

## Vattenfall AB

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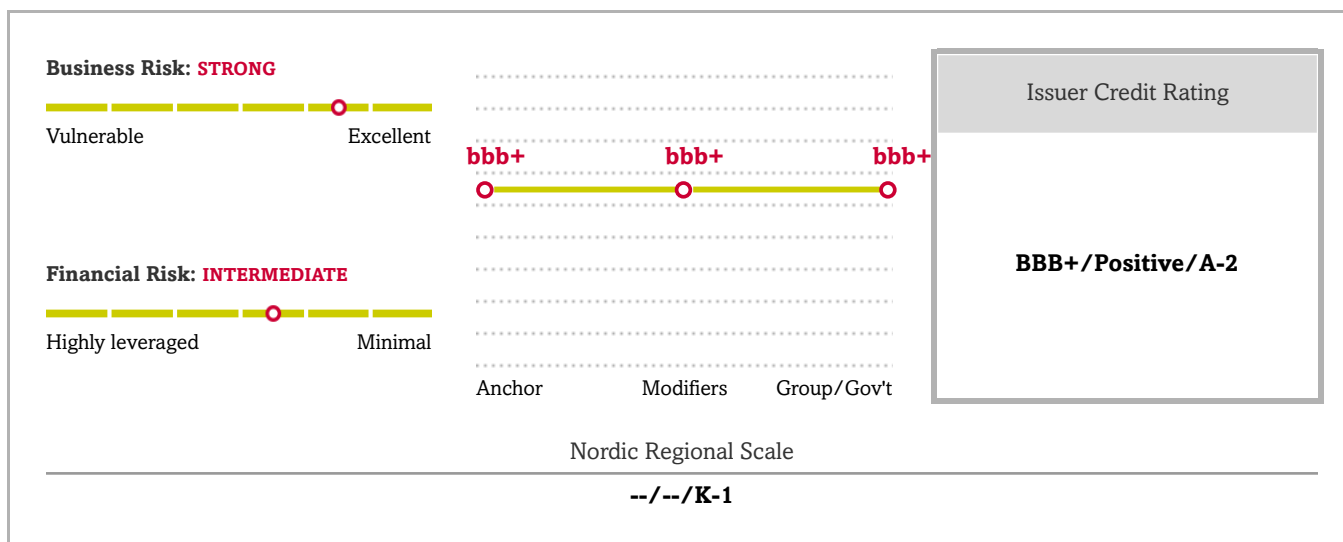
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# Vattenfall AB



## Credit Highlights

### Overview

Key strengths	Key risks
Integrated utility with about 50% of EBITDA (Swedish krona [SEK] 22 billion-SEK25 billion; €2.0 billion-€2.5 billion) from stable low-risk activities such as regulated electricity distribution, district heating, and wind operations, where prices are typically secured.	Sensitivity to volatile power prices due to relatively exposure to merchant hydro and nuclear power generation.
Leading position in the Swedish power generation market, supported by a large nuclear fleet (5.5 gigawatts [GW]) and flexible low-cost hydropower generation (11.5 GW). This strongly supports Vattenfall's long-term environmental and fossil-free strategy and its ability to benefit from the energy transition.	A temporary decrease in the cash flow contribution from the regulated networks over 2020-2024, because of the decline in the weighted-average cost of capital (WACC) in Sweden to 2.35% from 5.85%, and because Vattenfall disposed of its distribution system operator (DSO) Stromnetz Berlin in 2021.
A clear path toward clean energy, with wind generation capacity set to rise to more than 30% of EBITDA in 2023 from 20% in 2019.	Huge quarterly working capital inflow created by the receipt of temporary margin calls over the last year--amounts that commodity sellers pledge to cover credit risk--leading to unexpected volatility in debt. In total, Vattenfall received SEK88 billion from margin calls in 2021.
Ample rating headroom, with our expectation of funds from operations (FFO) to debt above 30%-37% in 2022, well above the 22%-27% in management's financial policy.	Execution risks for large offshore wind projects, with a capital expenditure (capex) program of up to SEK55 billion over 2022-2023, up from SEK21 billion in 2020.
Our expectation of timely support from the 100% owner, the government of Sweden (unsolicited; AAA/Stable/A-1+). This provides Vattenfall with a one-notch uplift from its stand-alone credit profile (SACP).	The likelihood of the company stepping up investments and the FFO-to-debt ratio returning to 22%-27% over time, leading to a reduction in rating headroom.

***The recent decrease in reported debt stems from an exceptionally large inflow from margin calls in 2021.*** This was due to extremely volatile prices in 2021. Gas and power prices rose significantly, especially in the last quarter of 2021. Vattenfall therefore received SEK88 billion in margin calls in 2021, which is a huge amount compared with its reported debt of SEK126 billion. As a result, Vattenfall's S&P Global Ratings-adjusted FFO to debt increased to about 250% for the year, although excluding the margin-call effect, the ratio was about 30%-35%, which is still robust compared with our expectation for the rating. In our analysis, we assume that margin calls will be neutralized over time as Vattenfall takes delivery of the gas it has purchased. Gas prices continue to be very high and volatile in 2022, so the timing of the neutralization remains unclear. We nevertheless view the high FFO-to-debt ratio as a temporary peak and expect the

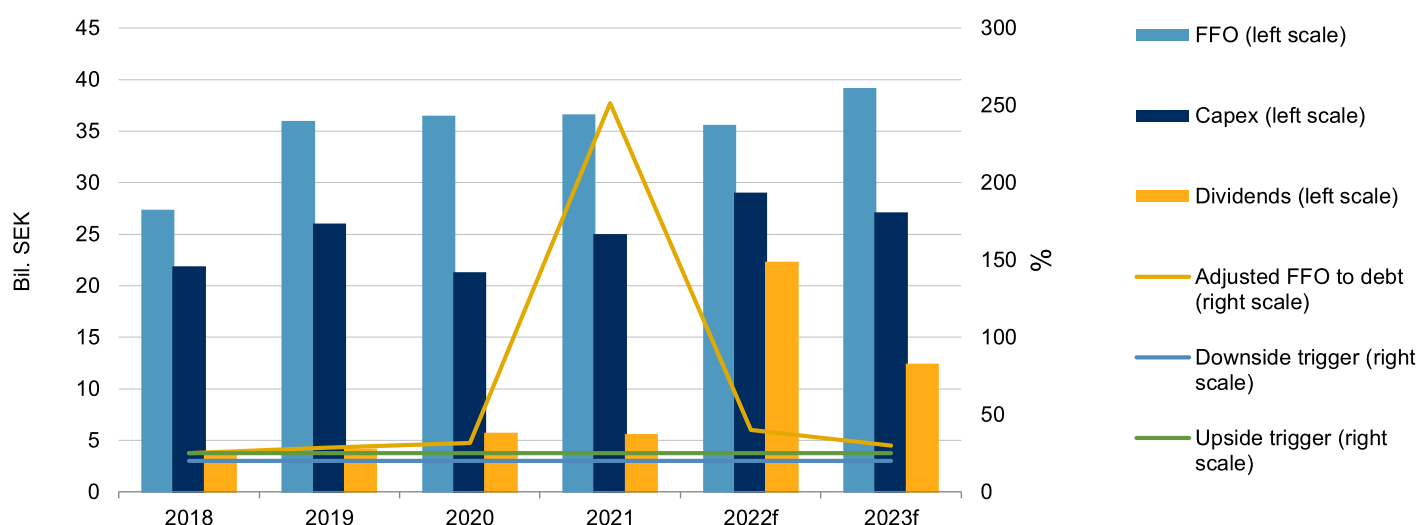
ratio to return to normal gradually. In 2021, Vattenfall's credit ratios were bolstered by the proceeds from various divestments and compensation for closures, like the closure of its German nuclear operations, which affected the result by SEK12.5 billion and its DSO in Berlin by SEK8.4 billion. These amounts should continue to support Vattenfall's credit ratios over 2022 and 2023, offset by increased investments and dividends.

**We expect the temporary spike in credit ratios to soften over 2022-2023, as margin calls recede.** We expect Vattenfall's credit ratios to remain strong for the rating. In our updated forecast, we assume FFO to debt of 32%-37% in 2022 and 2023, which is high for the rating. This assumes that the large margin calls that Vattenfall received in 2021 will unwind in the coming quarters as the company takes delivery of the gas and power it has purchased and pays dividends of SEK23.4 billion in the second quarter of 2022. Dividends are in line with a rate of 40%-70% of profit after tax in 2022. We also expect that Vattenfall's investments will remain high, with the company having guided SEK55 billion in total over 2022-2023. Considering the ongoing energy transition, the company's strong balance sheet, and the headroom in its financial policy, we see it as plausible that investments could increase further in 2024-2025.

**Chart 1**

**Temporary Spike In Credit Ratios Expected To Soften Over 2022-2023, But Ratios Should Remain Strong For The Rating**

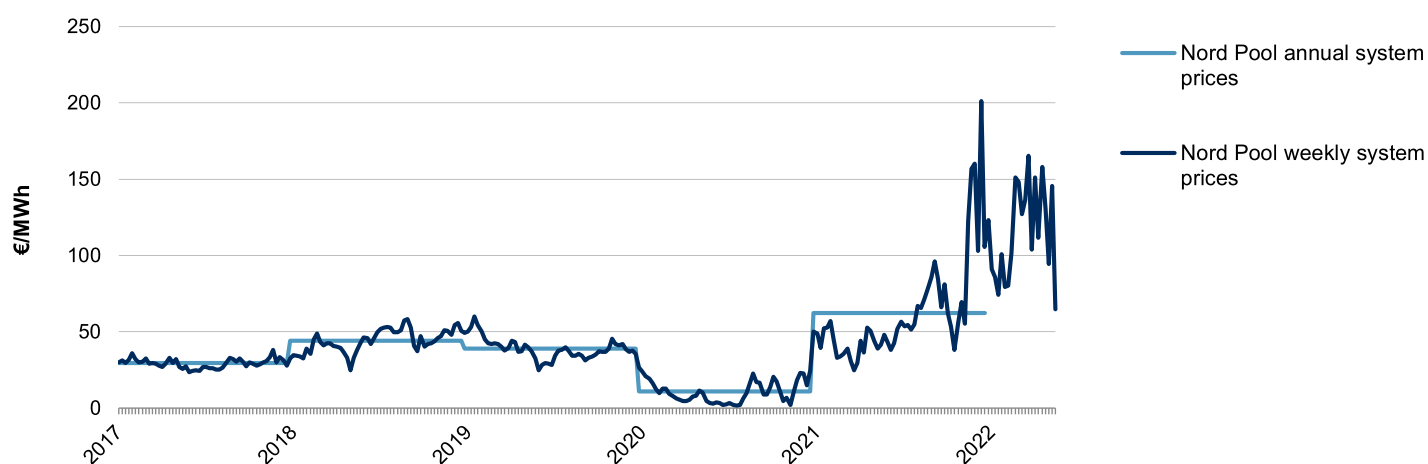
Materially higher net income in 2021, driven by asset sales, results in a high dividend payment in 2022, normalizing in 2023



FFO--Funds from operations. Capex--Capital expenditure. SEK--Swedish krona. f--Forecast. Source: S&P Global Ratings. Copyright © 2022 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 2

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



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

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***Vattenfall plans ambitious investments in renewables and the distribution networks, bringing credible growth and a more stable cash flow profile.*** Vattenfall plans to invest significantly in renewables and its regulated distribution networks. We believe that the company is in a better position than many of its peers to shift its generation mix to fossil-free fuel because it already has a high share of low-CO<sub>2</sub>-emitting hydropower in its portfolio (11.5 GW). Vattenfall's capex program is massive, and we expect that it will consume almost all the cash flow the company generates in the coming years. Vattenfall has guided SEK55 billion (€5.7 billion) in capex for 2022-2023, a significant increase from the average in 2018-2021. Of this amount, about SEK34 billion will fund growth projects, mainly wind (69%) and distribution operations (10%). We expect that this investment should allow the company to expand its wind generation fleet rapidly from 4 GW of installed capacity as of second-quarter 2021 to 10.5 GW over the coming years. Vattenfall has 2.7 GW of capacity under construction and 3.6 GW under development. We see this expansion 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. This should also allow good growth in the regulated asset base and increase the cash flow streams from regulated assets.

***Vattenfall's investments should lead to increased cash flow from wind generation and the regulated assets from 2023-2025.*** We expect Vattenfall's share of EBITDA from wind generation to increase. In 2024, we expect the wind business unit to generate 35%-40% of EBITDA, up from about 27% of underlying EBITDA in 2021 and 21% in 2020. We see this development as positive for Vattenfall's credit profile, as it should reduce business risk. In our view, although the wind operations are not akin to regulated operations, they are a source of more stable and predictable cash flow streams because they are typically backed by power purchase agreements or subsidies. Still, Vattenfall is exposed to volatility in wind speeds. The company's key wind investment projects include Hollandse Kust Zuid 1-4, the first global subsidy-free offshore wind farm. Its large size, with 1,500 megawatts (MW) of capacity, should help Vattenfall reach an economy of scale, although timely execution and tight budget control will be key to make the project economical. However, this risk fell substantially in 2021, when Vattenfall sold a 49.5% stake in the project to BASF SE for €300 million. BASF also will be responsible for its share of the remaining investment.

***We expect Vattenfall to remain an integrated operator, with an important contribution from the distribution and heat business units.*** These units represented 12% and 5% of underlying EBITDA, respectively, in 2020. We do not expect Vattenfall's strategy to remain an integrated utility to change. This supports the company's business risk profile because meaningful contributions from the stable distribution and heat operations in highly rated countries, namely Sweden and others in northern Europe, will continue to support cash flow. We acknowledge that the contribution from these business units has decreased as a consequence of the sale of Vattenfall's DSO in Berlin in 2021, but we expect a gradual increase over the coming years as the company's investments increase. There is still some uncertainty around the regulatory framework in Sweden, but we continue to view it as strong. The WACC for the 2021-2023 regulatory period is still not final due to a legal matter. It has been decided that DSOs are allowed to carry forward under-recovered amounts for investments in previous regulatory periods under certain conditions. In our view, this signals a broad understanding of the need for increased investment due to the quicker pace of the energy transition.

### Outlook: Positive

The positive outlook reflects the potential for a one-notch upgrade over the two next years should Vattenfall execute its planned investments. This should lead to a higher share of cash flow from the wind and regulated assets combined, along with a strong balance sheet.

#### Upside scenario

We see upgrade potential over the next two years should Vattenfall execute its ongoing investments without any significant cost overruns or delays. Should we believe that 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 believed that Vattenfall's financial risk profile was not sustainable, meaning that FFO to debt could return to the 20%-25% range without a material reduction in business risk. Any capex delays or major cost overruns could have negative financial consequences for the company, and, unless it implements countermeasures, could lead to weaker credit measures than we assume. A negative rating action could also result from a lower EBITDA contribution from the regulated or long-term contractual operations, for example, due to the EBITDA from its distribution and district heating operations declining materially.

In addition, our rating includes a one-notch uplift for government support, so we could take a negative rating action if government support weakened. For example, downward rating pressure could arise if the government privatized a significant part of Vattenfall. However, we consider this unlikely over the near-to-medium term.

## Our Base-Case Scenario

## Assumptions

- An increase in Swedish GDP to 2.3% in 2022 and 2.1% in 2023, compared with 4.8% in 2021.
- Power prices in the Nordic region of an average of €55 per megawatt hour (/MWh)-€65/MWh in 2021, €50/MWh-€65/MWh in 2022, and €35/MWh-€50/MWh in 2023.
- EBITDA of SEK43 million-SEK48 million in 2022-2023.
- Capex of about SEK55 billion in total over 2022 and 2023.
- Hedging of approximately 72% of generation at €29/MWh in 2022, and of 50% at €28/MWh in 2023.
- WACC of 2.35% under the Swedish regulatory framework for the distribution operations.
- No major acquisitions.
- Dividend payments of about SEK23.4 billion in 2022 and SEK10 billion-SEK12 billion in 2023.

## Key metrics

### Vattenfall AB--Key Metrics\*

(Mil. SEK)	--Fiscal year ended Dec. 31--			
	2020a	2021e	2022f	2023f
EBITDA	41,627	46,084	42,000-48,000	44,000-47,000
Funds from operations (FFO)	36,396	36,489	33,000-37,000	35,000-39,000
Capital expenditure	24,877	24,909	25,000-29,000	25,000-29,000
Debt	116,068	14,516	90,000-110,000	110,000-120,000
Debt to EBITDA (x)	2.8	0.3	2.0-3.0	2.0-3.0
FFO to debt (%)	31	251	33-35	30-35

\*All figures adjusted by S&P Global Ratings. a--Actual. e--Estimate. f--Forecast. SEK--Swedish krona.

**We expect EBITDA to remain in the range of SEK42 billion-SEK48 billion in 2022.** We expect Vattenfall's adjusted EBITDA to remain relatively stable at around SEK42 billion-SEK48 billion over 2022-2023, compared with SEK46 billion in 2021. This is despite expectations about continued high volatility in the power market, but thanks to the stability Vattenfall's diversified business model provides. This was very visible in the first quarter of 2022, when high prices impacted the wind business positively (underlying profit was SEK4.8 billion, up from SEK1.7 same quarter 2021), but the heating business unit was negatively impacted by the high gas prices (underlying profit was negative SEK0.9 billion compared with positive SEK1.3 billion in 2021) and the generation unit was hit by negative impacts from Nordic hedges and impact from very high price area differences (underlying profit SEK3.1 billion compared with SEK6.3 billion in 2021). The achieved price was therefore relative low at around €20/MWh compared with €33/MWh in corresponding period in previous year and system prices of €110/MWh.

This as a relatively high share of Vattenfall's production is based in the north of Sweden, where prices have been much lower than the Nord Pool's system price due to transmission bottlenecks outside Vattenfall's control. Vattenfall was therefore not able to capture the high system price for large parts of the production. As a consequence of the large differences between price areas, we understand Vattenfall aims to decrease its hedging exposure, which likely will

increase merchant exposure over the coming year somewhat. In the second quarter we believe the price difference narrowed substantially, which could be an effect from Russia halt of exports of power to Finland. It's too early to conclude if this is sustainable, however.

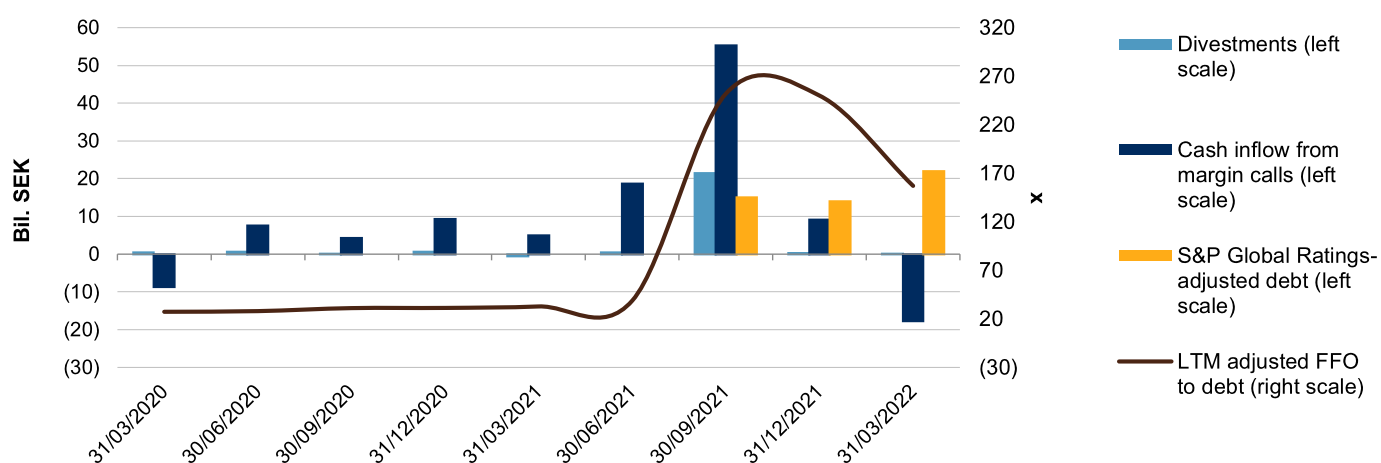
We have not assumed any major deviation in power generation from the previous year. In 2021, Vattenfall generated 111.4 terawatt-hours (TWh). In 2022 and 2023, we expect EBITDA from the distribution business to decrease somewhat from SEK5.9 billion in 2021 as the disposal of Stromnetz Berlin was effective from July 1, 2021. However, we expect the increasing generation from wind to compensate for this. Wind generation contributed SEK13.5 billion in reported EBITDA in 2021.

**Vattenfall's financial risk profile strengthened significantly in 2021, and we expect it to remain strong over 2022.** The strengthening in 2021 was notably thanks to a series of materially positive one-off events that we did not include in our previous base case. These events included a settlement for the closure of its German nuclear plant; the sale of Stromnetz Berlin, a German DSO; the sale of 49.5% of the Hollandse Kust Zuid 1-4 offshore wind farm; and SEK88 billion in margin-call inflows. The proceeds total about SEK110 billion. However, we expect the margin calls to ease off over the coming six quarters, and Vattenfall to pay an increased dividend of SEK21.3 billion in 2021 to largely neutralize the inflow.

**A heavy investment period lies ahead, leading to neutral free operating cash flow (FOCF) at best.** We estimate that capex in 2022 and 2023 will increase to SEK28 billion-SEK30 billion annually, or SEK57 billion for both years combined, up from SEK21 billion in 2020 and SEK25 billion in 2021. We expect this, together with our assumption that the margin-call capital inflow in 2020 will reverse over the coming year, to lead to negative FOCF of SEK50 billion-SEK60 billion in 2022 and SEK15 billion-SEK25 billion in 2023. This will also result in a relatively weak discretionary cash flow profile. We therefore expect FFO to debt to decline to 33%-37% in 2022 and debt to EBITDA to decline to 2x-3x in 2022-2023, which is still high for the rating.

Chart 3

**Large Reduction In Adjusted Debt, Mostly Driven By Margin Call Inflow And Asset Sales**



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



## Company Description

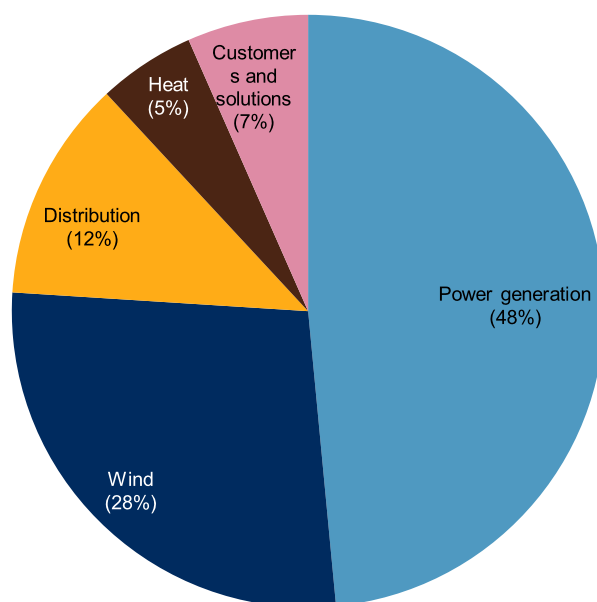
Vattenfall is one of the largest electricity and heat producers in Europe and is 100% owned by the Swedish state. At year-end 2021, the company reported sales of about SEK180 billion, up from SEK158 billion in 2020, and adjusted EBITDA of about SEK46 billion. Vattenfall's business portfolio is split between:

- Unregulated power generation and supply, mainly in Sweden, the Netherlands, and Germany (49% of underlying EBITDA in 2021);
- Electricity distribution networks in Sweden (12%);
- Heat businesses in Germany, Sweden, and the Netherlands (5%); and
- The customers and solutions segment (7%).

Vattenfall is also expanding its largely subsidized wind generation network (28%). The company generated about 120.5 TWh of electricity and sold about 15.6 TWh of heat in 2021.

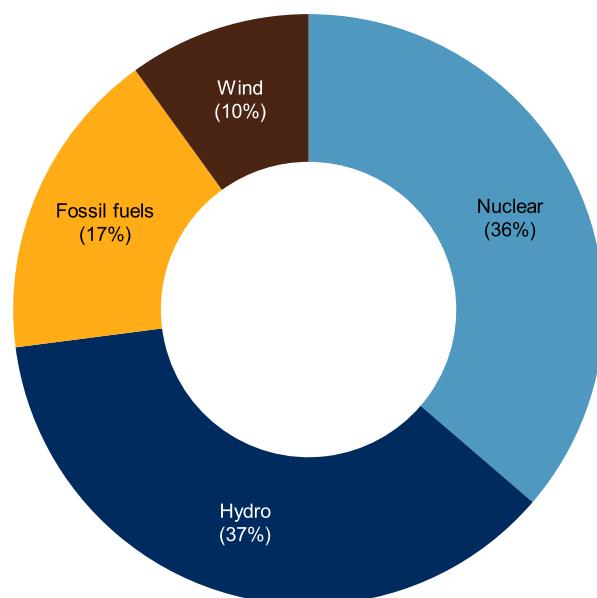
### Chart 4

#### Operating Segments In 2021 As A Percentage Of Underlying EBITDA



\*Preliminary unaudited figures. Source: S&P Global Ratings.

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**Chart 5****Power Generation By Production Source In 2021**

Source: S&P Global Ratings.

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## Peer Comparison

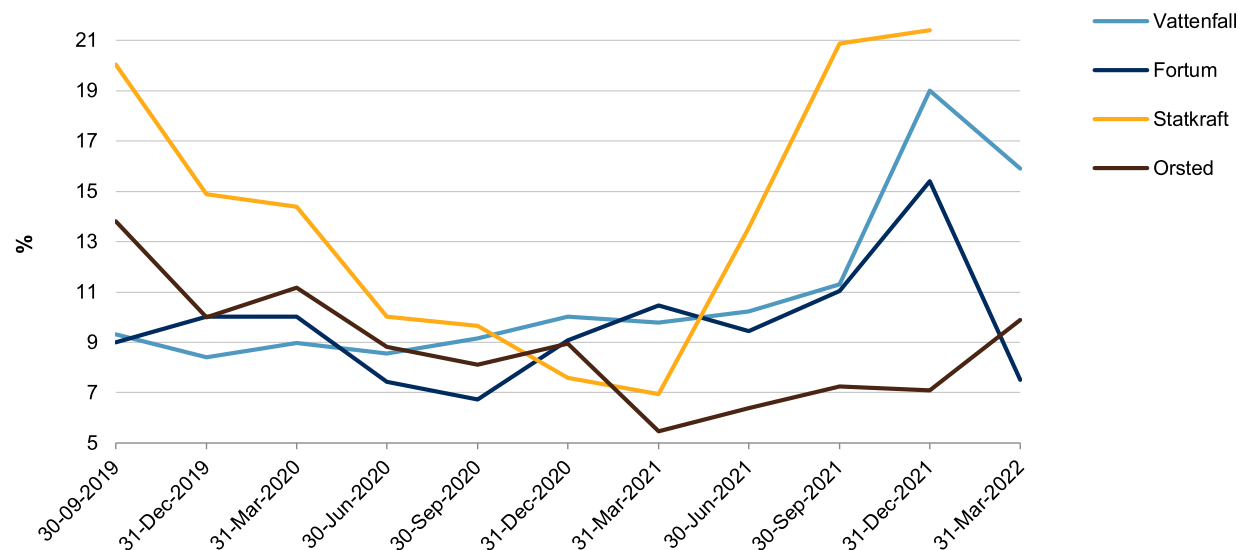
In our view, Vattenfall has the strongest market position among its Nordic peers, followed by Statkraft AS, Orsted A/S, and Fortum Oyj. Vattenfall is the market leader in the Nordic region, Sweden in particular, and has a strong position in both Germany and the Netherlands. Furthermore, the company's credit profile benefits from an integrated business model that diversifies its earnings base and reduces volatility. Vattenfall also has the most diverse portfolio in terms of procurement, with a mixture of renewables--mainly low-cost flexible hydropower, low-cost nuclear power, and thermal fuel, mainly gas. It also has the largest share of regulated activities, and its share of renewables is set to increase, with a focus on wind power. However, it will not reach the same rate of spending and capacity as Orsted, which has ambitions to reach 50 GW of installed capacity by 2030, up from 12 GW currently. In contrast to Statkraft, Vattenfall's profitability has not benefited to the same extent from the spike in power prices, but it has remained more stable and on a par with that of Fortum. This is because Statkraft's prices are not hedged to the same extent, and it has a lower average production cost.

Table 1

<b>Vattenfall AB -- Peer Comparison</b>					
<b>Industry Sector: Energy</b>					
	<b>Vattenfall AB</b>	<b>Orsted A/S</b>	<b>Fortum Oyj</b>	<b>Statkraft AS</b>	<b>Verbund AG</b>
Ratings as of June 9, 2022	BBB+/Positive/A-2	BBB+/Stable/A-2	BBB/Negative/A-2	A-/Stable/A-2	A/Stable/--
<b>--Fiscal year ended Dec. 31--</b>					
	<b>--Dec. 31, 2021--</b>		<b>--Dec. 31, 2020--</b>		
<b>(Mil. €)</b>					
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
<b>Adjusted ratios</b>					
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

**Chart 6**

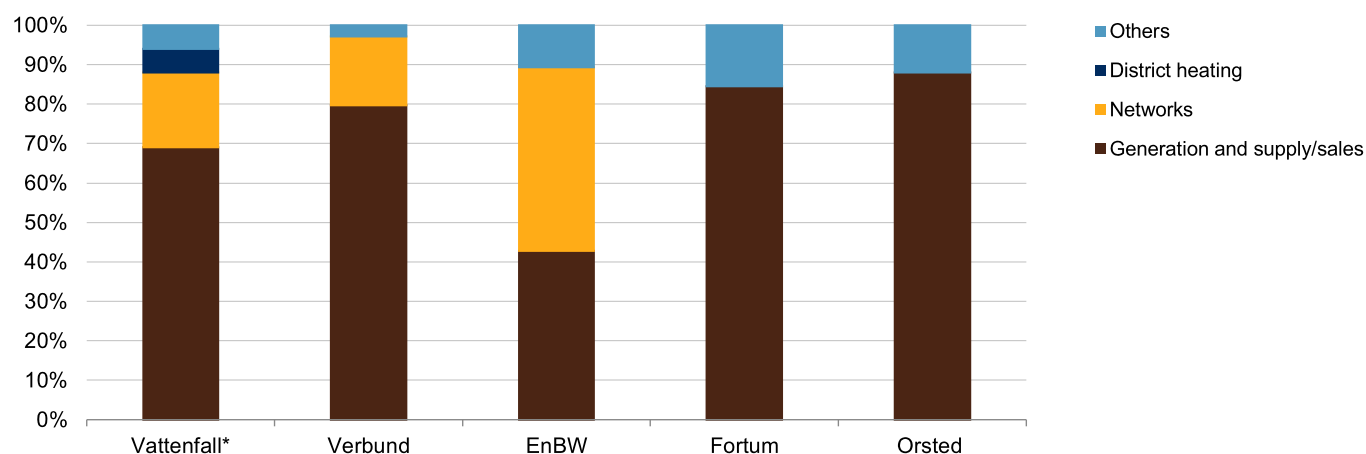
**Profitability Comparison Among Nordic Peers**  
Return on capital



LTM--Last 12 months. Source: S&P Global Ratings.  
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**Chart 7**

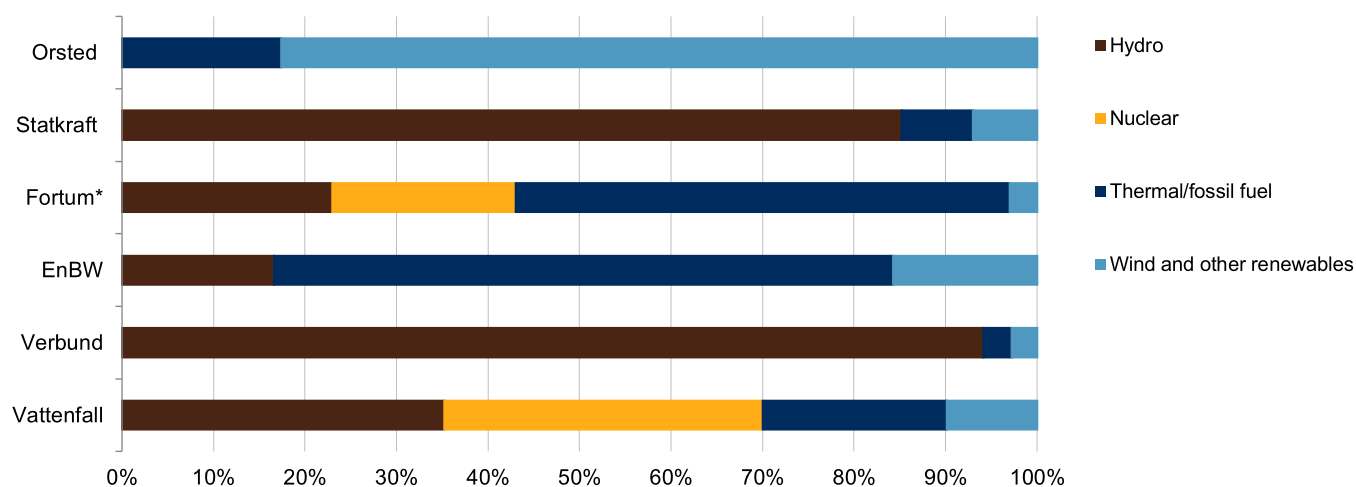
**Selected Peers' EBITDA Split In 2021**



\*Vattenfall's wind division has been included in generation for comparison purposes.  
Source: S&P Global Ratings.  
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Chart 8

## Peers' Power Generation By Source In 2021



\*Uniper consolidated as of Q2 2020. Source: S&P Global Ratings.

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## Business Risk: Strong

Vattenfall benefits from its leading position as the largest electricity generator in northern European countries, especially Sweden, where it generates about 70% of its electricity. We expect Vattenfall to continue to benefit from its position as an integrated utility, with about 50% of EBITDA, or SEK22 billion-SEK25 billion (€2.0 billion-€2.5 billion), coming from stable low-risk activities such as regulated electricity distribution, district heating, and wind operations, where prices are typically secured. We perceive that Vattenfall's strategy is to continue to strive for integrated operations, with a clear focus on increasing electricity generation from wind. We view this as positive, as the integrated model should continue to provide stability to cash flow and profitability, at least over the business cycle. Vattenfall will nevertheless remain exposed to volatile power prices. Regulated distribution, heat, and subsidized wind operations, which by their nature are more stable than merchant operations, will represent about 40%-50% of underlying EBITDA in 2020-2023, thereby supporting cash flow.

Vattenfall has an attractive asset mix, 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. We expect Vattenfall's generation assets to come to focus more on wind, as the company will direct most of its growth capex toward this division. The exit from its largest coal-fired assets, the Germany-based Moorburg coal plant that closed in July 2021, was an important step in the transformation of the asset base, and Vattenfall plans to have no coal in its heat portfolio by 2030.

As the largest power company in Sweden, state-owned Vattenfall needs to adjust its strategy according to political

decisions and pressing issues such as environmental investment, the national strategy for nuclear power, power supply, and power prices. We cannot therefore rule out negative political intervention.

### **Hydropower is the backbone of Vattenfall's generation fleet**

We consider Vattenfall's low-cost and flexible hydropower assets to be highly competitive, with hydropower among the best-ranked sources of energy in terms of cost competitiveness over the cycle. However, as we saw in 2020 and 2021, the profitability of these assets is sensitive to power prices. Typically, this is partly mitigated by flexibility in production from programmable hydro reservoirs and by an active hedging policy. Total Nordic hydropower capacity from running water is about 8,622 MW, excluding German pump storage of 2,889 MW.

### **Wind generation is swiftly becoming more important, and is critical for Vattenfall to advance on its path to decarbonization**

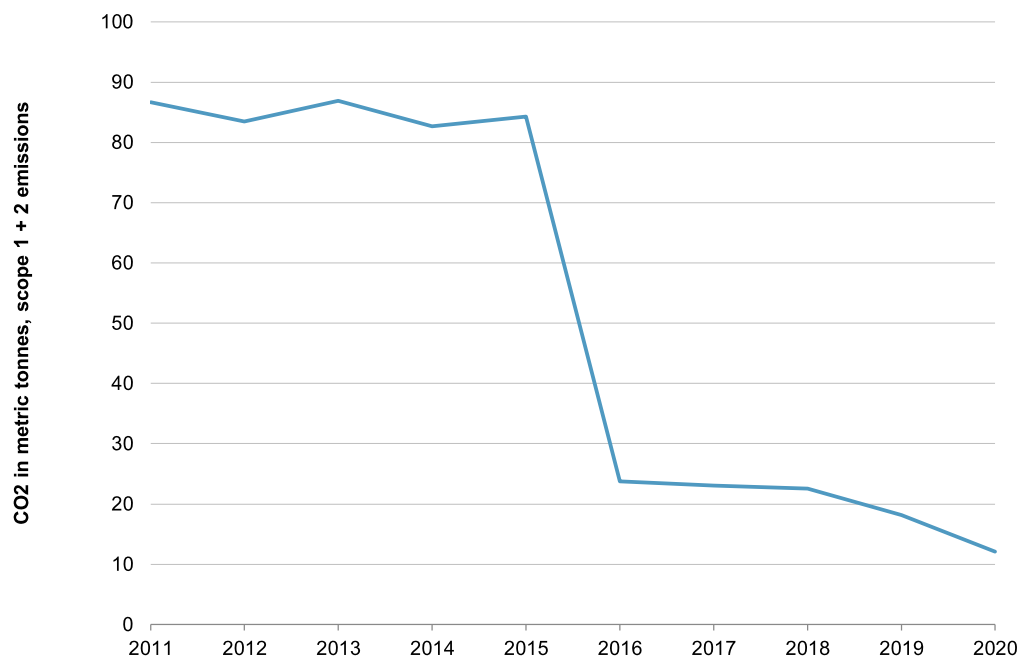
We believe that wind generation will continue to strengthen Vattenfall's business mix in the coming years, as the company is directing most of its investments to wind projects in Northern Europe. We therefore see Vattenfall emerging as one of the leaders in offshore wind generation in Europe, and believe that its contribution to EBITDA will increase materially in the next five years, from 21% in 2020 and 28% in 2021 to approach 30% in 2023-2024. This will require massive investments and absorb about 40%-45% of Vattenfall's SEK55 billion in investments in 2022-2023, implying that its 4.2GW of installed wind capacity will grow meaningfully in the near term. Currently, 2.7 GW is under construction and another 3.6GW is under development. We expect that the expansion of Vattenfall's wind operations will increase the stability of its earnings, as roughly 80% of its wind projects are under locked-in subsidy schemes that will last the next 10 years. However, Vattenfall did not sign a subsidy contract for its largest project, Hollandse Kust Zuid 1-4, which has about 1.5 MW of capacity. Vattenfall sold 49.5% of this project to BASF in 2021 for a total consideration of €1.6 billion, including the share of future capex. This reduces the risk of the project for Vattenfall. We expect Vattenfall to continue to share large projects with partners, or reduce its stakes to reduce its exposure.

### **Expansion of the wind assets will be important for Vattenfall to deliver on its plan for net zero emissions by 2040**

In our view, Vattenfall is already well positioned compared to many of its peers, being one of the top five utility companies that we rate in Europe to emit the lowest amounts of CO<sub>2</sub> after Orsted A/S, Electricite de France S.A., Statkraft AS, and Verbund AG. Besides that, a large portion of Vattenfall's generation assets emits only low amounts of CO<sub>2</sub> as the hydro and nuclear power compounds have about 35% of capacity each. Management also has a clear strategy to phase out coal and has already taken several important steps to lower emissions, latterly with the closure of the Moorburg coal plant. This was a key factor in emissions falling to 10.4 million tons in 2021 from about 18.5 million tons in 2019.

**Chart 9****Vattenfall's CO2 Emissions Have Decreased Over The Past 10 Years**

We see its plan for the full value chain to be net zero by 2040 as credible



Source: S&P Global Ratings.

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**A lower WACC will burden the profitability of the distribution operations**

We expect a lower contribution from Vattenfall's distribution activities in Sweden because of the lower WACC for the current regulatory period that will reduce profitability and potentially lower investments, at least temporarily. The WACC is now 2.35% compared to 5.85% previously. Although we expect this to lead to lower revenue and EBITDA in the 2020-2024 regulatory period, there is still a legal process ongoing that could result in higher rather than lower earnings for this regulatory period (see "Swedish Electricity DSOs Remain In Limbo As The Regulator Appeals Court Decision On Their Remuneration," published March 18, 2021).

Nevertheless, we continue to assess the Swedish regulatory framework as very supportive. This is because we believe that the legal process effectively shields the framework from being politicized and proves that DSOs can challenge decisions in court, while providing favorable cost coverage and investments. We expect Vattenfall's growth capex in its grid to be about SEK3 billion in 2022-2023, compared with a total investment of SEK4.9 billion in 2021.

**The contribution from regulated activities has reduced in recent years, especially in Germany**

This is partly because of the trend of re-municipalization in Germany. Vattenfall recently completed the sale of the electricity DSO Stromnetz to the City of Berlin, which we view as negative for the business risk profile, as we see the distribution operations as the most stable and predictable part of Vattenfall's business. To some extent, this is offset by

the increasing contribution from wind and heat. In 2021, however, the Higher Administrative Court in Berlin ruled that the city of Berlin had no right though to take over Vattenfall's district heating grid in Berlin, which will remain operated by Vattenfall.

## **Financial Risk: Intermediate**

The financial risk profile is not representative of year-end 2021 because of the massive inflow from margin calls. We expect ratios to normalize over the coming 12-16 months as margin calls recede, and foresee FFO to debt in the 30%-35% range.

### **Vattenfall's strong balance sheet and balanced financial policy give it the flexibility to execute its investments**

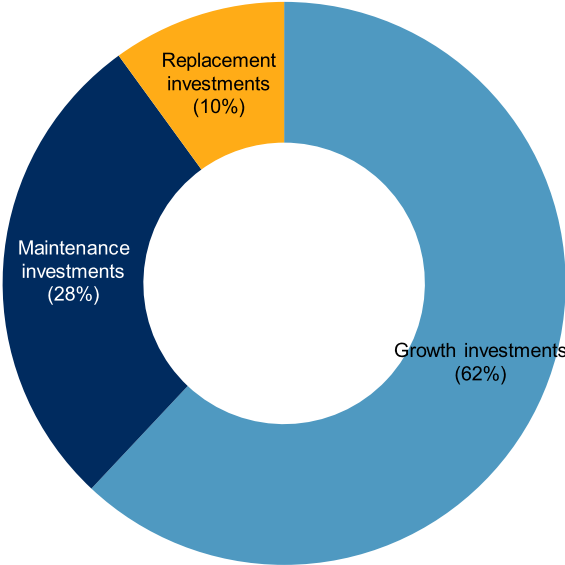
Vattenfall's management recently repeated its intention to keep adjusted FFO to debt in the 22%-27% range and dividend payments at 40%-70% of net income, and affirmed its investment plan. We observe that the FFO-to-debt ratio is stronger than the target by Vattenfall's calculation of FFO to debt. Excluding the impact of margin calls, we estimate that FFO to debt stood above 30.0% in December 2021, up from 28.8% in 2020 and 26.0% in 2019. These ratios are already above our threshold for an upgrade, which is still 25% on an adjusted basis. Even with some variation in dividends, we believe that the ratios will remain at the upper ends of our ranges for the rating over the next two years. We expect management to adhere to its financial policy and use headroom to invest significantly in renewables and its networks. This implies that we expect FFO to debt to approach the range in Vattenfall's financial policy.

### **Vattenfall's investments are set to remain high in 2022-2023**

Vattenfall intends to invest SEK55 billion (€5.7 billion) over 2022-2023, up from about SEK48 billion over 2019 and 2020 combined. Although we expect the focus to be on renewables, we also expect a gradual increase in the share of earnings from renewables and distribution.



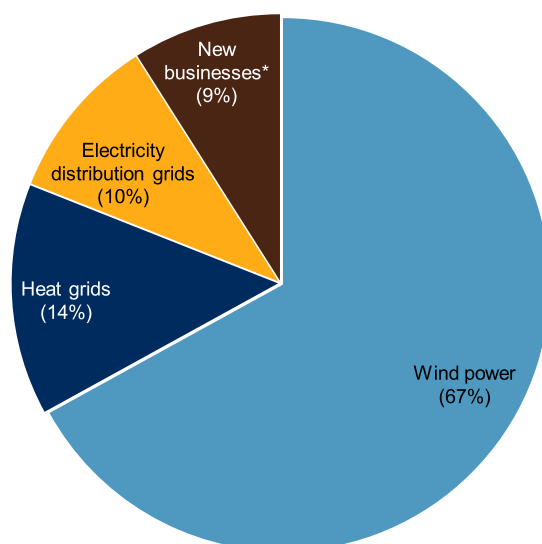
**Chart 10**  
**Vattenfall's Investment Plan For 2022-2023**



Source: S&P Global Ratings.  
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Chart 11

## Total Growth Capex In 2022-2023

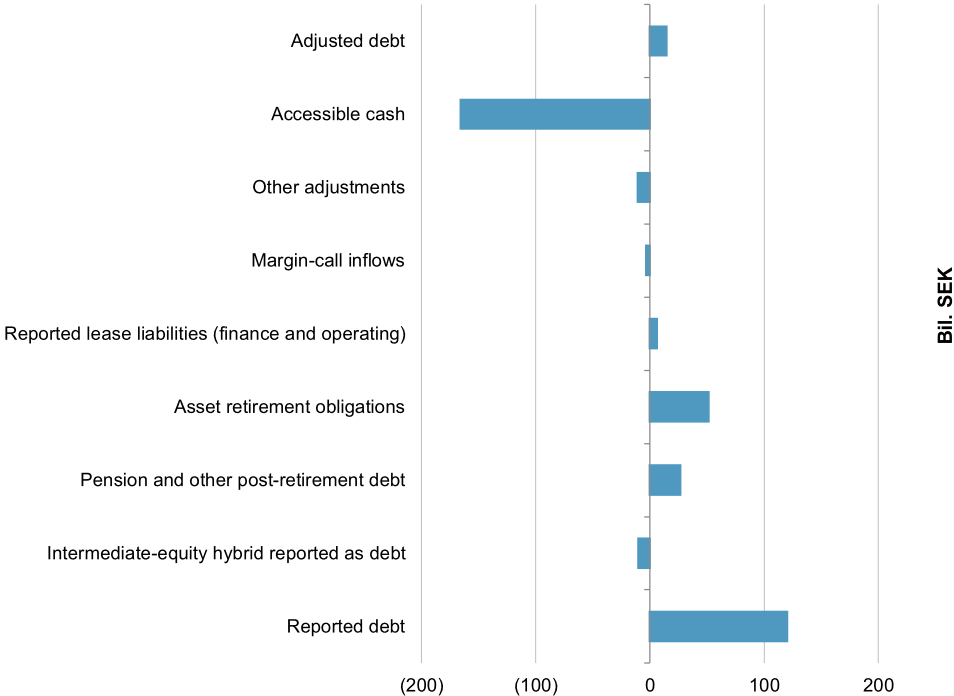


\*Mainly charging solutions, solar and battery projects, decentralized solutions, and the HYBRIT project. Capex--Capital expenditure. Source: S&P Global Ratings. Copyright © 2022 by Standard & Poor's Financial Services LLC. All rights reserved.

**We make significant adjustments to the reported numbers**

One notable adjustment is for sizable pension and asset-retirement obligations totaling SEK51 billion at year-end 2021 (after estimated tax effect), which we view as part of the company's economic debt. At year-end 2021, we deducted SEK166 billion of available cash. Hybrid instruments have been part of the capital structure since 2015, and were about SEK20 billion at year-end 2021. We treat them as having intermediate equity content. The hybrids' share of total capitalization is about 9%-10%, which provides some headroom versus our 15% threshold.

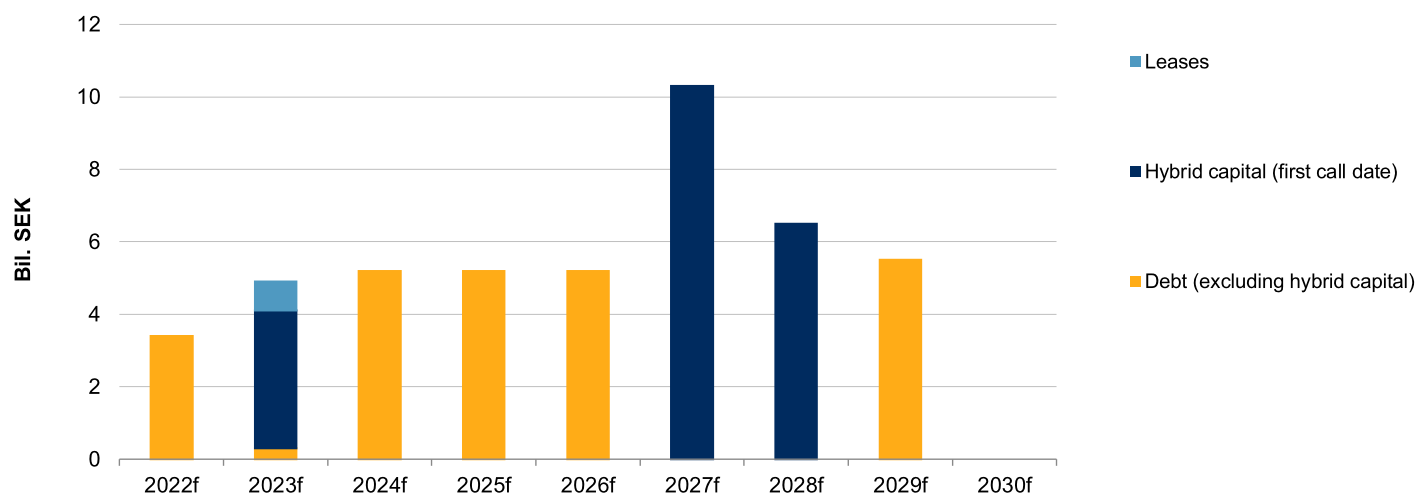
**Chart 12**  
**Debt Adjustment Breakdown In 2021**



SEK--Swedish krona. Source: S&P Global Ratings.  
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Chart 13

## Vattenfall's Debt Maturities Are Well Spread Out



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

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## 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)	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
Adjusted ratios					
EBITDA margin (%)	25.6	26.2	24.1	21.8	28.0

Table 2

Vattenfall AB -- Financial Summary (cont.)					
Industry Sector: Energy					
	--Fiscal year ended Dec. 31--				
	2021	2020	2019	2018	2017
<b>(Mil. SEK)</b>					
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
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									
--Fiscal year ended Dec. 31, 2021--									
Vattenfall AB reported amounts (mil. SEK)									
	Debt	Shareholders' equity	EBITDA	Operating income	Interest expense	S&P Global Ratings' adjusted EBITDA	Cash flow from operations	Dividends	Capital expenditure
	120,258	180,710	75,790	60,271	3,356	46,084	100,132	5,190	25,157
S&P Global Ratings' adjustments									
Cash taxes paid	--	--	--	--	--	(6,725)	--	--	--
Cash interest paid	--	--	--	--	--	(3,226)	--	--	--
Reported lease liabilities	6,150	--	--	--	--	--	--	--	--
Intermediate hybrids reported as debt	(10,211)	10,211	--	--	(359)	357	357	357	--
Postretirement benefit obligations/deferred compensation	26,791	--	22	22	438	--	--	--	--
Accessible cash and liquid investments	(165,793)	--	--	--	--	--	--	--	--
Capitalized development costs	--	--	(248)	(129)	--	--	(248)	--	(248)
Dividends received from equity investments	--	--	140	--	--	--	--	--	--
Asset-retirement obligations	51,392	--	--	--	(2,374)	--	--	--	--

Table 3

Vattenfall AB--Reconciliation Of Reported Amounts With S&P Global Ratings' Adjusted Amounts (cont.)									
Income (expense) of unconsolidated companies	--	--	58	--	--	--	--	--	--
Nonoperating income (expense)	--	--	--	558	--	--	--	--	--
Noncontrolling interest/minority interest	--	16,472	--	--	--	--	--	--	--
Debt: Other	(14,071)	--	--	--	--	--	--	--	--
EBITDA: Gain/(loss) on disposals of PP&E	--	--	(8,761)	(8,761)	--	--	--	--	--
EBITDA: Derivatives	--	--	(8,715)	(8,715)	--	--	--	--	--
EBITDA: Other	--	--	(12,202)	(12,202)	--	--	--	--	--
Depreciation and amortization: Impairment charges/(reversals)	--	--	--	(1,884)	--	--	--	--	--
Total adjustments	(105,742)	26,683	(29,706)	(31,111)	(2,295)	(9,595)	109	357	(248)
<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>
	14,516	207,393	46,084	29,160	1,061	36,490	100,241	5,547	24,909

SEK--Swedish krona.

## Liquidity: Adequate

We assess Vattenfall's liquidity position as adequate. We expect that the company's liquidity sources will continue to exceed its uses more than 1.5x over the next 12 months given the cash balance is very high. We do not expect cash outflows relating to margin calls to be high in 2022 due to volatility in market prices, which also could lead to potentially high large intra-year movements. We assume that 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 the credit markets, as evident from several issuances. For example, in 2020, it accessed the market despite major market turmoil stemming from COVID-19, and recently extended its backup credit facility. We also believe that Vattenfall's status as state-owned and its position as the largest utility company in Sweden facilitates its market access. All in all, we view the company's risk management as prudent.

### According to our calculations, Vattenfall's liquidity sources as of March 31, 2022, comprised:

- Available cash and marketable securities of about SEK177 billion;
- Access to committed undrawn credit lines of about SEK20 billion maturing in December 2024, with two one-year extension options; and
- Our forecast of FFO of SEK33 billion-SEK37 billion.

**Principal liquidity uses as of March 31, 2022, are:**

- Reported financial liabilities of SEK4 billion due within one year;
- Our estimate of a working capital outflow of SEK40 billion-SEK60 billion relating to margin calls, but with large intra-year movements.
- Annual capex of SEK24 billion-SEK30 billion in both 2022 and 2023; and
- Dividends of about SEK23.4 billion in 2022 (paid in the second quarter) and SEK10 billion-SEK12 billion in 2023.

**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 alphanumerical 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.

ESG factors have a neutral influence overall on our credit rating analysis of Vattenfall. Vattenfall's emissions are relatively low and compare well with those of its Nordic peers. The company is investing heavily in renewables, which should enable it to reduce its emissions further. The bulk of the company's investments benefits from a long-term remuneration framework. As a government-owned company, Vattenfall aligns itself with the Swedish government's environmental and climate goals. This said, the company is exposed to extreme weather conditions that could affect the operations of both its generation assets and its network. In early 2019, a severe snowstorm affected Vattenfall's network north of Stockholm, leading to significant outages and resulting in penalties and extra costs. Overall, Vattenfall has a good track record of meeting the regulator's targets for network service quality, and we believe it manages its regulatory environment well. (For more information, see "ESG Credit Indicator Report Card: Power Generators," published 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 the 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 company's high-level strategic decision-making; and
- Limited role for the state, given the company'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, 2020.

### 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' on the global scale and 'K-1' on the Nordic regional scale, which aligns with our 'BBB+' long-term ICR on Vattenfall. We rate Vattenfall's euro medium-term note program, although Vattenfall has not issued any subordinated debt under the program. We rate all the senior unsecured debt at the level of the ICR and the senior subordinated debt one notch below the ICR.

We rate Vattenfall's SEK19.3 billion hybrid bonds, which we assess as having intermediate equity content (50%), 'BB+', two notches lower than the 'bbb' SACP. The difference stems from our deduction from the SACP 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 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: 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**

<b>Business Risk Profile</b>	<b>Financial Risk Profile</b>					
	Minimal	Modest	<b>Intermediate</b>	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 June 10, 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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