

Strategic plan

[Business](#), [Industries](#)



Which energy source has the least impact on the environment, depletes the least amount of natural resources, and has the least risk to human life? The answer to this question is wind power. There is an ethical dilemma within the energy industry as a whole in regards to whether or not it is ethical to provide consumers with energy that is produced in a less efficient manner than other possible sources. Fossil fuels and nuclear energy require less effort to create more energy than a renewable source such as wind.

Vestas Wind Systems and Ditlev Engel, have made major strides in making wind power a more efficient means of powering our energy grids. These efforts not only help in correcting the unethical issue of efficiency but also save our natural resources and decrease risk to human life. Wind power: Is it the best choice? There is a debate within the energy industry as to which source should be used to power the largest part of our energy grids.

Consumers want the most efficient source of production and distribution because that means the lower cost to them. This leads to the debate on whether or not it is ethical for producers of wind energy to continue to move forward with trying to make wind a more dominant source of powering our grids. If there are more efficient ways to produce larger amounts of energy and distribute it to the population, then in the best interest of the consumer, is it the most ethical to use those sources instead of a renewable such as wind?

There are large corporations that are led by individuals who believe that inefficiencies are not, and should not be, the largest concern when considering the production and distribution of energy. We must consider

other, more relevant, issues such as the depletion of our natural resources, the pollution of our atmosphere, the risk to human health, and who is paying the overall "cost" of our energy consumption now. Ditlev Engel, the president and CEO of Vestas Wind Systems is showing the world that there are ways to make wind energy more efficient and a more viable source of energy for consumers around the world.

While Vestas is the leading wind turbine production company in the world, it continues to make major strides in addressing the issues of inefficiencies with its constant dedication and commitment to the evolution of every step in the wind production process. Description of Organization History Vestas was founded in 1945 by Peter Hansen as "Vestjysk Stalteknik A/S" (West-Jutlandish steel technology). At first the company produced household appliances and then focused on farming equipment, hydraulic cranes specifically, from 1950-1968.

It wasn't until 1979 that the company entered the wind turbine industry. The road was extremely rocky at the entrance to the industry and in 1986 Vestas was at the brink of bankruptcy. By 1989 the company was doing business exclusively in the production of wind turbines and wind turbine services. In 2003 Vestas merged with NEG Micon, which made it the largest wind turbine manufacturer in the world. Vestas was now "Vestas Wind Systems." (110 years of expertise, n. d.) Mission Vestas' mission statement may not be very traditional, but it is powerful nonetheless.

It is simple. "Failure is not an option." This mission statement helps show how dedicated Vestas is to constantly seeking improvements and

consistently follows up on any errors they may occur. One very apparent reflection of this mission is how Vestas takes on the issue of safety. They have an " uncompromising stance" on safety. They have reduced the number of industrial injuries from 25. 3 per million working hours in 2006 to 5. 0 in 2010. In order to achieve such amazing declines in injuries they have done several things.

One is the " safety walks" in which managers physically inspect the work areas as well as behaviors of workers in its factories. What is has currently done is partnered with its commitment to the future. By 2015 Vestas plans to attain a 6-sigma quality level throughout its value chain. They constantly partner with manufacturers that share this dedication. In 2008 they had achieved 4-sigma quality throughout the production process and in 2010 they reached 5-sigma. By showing its unwavering focus on safety and their pledge to constant improvements, Vestas demonstrates that failure really is not an option.

(Failure is not, n. d.) Values/culture Safety is not the only way that Vestas shows the care it has for its employees. Employee appreciation is prevalent throughout their company and is deeply rooted in its core values and culture. Vestas has a company culture motto of " the willpower. " This phrase is placed throughout the company to show that the employees are what drive the company. It is the employees' willpower, fueled by their imagination and ability to constantly develop new technologies that makes Vestas a leader in the industry.

" In 2009, Vestas joined the UN Global Compact initiative and follows the ten generally recognised principles in respect of -human rights, labour rights, the environment and anti-corruption. " This outward facing devotion to its people is further illustration of the culture at Vestas. (Culture: the Willpower, n. d.) Vision " Wind, oil, gas. A greener future" is the vision of Vestas. This phrase expresses Vestas' position on making wind an energy source that rivals fossil fuels. (Wind, oil, gas, n. d.) Strategic Plan

As a main part of its strategy, Vestas wants to focus on what they are good at and be sure that the world knows what their core competency is. In 2010 Vestas wanted to emphasize that it was number one in the wind power industry by integrating, what they call, a " No. 1 in modern energy" strategy model. They creatively expressed this with a new slogan. " Wind. It means the world to us. " This slogan focused on the fact that Vestas is a wind power company and that is it. Many of Vestas' large competitors include wind production products and services as only one piece to their product mix, but none deal exclusively in wind.

Vestas strategy is not focused on profit alone. The company believes that by concentrating efforts towards their customers and the environment that they can achieve increased profitability. They aim to provide their customers with the lowest cost per MWh produced and significantly improve customer loyalty. Focus on safety and citizenship, partnership, and the lowest cost of energy are achieved by attainment of " world- class safety standards at all Vestas' locations, having the most satisfied customers, the best

performing wind power plants and the most environmentally-friendly production" of its products.

(No. 1 in modern, n. d.) Stakeholders Because Vestas has such a strong dedication to the environment, its employees, and the future, the scope of stakeholders is wide. Vestas list of stakeholders starts with its customers and employees and stretches to include its shareholders, creditors, government, suppliers, organizations such as the Global Energy Council and the World Wide Fund for Nature, and consumers of energy now and in the future.

Standard Operating Procedures There are 5 steps in the implementation of a wind farm and Vestas has a part in everyone of those steps.

The steps include: Wind Project Planning, Procurement, Construction, Operations and Service, and Power Plant Optimization. " Wind Project Planning" is the first phase in which a customer needs to consider a wide variety of factors for the entire life cycle of the project. Just a few are financing, policies and regulatory frameworks, the decision of on or off shore, siting, grid support and government compliance, and technical advising. The " Procurement" phase is next. In this phase we turn our focus to the options of which turbine will be the best for the particular project.

For an on shore facility, Vestas provides 14 turbine options that have different capabilities based on low, medium, or high wind areas. For off shore farms there are now 3 turbine options. Vestas tests all its turbines at their own test centers. They also monitor 15, 000 turbines around the world to help gather complex information that will make operations of turbines even

more reliable and cost effective for different wind conditions in different areas of the world. After " Procurement" comes " Construction.

" This is the step in which the turbine is built and connected to the power grid. The details of this step are very different from project to project depending on the factors that affect the particular construction process. Though there is a mixture of options for the supply chain in the construction phase, Vestas offers options to provide anything and everything the customer may need if they so chose. Vestas can supply, install and calibrate the turbines for a customer or it can merely provide the turbines and let the customer do the rest. The next step is " Operations and Service.

" Vestas provides everything that a customer could need in order to operate and service its turbines throughout the life of machine. It has service options that range from hands on collaboration of finding the most optimum solution for operation of a wind farm to training programs that teach the customers own employees how to manage the turbines. Vestas also provides insurance and warranties as well as an option called the " Vestas Business Academy. " This course includes safety training, systems training, and technician certifications for operations of its turbines.

The last step in the cycle is what Vestas calls " Power Plant Optimization. " By monitoring a large majority of its turbines worldwide, Vestas is able to know the precise status of a customers wind turbine. With this information, Vestas is able to predict and prevent maintenance and identify potential problems before they arise so that the customer can take action to address them. This step is very important to Vestas as they believe so strongly in

customer satisfaction and constant improvements on its products and services. (Wind power plant, n. d.) Legal Restraints

The overall complexity of federal and state policy makes the legality of constructing a wind farm quite daunting. On the federal level there are at least five different departments of the government that have their own laws and policy requirements that a wind energy provider has to abide by. The Bureau of Land Management, the Department of Defense, the U. S. Fish and Wildlife Service, the U. S. Forest Service, the National Telecommunications and Information Administration, and the Federal Aviation Administration all have their own legal restraints applicable to the production of wind energy.

As an example, the FAA requires a ten-mile radius from any airport when building a wind farm of any type. Another example is the the U. S. Forest Service requires wind producing companies to survey and monitor wildlife within the confines of the property that houses wind turbines. The combination of all these different laws makes the legal restraints extremely complex. (Wind and Hydropower, n. d.) In addition to the federal legal restraints there are also state requirements that add to the complexity.

Each state has its own renewable portfolio standard (RPS) that it uses to guide regulation and standards for wind production within that particular state. In the United States there is no 2 RPS that are the same. Some factors that differ among state RPS's are cost recovery by utilities, penalties for non-compliance, and resource eligibility. Different states allocate different amounts of money to dedicate to renewable energy projects and states also

set different goals. For example Arizona's RPS goal is 15% by 2025 whereas Colorado's is 20% by 2020. (Renewable portfolio, n. d.)

The four main differences among state RPS's are zoning bylaws, safety and technical requirements, environmental assessments, and liabilities and insurances. Each state, or even county, may require different zoning permits for construction of wind turbines in a certain area. Along with land zoning permits, different states require different electrical inspections and have different electrical requirements. If operating large wind turbines, environmental surveys may need to be conducted prior to construction and possibly during cycle use, depending on what state you are in.

There are also differences in the insurance that is required throughout states. Some require more and some require less. There is also a difference in the type of insurance that is needed to operate a wind farm. Some states require insurance for bodily harm others may require insurance for possible environmental issues that might arise. (Wind turbines and, n. d.) Federal policies for wind energy are applied and enforced by the department of the government that is most relevant. For instance the U. S.

Fish and Wildlife Service established a working group that set national guidelines for siting and constructing wind energy facilities so that it could help protect wildlife resources and avoid environmental concerns. These government agencies are highly affective with compliance standards of any wind energy company. Both federal and state compliance is required to even begin the process of procurement and construction. There is also an audit procedure that most large wind companies can be subject to at any time that

measure safety standards and environmental compliances to federal and state laws. (Wind and Hydropower, n. d.)