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Analysis

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Vattenfall AB

Corporate Profile

VATTENFALL IS THE LARGEST VERTICALLY INTEGRATED UTILITY IN THE NORDIC REGION AND THE THIRD LARGEST IN GERMANY

Vattenfall AB (Vattenfall - A2 senior unsecured rating with a stable outlook) is the Swedish parent company of Europe's fourth-largest power generator and leader in district heating, with a strong market presence in Sweden, Finland, Germany and Poland. The group is structured into the following business units:

- Vattenfall Nordic - generation activities in the Nordic region, distribution and supply of power in Sweden and Finland, and district heating.
- Vattenfall Europe¹ - power generation in Germany, distribution and supply in Hamburg and Berlin, and transmission activities in Hamburg and East Germany.
- Vattenfall Poland - mainly heating and electricity distribution and relatively small electricity generation business.

In 2005, Vattenfall acquired a 35.3% stake in Elsam, which it subsequently exchanged, under an agreement with DONG (Baa1, stable), for around 24% of the assets in the combined Elsam and Energi E2. This represents 2,400MW of power and 2,100MW heat generation capacity, which should give it, respectively, a 21% share of generation and 25% of heat production in the Danish market. The agreement with DONG has received all necessary approvals and was finalized on 1 July 2006.

Figure 1. Operating Highlights

FY ended 31 December (SEK m)	Gross Revenue			Operating Profit (*)			Relative Contribution		Operating Margin	
	2004	2005	Change	2004	2005	Change	2004	2005	2004	2005
Electricity Generation	51,128	57,414	12%	13,106	16,642	27%	68%	67%	26%	29%
Electricity Markets	61,725	73,262	19%	(322)	1,281	n/m	-2%	5%	-1%	2%
Electricity Networks	44,761	50,813	14%	6,365	5,378	-16%	33%	22%	14%	11%
Heat	18,320	20,925	14%	3,023	3,541	17%	16%	14%	17%	17%
Other businesses	6,262	7,278	16%	(2,833)	(2,098)	-26%	-15%	-8%	-45%	-29%
Eliminations	(68,830)	(80,534)	n/m	(12)	0	n/m	0%	0%	n/m	n/m
Group Total	113,366	129,158	14%	19,327	24,744	28%	100%	100%	17%	19%
Nordic Countries	39,962	42,021	5%	12,246	13,755	12%	63%	56%	31%	33%
Germany	92,945	104,995	13%	7,208	10,359	44%	37%	42%	8%	10%
Poland	7,427	8,850	19%	691	808	17%	4%	3%	9%	9%
Other businesses	35,363	44,563	26%	(805)	(178)	-78%	-4%	-1%	-2%	0%
Eliminations	(62,331)	(71,271)	n/m	(13)	0	n/m	0%	0%	n/m	n/m
Group Total	113,366	129,158	14%	19,327	24,744	28%	100%	100%	17%	19%

(*) Excluding items affecting comparability
Source: Vattenfall's "Annual Report 2005".

1. Background information on the formation of Vattenfall German business is included in prior years' Moody's Analysis reports.

Structure and debt

The group's treasury funding arm, Vattenfall Treasury AB, under the guarantee of the parent Vattenfall AB, issues all public debt instruments for the group. Vattenfall controls the cash flow of its subsidiaries, which are managed through cash pooling agreements. There are around €7.9 billion of external third-party bank loans at the German subsidiary level within the Vattenfall Europe group, which represented about 11% of total group debt at the end of June '06. This exposure has diminished over time and Moody's expects it to be reduced still further as these loans mature and are replaced, as appropriate, by debt at the parent level. As such, this does not present a structural subordination issue of any significance. In addition, Vattenfall also includes within "group debt" loans of approximately SEK9.2 billion (at June '06) from affiliate companies that hold some of its nuclear assets.

Key Developments since last Analysis of July 2005

- Vattenfall's agreement with DONG to buy certain Danish assets was approved and was finalized on 1 July 2006.
- Vattenfall announced a SEK104 billion investment plan focused on organic growth.
- Strong financial development in most business areas except regulation.
- Regulatory environment is expected to get tougher in Germany and Sweden.
- Business risk is hence expected to shift upwards as profits from regulated activities diminish and there is greater reliance on generation.
- Moody's introduced a refined baseline credit assessment (BCA) scale under which Vattenfall is now designated as having a BCA of 7 (equivalent to A3 - please see below).
- The rating outlook was changed from positive to stable on 27 July 2006.

Key Rating Considerations

A2 RATINGS REFLECT VATTENFALL'S MEDIUM BUSINESS RISK, SOLID FINANCIAL PROFILE AND GRI UPLIFT

Vattenfall's A2 long-term issuer and senior unsecured debt ratings were upgraded from A3 in June 2005 following the application of Moody's Government Related Issuer (GRI) rating methodology.

Moody's classifies Vattenfall as a GRI because of its 100% ownership by the Swedish state. Under this GRI methodology², Vattenfall's ratings are the result of the following inputs:

- Baseline credit assessment: 7 (on a scale of 1 to 21, where 1 corresponds to a Aaa rating and 7 to A3);
- Local currency rating of the Swedish government: Aaa;
- Dependence: Low;
- Support: Medium.

The BCA reflects a medium operating risk profile, although risks are increasing, and a solid financial profile

Vattenfall's BCA of 7 (equivalent to an A3 rating) reflects the company's medium core operating risk profile as a regulated electric utility³ with a financial profile expected to remain solid-to-strong. We expect risks in its business risk profile to increase gradually. The key factors underpinning the BCA rating are explored further in the Management Strategy, Core Business Risk and Financial Risk sections.

On the 27th of July 2006, Moody's changed the rating outlook from positive to stable to reflect: (i) the company's recently announced large-scale SEK104 billion investment programme, (ii) additional investments associated with Vattenfall's intention to invest in renewable assets; (iii) the impact of an expected harsher regulatory regime in Germany and, to a lesser extent, Sweden; and (iv) the growth strategy of the group.

Dependence is low because of the high degree of geographical diversification in the revenue base - with European operations contributing over half of revenues at the group level - and hence lower linkage than is normally seen for a utility between its performance and the country's (Sweden's) overall economic performance.

Support is low reflecting 100% ownership by the Swedish state (Aaa, stable outlook) and the strategic importance of Vattenfall within Sweden, at the same time acknowledging the state's determinedly non-interventionist stance. Moody's believes that the authorities would hesitate to intervene in support of partially or even fully state-owned companies except in the most extreme circumstances, such as when the firm controls key strategic assets. This could be applied in the case of Vattenfall, which, given its size and importance, is a "flagship company" in Sweden with control over key nuclear and hydrological generating assets as well as sizeable parts of the network infrastructure.

2. Please refer to Moody's Special Comment ("The Application of Joint Default Analysis to Government-Related Issuers") published in April 2005, and its accompanying press release. Please also refer to Moody's Special Comment entitled "Rating Government-Related Issuers in European Corporate Finance" for a detailed discussion of the application of the GRI rating methodology to corporate issuers in Europe. Please also see *Government Related Issuers: July 2006* for a description of the refinement of the BCA rating scale.

GRI's are entities with full or partial government ownership or control, a special charter, or a public-policy mandate from a national or local government.

3. See Moody's "Rating Methodology: Global Regulated Electric Utilities", March 2005.

The Swedish state exercises long-term active ownership over the company and views value creation as a paramount goal for Vattenfall. To this end, the state establishes market requirements on profits and returns based on the risk profile of the company. There are currently no plans for a privatisation of the company as far as Moody's understands.

Management Strategy

Investment strategy likely to shift Vattenfall's profile towards relatively volatile but profitable generation activities

Management strategy aims at developing Vattenfall as a leading European energy company through increasing market share. Its core markets remain the Nordic and Northern European regions. The management targets profit growth by expanding the group power and heat generation capacity through organic investment and acquisitions.

As acquisition opportunities are scarce and the most attractive are likely to be hotly contested, management has stepped up its organic growth objectives by increasing, for the period 2006-2010, the group's long-term investment plan by approximately SEK35 billion to SEK104 billion. The largest portion of this investment, SEK70 billion, will be used to strengthen Vattenfall's generation capacity, including new power plants and refurbishment of existing plants in Germany to reduce CO₂ emissions. In addition, Vattenfall announced a roadmap for 10TWh of investments in renewable production over the next 10 years. Such projects will be subject to Vattenfall's investment criteria on a case-by-case basis.

This effort is expected to provide the group with continued growth in cash flows from generation activities, whilst regulated cash flows from distribution and transmission activities are expected to decline given tariff pressure, particularly in Germany.

Hence, over time, Moody's expects EBITDA contribution from non-regulated activities to increase from some 60% to some 70%. This represents a shift in the group's business and earnings mix, with an increasing reliance and exposure to wholesale power and commodity prices. It is noted however that the investments targeted, such as those designed to reduce CO₂ emissions from existing plants, will also reduce environmental and pricing risks.

Core Business Risk

MEDIUM BUSINESS RISK FOR A REGULATED ELECTRIC UTILITY ALTHOUGH BUSINESS RISK IS EXPECTED TO INCREASE

The BCA of 7 (equivalent to an A3 rating) reflects Vattenfall's overall medium risk business profile for a regulated electric utility.⁴ This profile may shift outside the parameters for a regulated utility outlined in the methodology as its earnings from generation and supply increasingly dominate. Its credit profile reflects its exposure today to regulated network and low-risk district heating activities which contribute around 40% of EBITDA at the group level, with the most significant proportion of profitability coming from generation businesses. Moody's normally considers regulated activities lower risk, because of their monopoly business position and generally stable regulated return on assets, than more volatile generation and supply. Moody's however recognises that in Vattenfall's two key markets, Sweden, and in particular, Germany there is a degree of regulatory pressure which is likely to impact earnings.

Generation is the most significant contributor to profitability, and this is expected to increase over time given both strong cash flows on the back of strong prices plus increasing investments in these areas (as noted above under Strategy) but also lower revenues from network activities as detailed below.

Vattenfall has strong market positions in regulated sectors...

Vattenfall maintains strong market positions in the regulated networks and district heating businesses. It is the second largest network operator in the Nordic region, the second largest transmission operator in East Germany and Hamburg, the fourth largest distributor in Germany, whilst it has the largest district heating business in the region. Whilst district heating is not a regulated business, it has quasi monopoly characteristics given high barrier to entry and long-term contracts. The profit contribution from the distribution and heat businesses in Poland is still relatively small, although Moody's regards this regulatory environment as slightly more risky (compared to Western Europe) as it is still in process of development.

4. See rating methodology reference footnote #3.

...however recent harsh regulatory developments in Germany are likely to impact revenue and profit margins

Vattenfall's distribution and supply networks in the Berlin and Hamburg regions have historically contributed a significant portion of cash flows in Germany. These regulated businesses have been affected by the energy law (EnWG), passed in July 2005, which lays the foundations of a more incentive-based regulated tariffs framework for transmission and distribution of electricity (and gas), replacing the current "cost plus" based tariffs. Tariffs will be determined ex-ante, requiring approval by the regulator, the BNA⁵, six months prior to introduction⁶.

The BNA recently reviewed transmission tariffs and imposed a 17.9% cut applicable for the period July to December 2006. This cut will reduce operating profit and cash flow by SEK459million in 2006. Details of tariffs for 2007 are expected to be released towards the end of this year. So far, there are no indications of a softening in the BNA's stance which is likely to ask again for a reduction in transmission tariffs and, if this magnitude of cuts is confirmed, it will likely lead to losses for the transmission business. Moreover, this business is expected to come under margin pressure from increasing costs from increased wind power generation and related inefficiencies in power balancing.

As regards distribution tariffs, a decision by the regulator for tariffs applicable until 2007 is expected sometime in August 2006. This is also expected to be harsh and to lead to pressure on profit margins in this business sector.

The Swedish regulatory regime may also result in a squeeze on margins

In Sweden and Finland, distribution has historically been a relatively low-risk business under a light-handed regulatory regime. Finnish regulation remains rather benign, despite having moved from an ex-post to an ex-ante model, and ensures fairly predictable cash flows and returns on investment, however in Sweden the regulator has taken on a harsher stance. In 2004, the Swedish regulator introduced a new ex-post regulatory model - i.e., the "Performance Assessment Model," which is aimed at improving efficiencies within the sector. There are concerns that the Swedish model could lead to excessive pressure on tariffs whilst requiring higher investments to meet more stringent service quality criteria, although discussions are ongoing between distribution system operators and the Regulator. Nonetheless, this uncertainty could have a negative impact in term of cash flow stability and predictability for all network operators in Sweden.

Power generation and supply are considered medium risk

Power generation accounts for circa 60% of the group EBITDA. Vattenfall has a leading market position in Nordic generation, accounting for half of Sweden's power and around 20% of the whole Nordic market's power. Vattenfall's Nordic electricity generation is based on low-cost hydro (about 48% of generation mix and nuclear power about 51%, see Figure 2), fixed-cost technologies that have contributed to boost Vattenfall's profitability in the current environment of strong wholesale power prices. In Germany, Vattenfall is the third largest power generator with a 14% share of the market, after E.ON (rated Aa3, on review for possible downgrade) and RWE (rated A1, stable outlook). Vattenfall's German generation business is primarily thermal, and also benefits from the current upward trend in wholesale prices, which have steadily risen from the 1998-2000 lows.

Moody's views Vattenfall's generation and supply businesses as medium risk because of their large market share, well-balanced fuel mix and the current generally favourable conditions and outlook for generation prices in these markets. At the same time, Moody's recognises that as commodities, there is a degree of volatility in power prices. In the Nordic sector, generation mix and power prices are influenced by variations in water levels and can therefore be less predictable. In Germany, prices are less volatile because of the much higher importance of coal and nuclear production in the fuel mix. However, high coal prices and the still relatively young emissions trading market are factors that may continue to create some additional volatility in German wholesale prices. These factors have also impacted Nordic prices which have started to show a greater correlation with German prices, emission trading certificates in particular have pushed up Nordic wholesale prices.

Moody's notes that Vattenfall has an active and conservative hedging programme through both Nord Pool and EEX, which mitigates the impact of short-term price movements. In addition, the recent acquisition of generation assets in Denmark, should help increase diversification along the value chain and an improved fuel mix should help reduce Vattenfall's overall exposure to the Nordic weather system. Overall, supply activities remain low-margin albeit provide a hedge to generation activities, although the Nord Pool and EEX electricity exchanges provide liquid outlets for wholesale generation.

5. The BundesNetzAgentur.

6. The previous method of setting tariffs was based on self-determination by the network operators (Association Agreements). The regulator did not have the authority to approve network fees in advance (ex-ante), whilst any ex-post control of possible abuse was left with the Competition Authority.

Figure 2. Vattenfall's Power Generation Mix.

	2004	2005	2004	2005
Nordic Region:				
Hydro power	29.4	35.0	41.5%	48.5%
Nuclear power	40.7	36.6	57.4%	50.7%
Fossil fuel-based power	0.1	0.0	0.1%	0.0%
Wind power	0.1	0.1	0.1%	0.1%
Biofuel, waste	0.6	0.5	0.8%	0.7%
Total	70.9	72.2	100.0%	100.0%
Germany:				
Hydro power	3.3	3.5	4.1%	4.3%
Nuclear power	10.2	10.8	12.6%	13.4%
Fossil fuel-based power	67.2	66.4	83.3%	82.3%
Wind power	0.0	0.0	0.0%	0.0%
Biofuel, waste	0.0	0.0	0.0%	0.0%
Total	80.7	80.7	100.0%	100.0%

Source: Generated electricity in TWh, pro-rata corresponding to Vattenfall's ownership. Vattenfall's "Annual Report 2005".

In the medium term political decisions over the future of nuclear power assets may be reviewed but their impact cannot be fully ascertained at this point

Nuclear power represents an important component of Vattenfall's overall generation mix, with the company owning shares in nuclear plants both in Sweden and Germany.

In December 2004, the Swedish government decided to close down the Barsebäck 2 nuclear plant by May 2005, for which Vattenfall was fully compensated. This was in line with a parliamentary decision taken back in 1997 to decommission both nuclear reactors of the Barsebäck plant (Barsebäck 1 was closed at the end of 1999). Sweden's energy policy is still somewhat unclear - discussions last year between the government and the Swedish power companies with regard to reconsidering the future of nuclear power and extending the life of a number of nuclear plants, ended somewhat unsatisfactorily. However, Moody's does not believe this represents a decisive move towards full nuclear decommissioning in Sweden in the near term, given the country's dependence on nuclear power, which currently represents circa 50% of production, and the lack of viable alternatives. In Germany, where the government is currently planning to phase out nuclear power over time, Vattenfall owns three nuclear plants which have planned closure dates between 2008 and 2019. A rethink of the nuclear question, particularly in Germany, resulting in a prolongation of the life of the nuclear stations could be favourable to the company as it would lengthen the cash flow generation of past investments whilst reducing the present value of liabilities for decommissioning costs. On the other hand large investments in a new generation of plants could be very capex intensive. However, at present, there are no indications that such a reversal in policy is likely.

Vattenfall, as other generators, remains potentially exposed to a number of other environmental and political risks

Generation assets in Germany (particularly the lignite-based VEAG) and Poland bring to the group certain environmental profiles and risks, in light of EU regulation requiring that combustion plants over a certain size must have allowances to cover their carbon dioxide (CO₂) emissions.

In Germany, Vattenfall requires emission allowances owing to its thermal exposure, which is 89% circa of its total generation in that country. In Sweden the requirements are very low, given the high proportion of hydro and nuclear generation. However, should Vattenfall construct new thermal power plant in the future, it could be short on allocations. Additionally, in Poland, there has been a substantial over-reduction vis-à-vis the Kyoto target, with the surplus allocated to the state. Here, Vattenfall is unlikely to have any deficit. Overall, and for the first allocation period (2005-2007), Moody's expects Vattenfall's allowances to be broadly in line with its requirements. Requirements for the second period 2008-12 and the impact of tighter CO₂ allowances is still unclear although Germany's allocation is not expected to be punitive. Nonetheless uncertainties over CO₂ allowances and hence impact on prices, is a factor for all generation companies. The risk of political interference, given current high generation prices and possible windfall profits for generation companies, cannot be ruled out either.

Financial Risk

Vattenfall showed strong financial flexibility in 2005 thanks to robust cash flow generation...

During FY05 Vattenfall's operating profit and cash flow generation benefited from high power prices both in the Nordic region and Germany, on average up by 3% and 61% respectively. The increase (+1.3%) in reported operating cash flow of SEK24.4 billion, however, was lower than the corresponding increase (+28%) in reported operating profit of SEK24.7 billion. The main reason was the accrual to profit of a SEK4.1 billion state compensation for the anticipated closure of nuclear station Barsebäck 2, whilst the related cash inflows will be received in instalments over the 2006-09 period. The delay in the receipt of such cash caused a corresponding negative movement in working capital, thus depressing cash flow from operations.

Cash flow was absorbed by dividend payments of SEK5.8 billion and investments of SEK23.7 billion, including SEK10.3 billion attributable to the purchase of the 35.3% equity interest in Elsam⁷. Net debt, as reported, was SEK64.3 billion, an increase of SEK8.9 billion compared to FYE04, mainly as a result of acquiring the stake in Elsam.

Strong cash flow performance continued during H1-06 with reported cash flow from operations of SEK 17.8 billion (circa SEK30 billion on an annualised basis) as power prices continue to remain strong both in Northern Europe and Scandinavia. This cash flow contributed, after allowing for SEK5.7 billion of investments and SEK5.9 billion of dividend payments, to a reduction in net debt to SEK54.2 billion.

For the next two years, Moody's expects cash flow from operations from generation activities to grow, after factoring the contribution from the plants acquired in Denmark, however pressure on network businesses could offset some of these increases and retained cash flow could be reduced by higher dividend levels. Net adjusted debt may also increase as Vattenfall's investment programme intensifies.

Figure 3. Key Financial Data		
(in SEKm)	2004	2005
Revenue	113,366	129,158
EBIT	17,112	27,730
Interest Expense as adjusted	4,085	3,491
FFO as adjusted	22,723	27,350
RCF as adjusted	20,123	21,390
Capex	10,287	12,766
Total Debt as adjusted	88,636	89,709
Net Debt as adjusted	78,748	81,086
Adjusted FFO Interest Coverage	6.6x	8.8x
Adjusted FFO / Net Adjusted Debt	28.9%	33.7%
Adjusted RCF / Net Adjusted Debt	25.6%	26.4%

*Source: Vattenfall's "Annual Report 2005".
Details of adjustments to reported financial statements explained in Moody's Adjustments to Vattenfall's Accounts, August 2006.*

...Financial flexibility is expected to be increasingly reduced by investments, lower earnings from regulated activities and potentially higher dividends. Further acquisitions may be considered on a case-by-case basis although Vattenfall is expected to maintain its target of an A rating.

Currently, Vattenfall's financial profile is very strong for its rating category. To offset the migration of Vattenfall's business risk profile, as the company gradually moves its business risk mix towards a higher contribution from more volatile generation and supply, as described earlier, Moody's has shifted the target ratio range of Retained Cash Flow-to-Net Adjusted Debt from previously mid-to-high teens (13% to 17%) to high teens (15% to 19%), for the current BCA of 7 (equivalent to an A3 rating).

Over the next two years, Vattenfall's financial profile is expected to remain solid and could indeed be stronger at times than the parameters outlined. However, Moody's ratings assume that the management, in line with its stated strategy, may look to utilise any available financial flexibility for further investments or external acquisitions and/or increased dividends, whilst adverse regulatory developments in Germany are expected to have a dilutive effect on Vattenfall's financial metrics. Nonetheless, the financial strategy of the group remains prudent overall with strict investment criteria, and the management targets maintaining a single-A rating.

7. Under the agreement with DONG, Vattenfall has exchanged its equity interest for a 24% of assets and liabilities in the combined Elsam-E2. The total financial effects of this transaction include, in addition to the SEK10.3 billion in cash (paid in 2005), the consolidation of approximately SEK 1.5 billion of assumed debt on completion of the acquisition in 2006, as well as a further cash payment of SEK1.5 billion to DONG corresponding to Vattenfall's share of Elsam and E2's original debt position.

Related Research

Analyses:

[EWE AG, February 2006 \(96637\)](#)

[Energie Baden-Wuerttemberg AG, October 2005 \(94860\)](#)

[Fortum Oyj, July 2005 \(93735\)](#)

Rating Methodologies:

[Global Regulated Electric Utilities, March 2005 \(91696\)](#)

[The Application of Joint Default Analysis to Government-Related Issuers, April 2005 \(92432\)](#)

Financial Reporting Assessments:

[Moody's Adjustments to Vattenfall's Accounts, August 2006 \(92687\)](#)

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