



EMCC case studies

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Introduction

Vattenfall is a Swedish-owned international electricity and heat supplier. In recent years, it has become the fourth-largest generator of electricity and the largest producer of heat in Europe (<http://www.vattenfall.com>, 2007). Vattenfall is a public limited company, shares of which are owned by the Swedish government. Even though the company can be defined as state owned, Vattenfall conducts business as autonomously as a typical electricity company and has managed to benefit from the deregulation of the European energy markets.

The company has experienced intense growth during the past decade, from net sales of SEK28 billion in 1998 to net sales of SEK146 billion in 2006. Since the 1990s, their activities have evolved from delivering power only to Swedish costumers to providing electricity and heating to more than 4.9 million customers in several European countries.

Vattenfall's energy production is based on hydropower, nuclear power and power from fossil and bio fuels, including wind and waste. Moreover, the company's share of renewable and CO₂-neutral energy production is much higher than the EU average. Similar to the EU, Vattenfall has intensified its focus on renewable energy due to the threat of global warming; in fact, for the past three years, the company has steadily increased its investments in renewable energy and carbon dioxide emission-limiting initiatives.

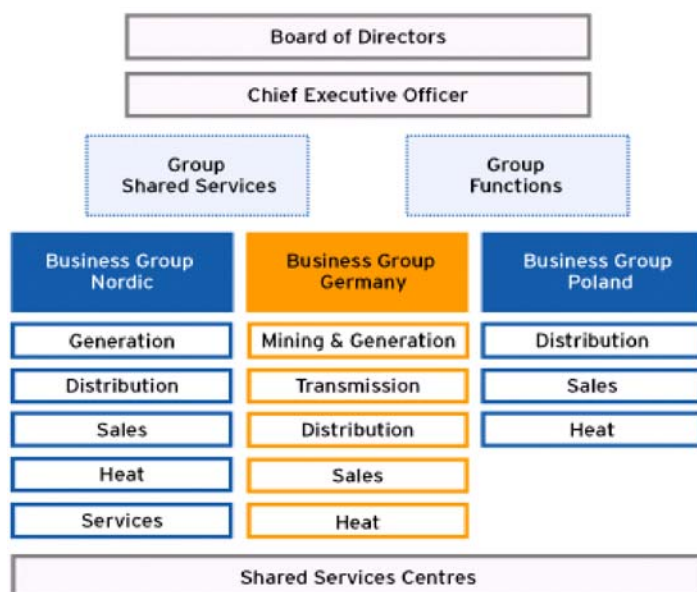
Besides being a major player in terms of renewables use, Vattenfall also pays considerable attention to working conditions and meeting future challenges regarding the skill requirements of the energy sector. The company maximises efforts to create a positive working environment in the individual departments and to give the individual employee optimal possibilities to develop his or her competences. The efforts have paid off: in 2006, Vattenfall was voted best employer in an annual survey in Sweden (Vattenfall, 2006, 2007a).

Organisation

The Vattenfall Group is organised into a number of sub-organisations (see Figure 1). The board of directors and the company CEO are the superior managers of Vattenfall. The Group Shared Services Department includes Vattenfall Trading Services, Vattenfall Treasury, Vattenfall Insurance and Vattenfall Research and Development. The Group Functions Department supports the company CEO, the EGM/ExCom and the BG Management Teams by executing their functional responsibilities. These two sub-organisations mainly service the corporate body of the organisation, the Vattenfall Group.

Three sub-organisations have been established to handle three individual energy markets: the Business Group Vattenfall Nordic for the Nordic market, the Business Group Vattenfall Europe for the European market and the Business Group Vattenfall Poland for the Polish market. The Shared Services Centres provide and develop services aimed at optimising the affairs of the business units and other users. The corporate headquarters is in Stockholm, Sweden. Figure 1 shows the structure of the Vattenfall Group.

Figure 1: *Vattenfall company structure*



Source: <http://www.vattenfall.com>, 2007

Challenges

Despite performing well, Vattenfall is currently facing a number of challenges, most of them closely connected to the overall challenges facing the European energy sector.

The company considers the climate challenge to be among the greatest challenges in the future development of Vattenfall and of the energy sector in general. Protecting the environment while ensuring energy production coherent with the increasing demands of consumers is a task that requires major investments in CO₂-neutral energy production.

Moreover, Vattenfall has been subjected to criticism due to the company's continuing investments in fossil fuel-based energy production. Despite Vattenfall's wish to be 'No. 1 for the Environment', much of the company's energy source consumption is still covered by fossil fuels; thus, even though its share of CO₂-neutral sources is much bigger than the EU average, it is still criticised by environmental organisations and political parties such as Greenpeace and the Swedish Environmental Party (Miljöparti). Like many stakeholders in the public debate, these groups find it problematic that Vattenfall, being a state-owned company, continues its investments in coal-fuelled power production in, for instance, Germany and Poland (Miljöpartiet 2007; Newsdesk.se, 2007).

Vattenfall has also been subjected to criticisms due to the accidents at some of Vattenfall's nuclear power reactors in 2007. The power plants in question are the reactors in Brunsbüttel and Krümmel, and Forsmark and Ringhals in Sweden. Although the effects of the incidents in terms of injuries or environmental damage were minor, the accidents led to major discussions on the desirability of nuclear power generation, particularly Vattenfall's nuclear power generators.

Another major challenge for Vattenfall is attracting skilled labour to the company. The shortage of accessible labour in the energy sector and the declining interest in technology among young generations necessitates initiatives aimed at creating a favourable brand, not only for the company, but also for the energy sector in general.

Sources of information

This company case study on Vattenfall is based on information from the company and miscellaneous news and business services. The company contributed to the case study by allowing two employees to participate in two interviews. These interviews were mainly focused on:

- strategy and location decisions;
- working conditions.

The first two subjects were discussed with Hans Lundgren, strategic manager at Vattenfall, while working conditions were the focus during the interview with Anders Nilsson, manager at the Competence-Planning Department of Vattenfall.

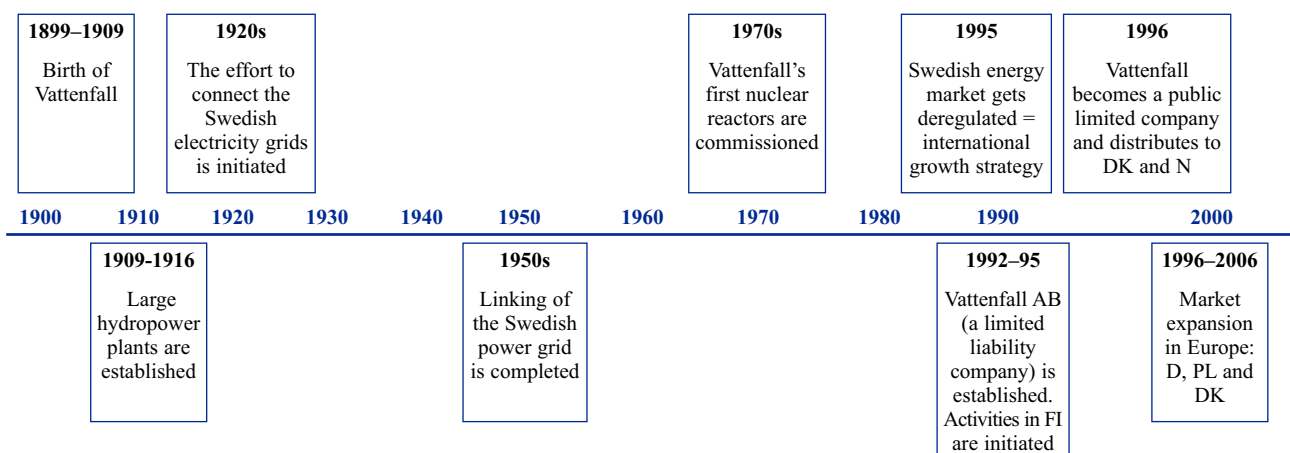
Vattenfall's website, includes much information on the company's strategies, background, locations, values and initiatives for improving working conditions within the company. The website also presents a wide range of reports, e.g. annual and CSR reports.

The information has been supplemented with articles and facts from the Danish Working Environment Information Centre, the EU and the 'Company Description' site at the funding catalyst group, FundingUniverse. Articles from Greenpeace and the Swedish Mijöparti have also been included in order to include differing perspectives on the company's activities.

Company history

Vattenfall is an organisation with a historical background that spans more than a century. The company has evolved from being a public organisation to becoming a public limited company, delivering energy and heat to several European countries. The timeline below (Figure 2) shows the most important events in Vattenfall's history.

Figure 2: *Vattenfall timeline*



Source: <http://www.vattenfall.com>, 2007

1899 to 1990: From a small committee to a major energy company

The story of Vattenfall began in 1899 when the Swedish parliament appointed the members of the Waterfall Committee and provided them with the right to dispose of the great Trollhättan Waterfall. When the canal was due for renovation, propositions concerning energy production were made. During the first decade of the twentieth century, the facilities for energy production were created and the parliamentary-appointed committee was chosen to administer the canal and develop energy production. Soon after, Vattenfall's hydropower activities were expanded to other districts of Sweden. In 1909, the Trollhättan Canal and Waterworks Administration became the Royal Waterfall Board, marking the birth of Vattenfall. At that time, the primary client for the power delivered by Vattenfall was industry.

In the following decades, the tremendous growth in industry and the swelling consumer demand for electricity constituted the basis for the massive development of Vattenfall's energy production. Vattenfall expanded its activities to other parts of Sweden and added coal-fired power to its activities. Simultaneously, Vattenfall linked the power plants together, thereby creating a wide energy network supplying all of Sweden. In the following decades, this network would be expanded to the rest of the Nordic countries, enabling coordination of the Nordic energy supply.

In the 1970s, Vattenfall engaged in nuclear power production. Nuclear energy was – and still is – a much-discussed topic, and in the 1980s the Swedish people, through a national referendum, voted to end further nuclear energy development.

1990 to 2007: Deregulation and international growth

In the 1990s, Vattenfall was transformed into Vattenfall AB, a limited liability company managed by the Swedish government. This transformation enabled the company to operate outside national borders. In the same year that Vattenfall became Vattenfall AB, the company made its first expansion outside the Swedish borders as it entered the Polish energy market – an expansion that was followed in 1994 by Vattenfall's launch in Finland.

The deregulation of the Swedish energy market

In 1995, Sweden entered the European Union and caused Vattenfall to become a public limited company; thus, although the company shares were owned by the Swedish government, Vattenfall was considered an autonomous electricity company with the liberty to make decisions independent of the government. Due to EU gas and electricity Directives such as the 1990 Transit Directive on open trade in electricity markets, Vattenfall gained increased international business opportunities in Nordic and other European countries.

Deregulation initiatives were launched to ensure affordable and stable electricity and heating prices for European citizens and companies through improved competition among electricity and heating suppliers. While deregulation supported Vattenfall's activities outside Sweden, it also entailed increased competition in the Swedish electricity market (<http://www.fundinguniverse.com>, 2007); hence, the Swedish government transformed Vattenfall into a public limited company in order to create a strong Swedish energy company that not only ably maintains its position as the main player in Sweden, but also became a major player on the European energy markets.

Going abroad

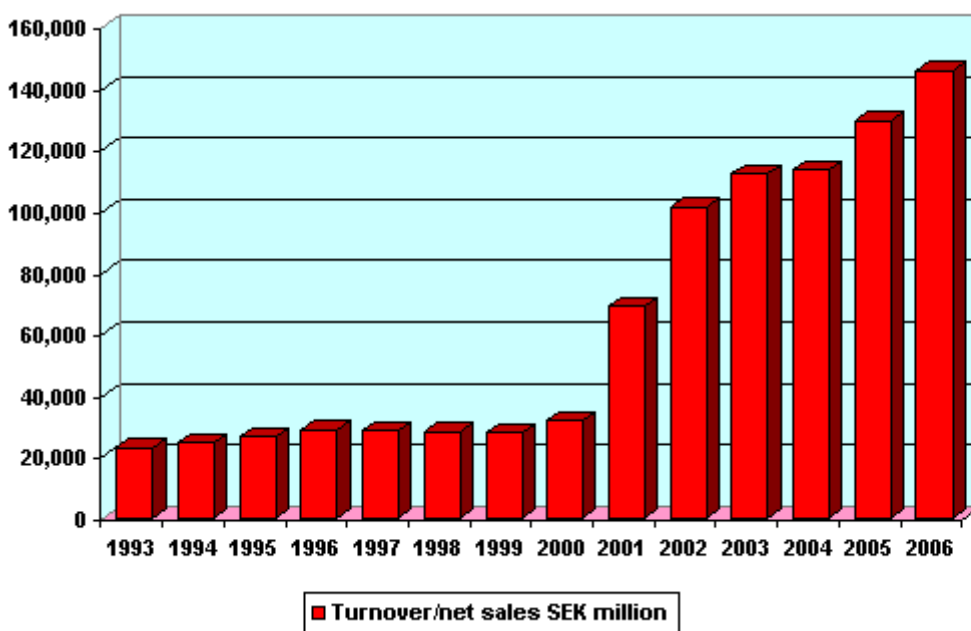
In response to Swedish deregulation, Vattenfall expanded outside the Nordic area, initiating activities in Germany as well as in Asia and South America. However, the economic crisis in Latin America and Asia and general difficulties in consolidating business in foreign markets made the company refocus its attention towards the European energy market.

In the mid-1990s, Vattenfall entered the German and Danish energy markets through the acquisition of shares and the establishment of joint ventures, while subsequently making acquisitions of Swedish companies in order to maintain its market share.

At the beginning of the millennium, Vattenfall became a major player in Poland by acquiring Polish companies, thereby preparing the company for a possible increase in its activities in the region after the Polish energy market became deregulated in 2005, and Vattenfall subsequently continued increasing its investments in the Polish market.

Although Vattenfall had activities in other Eastern European countries, it kept its focus on developing its German market. In 2001, Vattenfall entered the Netherlands, and in 2002, Vattenfall Europe was formed due to the merger of the Vattenfall acquisitions Bewag, HEW, Veag and Laubag. Due to the vast broadening of activities across national borders, the company's turnover also took a giant leap between 2000 and 2001, as shown in Figure 3. By 2003, Vattenfall landed a spot in the top five European energy groups. At this time, more than 60% of the company's sales came from countries outside the Nordic region. Simultaneously, Vattenfall achieved its highest operating profit ever, i.e. more than SEK15 billion. The intense growth rate in net sales continued, reaching annual net sales of SEK111,935 million.

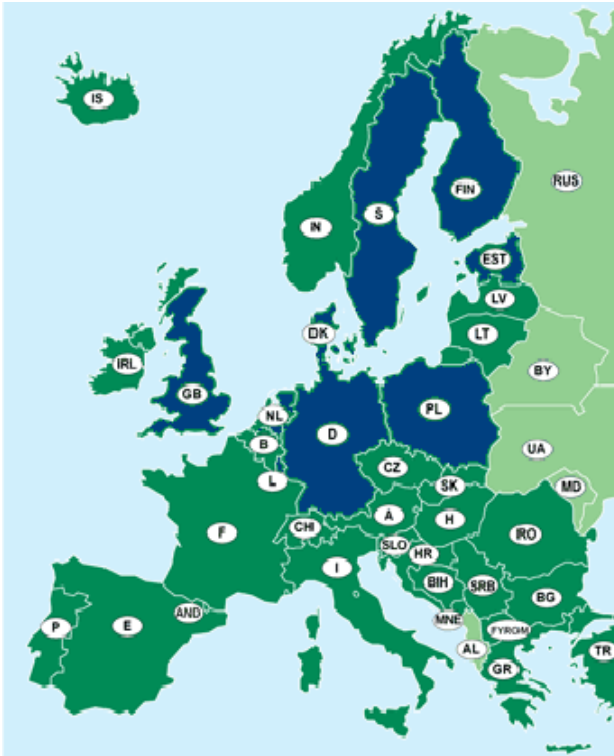
Figure 3: *Vattenfall's growth in turnover*



Source: <http://www.vattenfall.com>, 2007

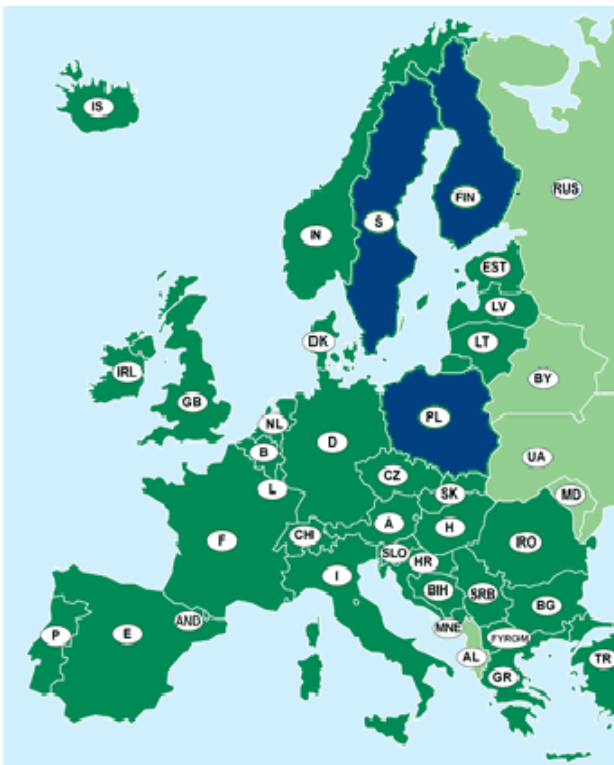
After these years of intense economic growth, the development in net sales stabilised to a more moderate growth rate. Vattenfall continued to purchase and enhance shares in Denmark, Poland and Sweden while also carrying out a number of major investments in nuclear and renewable energy programmes. At that time, Vattenfall had become a major player in the European energy market. Figures 4 and 5 illustrate the company's development in international operations.

Figure 4: *Vattenfall's markets in 1994, i.e. before the deregulation of the Swedish energy market*



Source: <http://www.vattenfall.com>, 2007

Figure 5: Vattenfall's markets in 2007



Source: <http://www.vattenfall.com>, 2007

Looking forward – a multiple energy source strategy

In general, the overall future goals of Vattenfall include growing through acquisitions and mergers and contributing to the reduction of CO₂ emissions. However, at Vattenfall, officers and staff do not see themselves as capable of making exact predictions on the future energy market. According to Vattenfall, there are several complex drivers of change in the energy markets. The complex interplay of water supply, fuel prices, CO₂ emission allowances, energy policies and electricity consumption all influence the energy market; therefore, Vattenfall has chosen to continue developing and improving every energy generation source it currently draws on.

Hans Lundgren points out that every energy source has advantages and disadvantages. Wind and hydropower are clean and renewable energy sources, but hydropower has few extension potentials in Europe, and both wind and hydropower rely heavily on weather conditions, resulting in little supply security. Moreover, at this time, wind power is only financially acceptable given existing support systems. Hard coal and other fossil fuels such as natural gas result in CO₂ emissions, but they seem hard to avoid completely if the company wishes to meet increased demand and secure its supply of energy. For the aforementioned, developments of CCS technologies including CO₂ storing methods might be possible solutions.

Gas is also problematic in terms of supply security due to tensions between Russia (the most important gas supplier) and some of its neighbouring countries and the EU. Other renewable power sources, such as solar and biomass, seem to have serious potential, but still lack crucial developments in order to be fully effective and reliable. Developing nuclear power is always risky since it is a highly debated energy source that might be phased out in the future.

Hence, Vattenfall will not focus on one energy source only. Instead, it will intensify its effort in furthering the reduction of CO₂ emissions. As Hans Lundgren, responsible for the development of Vattenfall's strategies, puts it, 'We really want to be the good guys who make a positive difference for the environment.'

Company values and strategy

Vattenfall defines its core values as:

- openness;
- accountability;
- effectiveness.

The 'openness' of Vattenfall implies a major information flow aimed at customers and other stakeholders. Vattenfall's website demonstrates this trait by providing a large number of annual reports, press releases and descriptions of various energy sources. Hans Lundgren points out two reasons for implementing this value as one of the cornerstones of the company. First, high-level documentation and communication are part of the company's heritage as a public organisation. Due to this status, Vattenfall had to account for its activities to the public; therefore, it produced many reports, registers and evaluations.

The second reason is more strategic: a high degree of available information indicates trustworthiness. By being open, Vattenfall protects itself from criticisms concerning pricing, environment, growth, etc. The company is currently carrying out large investments in renewable energy and the production and distribution of electricity – investments that, in addition to demand, cause increases in the price of electricity.

Explaining rising energy prices is a serious challenge for the energy sector, especially if it wishes to keep the level of trust it has gained from customers and politicians. While these people believe that the energy companies are creaming off the energy price increase, the energy companies are justifying energy price increases with investments in renewable energy and production improvements as well as, to some degree, elements beyond their control. Vattenfall is taking this challenge seriously by trying to openly present crucial company information to its customers and shareholders.

‘Accountability’ implies that company operations are efficient and responsible. This means that the company must grow in a rational and sustainable way. By undertaking this particular value, Vattenfall limits its activities to those initiatives which have been deemed relatively ‘safe’.

The third cornerstone of Vattenfall’s identity is ‘**effectiveness**’. This value is based on a more business-orientated perspective of the company’s activities in relation to profits and added value.

Vattenfall’s current strategic ambitions

Vattenfall’s current mission is ‘to be a leading European energy company’ and its main strategic ambitions are to:

- continue profitable growth;
- be the benchmark of the industry;
- be number one for the customer;
- be number one for the environment;
- be the employer of choice.

In comparison to earlier strategies, these goals are focused to a larger extent on environmental and employment issues. While the overall strategic ambitions for the 1997 strategy were growth in terms of size, locations and economy (Vattenfall, 1997, 1998), the current objectives for Vattenfall are improvements in employment, environment operational excellence and sustainable growth.

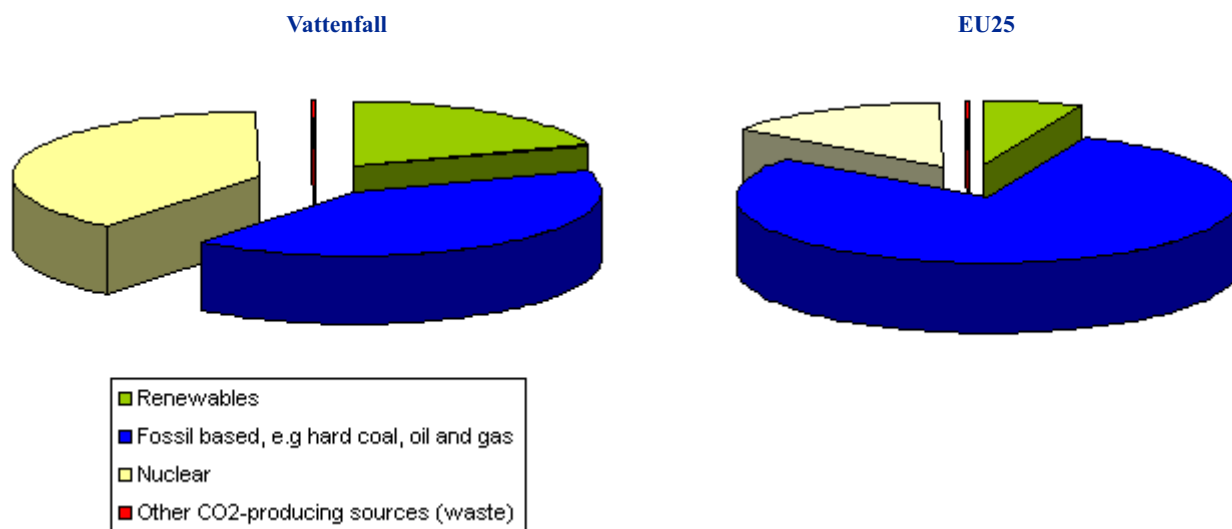
The status as a state-owned company makes it difficult for the company to enter into mergers, since this will require the Swedish government to give up a certain percentage of its share, thereby surrendering sole ownership. So far, the Swedish government has rejected mergers, but in Hans Lundgren’s opinion, in the future, the Swedish government may allow the company to enter into mergers in order to secure a steady growth rate and to compete with other European energy giants, which are mostly private companies that are able to continue their growth through mergers. Nonetheless, at present, Vattenfall can only develop through acquisitions.

In order to meet its employment and environment goals, Vattenfall has worked out a strategy, which will be further elaborated below.

Meeting the environmental challenge

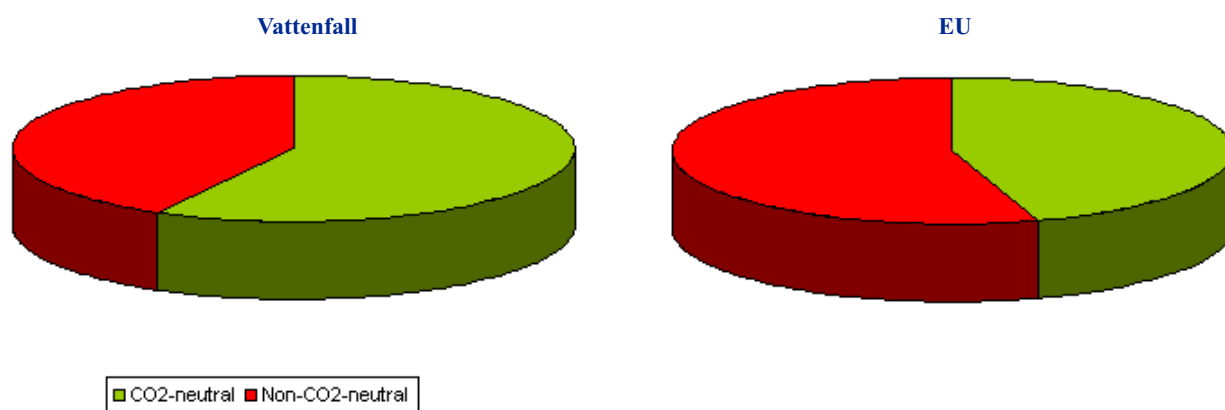
As mentioned in the introduction, Vattenfall considers the climate change threat to be one of the greatest challenges for the company and the energy sector in general; therefore, one of the company’s main strategic ambitions is to be ‘No. 1 for the environment’ (www.vattenfall.com, 2007). In comparison to European energy companies in general (EU25), Vattenfall is using more renewable and less fossil-based energy sources, as illustrated in Figure 6. More than 21% of the company’s use of energy sources for electricity production is covered by renewables, against the EU25 average of only 14%.

Figure 6: Energy sources for electricity production, Vattenfall compared to EU25 average



Source: <http://www.vattenfall.com>, 2007; European Commission, 2006

The difference between Vattenfall and the European energy production sector in general becomes even more apparent when the focus turns toward CO₂-neutral electricity production. As illustrated by Figure 7, Vattenfall's energy production is significantly more CO₂ neutral than European energy production in general.

Figure 7: Distribution of CO₂-neutral vs. non-CO₂-neutral energy production, Vattenfall compared to EU average

Source: <http://www.vattenfall.com>, 2007

Vattenfall's objective is to find solutions that can lead to efficient energy use and reduced emissions of carbon dioxide and other greenhouse gases while simultaneously maintaining its leading role in renewable electricity and heat generation. In relation to that goal, Vattenfall has initiated a number of schemes, including:

- investments in energy production that generates low or no carbon dioxide emissions and in technology for reducing emissions from fossil fuel-fired power plants;
- increasing the capacity of existing facilities that generate low carbon dioxide emissions;
- investments in wind power and biofuel-based energy and heat generation, assuming attractive commercial conditions;

- purchases of turbine wheels to improve generation and environmental qualities;
- increasing efficiency in the generation and transmission of electricity and improvements of the systems and processes for directing and evaluating environmental activities.

Vattenfall's achievements in 2006 in the environmental area included commissions of biofuel-fired heat and electricity plants with a low degree of CO₂ emissions as well as the initiation of the construction of a pilot CO₂ emission-free power plant. The company also presented a model for reducing global CO₂ emissions and established fundamentals for knowledge sharing among various units and countries. In addition to this, Vattenfall concluded major landscape restoration and cleansing projects (Vattenfall, 2006, 2007a).

Getting the right people with the right skills

Anders Nilsson, manager at the Competence Planning Department of Vattenfall, holds that the company's employee policy has developed from one consisting of rule administration to a strategic tool for the overall management and strategic development of the employees. In essence, Vattenfall's development as a company and the implementation of its general development plan lie partially in the hands of its human resource managers. As the company asserts, 'our people are the key to our success'.

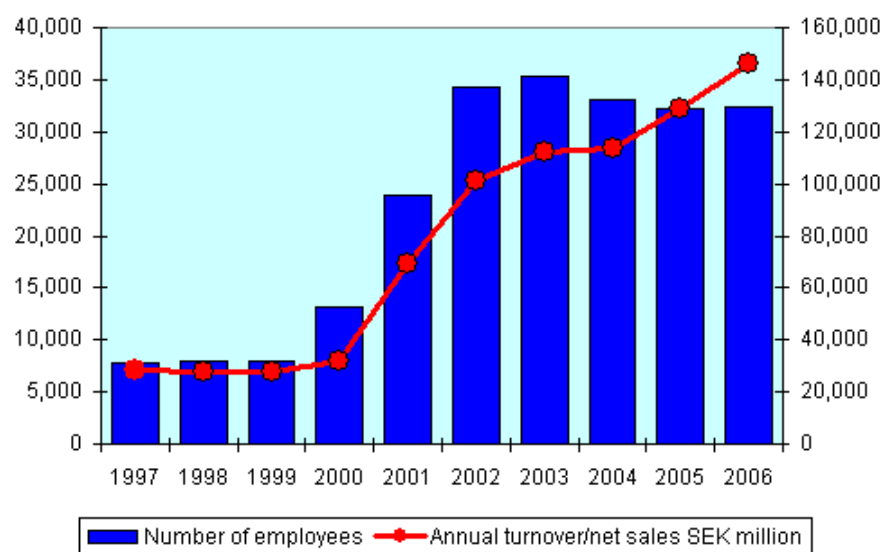
Vattenfall currently employs more than 32,000 people. Among these, approximately 20,000 and 9,000 are employed in units in Germany and the Nordic countries, respectively. In terms of age, gender and academic training, the key facts about Vattenfall's employees are as follows.

- Average age: 43 years;
- Percentage of male employees: 75%.
- Employees with academic training: 25%.

The average Vattenfall employee is middle-aged, male and has no academic training. The figures vary according to the individual countries, e.g. the percentage of female employees is higher in Finland than in Germany, but in general, the figures are similar.

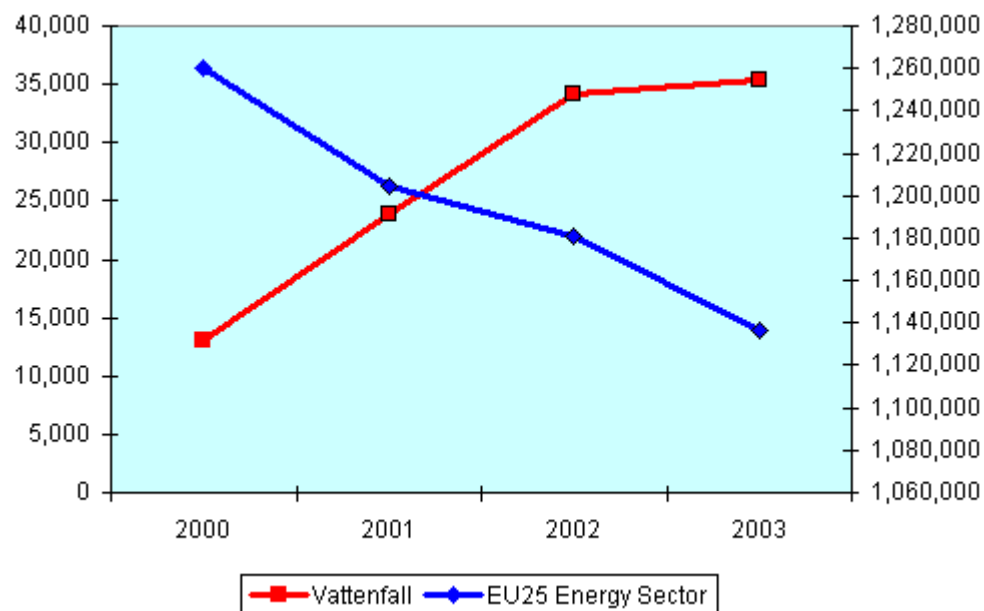
The average career paths for Vattenfall's employees are long in comparison to other companies. In fact, the annual mobility (i.e. the rate of employee inflow and outflow) at Vattenfall is currently only 2%. This implies that Vattenfall's employees generally spend their entire careers at the company. There has even been a prevalent 'follow in the father's footsteps' culture at Vattenfall, which means that in some cases, working at Vattenfall is a family tradition, although this perspective is changing now.

In recent years, Vattenfall's growth in terms of turnover has not been paralleled by a similar increase in the company's number of employees. In the past decade, the number of full-time employees at Vattenfall has quadrupled, while the annual turnover and net profit have more than quintupled. Figure 8 illustrates the difference.

Figure 8: *Vattenfall's growth in terms of employees vs. turnover/net sales*

Source: *Vattenfall, 1998–2006, 1999–2007a*

However, to a high degree, this pattern is also characteristic of other electricity companies. In the past decade, the entire energy sector has been characterised by a dramatic decline in employees (European Foundation for the Improvement of Living and Working Conditions, 2007). In fact, in the EU25 energy sector, Vattenfall is among the companies where employees have suffered the least from the general decline in employee numbers in the energy sector (see Figure 9).

Figure 9: *Number of employees, Vattenfall vs. EU25 energy sector*

Source: *Vattenfall, 2000–2003, 2001–2004a; epp.eurostat.ec.europa.eu, 2007*

Challenges

Anders Nilsson has revealed that in the years to come, Vattenfall will experience major challenges in terms of recruitment, since a large number of employees will retire from the company. The average career path at Vattenfall is long, which is contrary to today's more flexible labour market, where people frequently change jobs during their careers.

Besides, since the quantity of applicants to jobs at Vattenfall has fallen in recent years, the necessity for Vattenfall to carry out initiatives to improve the company's attractiveness for potential employees is growing considerably. Furthermore, Nilsson has emphasised the need for Vattenfall to create incentives that will encourage the company's employees to stay in the labour market longer, thereby postponing retirement.

There is also an increasing challenge in attracting young candidates; Nilsson has learned that young people find technical education and the jobs related to it unappealing. Nilsson estimates that one-third of the new staff needed at Vattenfall will be new graduates with academic training, while the rest of the staff needed do not necessarily have to be academics.

Gender and ethnicity

It is Vattenfall's ambition that the company's employees 'reflect the society in which they operate'. As mentioned above, 25% of Vattenfall's personnel are women, and in Finland a total of 38% of the personnel at Vattenfall are women. This is much higher than the average in the EU energy sector, where women only account for 15% of the workforce (European Foundation for the Improvement of Living and Working Conditions, 2007), but to reflect society fully, the company still has a long way to go before it reaches the level of 50% female workers. Nevertheless, the percentage of female employees has been rising each year.

The small number of female employees at Vattenfall is probably also the reason why there are only a few female leaders within the company. However, Vattenfall has launched initiatives aimed at introducing more women to the superior management level.

Vattenfall has had initiatives aimed at attracting employees with immigrant backgrounds, but this has been deemed a hard task. Anders Nilsson thinks that the problems with recruiting labour from this group have something to do with Vattenfall's close connection with the Swedish government. The company regards itself as very 'Swedish', which is a self-conception that is unattractive to this group.

Policies and initiatives

As mentioned earlier, Vattenfall considers its employees to be the cornerstones of the company and its further development. One of Vattenfall's main ambitions is to be a good employer with satisfied employees. This seems to be a sincere ambition and much has been done in order to fulfil it. Regarding overall employment conditions, Vattenfall is continuously working on the following:

- strengthening leadership through a first-rate leadership succession process and group-wide management development programmes;
- carrying out competence planning based on the employee's personal goals and the demands of the market;
- conducting 'My Opinion' surveys;
- providing a safe, healthy and stimulating work environment;
- developing flexible pay models and incentive programmes that comply with Vattenfall's long-term objectives.

In 2006, Vattenfall's achievements regarding working conditions included the establishment of the Vattenfall Business Institute, a business unit providing programmes in business control, purchasing, HR and specialist areas. Besides this institute, its employees have also responded positively to its initiatives – 300 employees attended the company's leadership programmes, a vast number (1,458) of evaluation and performance reviews among managers and potential managers was completed and the annual employee survey pointed to major improvements in terms of work-life balance and leadership (Vattenfall, 2006, 2007a).

In addition to these accomplishments, the company's efforts in terms of improving the working conditions for its employees paid off in 2006, when Vattenfall was ranked best employer in Sweden in an annual survey of about 22,000 young professionals (25 to 40 years old) (Vattenfall, 2006, 2007a).

With a large group of employees on the verge of retirement and a declining interest in technology among young students, Vattenfall considers attracting young labour and convincing retirement-aged employees to stay in the workplace to be among its greatest challenges. Nonetheless, the company has initiated some relatively successful programmes and policies to address these concerns, as outlined below.

Senior policies

The programme '58+' is an initiative at the Swedish department of Vattenfall. To motivate the employees to continue active duty until the age of 65, which is currently approximately four years later than the average retirement age, Vattenfall offers employees over the age of 58 a cut in their working hours; thus, hours are reduced to 80% while the wage level is at 90%. The employee is able to work fewer hours while receiving almost the same salary as one who works 100% of the time. The employee is introduced to the programme via the '57+ seminars' arranged by and at Vattenfall for Vattenfall's senior employees. Furthermore, '58+' is not the only initiative aimed at keeping the senior employees at Vattenfall. The company also offers their senior employees access to an in-house job bank, the aforementioned mentioned '57+ seminars' and a mentoring programme.

The '58+' programme is voluntary; hence, employees are allowed to continue working full time after the age of 58. The arrangement lasts for six months and is evaluated by the participant and the management towards its conclusion; therefore, the employee has the option to return to average full-time employment.

The '58+' initiative has proven successful. The evaluation of the initiative was carried out by a number of researchers, whose conclusion was that the '80-90-100-model' is a well-fitted tool for attracting retirement-aged employees to stay at Vattenfall. The evaluation signified that Vattenfall's senior employment initiatives have led to a noticeable increase in the average retirement age at Vattenfall. In 2000, the average retirement age at Vattenfall was 58.2 years, but by 2006, the average retirement age had increased to 61.6 (<http://www.arbejdsmiljøviden.dk>, 2007).

Employee development

Anders Nilsson considers development in terms of competence and position to be important tools in the company's efforts to keep its employees. In connection with development related to position, Nilsson underlines that development should not only be understood as promotion; horizontal development, i.e. new and different assignments and responsibilities, can be just as valuable to the employee as a promotion.

In order to ensure competence development for the individual employee plus coherence between the employees' competences and the competences needed at Vattenfall, the company carries out a number of initiatives. Every employee at Vattenfall has composed a personal development plan in collaboration with a manager. The plan is evaluated at the annual (or even more frequently) individual development meeting between the employee and his/her manager. Only the nuclear power division at Vattenfall is characterised by relatively standardised career paths. Besides the development

plan, Vattenfall also offers its employees opportunities to change jobs within the company, thereby giving them the opportunity to develop skills in new fields. This 'horizontal' employee development supplements the more traditional, promotion-oriented ('vertical') development path. For instance, Vattenfall ensures competence and knowledge sharing through mentor programmes and presents the employees with the opportunity to work in other departments of the company, including departments in other countries.

The International Job Rotation programme is aimed at young employees and is designed to create a deeper understanding of the company and to facilitate knowledge sharing. During the 12-month programme, the participants work in three different countries and in three different business units while also taking part in conferences and seminars. Many have chosen the possibility of working abroad, but Anders Nilsson emphasises that the impact of the programme is still limited, the reason being the short duration of the participants' stationing at each workplace. Because the participants only stay for a short time, the stay is more like a field trip than a regular job, which means that the participants do not always take part directly in the work at the host department. But participants do gain knowledge of working routines, technical solutions, etc. of the host departments and the programme definitely contributes to integrating the different international Vattenfall departments and in creating a more international atmosphere in the company.

The Young Graduates Programme

To ensure new labour in the future, Vattenfall has initiated a number of projects, such as trainee programmes, company presentations and project days at schools. Through these initiatives, the company aims to ensure young students' interest in energy production technology and to promote the company's position as an attractive employer.

One of the initiatives launched to attract young labour and new knowledge to the company is Vattenfall's Young Graduates Programme. In this initiative, Vattenfall hires young graduate students for a one-year period, giving the students the opportunity to enter the workforce and gain knowledge. The programme has been carried out three times. The first time the programme was launched, the Swedish government gave the programme financial support, but the programme proved so successful that the following year, Vattenfall decided that no financial support to the programme was needed. Vattenfall covered all the expenses in connection with the programme, e.g. paying these employees' salaries.

The graduates were chosen based on the background of gender and ethnicity, aiming at achieving a group of students who are representative of the general public in terms of gender and ethnicity. The students worked as project employees on projects which would have been either postponed or cancelled, i.e. the projects on which the students worked were of low significance to Vattenfall's immediate situation. Thus, to certain degree, the projects were the students' responsibility. Most of the participants in the Young Graduates Programme were employed permanently at the end of the year.

Geographic focus and locations

As mentioned in an earlier chapter, Vattenfall is a company with activities in several countries other than its native country, Sweden. Besides the Nordic countries, Benelux and Germany, the company has or has had activities in Asia, South America and Eastern Europe. Vattenfall currently has activities in Denmark, Estonia, Finland, Germany, Luxembourg, the Netherlands, Poland, Sweden and the United Kingdom; hence, the company's core market is Europe and the EU (Vattenfall, 2006, 2007a).

Hans Lundgren admits that Vattenfall's earlier geographic growth has been a result of random opportunities to a certain extent, but there are clear requirements for Vattenfall's decision to enter into a new country.

- The country concerned must be contiguous to a country in which Vattenfall already has activities. Due to Vattenfall's wish to secure organic growth and to ensure synergies and coherence between the activities and the markets it operates in, Vattenfall ensures that their locations are relatively close to each other.
- The location area must be an industrial property, as this makes it easier for Vattenfall to get the requisite authorisation from the local government. The location could also be a former power production utility or it could be placed closed to one. This would make it easier for Vattenfall to create a pro-production environment, e.g. with the necessary infrastructure, wiring, etc.

In essence, business climate, growth and profitability, plus strategic fit and competitive advantage, are the most important parameters for a country's attractiveness.. As Hans Lundgren puts it, 'technical reasons' – infrastructure, accessibility, legislation, etc. – are imperative for Vattenfall's location decisions. Hydropower and wind energy production are demanding in terms of location – the production must be located where the resources are, e.g. a hydropower plant must be situated by a river. The main strategy in terms of expanding activities to new markets is not to build new power plants, but to acquire already existing electricity companies in the particular regions.

In June 2007, Vattenfall defined its core and target markets as Austria, Belgium, the Czech Republic (target), Denmark, Finland, France, Germany (core), Lichtenstein, the Netherlands, Norway, Poland, Sweden, Switzerland and the United Kingdom. Outside of the current core markets, Vattenfall finds the UK to be of particular interest. Figure 10 shows the current core (blue) and target (striped) markets for Vattenfall.

Figure 10: *Vattenfall's core and target markets*



Source: <http://www.vattenfall.com>, 2007

Currently, Vattenfall is not considering initiating activities in the Baltic countries, Iberia, Italy, Russia, South-East Europe or Ukraine and has defined these countries as ‘non-target countries’. In Vattenfall’s opinion, the Baltic countries are too small, while Eastern Europe, including Russia, are characterised by an uncertain market situation and an inadequate legal framework. Besides, Vattenfall also believes South-East Europe is oversupplied. Italy, Portugal and Spain are typical EU Member States, but their markets are considered unattractive. Iberia’s market is already consolidated, while the Italian market is too fragmented and weak in terms of liquidity and sophistication. In Vattenfall’s opinion, recent years’ regulatory development in Spain has made that country continuously more unattractive.

Vattenfall has earlier had activities in Asia and South America, but has chosen not to further these activities due to the troublesome business climate experienced in the mid-1990s.

Outsourcing

In Anders Nilsson’s opinion, the energy sector, including Vattenfall, has never really been struck by the ‘outsourcing tendency’. The construction of energy plants has been outsourced to another company, but since Vattenfall’s construction activities are limited, this has not had a major effect on the company’s staff. The decrease in construction activities is not a tendency identified at Vattenfall; in fact, building activities are declining in the entire energy sector. IT functions have been assembled in one department under the Vattenfall Group; thus, they have not been outsourced to a third party. Energy production constitutes about 97% of Vattenfall’s activities, and Hans Lundgren is convinced that Vattenfall does not want a third party to take over energy production. In Lundgren’s opinion, administrative functions are the only business area that could possibly be subject to outsourcing, but because Vattenfall’s administrative functions only constitute a small part of the company’s total expenditure, the profit from outsourcing the company’s administrative functions would be negligible.

Summary

Vattenfall has performed well in the European energy market. Although employee numbers are not coherent with the overall growth of the company, Vattenfall is still among the most favoured companies in Sweden, a position that the company makes a great effort to maintain. Further, the dramatic decline in employees seen in most parts of the European energy sector has barely affected employees at Vattenfall.

In terms of environment, Vattenfall is a significant initiator of limiting CO₂ emissions. The company is not only increasing its use of renewable energy sources, but is also investing a large amount in the development of CO₂-neutral coal-fired power plants. The company has focused on the improvement of the entire energy sector in terms of developing more environment-friendly electricity production methods and branding the energy sector as an attractive workplace. Vattenfall has also initiated successful projects aimed at meeting the company’s and the energy sector’s challenges of attracting young workers and keeping seniors.

In spite of these efforts, there is still room for further improvements. Forming a staff that mirrors the diversity of general society is still far from complete. Moreover, the interest in technology among young students should also be piqued in order to ensure enough skilled and accessible labour. Although Vattenfall is making huge investments in CO₂ emission-reducing technologies and is one of the EU energy companies with the highest level of renewable energy sources, the CO₂ reduction requirements combined with the problem of securing energy supply remain a great challenge. In essence, Vattenfall is in many aspects ahead of the EU energy sector average; however, if the company wants to create significant changes in this sector, there is still some room for further improvement.

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