDA in the first half of 2022, up from SEK4.8 billion the year before).

***Our forecast does not factor in any disposals, however we understand Vattenfall has started a strategic review of its district heating operations in Berlin.*** The company has not disclosed any amounts related to the Berlin operations, but, if they are sold, we expect a possible inflow of several billion euros for Vattenfall given their large scale. As such, this would materially boost credit ratios. We think a potential sale could happen at the earliest in 2023, if at all. We note that Vattenfall's financial risk profile strengthened significantly in 2021 thanks to a series of materially positive one-off events, including the German nuclear settlement; the sale of Stromnetz Berlin, a German based distribution system operator (DSO); and the sale of 49.5% of Hollandse Kust Zuid offshore wind. To some extent the financial impact was neutralized by large dividends of in total SEK24.2 billion in 2022, up from SEK5.2 billion in 2021.

***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-SEK35 billion annually, or SEK57 billion combined for those years, from SEK21 billion in 2020 and SEK26 billion in 2021. Excluding the impact of the margin calls, we expect this will lead to neutral or slightly negative FOCF. We therefore expect FFO to debt and debt to EBITDA to decline to 33%-38% in 2023, which still is high for the rating.

## 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 2021, the company reported sales of about SEK159 billion, up from SEK158 billion in 2020, and S&P Global Ratings-adjusted EBITDA of about SEK46 billion. Vattenfall's business portfolio is split between unregulated power generation and supply, mainly in Sweden, the Netherlands, and Germany (49% of 2021 underlying EBITDA); electricity distribution networks in Sweden (12%); heat businesses in Germany, Sweden, and the Netherlands (5%); and the customers and solutions segment (7%). The company is also expanding its largely subsidized wind generation network (28%). The group generated about 111.4 TWh of electricity and sold about 15.6 TWh of heat in 2021.

## Peer Comparison

Table 1

Vattenfall AB--Peer Comparison					
Industry sector: Energy					
	Vattenfall AB	Orsted A/S	Fortum Oyj	Statkraft AS	Verbund AG
Ratings as of June 1, 2022	BBB+/Positive/A-2	BBB+/Stable/A-2	BBB/Negative/A-2	A-/Stable/A-2	A/Stable/--
	--Fiscal year ended Dec. 31, 2021--			--Fiscal year ended Dec. 31, 2020--	
(Mil. €)					
Revenue	17,515.3	10,446.4	112,400.0	3,296.2	3,208.8
EBITDA	4,481.3	2,205.1	4,683.0	1,254.0	1,284.5
Funds from operations (FFO)	3,548.3	1,684.9	3,988.0	608.2	1,182.4
Interest expense	103.2	457.9	293.0	31.0	79.5
Cash interest paid	279.0	334.6	202.0	48.5	33.6
Cash flow from operations	9,747.7	1,503.6	4,970.0	1,088.6	1,051.7
Capital expenditure	2,422.2	4,544.1	1,178.0	718.7	717.7
Free operating cash flow (FOCF)	7,325.5	(3,040.5)	3,792.0	370.0	334.0
Discretionary cash flow (DCF)	6,786.1	(3,765.9)	2,626.0	(250.0)	42.7
Cash and short-term investments	16,122.2	4,014.9	7,592.0	1,118.7	39.2
Debt	1,411.6	6,085.9	10,972.0	2,376.3	1,453.7
Equity	20,167.5	10,240.9	13,664.0	9,349.4	6,873.9
Adjusted ratios					
EBITDA margin (%)	25.6	21.1	4.2	38.0	40.0
Return on capital (%)	12.7	7.4	14.2	7.9	11.7
EBITDA interest coverage (x)	43.4	4.8	16.0	40.5	16.2
FFO cash interest coverage (x)	13.7	6.0	20.7	13.5	36.2
Debt/EBITDA (x)	0.3	2.8	2.3	1.9	1.1
FFO/debt (%)	251.4	27.7	36.3	25.6	81.3
Cash flow from operations/debt (%)	690.5	24.7	45.3	45.8	72.3
FOCF/debt (%)	518.9	(50.0)	34.6	15.6	23.0
DCF/debt (%)	480.7	(61.9)	23.9	(10.5)	2.9

In our view, Vattenfall has the strongest market position among its Nordic peers, followed by Statkraft, Orsted and Fortum. Vattenfall is the market leader in the Nordic region (Sweden in particular) and currently has a solid position in both Germany and the Netherlands. Furthermore, the credit profile benefits from the integrated business model, which diversifies the earnings base and reduces volatility. Vattenfall also has the most diverse portfolio by procurement, with a mix between renewables (mainly low-cost flexible hydro), low cost nuclear, and thermal (mainly gas). It also has the largest share of regulated activities and its proportion of renewables is set to increase with a focus on wind power, albeit not at the same spend and extent as Orsted, which targets 50 GW of installed capacity by 2030, up from 12 GW currently. Vattenfall's profitability has not benefited from the spike in the power prices to the same extent as Statkraft, remaining more stable and on par with Fortum. This is because Statkraft did not hedge to the same extent, and its average cost of production is also lower.

## Financial Risk: Intermediate

### Financial summary

Table 2

Vattenfall AB--Financial Summary					
Industry sector: Energy					
	--Fiscal year ended Dec. 31--				
	2021	2020	2019	2018	2017
<b>(Mil. SEK)</b>					
Revenue	180,119.0	158,847.0	166,360.0	156,824.0	135,295.0
EBITDA	46,084.0	41,627.0	40,138.0	34,162.0	37,904.5
Funds from operations (FFO)	36,489.5	36,396.5	35,860.5	27,245.4	29,692.2
Interest expense	1,061.0	3,633.0	4,003.0	4,114.1	7,091.3
Cash interest paid	2,869.5	2,511.5	2,749.5	3,218.6	4,994.3
Cash flow from operations	100,240.5	41,768.5	16,679.5	41,693.4	26,133.2
Capital expenditure	24,909.0	21,204.0	25,939.0	21,807.0	19,573.0
Free operating cash flow (FOCF)	75,331.5	20,564.5	(9,259.5)	19,886.4	6,560.2
Discretionary cash flow (DCF)	69,785.0	14,910.0	(14,468.0)	16,251.4	5,373.2
Cash and short-term investments	165,793.0	56,222.0	33,155.0	40,071.0	26,897.0
Gross available cash	165,793.0	56,222.0	33,155.0	40,071.0	26,897.0
Debt	14,516.3	116,016.8	125,828.1	109,029.0	120,359.3
Equity	207,392.5	120,844.0	118,604.0	113,513.0	103,604.0
<b>Adjusted ratios</b>					
EBITDA margin (%)	25.6	26.2	24.1	21.8	28.0
Return on capital (%)	12.7	9.9	8.8	8.0	10.6
EBITDA interest coverage (x)	43.4	11.5	10.0	8.3	5.3
FFO cash interest coverage (x)	13.7	15.5	14.0	9.5	6.9
Debt/EBITDA (x)	0.3	2.8	3.1	3.2	3.2
FFO/debt (%)	251.4	31.4	28.5	25.0	24.7
Cash flow from operations/debt (%)	690.5	36.0	13.3	38.2	21.7
FOCF/debt (%)	518.9	17.7	(7.4)	18.2	5.5

Table 2

Vattenfall AB--Financial Summary (cont.)					
Industry sector: Energy					
	--Fiscal year ended Dec. 31--				
	2021	2020	2019	2018	2017
DCF/debt (%)	480.7	12.9	(11.5)	14.9	4.5

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, 2021--									
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	120,258.0	180,710.0	75,790.0	60,271.0	3,356.0	46,084.0	100,132.0	5,190.0	25,157.0
S&P Global Ratings' adjustments									
Cash taxes paid	--	--	--	--	--	(6,725.0)	--	--	--
Cash interest paid	--	--	--	--	--	(3,226.0)	--	--	--
Reported lease liabilities	6,150.0	--	--	--	--	--	--	--	--
Intermediate hybrids reported as debt	(10,210.5)	10,210.5	--	--	(359.0)	356.5	356.5	356.5	--
Postretirement benefit obligations/ deferred compensation	26,790.7	--	22.0	22.0	438.0	--	--	--	--
Accessible cash and liquid investments	(165,793.0)	--	--	--	--	--	--	--	--
Capitalized development costs	--	--	(248.0)	(129.0)	--	--	(248.0)	--	(248.0)
Dividends received from equity investments	--	--	140.0	--	--	--	--	--	--
Asset-retirement obligations	51,392.1	--	--	--	(2,374.0)	--	--	--	--
Income (expense) of unconsolidated companies	--	--	58.0	--	--	--	--	--	--
Nonoperating income (expense)	--	--	--	558.0	--	--	--	--	--
Noncontrolling interest/minority interest	--	16,472.0	--	--	--	--	--	--	--
Debt: Other	(14,071.0)	--	--	--	--	--	--	--	--

Table 3

Vattenfall AB--Reconciliation Of Reported Amounts With S&P Global Ratings' Adjusted Amounts (Mil. SEK) (cont.)									
EBITDA:	--	--	(8,761.0)	(8,761.0)	--	--	--	--	--
Gain/(loss) on disposals of PP&E									
EBITDA:	--	--	(8,715.0)	(8,715.0)	--	--	--	--	--
Derivatives									
EBITDA: Other	--	--	(12,202.0)	(12,202.0)	--	--	--	--	--
Depreciation and amortization:	--	--	--	(1,884.0)	--	--	--	--	--
Impairment charges/(reversals)									
Total adjustments	(105,741.7)	26,682.5	(29,706.0)	(31,111.0)	(2,295.0)	(9,594.5)	108.5	356.5	(248.0)
<b>S&amp;P Global Ratings' adjusted amounts</b>									
	<b>Debt</b>	<b>Equity</b>	<b>EBITDA</b>	<b>EBIT</b>	<b>Interest expense</b>	<b>Funds from operations</b>	<b>Cash flow from operations</b>	<b>Dividends paid</b>	<b>Capital expenditure</b>
Adjusted	14,516.3	207,392.5	46,084.0	29,160.0	1,061.0	36,489.5	100,240.5	5,546.5	24,909.0

PP&E--Plant, property, and equipment.

## Liquidity: Adequate

We assess Vattenfall's liquidity position as adequate. We expect the group will maintain liquidity sources that exceed liquidity uses by about 1.45x over the next 12 months. At the end of the third quarter, available cash was exceptionally high, at almost SEK270 billion, but we expect that working capital outflows relating to margin calls will consume most of the extra ordinary cash during 2023 and that its cash balance will therefore gradually return to normal levels of around SEK30 billion-SEK50 billion over 2023; we see the cash balance is temporarily high. Timing is, however, difficult to precisely forecast, as it will depend on gas and power prices, and we therefore expect intrayear movements to be high. We believe management has a very proactive approach to liquidity, however, and has taken several steps to improve liquidity during 2022 when the energy market has been more volatile. This is demonstrated by typically early refinancing of its main credit facility, and by being regularly active in the international bond market. As late as October and November 2022, the group issued several billion euro of new bonds with a relatively attractive coupon. This highlights its standing in credit markets, which was also demonstrated by several issuances back in 2020, when it could obtain market access despite major market turmoil stemming from the COVID-19 pandemic. We 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. Its position as largest utility company in the Nordic region further supports this position and facilitates market access.

According to our calculations, Vattenfall's liquidity sources as of Sept. 30, 2022, comprised:

- Available cash and marketable securities of about SEK269 billion.
- Access to committed undrawn credit lines of about SEK20 billion maturing in December 2025. In addition, Vattenfall has about SEK46.9 billion of committed shorter duration facilities that we don't include in our analysis, as they are less than one year.

- Forecast FFO of SEK42 billion-SEK47 billion.

Principal liquidity uses as of Sept. 31, 2022 are:

- Relative high reported financial liabilities of SEK77 billion due within one year.
- Estimated working capital outflow of SEK50 billion-SEK100 billion, but with large intrayear movements.
- Capex of SEK24 billion-SEK30 billion annually in both 2022 and 2023.
- Dividends in 2023 of SEK15 billion-SEK20 billion.

## Environmental, Social, And Governance

### ESG Credit Indicators

E-1	<b>E-2</b>	E-3	E-4	E-5	S-1	<b>S-2</b>	S-3	S-4	S-5	G-1	<b>G-2</b>	G-3	G-4	G-5
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ESG credit indicators provide additional disclosure and transparency at the entity level and reflect S&P Global Ratings' opinion of the influence that environmental, social, and governance factors have on our credit rating analysis. They are not a sustainability rating or an S&P Global Ratings ESG Evaluation. The extent of the influence of these factors is reflected on an alphanumeric 1-5 scale where 1 = positive, 2 = neutral, 3 = moderately negative, 4 = negative, and 5 = very negative. For more information, see our commentary "ESG Credit Indicators: Definition And Applications," published Oct. 13, 2021.

Environmental, social and governance factors have an overall neutral influence on our credit rating analysis of Vattenfall. The company's emissions are relatively low and compare well with its Nordic peers, and it is investing heavily in renewables, which should enable it to reduce emission further. The bulk of investment benefits from a long-term remuneration framework. As a government-owned company, Vattenfall aligns with the Swedish government's environmental and climate goals. This said, the company is exposed to extreme weather conditions, which could affect the operation both of its generation assets and network. In early 2019, a severe snowstorm hit its network north of Stockholm, which led to significant outages and exposed the company to penalties and extra costs. Overall, Vattenfall has a good track record of meeting the regulator's targets on network service quality, and we believe it manages its regulatory environment well. (See "ESG Credit Indicator Report Card: Power Generators," published on Nov. 18, 2021).

## 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 Vattenfall in case of financial distress. This reflects our assessment of Vattenfall's:

- Strong link with the Swedish government, which owns 100% of Vattenfall 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 liberalized 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 SEK116 billion of unsecured debt as of Dec. 31, 2021.

### 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 Vattenfall's commercial paper program at 'A-2' global scale and 'K-1' Nordic regional scale, which aligns with our 'BBB+' long-term ICR on Vattenfall. We rate Vattenfall'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 the ICR level.

Vattenfall's hybrid bonds (SEK19.3 billion), which we assess as having intermediate equity content (50%), are rated 'BB+', two notches lower than the stand-alone credit profile (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+/Positive/A-2

### Business risk: Strong

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

### Financial risk: Intermediate

- **Cash flow/leverage:** Intermediate

Anchor: bbb+

### Modifiers

- **Diversification/portfolio effect:** Neutral (no impact)
- **Capital structure:** Neutral (no impact)
- **Financial policy:** Negative (-1 notch)
- **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: Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- General Criteria: Group Rating Methodology, July 1, 2019
- Criteria | Corporates | General: Corporate Methodology: Ratios And Adjustments, April 1, 2019
- 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: Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- Criteria | Corporates | Utilities: Key Credit Factors For The Regulated Utilities Industry, Nov. 19, 2013
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013
- General Criteria: Methodology: Management And Governance Credit Factors For Corporate Entities, Nov. 13, 2012
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011
- General Criteria: Stand-Alone Credit Profiles: One Component Of A Rating, Oct. 1, 2010

### 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+
<b>Strong</b>	aa/aa-	a+/a	<b>a-/bbb+</b>	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 2, 2022)\*

**Vattenfall AB**

Issuer Credit Rating	BBB+/Positive/A-2
<i>Nordic Regional Scale</i>	--/--/K-1
Commercial Paper	
<i>Foreign Currency</i>	A-2
Junior Subordinated	BB+
Senior Unsecured	BBB+

**Issuer Credit Ratings History**

26-Nov-2021	<i>Foreign Currency</i>	BBB+/Positive/A-2
07-Jun-2017		BBB+/Stable/A-2
19-May-2016		BBB+/Negative/A-2
26-Nov-2021	<i>Local Currency</i>	BBB+/Positive/A-2
07-Jun-2017		BBB+/Stable/A-2
19-May-2016		BBB+/Negative/A-2
19-May-2016	<i>Nordic Regional Scale</i>	--/--/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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