

# Vestas expansion into small wind turbine industry

Business, Strategic Management



Executive Summary With Vestas feeling the heat from the recent financial crisis, together with the effects from the increasingly competitive industry, the company had reached a corporate strategic crossroad, whereby in order to anchor Vestas' global leadership position, new expansion opportunities and alternate revenue streams would have to be adopted to mitigate and spread risks brought about from such precarious external crises. As a result, based on an external and internal analysis of the corporate situation conducted, three afflicting strategic issues for Vestas were identified: 1) Slow growth in existing dominant markets and increased competition in growing markets for Large Scale Wind Turbines (LWT). 2) Overdependence on government incentivised markets. 3) Opportunity in the Small Scale Wind Turbine (SWT) Industry. Hence, it is proposed in this report that Vestas adopt a corporate diversification strategy, whereby an expansion into the SWT industry will act as a strategic move to circumvent the problem of slowing growth and increasing competition in the LWT segment, as well as retain global market leadership in the overall wind turbine industry. Vestas can do so by undertaking a cost leadership approach in three phases by firstly targeting the United States of America (USA) market to capitalize on its valuable resources and capabilities, establishing learning curves and economies of scale. Only after having gleaned technological expertise and cost advantages should Vestas move onwards to the second phase to capture the China market and subsequently other potential markets in the third phase of the strategic approach. With this proposed strategy, Vestas will be able to exploit the budding opportunity in the emerging SWT industry to build sustainable growth based on cost advantages, ultimately eliminating

dependence on government incentives in the long run. 1. 0 Introduction

Vestas Wind Systems A/S (Vestas) is a pioneer in the global wind turbine manufacturing industry. With installations in over 63 countries, it is considered one of the market leaders in the industry today. However, in recent years, it has been losing market share due to the changing competitive landscape it operates in and hence, it is looking at new areas for growth. This report will begin by examining Vestas's historical success; followed by an external and internal analysis to identify the key strategic issues it currently faces. With the key issues identified, including the opportunity of entering the Small Wind Turbine (SWT) industry, we will proceed to discuss the corporate and business level strategies it should undertake to capitalize on their strengths and possibly achieve a new sustainable competitive advantage. 1. 1 External Analysis (PESTEL & Competitor Analysis) 1. 1. 1 Political & Legal The growth of the renewable energy industry can be attributed to two key factors. The first is the establishment of key energy targets various countries had to adopt, following the Kyoto Protocol (UNFCCC). The second was increased government spending and policies geared towards encouraging growth of the industry. As a first-mover, Danish company Vestas was in an excellent position to capitalize on this favourable environment. However, with a declining commitment of BRIC countries and other key industrialized nations such as the US and Japan to continue pursuing these energy targets, coupled with the unfortunate expiration of U. S. Production Tax Credit for Large wind turbine (LWT) by 2012 year end, the future of this industry is at best uncertain. (Tulloch, 2012) 1. 1. 2 Economical Prices of crude oil and natural

gas typically have a positive correlation with economic outlook. For example, economic crises in the past have caused spot prices of both WTI and Brent Crude to drop, rendering renewable alternatives less economically attractive and consequently lower growth rates. (See Exhibit 12 & 17) For big incumbent players like Vestas however, such impacts are largely mitigated since projects are mostly supported by government bodies who tend to remain committed with their funding and policies (UNEP, 2010).

Furthermore, such economic downturns also mean lesser credit is available, soaring interest rates up and resulting in a reduced preference for riskier renewable energy investments, increasing difficulty for new entrants. 1. 1. 3

**Social-Cultural & Environmental** The increasing trend towards renewable energy has been largely fuelled by concerns over rapid depletion of traditional energy sources, climate change as well as increasing awareness of the dangers of nuclear powered energy plants. Renewable energy methodologies provides a safe and clean alternative for governments and businesses. Moreover, the wind energy sector in particular stands out from the other renewable energy sectors as the lowest carbon footprint among them (See Exhibit 9). 1. 1. 4 **Technological** Technological advancements

involving the harnessing of wind energy have resulted in increasingly cheaper and better wind turbines. Thus, cost efficiency of wind turbines are improving compared to other sources of renewable energy. In fact, a comparison of energy sources shows that wind energy is the most cost efficient energy source. (See Exhibit 10) 1. 1. 5 **Competitor Analysis** Two key trends observed in the LWT market is the shift from an oligopolistic to a monopolistic competition, and an increase in competition from Chinese

manufacturers. From 2008 to 2011, the market share of the top 3 manufacturers fell from 48% to 30.4%, causing the market share differential among the top 10 firms to be very thin (Backwell, 2012). This top 10 companies - previously dominated by EU based companies, all began losing market share to Chinese manufacturers who collectively gained a 15% market share from 2007 to 2009 (See Exhibit 15 & 16). As more Chinese firms expand globally, competition will further intensify causing prices of LWT to decline following an increase in supply. Therefore, we can not only expect developing countries to be at the helm for future growth of the LWT industry; but also lowered prices and tighter profit margins squeezes on LWT manufacturers.

- 2 Internal Analysis (5 Key Strengths) Vestas' key strengths can be summarized into 5 areas: company strategy, culture, products and services, production, and finance.
  - 1 Company Strategy Vestas's clear corporate vision, mission, and value drivers outline their corporate attitude towards their business. For instance, their corporate mission 'Failure is not an option' expresses their commitment to constantly seek improvements; as exemplified with its ambition to attain a Six Sigma quality level throughout its value chain before the year 2015.
  - 2 Culture Vestas places an extraordinary amount of emphasis on their employees. Vestas' CEO constantly drives the philosophy of "people before megawatts" and the company even has a Chief People and Culture officer to help manage culture programmes at Vestas. (Bersin, 2009) Vestas's heavy emphasis on human capital helps to attract and retain top talents in the field. Such creation of company culture in an organization is causally ambiguous and therefore difficult to imitate.
  - 3 Product and Services Vestas owns extensive

technological knowledge and expertise accumulated from its long history in the industry and are held not only in terms of patents but also tacit knowledge. Its strengths in R&D, coupled with its wide range of product and service offerings have contributed greatly to Vestas' strong brand equity; reducing consumer perceived risk and differentiating it from its competitors. This is a rare resource built on unique historical conditions and social complexities unique to Vestas.

1. 2. 4 Production Process Vestas's efforts in creating a lean and Six Sigma certified production process helped it to reduce risk and waste; while concurrently freeing up cash flows resulting in significant cost savings for the company (Vestas, 2011a). Besides that, Vestas also works closely with suppliers to enable timely and consistent supply of quality components at competitive prices. The level of collaboration can be attested by Vestas's goal of helping all its suppliers achieve a Five Sigma and eventually Six Sigma standards (Vestas, 2011b). This level of collaboration is a rare capability that is socially complex and costly to imitate.

1. 2. 5 Finance The operating cash flows from large wind turbine business allows Vestas the financial means to consistently explore growth opportunities and acquire more know-how through its investment in R&D. Furthermore, its strong standing in the renewable energy industry improves investors confidence and add to its ability to raise capital through debt or equity financing. Although admittedly financial strength is unlikely to be rare when compared to strong competitors such as GE or Siemens, it becomes a somewhat rare resource when compared to smaller fragmented competitors.

1. 3 SWOT Analysis This report employed the use of SWOT analysis (See Exhibit 1) to organize the internal/external environments

contributing to Vestas's historical success in the LWT industry, as well as identify key strategic issues that it faces today.

## 2.0 Strategic Issues

The SWOT analysis (see exhibit 1) identifies three strategic issues facing Vestas's current operations:

- 1) Slow growth in existing dominant markets and increased competition in growing markets for LWT.
- 2) Overdependence on government incentivised markets.
- 3) Opportunity in the Small Scale Wind Turbine (SWT) Industry.

(See Annex 1) The following two sections will proceed to discuss the corporate and business level strategies Vestas can undertake to address the three strategic issues identified.

## 3.0 Corporate Level Strategy

In light of the strategic issues, it is proposed that Vestas follows a corporate diversification strategy. Expansion into the small Wind Turbine Industry has been identified as an alternative to circumvent the problem of slowing growth and increasing competition in the LWT segment, as well as a strategy for Vestas to retain global market leadership in the overall wind turbine industry. Consequently, this SWT diversification alternative has been evaluated using Michael Porter's Five-forces model to examine the attractiveness of this industry. The VRIO framework has then been applied to analyze areas within this diversified area where Vestas may be able to gain sustained competitive advantages.

### 3.1 Porter's Five Forces Analysis

#### 3.1.1 Threat of New Entrants

Threat of new entrants into the SWT segment is at a medium level due to the relatively high barriers of entry. Significant financial capital is required to enter the industry, particularly for firms that do not possess prior technological know-how about wind turbine production. However it is important to note that these barriers to entry are somewhat mitigated by government policies incentives, where potential

entrants may be able to solicit considerable funding from the government.

3. 1. 2 Threat of Rivalry We determine the threat of rivalry in the SWT segment to be low. The industry is currently experiencing huge market growth potential (See Annex 1). However, the current players are mainly small-scale domestic manufacturers who neither have the financial strength nor the technical skills to cater to such growing demand.

3. 1. 3 Threat of Substitutes Substitutes may pose a medium risk to the SWT sector. Conventional carbon-based sources such as coal, oil, and natural gas typically have lower initial capital outlay (i. e. fixed costs) than wind generated energy. However their subsequent cost of fuel (i. e. variable costs) are definitely at higher margins than wind generated energy. Moreover, alternative renewable energy sources such as solar power also have higher construction and maintenance costs compared to wind generated power (See Exhibit 10).

3. 1. 4 Threat of Suppliers The threat of suppliers with forward vertical integration is low due to the huge capital outlay and technical requirements necessary to enter the SWT industry. As the global market leader for LWT, Vestas has its market power over its suppliers. Besides, initiatives such as " global supplier's day" maintains healthy communication and working relations between Vestas and its suppliers. Such initiatives establish trust and reduces the risk of suppliers acting opportunistically (Vestas, 2008).

3. 1. 5 Threat of Buyers The threat posed by buyers are low. Unlike the LWT, the SWT industry is characterized by a large market with numerous domestic and commercial consumers, each possessing little market power. Furthermore, small wind turbines produced by Vestas should be differentiated from the competition with higher quality at affordable pricing, making customer switching less likely.

3. 2 VRIO



Framework 3. 2. 1 Value of diversification into Small Scale Wind Turbine (SWT) Diversification in SWT is economically viable because Vestas can realize valuable operational, financial and anticompetitive economies of scope. Moreover, it is less costly for Vestas to realize these economies of scope than for outside equity holders to do so on their own. Firstly, Vestas can achieve operational economies of scope by diversifying into SWT since both businesses have shared activities and core competencies in wind turbine design-related architecture (See Annex 4). In addition, the Six Sigma quality control process currently used in LWT production can also be applied to SWT. Other activities such as purchasing, logistics and supply chain management may also be shared. Vestas's R&D and manufacturing process improvement expertise are some of the core competencies that Vestas can build on to develop the SWT segment. These shared core competencies can be financed and exploited using cash flows from its LWT business. Secondly, diversification can also help Vestas to achieve financial economies of scope through risk reduction. Given the increasing risk of market saturation and current high dependence on government incentives in the LWT segment (Williamson, 2011), diversification into SWT can help Vestas to lower the level of dependence on government policies and stabilize its returns over time. (See Exhibit 11) Furthermore, it is difficult for equity holders to be able to diversify the riskiness of cash flow while achieving similar growth potential as Vestas. Thirdly, Vestas can also attain anticompetitive economies of scope by exploiting the market power advantages it enjoys. Its potential competitors in SWT segment possess neither the financial strength nor the technological expertise to build

production scale to cater to the growing demand in this market. Outside equity holders have to depend on Vestas to achieve these anticompetitive economies of scope.

3. 2. 2 Rarity and Imitability of diversification into SWT Vestas' current competitors in the SWT segment are fragmented domestic manufacturers (See Exhibit 3 & 5), who are unable to exploit the rare economies of scope that can be achieved by Vestas. However, this capability may become less rare if other competitors in the LWT segment decides to become market followers and compete simultaneously in the SWT segment. Vestas' core competencies (such as strong R&D base) rely on socially complex and unique historical conditions and relations; hence, it is rare and difficult to imitate. Similarly, exploitation of market power usually requires controlling a large portion of the market which is costly to imitate because none of Vestas' potential competitors in SWT industry possess the same level of market share. Therefore, core competencies and market power are likely to be bases of Vestas's sustained competitive advantage. Although other economies of scope such as shared activities and risk reduction are likely to contribute to the initial success in SWT, they are less costly to duplicate and thus do not contribute to sustainable competitive advantage in the long run.

3. 2. 3 Organization of diversification into SWT Vestas' company structure is organized along five key elements of its value chain namely manufacturing, R&D, service, finance and sales augmented by support functions like IT and People and Culture (Vestas's equivalent for Human Resource). (Vestas, 2012) In order to facilitate the diversification into the SWT segment, it is proposed that the current structure should be slightly adjusted to allow adoption of a matrix structure where the company will still

be organized along the five value chain functions but in addition, the department will report to the LWT or SWT project group. (See Exhibit 13) This will allow Vestas to increase cooperation within shared activities and facilitate the transfer of knowledge to the SWT sector, which is a crucial core competency for the new business. As Vestas is a global company that hires internationally, it has a well planned remuneration policy that can be largely divided into two segments, senior employees (usually group level) and other employees. Vestas can use Mercer's International Position Evaluation System and Reward Surveys to benchmark and ensure senior employee positions are offered attractive remuneration package to attract and retain top talents. (Vestas, 2011c) As for other employees, local statistics are used to measure the appropriate remuneration. This organizational structure and remuneration policy thus supports Vestas' diversification into SWT industry. Given the attractiveness of SWT segment and Vestas's ability to achieve sustainable competitive advantage, we recommend that Vestas enter SWT business through product-market diversification.