European Foundation for the Improvement of Living and Working Conditions

EMCC case studies

Energy sector: Vestas, Denmark

european monitoring centre on change

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Introduction

Since climate change is becoming an important subject on the international agenda, CO_2-neutral energy sources are becoming increasingly popular as well. Among the companies that have benefited from this development is the Danish wind turbine manufacturing company, Vestas. Over the last century, Vestas has grown from being a small traditional smithy, employing only the owner and his apprentices, to being a high-tech international company employing more than 14,000 people. In 2006, Vestas's annual revenue was €3.583 million and the company's operating profit was about €200 million.

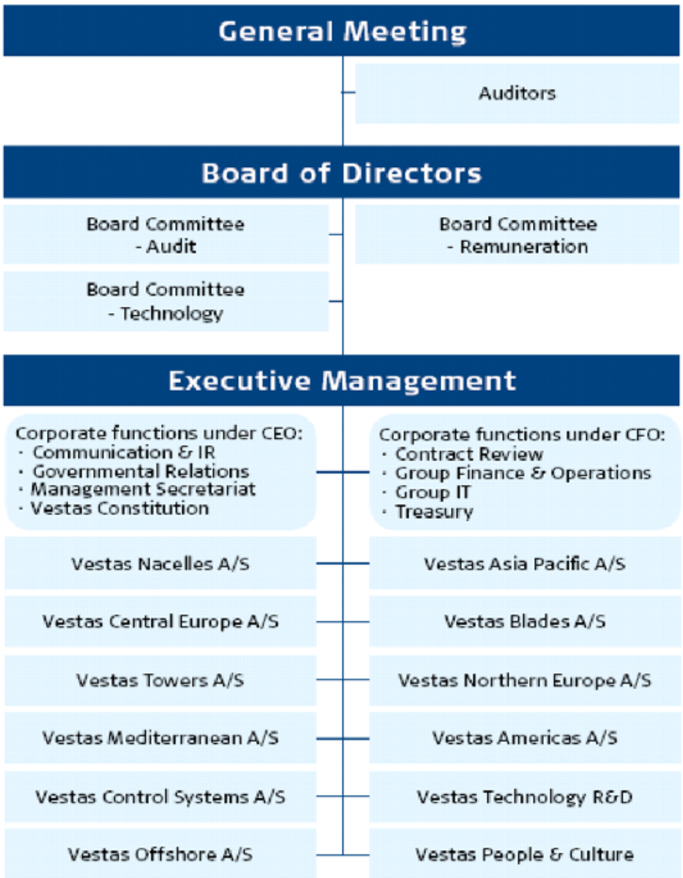
Today, Vestas has activities all over the world, from blade production in China to research at the Risoe National Laboratory in Denmark. Founded in the village of Lem, Vestas has existed for more than 100 years and has evolved from producing window frames to developing and producing wind turbines. Vestas has produced wind turbines since the 1970s; thus, it is a pioneer in the wind turbine industry. At the end of 2006, Vestas was ranked by Forbes magazine as being among the 50 most respected companies in the world.

While Vestas has already become the world's leading supplier of wind power solutions, holding a market share of 28%, the company's overall ambition is to be 'No. 1 in Modern Energy'. Vestas is thus a major player in furthering sustainable energy production. The turbines produced and delivered by Vestas generate more the 50 million MWh of energy per year – enough electricity to supply millions of households. Vestas installs an average of one wind turbine every five hours, i.e. more than 1,700 turbines per year.

Company structure

Vestas is a now a listed company and has a two-tier management system in which the board of directors and the executive management are responsible for managing the company's affairs. Vestas consists of a number of departments and subdivisions, as illustrated in Figure 1. The current company president and CEO is Ditlev Engel, who was appointed in 2005. Vestas's overall organisational structure is divided into three parts: the General Meeting (including auditors), the Board of Directors (including the Audit Board Committee, the Technology Board Committee and the Remuneration Board Committee) and the Executive Management (including a number of subdivisions in the form of corporate functions, business units for every regional market and business units for the company's production, e.g. technology R&D, towers or blades)..

Figure 1: *Vestas's organisational structure*



Source: **http://www.vestas.com**, 2007

Opportunities and challenges

Recent developments in the global climate debate and energy policies are of major significance for Vestas. When the EU or national authorities launch initiatives aimed at furthering the production of renewable energy, Vestas obviously profits by receiving orders from electricity producers.

Although in general Vestas is a well-regarded and well-functioning company, challenges due to increased competition are weakening its market position. As sustainable energy gradually becomes more popular, more companies will probably enter the wind turbine market, while existing companies will carry out major investments in order to maintain their market positions. But the wind turbine market will not be the only thing that will be subject to competition. As wind turbine production increases, more skilled labour will be needed; therefore, increased competition in attracting or retaining skilled employees will also arise as a result of the increased focus on renewable energy.

While Vestas has become a well-known brand (and employer) in Denmark, the company's name is not recognised worldwide. Outside Denmark, the company faces a major challenge in getting noticed by potential employees. In addition to this challenge, the decreasing interest in technology among students is also a major issue that the company must address in order to ensure it has the staff needed in the future.

In terms of increased competition in the wind turbine market, among the major menaces to Vestas's market share are General Electric Wind and Suzlon. Suzlon has recently announced that the company wants to expand its markets from 14 to 54 countries within the next five years (**http://www.business.dk**, 2007).

Sources of information

This company case study is based on information from the company and newspaper articles on the company and its activities. While the articles contributed information and perspectives which the company itself might be reluctant to publicise, the main sources of information on Vestas and its activities are the company's employees, the company's publications, reports and brochures, and the company website, **http://www.vestas.com**. While the Vestas publication, *VestasWind*, is an international magazine that focuses on the development of the wind energy sector, it is mainly aimed at people outside the organisation. The other accessible publication, VestasInside, is aimed at the company's employees and contains articles on working conditions, job profiles, etc. Vestas's employees have also contributed to this case study. An interview with Kjær Lundø Jakobsen, vice-president for business development at Vestas, has been carried out. The focal points of the interview included the strategic development of Vestas, its location decisions and the working conditions at Vestas. In addition to this interview, several other Vestas employees have been contacted and have answered questions related to their fields of activity. For instance, a short interview on working conditions has been carried out with Vestas employer brand manger, Birgitte Brix Andersen.

Company history

During the past 100 years, Vestas has grown from being a small, privately-owned smithy to being among the major players in furthering sustainable energy production. Over the years, Vestas has benefited from the environmental policies implemented all over the world, but concurrently the company has also experienced disappointing results due to fluctuations in the international focus on environmental protection.

1898 to 1970: From steel window frames to hydraulic cranes

In 1898, blacksmith H.S. Hansen established his firm, Smith Hansen, in Lem. Thirty years later, Smith Hansen founded a company that manufactures steel window frames for the industry. Four years later, the venture became a public limited company.

Figure 2: *The first location of Vestas*

Source: **http://www.vestas.com**, 2007

After the Second World War, Peder Hansen joined forces with nine colleagues to establish Vestjysk Stålteknik, which subsequently changed its name to Vestas. At that time, Vestas manufactured household appliances. During the 1950s, this was transformed into the production of agricultural trailers and intercoolers for ship engines. At the end of the 1950s, Peder Hansen bought the other Vestas owners out and sold the production of milk coolers and troughs. In 1968, Vestas started producing and exporting hydraulic cranes. This activity was developed over the following years.

1970 to 2000: Wind energy

Due to the threat of the second oil crisis, Vestas began to examine the potential of wind turbines as an alternative and clean source of energy. The first attempt in this area resulted in the less than successful Darrieus Turbine. After this, Vestas successfully concentrated on a three-blade model. The political authorities in Denmark were highly supportive of furthering renewable energy production, especially wind energy production. This political support for wind energy created a strong foundation for the company's activities, and in 1979, Vestas delivered the first wind turbines to customers who wished to invest in alternative energy. During the 1980s, the wind turbine industry experienced a genuine boom. The soaring demand for wind turbines resulted in a major increase in employee numbers; thus, by 1985, Vestas employed 800 people. At that time, one of Vestas's main export countries was the United States, but the end of the advantageous conditions for establishing wind turbines in California put an end to these activities and led to a crisis in Vestas.

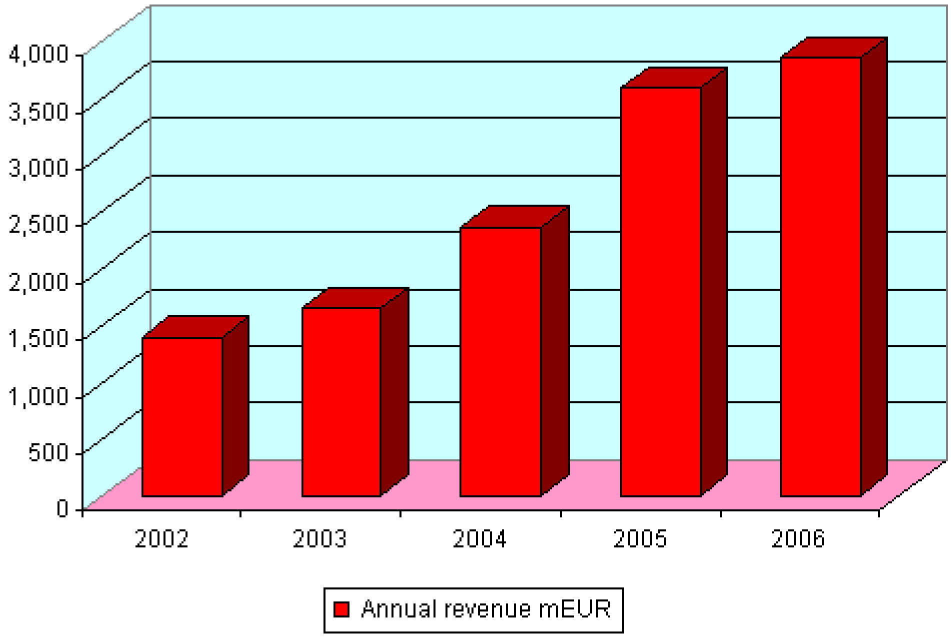
After this crisis, the company continued to focus on manufacturing quality products and producing know-how. Moreover, Vestas started to experiment with large projects, i.e. major wind farms. Large sections of the Vestas Group were sold off, rendering it possible to establish a new company: Vestas Wind Systems A/S. This company was established simultaneously with another new company, Vestas RRB India Ltd in India. Subsequent to the company's opening, Vestas was chosen to carry out six DANIDA wind energy projects in India. Political forces in Denmark encouraged Vestas to collaborate with Danish Wind Technology, which became a sales company within Vestas. At the same time, the company established Vestas Deutschland GmbH in Germany.

During the 1990s, Vestas experienced a number of technological and economic breakthroughs, and by the end of decade, Vestas's annual turnover was about DKK4.7 billion. Some of Vestas's major export markets were Eastern Europe, Germany, Spain, the UK and the USA, but there were also promising markets then in Australia, China, Italy, the Netherlands and New Zealand..

2000 to 2007: New markets and solid growth

By 2000, Vestas had become a global company with operations all over the world. Subsequently, the company also began experiencing major growth in turnover, which continued in the following years (see Figure 3), and employee numbers. Vestas's subsidiary companies also experienced great results in terms of turnover, and new markets such as Japan were introduced. Although the US has again become a major market for Vestas, difficulties in that market are still arising. In 2002, more than 1,000 US employees were obliged to reduce their working hours for three months. Although 500 employees were made redundant that year, Vestas increased their workforce to about 800 people that year. In 2003, Vestas and NEG Micon published their plans for a merger. By June 2003, the total number of people employed in the Vestas Group had grown to 6,525 due to staff increases in Australia, Germany and the UK. The merger of Vestas and NEG Micon plus the establishment of factories led to further growth in employee numbers. In 2004, the Vestas Group had more than 13,500 employees and production facilities in Australia, China, Denmark, Germany, India, Italy, Norway, Scotland, Spain, Sweden and the UK and, and was still developing new markets. At the end of the 2005, the group had sold turbines with a combined output of 3,185 MW.

Figure 3: *Vestas's growth in terms of turnover*



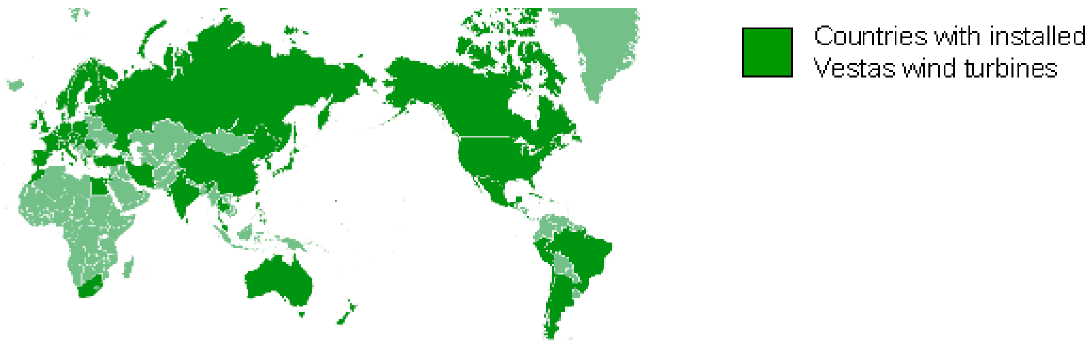
Source: *Vestas, 2002–2006, 2003–2007a*

While the company has experienced solid growth in turnover and locations, Vestas's annual profit did not mirror these advances. The EBIT results of the first five years of the millennium reached their lowest point in 2005, as the company faced a €116 million deficit (Vestas, Annual report, 2005, 2006). The reduction of the EBIT rate ended in 2006, as the company's new strategy, 'The Will to Win', led to major restructuring of the company's activities.

Looking ahead

Vestas has now installed more than 33,500 wind turbines in 63 countries. Figure 4 illustrates Vestas's current activity distribution.

Figure 4: *Vestas's current activity distribution (December 2006)*



Source: *Vestas, 2006, 2007a*

Kjær Lundø Jakobsen, vice-president for business development at Vestas, believes that the Danish market for wind turbines is covered for now; therefore, he considers increasing the focus on foreign or new markets to be of major importance. Besides the changes in terms of markets, Kjær Lundø Jakobsen has identified a transition in the way in which wind turbines are acquired:

- from selling one wind turbine to selling a group of wind turbines (business to business), e.g. establishing wind farms;
- from 'heart business' (ideological incentives to implement wind energy production) to 'brain business' (economic and strategic incentives to implement wind energy production).

Kjær Lundø Jakobsen emphasises that investing in wind energy has become a strategic choice due to wind energy's eco-friendly image. When investing in wind energy, a nation or a company gains popularity in terms of public support, thereby possibly smoothing the company's or nation's path towards the fulfilment of its goals.

These new conditions for Vestas's activities must be included in the company's future strategic planning sessions. Based on Kjær Lundø Jakobsen's opinion, Vestas is also focusing on avoiding errors. This is accomplished through working in a systematic way and focusing on R&D and education. Education and competence building is thus a strategic tool aimed at strengthening the company's performance.

As the demand for renewable energy increases, it would be tempting for a wind turbine-producing company such as Vestas to enhance its production to include electricity. At this time, electricity companies are acquiring wind turbine-producing companies to ensure a sufficient supply of equipment for wind energy production. This implies that some wind turbine-producing companies now not only supply wind turbines, but also supply energy produced by its turbines. However, Kjær Lundø Jakobsen emphasises that Vestas will not enter the market of electricity produced from wind turbines because this would mean that Vestas wishes to compete with its customers, and 'it is company policy that we do not want to compete with our customers'.

Company culture and strategies

Vestas has more than 14,000 employees, distributed in departments all over the world; therefore, in order to fulfil its overall goals, it is important for Vestas to establish a sense of community among the separate departments.

Company culture

Vestas bases its company culture on employee 'openness', 'dialogue', 'respect' and the 'drive to succeed'. These values reflect the global outlook of company and apply to all Vestas departments, thus gathering the company departments in a shared culture across forms of activities and national borders.

Vestas's new strategy, 'The Will to Win', is deemed to have had a major influence on company culture, especially in terms of openness and dialogue, as described by Søren Lydig Kristensen, manager at the HR department of Vestas: 'People tend to lay more plans for how we can make progress and reach our goals [than complain about] what isn't working' (Vestas, VestasInside, No. 3, 2006b). By sharing these values, Vestas's employees jointly take part in the effort to fulfil Vestas's goal of maintaining and furthering Vestas's role as world leader in modern energy.

Company strategies

Vestas defines its overall vision as 'wind, oil and gas', i.e. a society supplied with electricity from a range of energy sources. Vestas does not believe that wind energy can replace energy from oil and gas entirely; therefore, it is important to create an electricity supply system where wind energy together with oil and gas meets the world's energy consumption. Vestas's vision is to further wind energy as a competitive alternative to energy produced from oil and gas, thereby furthering the reduction of greenhouse gas emissions.

To fulfil this vision, Vestas must play a major role in initiating a new and sustainable agenda. This mission requires the company to carry out a number of initiatives aimed at setting the agenda for environmental policies. The initiatives include analyses, reports and research focusing on the regulatory frameworks of Vestas's core markets, environmental research (i.e. the climate challenge and the advantages of wind power production) and environmental campaigns. In connection with the company's fulfilment of its vision, Vestas is also aware of its responsibility in serving as a model for the entire energy sector. This 'calls for quick and accurate decisions twenty-four hours a day, using our hearts and minds' and the company must make an effort to anticipate defects and problems that could affect the public's perception of renewable energy production in a negative way..

Until November 2007, Vestas followed 'The Will to Win' strategy. This strategy was to be followed until 2008, but in connection with the company's interim financial report of the third quarter of 2007, a new strategy, 'No. 1 in Modern Energy', was made public. As the company is currently in a transition phase between these two strategies and because the two strategies are coherent to a certain extent, both will be described in the following sections.

Strategy 2005 to 2008: 'The Will to Win'

In 2005, Vestas launched a new four-year business strategy for the whole company: 'The Will to Win'. 'The Will to Win' was introduced at a time when environmental politics had regained the interest of the international community and when Vestas had been experiencing a decline in economic growth. The strategy includes three overall, long-term economic goals, listed in prioritised order:

- earnings before interest and tax (EBIT margin) of at least 10%;
- net working capital at the end of year of maximum 20–25% of turnover (against 25–30% previously);
- a global market share of at least 35%, measured in MW of installed capacity (Vestas, 2005–2008).

It is interesting to observe that the overall goals of the company are economical. Even though the company's overall vision is focused on developing the entire energy sector, the company strategy only reflects the economic goals of the company and not the goals for the overall energy sector, such as a certain increase in wind energy production, etc. In fact, Vestas already has a 'political' unit whose task is to bring wind energy into the focus of the political sphere (i.e. policy makers). The company is truly making an effort to influence energy politics; therefore, it is interesting that this effort is not directly mentioned in the statement of the company goals.

To meet the abovementioned goals, Vestas has been carrying out a number of initiatives within a wide range of the company's departments and activities (Vestas, 2005–2008). The initiatives can be divided into three areas:

- organisation and human relations;
- production and development;
- sales and communication.

In connection with 'organisation and human relations', Vestas is rethinking the structure of the organisation, i.e. the company's management, by establishing an individual offshore division, a 'shared company culture'-oriented human resources department and a 'technology' business unit. Furthermore, the company has launched an incentive programme aimed at improving employees' commitment to the company's business development (Vestas, 2005–2008).

In terms of 'production and development', Vestas has established the abovementioned separate business department for technology, which is tasked with maintaining, developing and protecting the company's technological advantages. This subdivision must focus in particular on innovation, i.e. developing the company's products, and safeguarding the company's patents. The production will also be subject to evaluation through improvements of Vestas's production process, production organisation and supplier structure, and reduction of production and capacity costs through reorganisation (including staff reductions) (Vestas, 2005–2008).

Moreover, Vestas wants to improve its income from sales and enhance its effort in terms of communication. Vestas will refrain from investing in low-profit activities, launch increases in the price of products and services and strengthen the company's sales unit to improve the sale and delivery of large (and more profitable) wind power projects. The communication between Vestas and its stakeholders and investors will also be further enhanced, aiming at an improvement of the relations between the company and its investors and customers.

At the introduction of the strategy, Vestas underlined that the original goals for 2005 would be maintained, thereby meeting the expectations for 2005 as well as creating new expectations for the following years. Vestas adjusted the strategic goals in November 2006 due to the implementation of the guidance for 2007 (Vestas, 2006, 2007a). The current, more focused goals (introduced in November 2006) are:

- earnings before interest and tax (EBIT margin) 10–12%;
- net working capital at the end of year with a maximum 20% of turnover;
- a global market share of at least 35%, measured in MW of installed capacity.

The annual financial result for 2006 proved 'The Will to Win' successful. Vestas's EBIT (earnings before interests and tax) had risen from –3.2% to +5.2%, thereby ending a long period of unsatisfactory economic development (Vestas, 2006, 2007a).

On the brink of entering the final year of 'The Will to Win' strategy, Vestas is close to fulfilling its EBIT objective of 10–12%. The Q3 2007 report announced an EBIT margin of 8.9%, almost twofold the EBIT margin of Q3 2006. By Q3 2007, Vestas's net working capital was about 5% and by the end of 2006, its global market share was 28%. Therefore, although well on its way towards fulfilling the overall goals of November 2006, Vestas has chosen to moderate the goals in terms of market share (from at least 35% to 30–32%) and net working capital (from 20–25% to maximum 15%) for 2008 in order to avoid damaging the compliance with Vestas's first priority, the EBIT margin development (Vestas, 2007).

Vestas's new strategy – No. 1 in Modern Energy

Vestas believes that substantial investments throughout the company's value chain and a repositioning of wind power are necessary for it to maintain its position as market leader in wind turbine supply. These increase the necessity of focusing on the company's external strategy. Therefore, to meet the objectives for 2008, Vestas has decided to replace the internally focused 'The Will to Win' strategy with the externally-oriented strategy, 'No.1 in modern energy'. This was announced in Vestas's interim financial report of third quarter 2007 (Vestas: Q3; 2007).

'No.1 in Modern Energy' does not include changes in the strategic priorities of Vestas. The main targets and their order of priority for Vestas's development remain. Although specific political initiatives are still missing in a number of markets, politicians and energy and utility customers have, in Vestas's opinion, adopted the company's 'Wind, Oil, and Gas' vision. Vestas is convinced that the present wind power share of about 1% of global power consumption will grow to at least 10% by 2020, partly due to the targets for renewable power in China, USA, and the EU. This target implies a rise in installed capacity from 75,000 MW (2006) to at least 1,000,000, i.e. an annual growth of more than 20% (Vestas, 2007).

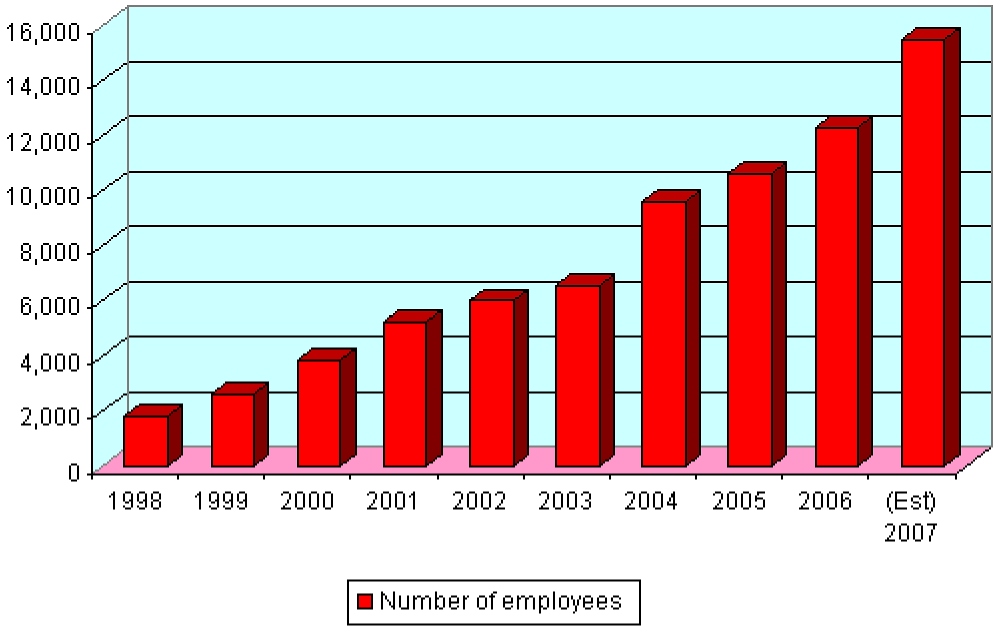
To maintain its position as market leader in wind turbine production, Vestas must increase its production output and quality considerably. To do this, Vestas has launched initiatives such as a bonus scheme, and has proposed not to pay a dividend in respect of 2007 in order to possess the necessary capital resources for the required production increase. Vestas also considers promotion of wind power through information campaigns to be of major importance; therefore, the company intends to invest heavily in information campaigns aimed at providing all stakeholders with knowledge of updated information, e.g. the legislative measures required to achieve the political targets for energy consumption (Vestas, 2007).

Working at Vestas

Vestas's employees are considered to be the company's 'most important resource' in the effort to fulfil the company's goals and results – 'our work with maintaining and expanding our position as the world's leading supplier of modern energy solutions'. Therefore, 'Vestas is primarily about people'. Vestas regards the quality of its products as dependent on the coherence between the growth in output and the number of employees. This principle, i.e. the conviction that the company will not increase its output before the adequate number of employees is ensured, is called 'People before MW' (Vestas, 2006, 2007a). As Kjær Lundø Jakobsen puts it, 'Vestas is very focused on the human dimension in the effort to meet its goals.'

During the past 10 years, Vestas's number of employees has multiplied eightfold. From employing less than 2,000 people in 1998, Vestas has increased its employee numbers to more than 14,600 and is convinced that by the end of 2007, the company will have more than 15,500 employees (Vestas, 2007). Vestas's goal for 2008 in terms of employee numbers is to have 18,000 employees at the end of the year (Vestas, 2007).

Figure 5: *Vestas's growth in terms of employees*



Source: *Vestas, Annual report, 1998–2006, 1999–2007*

In spite of this massive growth in employee numbers, Vestas has also carried out major layoffs. For instance, in 2005, Vestas gave notice to 625 employees. However, in the future, Vestas will probably increase its announced ambitions for its employee numbers, including massive increases in the number of employees in North America and Asia/Oceania. Compared to the number of employees in 2006, the company will more than triple its number of employees in America by the end of 2008 (from 492 to approximately 1,700) and double its number of employees (from 1,461 in 2006 to 2,600 in 2008) in Asia/Oceania. Vestas will also increase its number of employees in Europe by approximately 3,000 (Vestas, *Annual report 2006*; 2007).

Kjær Lundø Jakobsen emphasises that the increases in employee numbers affect the 'average experience', i.e. the average degree of experience-based knowledge in the company. However, in return for this decrease in experience, Vestas obtains a lot of new knowledge, furthering the innovation activities in the company. In the 2006 annual report, Vestas announced that it wished to 'make substantial investments in employees as well as physical facilities for development and testing activities', i.e. in the company's R&D units (Vestas, 2006, 2007a).

In Denmark, Vestas has become a highly esteemed workplace. In the 2007 list of most favoured Danish workplaces, Vestas ranked seventh for business students (up from eighteenth in 2006) and tenth for engineering students (up from seventeenth in 2006). In 2007, the annual Danish survey among students, WorkRep, ranked Vestas number 20 on the top 100 list of most favoured workplaces (**http://www.moment.dk**, 2007). Further to that, PID (the Association of Personnel Managers in Denmark) awarded Vestas a prize as the personnel manager of year 2007.

Attracting employees

As with the rest of the industry, Vestas has witnessed a decrease in labour accessibility. As the company enters new markets, more people must be employed. In comparison to the Danish market, where Vestas is a well-known company and employer, the company finds it hard to attract applicants elsewhere; therefore, Vestas is launching a number of initiatives in order to meet its ambition in terms of growth in quantity of employees. Vestas wishes to build an effective 'people pipeline' that secures the labour needed by the company (Vestas, VestasWind, No. 9, 2007c).

One of the initiatives, 'People and Culture', has been launched in order to attract labour. This is a major employer-branding programme commenced by the HR department at Vestas. This programme includes branding surveys focused on potential employees' requests from employers and the general perception of Vestas and the wind industry as a whole. The main finding of the survey was that although only four to five percent of the respondents found the power/energy sector attractive in general, the interest of the respondents was awakened by the subject 'wind energy', which was regarded as a very attractive field of activity. Therefore, Vestas's branding initiatives are now focused on communicating wind energy first, before communicating Vestas as an employer (Vestas, *VestasWind*, No. 9, 2007c).

The survey also led to the conclusion that corporate responsibility and employment within the company should reflect the company's values and that employee development and opportunities for an international career are important parameters for a potential employee's impression of the company. Therefore, Vestas is making an effort to communicate its strength in these elements (Vestas, *VestasWind*, No. 9, 2007c).

As also recommended by the survey, Vestas is carrying out a number of initiatives to strengthen its recruitment, including:

- collaborations with schools and universities;
- collaborations with networks for top talents with students and young professionals as members;

- establishment of an internal global network of experienced talents to act as ambassadors for Vestas;
- career presentations, case studies and workshops for the recruitment target groups.

Birgitte Brix Andersen, employer brand manager at Vestas, considers Vestas's rapid development to be an important factor for its attractiveness as an employer: 'One gets a feeling of being part of building something up.' She also believes the company's rapid development entails favourable working conditions in comparison to more static companies, since the massive growth rate implies that from the beginning of his or her career, the employee receives a high degree of responsibility, variation and development opportunities.

Gender, age and ethnicity

Among the 14,600 Vestas employees, the gender rate, i.e. the number of female workers compared to male, is quite low. About one company worker out of every three is female, and the company's board of directors only includes one female member. Birgitte Brix Andersen explains that the low number of women among the company's employees is due to the fact that Vestas's operations demand a certain type of labour to a certain degree; heavy industries' manpower, i.e. a type of labour generally, is preferred by men.

There also are no women in the Vestas government, i.e. among the presidents of the respective business units. Roald Steen Jacobsen, president of the People and Culture unit at Vestas, explains that the reason for this is that although there are many female middle managers at Vestas, there are as yet no female vice-presidents. Roald Steen Jacobsen emphasises that this will probably change in the future. In his opinion, Vestas is historically a manufacturing company operating in a traditionally male-dominated industry, which in general employs more men than women. But in connection with becoming a technology company, Vestas will, in Roald Steen Jacobsen's opinion, begin to attract more women to the company, thereby (probably) also to the company's government. However, he emphasises that 'people are evaluated on their qualifications – not on the basis of their gender or nationality' and that Vestas refuses to operate with quota programmes (Vestas, *VestasInside*, No. 3, 2007b; 2007).

Being an international company, Vestas employs people from many parts of the world. The company currently employs more than 54 nationalities – in fact, the company now employs more non-Danish employees than Danes.

The company finds it important to implement a global mindset within the entire organisation. Birgitte Brix Andersen explains that in comparison with other wind turbine producers, Vestas has an international mentality – while the other companies tend to focus on their home markets, Vestas considers the whole world as its market. When comparing the staff, Vestas's government does not include a great variance in terms of ethnicity – only one of the company's presidents is not Danish; thus, Vestas is still a very Danish company in terms of upper-level management, although the company in general has a global outlook and vision.

Initiatives

In order to integrate new or potential employees to the company and to maintain its position as an attractive employer, Vestas carries out a number of initiatives in terms of employee development, incentives to work at the company and postgraduate traineeships.

Employee development

Vestas's Business Academy, i.e. the education management unit at Vestas, has a wide-ranging in-service training programme, enabling employees to not only develop their careers upwards, i.e. promotions, but also to develop the broadness of their careers, resulting in a wider competence profile. Employees have opportunities to develop their careers vertically and horizontally. The employee development paths include leadership development, specialist development and development for project management.

At least once a year, every Vestas employee attends an appraisal interview. The interview gives the employee an opportunity to discuss development, performance, training needs, etc. with his or her manager. The recently-established Human Resource Information System (HRIS) at Vestas is also an important instrument in the company's effort to ensure coherence between the individual employee's skills and the competences needed at Vestas (Vestas, *VestasInside*, No. 3, 2006b). The HRIS includes every Vestas employee's development plan, the training he or she has attended or wishes to attend, plus his or her skills and career path in general. Because Vestas considers its employees to be its greatest resource in its effort to meet the goals defined in 'The Will to Win', competence development for the individual employee is an important strategic instrument for Vestas's development and effort to realise its vision of 'wind, oil and gas'.

The annual employee satisfaction survey at Vestas also provides the company with information on employees' wishes in terms of competences, promotions, etc. in order to ensure employees' job satisfaction (Vestas, 2006, 2007a).

Vestas finds it important that its employees have an international perspective; therefore, it is focused on creating international career opportunities for them. In order to give its employees the best opportunities to fulfil their international career aspirations, Vestas makes sure that there is consistency between the job descriptions for the individual jobs across national borders and business areas. For example, a production manager in the blade factory in Italy has exactly the same assignments as a production manager in Denmark.

In general, employees from three categories are stationed abroad – employees with specialist technological knowledge, employees with responsibility for a specific project and key employees from other areas (Vestas, *VestasInside*, No. 2, 2006b). Although the company's aim for stationing is to improve the 'receiving' department, the stationed employee also benefits from his or her work abroad. Stationing is also a great tool for the individual employee's competence development and is essential to Vestas in its effort to become a global company. Hence, Vestas tries to support the individual employee in his or her effort to fulfil his or her objectives in terms of an international career at Vestas.

Employees at the production units of Vestas are also offered in-service training programmes, e.g. the Six Sigma programme. Six Sigma is a management philosophy which strengthens Vestas's fact- and data-based decision making. It is a tool to ensure quality in every part of the value chain. The employees have the opportunity to obtain 'yellow, green or black belts' in Six Sigma by attending Six Sigma courses. By the end of 2006, 160 employees had attended the Six Sigma course and Vestas planned to train a further 270 before the end 2007 (Vestas, 8, 2007).

The employee development programmes are very popular. As Birgitte Brix Andersen puts it, 'Everyone would like to know how they can progress.' She also thinks that the company's wide range of employee development programmes makes it a favourable place to work.

Incentive programmes

Until the end of 2007, employees at Vestas received shares in the company. This way, the employees would be able to benefit from the company's success and feel that their efforts are worthwhile. Unfortunately, in sync with the international growth of the company, tax regulations made it increasingly difficult to maintain equality in the employees' profits from the aforementioned arrangement. Therefore, as 2007 gives rise to 2008, the company shares programme will be replaced with a bonus system. Although the programme has not yet been commenced, the decision to launch it was already made in 2005, and at the time of writing (November 2007), almost every employee share has been released in exchange for participation in the new bonus system.

The bonus scheme is primarily linked to the general performance of the company, but a number of bonus-related targets are also defined for the individual business units. The bonus builds on a number of factors, including:

- EBIT margin;
- improvements in terms of a more cost-efficient design;
- enhanced customer loyalty.

If the targets are met, employees will receive bonuses of between 5% and 8% of their annual base salaries (Vestas, 2007). Peter W. Kruse emphasises that the incentive programmes are popular among employees and that the overall idea behind the programme is the thought that ‘everything is going so well, and everyone should benefit from this’.

Vestas graduate programme

As mentioned earlier, Vestas makes a vast effort to attract employees to the company. One initiative is the graduate programme in which a number of university graduates are employed at Vestas for a period of two years. During the programme, the graduates work eight months in three different countries. The aim of the programme is to prepare the graduates for an international career at Vestas. The graduates are meant to stay with the company after having completed the programme (**http://www.moment.dk**, 2007).

Besides participating in the daily work at the departments in which the individual graduate is stationed, the graduate also attends seminars to strengthen his or her competences (Vestas, Graduate Programme, 2007). The graduate is paid a salary that is competitive in the country where the employee begins his or her job (**http://www.moment.dk**, 2007). The graduate programme has been deemed highly successful and the number of graduates attending the programme has also increased substantially every year. The programme was launched in 2006 with 18 graduates/participants. The following year, the number of participants in the programme was doubled. It is Vestas’s aim for 2008 and onwards that 45 to 50 graduates will start on the programme each year. But the increase in participants is nothing compared to the increase in applicants. When the programme was introduced in 2006, 800 people applied. By 2007, this number increased to 2,800 (Vestas, *VestasWind*, No. 10, 2007c). The programme is considered to be a great success, and in fact, every participant in the first programme was employed at Vestas after completing the programme.

One of the reasons why the programme is so successful is that Vestas makes large investments in the programme, with every participant having a mentor. Moreover, an immense effort is made to integrate the employees in the business units.

Vestas’s aim is to become a global company and encourages graduates from differing nationalities to apply for the programme. Currently, the participants in the programme are from many countries including Canada, Denmark, Germany, Italy, Poland (Vestas, Graduate Programme, 2007). The participants in the next programme will be able to work in areas such as corporate social responsibility, human resources, finance and controlling, production engineering, research and development, IT and business processes, and sales (Vestas, Graduate Programme, 2007). Graduates from a wide range of (highly educated) occupational groups are welcome in the Vestas graduate programme.

Location choices

The Town of Lem

Vestas was founded in the small town of Lem, and today still has significant activities placed in the town.

Lem, founded in 1857, population 1,500, is located on the outskirts of western Denmark, far from the capital of Copenhagen. The presence of transport infrastructures, education possibilities and other major enterprises is limited and the town is mostly surrounded by farmlands and the sea.

As mentioned earlier, Vestas is a major international player in the wind turbine market. Having installed wind turbines in more than 60 countries and placed wind turbine production, sales or services units in about 23 countries (by the end of 2006: Argentina, Australia, Austria, Brazil, Canada, China, Denmark, France, Germany, Greece, India, Italy, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Singapore, Spain, Sweden, the UK and the US), Vestas is visible in the Asian, European and the North and South American energy market.

Vestas was founded in Lem and although the company headquarters has been moved to a slightly bigger city (Randers; even though Randers is among the 10 largest cities in Denmark, it only has a population of approximately 56,000), the company still has some of its main production facilities in Lem; thus, even though Vestas has become an international company, its headquarters is still located in a relatively small city in Jutland (a region of Denmark).

One can therefore draw the conclusion that not only regional, economic and technological motives, but also history, tradition and a sense of belonging matter in connection with location decisions.

Requirements and challenges

Earlier, Vestas's location choices were rather unsystematic due to a lack of knowledge on the company's future development opportunities, but in recent years, the decision process in connection with locations has become much more deliberate. The three key requirements for locating a Vestas production facility are:

- local legislation;
- infrastructure and distance to the customer;
- accessible labour.

The demands from the local society in connection with establishing production facilities are important concerns when choosing a location. For instance, Chinese legislation demands that a substantial part of the final product, in this case a wind turbine, is produced in China. A widespread requirement is that the foreign company's factory must create new jobs for the citizens in the area. This requirement is, for instance, implemented in Canada and Spain.

Roundabout crossing

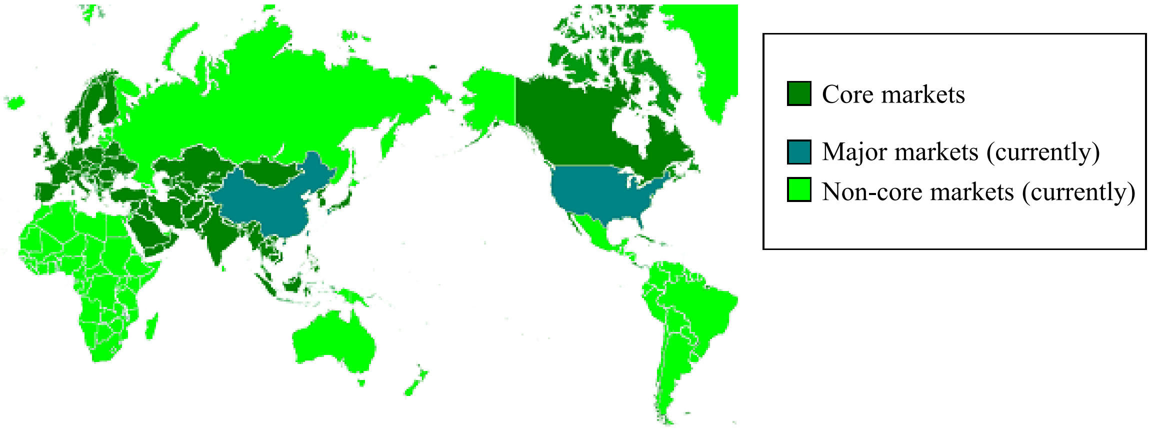
In Denmark, several roundabouts have been adjusted in order to ease the transportation of wind turbine blades. Establishing a passage in the middle of the roundabout makes it possible for the massive lorries (up to 50 meters long) to drive straight through the roundabouts.

Vestas produces blades with a span of up to 90 metres. Transporting the blades to the customer is sometimes a considerable challenge; therefore, it is of major importance to Vestas that the production unit be placed in an area with suitable infrastructure (i.e. roads, railroads, harbour) and/or that the wind turbine production is located near the customer. For instance, Vestas located its first US factory by the Rocky Mountains due to the favourable rail service options. In addition to a positive business climate and good infrastructure, wind turbine production also requires access to skilled labour.

Pro-sustainable energy market developments

As earlier mentioned, Kjær believes that the Danish wind turbine market is matured for now, and since the company has an 80% market share in this region, an increase of market share is no longer feasible. The company's current core markets are Asia, Europe and the US. In recent years, Canada, China and the US have proven to be major markets for Vestas (see Figure 6).

Figure 6: *Vestas's markets*



Source: *Vestas, Annual report 2006*

Wind turbine production unit in Tianjin

In 2006, Vestas opened a major production unit in China: the blade factory in Tianjin. Some of the primary motives for locating the factory in Tianjin were 'access conditions to the harbour, railway and road network.' Even before the factory's inauguration, Vestas declared that the factory would be expanded due to increased demand. The extension, completed in mid-2007, doubled the production capacity of the Tianjin production unit.

In recent years, China has turned out to be a major market for Vestas. At the end of 2006, the company's estimated market share in China was 28%, and in 2007, the company received four major orders from the Chinese market, resulting in an installed capacity of about 400 MW in total.

It is no surprise that the company has chosen to initiate wind turbine production in China. Kjær Lundø Jakobsen is experienced in handling the Chinese market and culture; therefore, he is aware of the distinctive character of the country in terms of traditions and standards. He emphasises that understanding the particular country's culture is essential in order to succeed.

The US is also becoming an important market for Vestas. Actually, it had earlier been a key market for Vestas. During the 1980s, US legislation was pro-sustainable energy, thus creating a propitious business climate for wind energy production. This favourable business climate also attracted Vestas, which is why it quickly launched production activities and became a major player in the US wind turbine market. By the end of 1985, Vestas had sold 2,500 wind turbines to the US. As the favourable legislative conditions became void, Vestas faced major problems, and in October 1986, Vestas's US department went into suspension of payments. The US is thus a market in which Vestas has some experience. Although the company's first endeavours in the US market turned out to be less successful, the current legislative initiatives in the market are major opportunities for Vestas to develop its activities in this region. Vestas currently has a market share in the US of about 28% (Vestas, 2006, 2007a).

The EU has launched major initiatives in order to support more sustainable energy production. The '20 in 20' environmental policy, i.e. the decision to reduce carbon dioxide emission by 20% in 2020, will probably increase the demand for wind turbine energy, thus giving Vestas a unique opportunity for further market development. Vestas's share of the EU wind turbine market is approximately 27% at the moment.

Although Vestas keeps developing its activities around the globe, the company also sometimes closes facilities. In 2006, Vestas announced that two production units – the nacelle factories in Tasmania, Australia and in Campbeltown, Scotland – would be closed down due to inadequate profitability; thus, Vestas is not only focused on growth across national borders, but also on economically-sustainable growth (Vestas, 2006, 2007a).

Outsourcing

Vestas has carried out several outsourcing initiatives, e.g. the purchasing department in Shanghai. In Kjær Lundø Jakobsen's opinion, establishing this department improves Vestas's access to suppliers. Ensuring supply is an important factor for Vestas's success, and Vestas has acquired a few foundries. Kjær Lundø Jakobsen emphasises that Vestas in general 'is absolutely not planning to outsource everything from Vestas' and that the blade production will never be outsourced – 'blades are Vestas's key focus – therefore we make them ourselves'.

Summary

Vestas has come a long way from producing troughs and household appliances to becoming a worldwide leader in a high-tech field such as wind turbines. From the day the decision to produce wind turbines was made, the primary conditions for the welfare of the company have been pro-environmental political currents and policies. As climate change has been an increasingly prominent item on the international agenda in recent years, the company's future is brightening. After a few years of decline in earnings, Vestas has now broken the downward curve.

In spite of this, Vestas also faces some major challenges. Competition over suppliers and employees is becoming fierce as the demand for wind turbines increases. Vestas has already chosen to moderate its goals in terms of market shares, and analysts fear that even these reduced goals will prove overly ambitious, especially if the company fails to ensure an adequate amount of reliable suppliers.

In order to maintain its market position, the company must therefore be careful about underestimating its competitors, not only in the struggle over market shares, but also in terms of the fierce competition for skilled employees and experts. In addition to this, the company must also maintain a high level of research and development in order to continue being an attractive supplier for energy companies, especially since some energy companies have begun to aim at becoming self-sufficient in producing and using wind turbines.

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