

WIND ENERGY DEVELOPMENT

Investing in America's future



Just the Facts





With strong, long-term national policy, America's wind energy industry will expand, bringing with it a growing manufacturing base of U.S. component suppliers. This, in turn will create a wealth of new "green" jobs for Americans and future opportunities for exports.

ABOUT WIND ENERGY

While wind energy makes up only about 2% of America's total electricity supply, it is one of the largest sources of new power generation in the country, second only to natural gas generation in terms of new capacity built each year since 2005. It is also expected to expand significantly throughout America's windy states in coming years.

Wind energy's popularity is increasing on a global basis due to its cost competitiveness, as well as its energy security, energy sustainability, and environmental benefits. Basically, it delivers cost competitive electricity without the need for fuel imports, or concerns over fluctuating fuel pricing, and without emitting harmful pollutants into the environment.

Wind energy has been prominent in Europe over the last three decades due to support received from the EU's strong renewable energy policies. The advantage of this foresight is evident with over 55% of the world's wind energy capacity installed there, the EU's lower overall carbon footprint, its vibrant, long-established wind energy industry and strong supply chain. With renewable energy policy provided at the national level, America could benefit from increased

manufacturing, the development of advanced U.S. technologies, and increased exports of American-built equipment.

America's wind energy resources are plentiful. About three-fourths of the states in the U.S. have a wind resource that can be used to supply large system-wide power demands.

Many states have adopted Renewable Energy Standards (RES) that require utilities to obtain a certain percentage (typically 10-20%) of their generation portfolio from renewable resources. Adoption of national RES policies would provide the long-term support needed for U.S. component manufacturers, and other private and public companies supporting the wind energy industry, to ramp-up to meet the resulting strong, steady market demand. Without long-term policy support, wind expansion fluctuates year to year, resulting in ramp-ups in years of policy support and lay-offs in years when support lapses, making it necessary to import many components for U.S. deployment.



Clipper Windpower is one of just two American manufacturers of commercial-size wind turbines. Established in 2001, Clipper's manufacturing operations are located in Cedar Rapids, Iowa.





WIND ENERGY DEVELOPMENT What it Means for Landowners

In addition to environmental, social and economic benefits, wind energy offers a secondary income to farmers, ranchers and other landowners who choose to lease their land for wind energy development.

Landowners receive an annual evaluation payment after entering into a windpark easement agreement or lease agreement with Clipper. Once the wind turbines on the landowner's property are delivering electricity into the grid system, the landowner receives an annual rent payment. Payments are either royalty or flat-rate depending on the type of agreement

secured with the energy purchaser. In either case, a good year for wind is a good year for landowners. In the unlikely event the wind turbine(s) placed on the contracted property do not produce electricity in any given contract year, each windpark easement agreement contains a provision that ensures the landowner a minimum annual payment.

Once turbines are installed, crops can still be grown and cattle can graze next to the wind turbines. While a single wind project may extend over a vast geographical area, the footprint of the roads, electrical

collection system and wind turbines cover only a very small portion of the land, normally no more than about 3-5%. This makes wind development an ideal way for farmers and ranchers to earn additional income while they continue to work their land.

Individual landowners aren't the only ones that benefit economically from wind power projects. Wind energy facilities also contribute significantly to the local tax base, bringing needed funds to schools, roads and other community projects.





PROJECT DEVELOPMENT PROCESS

STEP 1: Project Siting: Where should we put the project?

At Clipper, we begin with historical wind maps and engage meteorologists that specialize in wind energy. Large land areas suitable for wind development tend to have strong, consistent winds as well as access to major electrical transmission lines.

Typically, we look for a minimum average annual wind speed of around 6-8 meters per second (13-18 miles per hour) to assure the right wind resource conditions are present for a viable project. Additional considerations are involved, including difficulty of construction, proximity to major transmission lines, and zoning and

permitting challenges that can impact a project's overall economics.

Once a potential project site is identified, a wind monitoring device, referred to as a "met tower" or "anemometer", is installed. Typically, we install one met tower per 50 megawatts (MW) or per 20 turbines. Additional met towers may be required for sites with more complex terrain and meteorology. Local wind conditions, including velocity, direction and gusts are generally measured for at least 18 months, often several years, to capture and analyze seasonal differences.

STEP 2: Transmission: How We Get the Power to Market

Throughout the measurement period, the recorded data is correlated to historic wind data (if available) from a local airport or other monitoring station. This process is used to better understand and validate the data and confirm that the site is appropriate for a project that will be in operation for at least 20 years.

Much of the most energetic wind is located in rural areas. This can be a challenge for wind development since transmission lines are required to transport the power to large urban areas, and often adequate transmission lines do not yet exist. Sites that are close to major transmission lines are desirable since this infrastructure is costly to build. This added cost, in fact, could make the project too expensive to pursue. Legislation that supports the construction of a national transmission system is in planning. If passed, it would open up many new viable project sites for wind development. Your support of this legislation, in addition to a national RES, could make more project opportunities available.





**STEP 3:
Landowners and Wind**

Since wind energy projects require vast areas of land, typically a number of landowners are involved in supplying land for the development of just one project. Land is secured through individual wind-park easement agreements or lease agreements with each landowner. These agreements generally run for 30-50 year terms. In exchange for the use of a small percentage of land for wind power generation, landowners receive annual payments, which are typically dependent on the number of turbines and/or other project support facilities installed on their land. Annual payments also include payment for the amount of electricity the turbine(s) produce during each given year.

**STEP 4:
Turbine Siting and the Project Layout**

Even though a wind energy project will use only a small fraction of the project's total land area, the dynamics of wind and the size of the equipment require sufficient spacing between turbines so that wind patterns will not be disturbed by adjacent turbines. Spacing can vary depending upon the site's specific wind patterns, topography, and existing structures. Developers consider these site conditions in determining the optimal number of turbines and the amount of land needed for a project layout or "turbine site map." Setbacks from homes and other structures, roadways, and sensitive areas such as wetlands and historical sites are also considered.

In addition to siting wind turbines, roads may need to be built or improved in order to transport the wind turbines, cranes and other equipment required for construction at the site. During the construction phase, wider roads (generally 35 feet wide) are usually required. However, once construction is complete, roads are usually narrowed and groomed. Clipper maintains these access roads to facilitate ongoing operations. Landowners are also provided with use of these roads.

Electrical power from each turbine is generally collected through underground cables in order to minimize

the visual impact of those facilities. Typically, there will be two above ground substations constructed: one at the point where the underground collection system converges (Project Substation); and one that interconnects with the existing transmission system (Interconnection Substation). If the distance between these two substations is significant, an overhead transmission line is built to join them.





**STEP 5:
Community Outreach and Education**

Since a wind project normally has a 20+ year life, it is important that the community understands the dynamics of each project proposed for their area. To assist with the education process, Clipper developers may organize one or more local public meetings to share information about wind energy and the potential project. This forum offers the opportunity for both the community to learn more about a proposed project, and for Clipper to better understand the needs of the community. By way of these open forums and throughout the development process, both ideas and concerns can be addressed through open dialogue, which Clipper strongly

encourages. Clipper also works proactively with local government and area representatives to identify community needs and work together to bring forth the greatest project benefits.

At times, there may be questions about the project landscape. What will the project look like? How will it impact the local surroundings? Will I see the turbines from my house? The creation of a project site map will help address many of these questions. Prominent wind direction, one turbine's interference with another and site topography require sophisticated modeling efforts to ensure maximum turbine output and

efficiency. Due to these complexities, the precise locations of a project's wind turbines cannot be determined until the project's development is very advanced. While Clipper retains full discretion on turbine placement, Clipper's development team consults with its landowners on siting recommendations prior to construction and attempts to ensure mutually agreeable turbine sites.

**STEP 6:
What about the permitting process?**

Compared to other forms of power generation, wind is simpler to permit due to its benign nature. Even so, acquiring the needed environmental and siting permits can be challenging. Developers carefully research and address aesthetics, bird migration, height restrictions, sound, endangered species and other possible impacts. Since every site has unique zoning regulations, local ordinances, and permitting requirements, Clipper often contracts with local experts to guide the process. A strong understanding of the local laws, early engagement with applicable regulatory agencies, and adequate time to fully evaluate potential constraints is essential for the successful development of a wind energy project.

**STEP 7:
Is there capital to support the efforts?**

As a knowledgeable, experienced project developer, Clipper only pursues projects that it intends to develop into successful, world-class wind energy facilities. Clipper provides capital for the development process and proactively works to bring the project to a respected long-term owner ready to finance construction and operate the project.

Clipper and other developers normally seek to develop larger projects since they are generally less costly to build on a cost-per-megawatt basis due to savings that can be found within economies-of-scale.

As an example, if the size of the project were to increase, the project's substation can simply be built to service more wind turbines, transmission costs shared by more turbines is less cost per turbine, and concrete and other supplies are less expensive in larger quantities. There are, however, many exceptions to this rule. Carefully modeling each project's economics, Clipper develops projects of all sizes, from small one-turbine installations, to some of the world's largest.

**STEP 8:
Who will purchase the power?**

Wind energy projects are only viable if there is a buyer for the power produced. Traditionally, there are three ways wind electricity is sold:

1. an owner secures a long-term power purchase agreement with a local utility for a set price;
2. an owner sells the electricity produced by the project openly on the power market ("merchant plant");
3. once developed, the project is sold to a utility which then sells the power directly to consumers.

The electricity demand, along with the current and projected price for electricity, are typically the determining factors. For example, if a local utility requires additional power, it might offer to purchase the power from the owner under a long-term power purchase agreement, or, the utility might choose to own the project itself to sell power directly to its customers.

Under a "merchant plant" scenario, the project owner sells the power directly into the power market for the current market price for power.





FREQUENTLY ASKED QUESTIONS

Q: How are landowners compensated for turbines placed on their property?

A: Landowners sign a windpark easement agreement or lease agreement which enables them to be compensated for Clipper's right to construct and operate a wind power project on the property.

Here are some typical ways landowners can be compensated:

During the Project Evaluation Period (usually the first 10 years the project is being developed)

Evaluation Payment: an annual payment typically based on the number of acres under the easement agreement.

Anemometer Payment: an annual payment provided when Clipper installs an anemometer on the property.

Construction Damage: a one-time construction-damage compensation may be paid to landowners for damage incurred as a result of the project construction process.

During the Operational Phase

Minimum Rent Payment: an annual payment calculated according to number of turbines and number of acres used, or a flat fee with an automatic annual increase.

Royalty Rate: an annual payment based upon a percentage of electricity produced or sold, or a fixed annual payment, depending on the agreement

secured with the energy purchaser, subject to an annual minimum payment.

Additional Payments: payments may be made for any additional project facilities such as transmission lines, substations, anemometers, O&M facility, laydown, parking, collection systems and road access when no turbines are present.

Q: What is the impact of the wind project on the property?

A: Once built and operating, wind projects have minimal impacts on existing agricultural land uses, enabling farmers and ranchers to maintain their day to day operations. Clipper will reimburse the landowner for crops damaged or destroyed due to construction.

Q: Are property values affected?

A: Studies have found that wind turbines have no negative impact on property values, particularly in rural, agricultural areas. In fact, wind turbines frequently add value to property by establishing a long-term revenue stream for the owner of the property.

The report, titled "*The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis*," was released December, 2009 by the U.S. Department of Energy's (DOE) Lawrence Berkeley National Laboratory.

Download the report at:
<http://eetd.lbl.gov/ea/ems/re-pubs.html>

Q: How long does development take?

A: While all project development activities are similar, each project is unique. From measuring the wind resource, to acquiring the land necessary to build the project, to engineering, to finding a power sale customer, to financing, to any number of combinations of challenges, the development of a wind project can take anywhere from a few months to many years to complete. Once ready for construction, the completion time frame is normally driven by the size of the project, complexity of the terrain, and any weather related challenges. Projects can be constructed in as quickly as eight months from initial project groundbreaking to commercial operation of the wind turbines.

Q: Do wind turbines impact wildlife?

A: Local wildlife studies are conducted prior to construction to ensure the project is developed in an environmentally-friendly way. Clipper is well-respected in the area of environmental and wildlife stewardship and works diligently within local, state and federal agencies during the development phase of its projects.

In general, wildlife and the environment live in harmony with wind generation. If a potential wildlife impact is identified, Clipper works with applicable agencies to modify the design or operating parameters of the project to reduce the effects of any harmful impact.

Q: Are wind turbines noisy?

A: Wind turbines must comply with standard sound requirements and have been engineered to meet them. Aerodynamic noise (i.e., the "swish" sound that the rotor blades make) has been cut dramatically over the years due to better rotor blade design, and by using lower RPM machines. Careful siting also regulates the amount of sound produced by a wind turbine. This includes siting turbines within a minimum distance from homes, factoring in the prevailing wind direction and terrain, and understanding the effects of other noise contributors such as yard noise and traffic sounds. Due to these efforts, an average residence should have turbines that produce sound levels at a decibel range similar to a kitchen refrigerator. You are more likely to hear the wind than the sound made by the turbine.

Q: Is wind energy reliable?

A: Yes! While the wind can be intermittent, overall it is very consistent. As a wind project is planned, its economics are based upon the unique wind resource characteristics of that site and calculated based upon a "capacity factor" that factors in the percentage of time that the wind may not blow. Other forms of power generation simply supply to the grid during low wind intervals. When the wind is blowing, carbon-based fuel generation can be scaled back. In vast areas where numbers of wind projects are installed, the wind may be blowing in some areas and slower in others; however, on an hourly basis, the necessary power is reliably supplied.





ABOUT CLIPPER

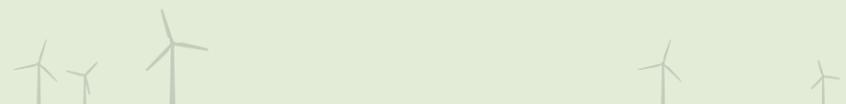
Clipper Windpower Development Company, Inc.

Clipper's development team brings together expertise that spans more than two decades, including leadership of some of the industry's largest and most successful wind energy developments. From land acquisition, permitting, site engineering, wind energy assessment, and local government support, our development capabilities cover the full range of activities necessary for successful wind project development. Our project development activities can be found throughout the United States and Latin America. We are a company of high integrity, a good neighbor, and a responsible member of each of the communities in which we operate. We are committed to the environment and strive to support school and community projects that promote sustainable programs. In the vicinity of our projects, we team with local communities and educational systems to provide information on upcoming Clipper wind energy project developments, including general information on wind energy. We are committed to ongoing, open communication with our landowners and endeavor to bring the greatest value possible to both our landowners and the communities to which our projects reside.

Clipper Windpower, Inc.

A rapidly growing company engaged in wind energy technology and wind turbine manufacturing, Clipper designs advanced wind turbines and manufactures its 2.5 MW Liberty wind turbine. Clipper's primary offices are in California and the United Kingdom. The Company's 330,000 square foot manufacturing and assembly facility for land-based wind turbines is located in Cedar Rapids, Iowa where it builds the one and only American-designed multi-megawatt wind turbine – the Liberty 2.5 MW turbine. With first production beginning in 2007, the expanding Liberty fleet is now deployed throughout America's windy states, and more recently in Mexico.

Clipper's Center of Excellence for offshore wind turbine development is located in Blyth, UK where it is currently developing the world's largest wind turbine – a 10 MW offshore machine. Clipper is a public company listed on the London Stock Exchange's Alternative Investment Market (AIM). Clipper's ticker symbol is CWP.





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