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Wind Energy Easements and Leases: Compensation Packages

CONTENTS

PART I: INTRODUCTION

Landowners considering whether or not to host a wind project for the next 20 years, 30 years or even longer are faced with an enormous decision. Wind turbines can provide a significant new source of income that interferes very little with farming, ranching, or many other land uses. However, landowners are often asked to sign decades long contracts with very little information about what is fair compensation or the "going rate" for hosting wind turbines. News reports and other publications often report overly generalized figures or very wide ranges of numbers that often seem outdated for the size of today's wind turbines. For example, "$2,000 per turbine per year" is often cited even though that figure dates from the late 1990s when the largest turbines were less than half the size of the turbines typically installed today. Some landowners are still being offered compensation in that range, but we also have seen offers that amount to nearly $10,000 per turbine per year. With these wide variations in mind, this paper aims to provide more detailed information about how and at what level landowners are being compensated for hosting wind turbines.

Our Approach

We did not perform a scientific survey of wind turbine compensation packages because this information is often considered confidential and is generally closely guarded by wind turbine owners and project developers. As a result, this paper will not assert an average or ideal compensation package nor will it provide the landowner with a specific set of expectations. Rather, we are reporting what we have seen based on our experiences working with landowners in the wind industry for the past decade, published and citable compensation data, and some analysis of the factors that influence compensation levels and packages. We will highlight regional differences and local differences as well as how the type of payments can influence the value of a compensation package.

Using this Information

The information in this paper should be used as a reference to understand the factors that influence compensation packages and generally what is realistic to expect. However, it is important to understand that as wind technology evolves and the wind industry expands in new places, specific compensation terms will change. This paper is not legal advice or a scientific survey. Compensation packages and circumstances exist that are not reflected here. This paper presents publicly available and verifiable information and stories that emerge from specific circumstances. Landowners and wind developers should use this paper and other materials in Windustry's Wind Energy Easements and Lease Information Guide to inform their decisions, while considering individual circumstances and concerns.

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Windustry's Wind Easement Work Group

PART II: SURVEY OF LANDOWNER COMPENSATION PACKAGES FROM PUBLISHED SOURCES

Chart A is a collection of wind energy easement and lease compensation information from published and other citable sources. We have chosen to primarily use data from published sources because most wind developers prefer not to disclose land agreement compensation and many landowners are prohibited from disclosing the terms of their agreements by confidentiality clauses. Our goal is to provide the highest level of detail possible.

How should this information be used?

This chart is not intended to be used to determine average or "normal" compensation levels. Rather, it is a compilation of reported compensation data that can be used as examples of different kinds of agreements that have been used in different regions for various project sizes. We have provided a high level of detail on a variety of projects so that landowners and wind developers can determine which situations are most comparable to their own, though this is not necessarily a representative sample of all U.S. wind energy projects. Also, all projects included in this chart were operational or under construction as of August 2005. We expect compensation levels to continue to evolve with the wind technology and the wind industry in the future.

Energy Lease and Easement Compensation Terms – Summary Chart of Information from Published Sources

Chart A summarizes wind energy easement and lease information from published sources. The information is compiled from a literature survey and conversations with project developers and other researchers to verify and clarify the findings. We have chosen to include compensation information from a wide variety of wind projects. We sought geographic diversity by including projects from nine states as well as projects set in a variety of landscapes. The oldest projects included in this chart are from 1998 and newest are under construction in 2005. We chose to exclude information from projects that are not yet under construction, since those projects might not be completed or the land agreement terms might not be final. Projects included in this chart vary in size from one to nearly two hundred megawatts with turbine sizes ranging from 660 to 1,800 kilowatts. There also are several project ownership structures included in this chart, such as projects owned by farmers, small and large public utilities, large wind developers, and large investor owned utilities. The goal of this chart is to provide representative samples of wind lease/easement terms from a wide variety of types of wind projects from around the United States.

Trends and Historical Perspective

At first glance Chart A seems to show that landowner payments for hosting wind turbines are all over the map. While in some sense that seems to be the case, we also can pick out several trends that begin to illuminate landowner compensation practices. First, newer projects tend to pay more per turbine and per MW than older projects. The "per turbine" prices changed most dramatically as the typical turbine sizes increased from 600-750 kW in 1998-1999 to 1,500-1,800 kW in 2003-2005. The oft-quoted "$2,000 per turbine per year" figure was reasonably accurate in 1999-2000 when it first became popular. Lester Brown's 2000 article titled "U.S. Farmers Double Cropping Corn and Wind Energy" used this figure to compare what an Iowa farmer could earn from wind and corn on the same plot of land ($2,000 from wind vs. $100 from corn) and it has stuck as the default "average" figure ever since. However, as Chart A shows, landowner compensation has evolved along with wind technology. While $2,000 per turbine is not unheard of in recent years, most projects using turbines larger than 1,500 kW are paying more. Part III of this paper provides a more in depth look at specific factors that seem to influence compensation levels.

Wind Energy Lease and Easement Terms – Public Lands

The primary aim of this paper is to provide information for farmers, ranchers, and other private landowners. However, in some states, particularly in the west, some of the best wind is on public lands. Chart B provides some examples of wind energy lease/easement compensation terms for public lands. The U.S. Department of Energy Wind Powering America Program and the National Renewable Energy Laboratory have more extensive resources on public lands (federal and state). Visit www.eere.energy.gov/windandhydro/windpoweringamerica/public_lands.asp for more information.

CHART A. *Wind Energy Lease/Easement Compensation: Summary of Information from Published Sources*

PROJECT INFORMATION							LANDOWNER PAYMENT INFORMATION			
Project	Location	Commission Date	Project Owner/ Developer	Power Purchaser	Project Size	Turbine Information	Per Turbine Per year	Per MW Per Year	Notes	Source
Iowa Distributed Wind Energy Project	Iowa	1998	Consortium of Municipal Utilities	Consortium of Municipal Utilities	2.25 MW	3 750 kW Zond Z-50	$1,800	$2,400	Plus a $2,500 up front payment	1
Lake Benton I	Minnesota	1998	GE Wind	Xcel Energy	107.25 MW	143 Enron Z-48 (750 kW)	$1,500	$2,000	Estimated payments for 15 of 143 turbines. See Lake Benton II for compensation structure of remaining 128 turbines	2, 3, 14
Delaware Mountain Wind Farm	Texas	1999	American National Wind Power	Lower Colorado River Authority and Reliant Energy HL&P	30 MW	40 Zond 750 kW turbines	$1,500	$2,000		2
Lake Benton II	Minnesota	1999	FPL Energy	Xcel Energy	103.5 MW	138 Enron Z-50 (750 kW)	•	•	$450/acre for wind rights; $1,200/acre for easement on land needed for roads and towers; $5,000 for each tower constructed. (One time payments)	3, 4
Storm Lake I and II	Iowa	1999	GE Wind	MidAmerican and Alliant/IES Utilities	192.75 MW	257 Z-50 750 kW turbines	$2,000	$2,667	$750/turbine + 2% of revenue, comes to about $2,000 per turbine	4, 5, 6, 7, 8
Vancyle Ridge	Oregon	1999	FPL Energy	Portland General Electric	25 MW	38 Vestas 660 kW turbines	$1,500-$2,000	$2,272-$2,667		2
Waverly II	Iowa	1999	Waverly Light & Power	Waverly Light & Power	1.5 MW	2 750 kW Zond Z-50	$1,740	$2,320	Plus a $2,500 up front payment	1
Madison Windpower	New York	2000	PG&E National Energy Group	Merchant Plant	11.55 MW	7 Vestas 1,650 kW	$2,000-$4,000	$1,212-$2,424		9
Farmer Project	Minnesota	2001		Xcel Energy	1.5 MW	2 NEG Micon 750 kW	$2,000	$2,667	Landowner owns the project, has additional revenue streams	10
Indian Mesa	Texas	2001	FPL Energy/National Wind Power	Lower Colorado River Authority and TXU Electric Company	82.5 MW	125 Vestas V47 660 kW turbines	•	•	Royalty rate of 4% for years 1-10, 6% for years 11-20, and 8% for years 21-30. Plus signing bonus of $2,000 per MW. Hunting prohibited for 1 year	11
Woodward Mountain	Texas	2001	FPL Energy	TXU Electric	159.7 MW	242 Vestas V47 660 kW turbines	•	•	Royalty rate of 4% for years 1-10 and 6% for years 11-20. Plus signing bonus of $2,000 per MW	11
Nine Canyon Wind Farm	Washington	2002	Energy Northwest	Public Power Members of Energy Northwest	48 MW	37 Bonus 1,300 kW	•	•	Annual "rent" of the greater of $1000 per turbine or 3.5% of gross revenues. EN will also compensate landowners for any increase in property taxes	12
Top of Iowa	Iowa	2002	Northern Iowa Windpower LLC	Alliant Energy (15 yr PPA, WI RES)	80.1 MW	89 NEG Micon 900 kW	$2,400	$2,667		13
Colorado Green	Colorado	2003	Xcel Energy/GE Wind Corp (sold to PPM Energy)	Xcel Energy	162 MW	108 GE 1,500 kW	$3,000-$6,000	$2,000-$4,000	98 of 108 turbines are hosted by one landowner	14, 15
High Winds Energy Center	California	2003	FPL Energy	Marketed by PPM Energy to Sacramento Municipal Power District	162 MW	90 Vestas 1,800 kW	$9,500	$5,185	Estimated $21.5 million in lease payments over 25 years (contains an escalator). Average payment is about $9,555/turbine/year.	16
Mendota Hills Wind Farm	Illinois	2003	Navitas Energy (Gamesa)	ComEd	50.4 MW	63 800 kW Gamesa	$1,800-$2,000	$2,250-$2,500		17
New Mexico Wind Energy Center	New Mexico	2003	FPL Energy	Public Service Company of New Mexico	204 MW	136 GE 1,500 kW turbines	$4,000	$2,700	Estimated based on $550,000 in total lease payments	14, 18
Woodward	Oklahoma	2003	FPL Energy and Oklahoma Municipal Power Authority	Oklahoma Municipal Power Authority and Oklahoma Gas & Electric	102 MW	68 GE 1,500 kW turbines	$4,000	$2,667	"Up to $4,000" per turbine per year	19
Ainsworth Wind Energy Facility	Nebraska	2005	Nebraska Public Power District	NPPD and consortium of NE Municipals	59.4 MW	36 Vestas 1,650 kW turbines	$2,500	$1,515		20
Crescent Ridge Wind Farm	Illinois	2005	Illinois Wind Energy/ Eurus Energy America	ComEd	54.5 MW	33 Vestas 1,650 kW	$5,000	$3,030	Greater of either flat rate of $5,000/turbine/year or a percentage of revenue estimated at $6,200/turbine/year.	21
Trimont Area Wind Farm	Minnesota	2005	PPM Energy	Great River Energy	100.5 MW	67 1,500 kW GE turbines	$3,500-$4,500	$2,500-$3,000	Based on estimates of $250,000-$300,000 total payments. Trimont Area Wind Farm LLC (comprised of 46 local landowners) also has revenue participation that could be worth as much double the easement payments.	22

CHART A. *Wind Energy Lease/Easement Compensation: Summary of Information from Published Sources*

PROJECT INFORMATION							LANDOWNER PAYMENT INFORMATION			
Project	Location	Commission Date	Project Owner/ Developer	Power Purchaser	Project Size	Turbine Information	Per Turbine Per year	Per MW Per Year	Notes	Source
Weatherford Wind Energy Center	Oklahoma	2005	FPL Energy	American Electric Power	147 MW	98 GE 1,500 kW turbines	$3,061	$2,040		23
Big Horn Wind Power Project	Washington	2006	PPM Energy/ Iberdrola Rewewables	Modesto – Santa Clara – Redding Public Power Agency	200 MW	133 GE 1,500 kW turbines	$3,450	$2,300		24
Maple Ridge	New York	2006	PPM Energy/ Horizon Wind	Wholesale market/NYSERDA (green tags)	321.75 MW	195 Vestas 1,650 kW turbines	$5,128-$6,600	$3,108		25
Oliver Wind Energy Center (I & II)	North Dakota	2006-2007	NextEra Energy	Minnesota Power	98.6 MW	54 Siemens 2,300 kW and GE 1,500 kW turbines	$5,555	$3,061		26
Peetz Table Wind Energy Center	Colorado	2007	FPL Energy	Xcel Energy	400.5 MW	267 GE 1,500 kW turbines	$5,617-$7,490	$3,750-$4,993		27
Langdon Wind Energy Center	North Dakota	2007-2008	NextEra Energy/ Otter Tail Power	Minnkota and Otter Tail Power	159 MW	106 GE 1,500 kW turbines	$4,717	$3,144		28
Forward Wind Energy Center	Wisconsin	2008	Invenergy	Alliant, Wisconsin Public Service, Madison Gas & Electric and Wisconsin Public Power	129 MW	86 GE 1,500 kW turbines	•	•	$4,200 annual landowner easement payments (and $500 annual payments for landowners w/in 1 mile of a turbine)	29
Ashtabula Wind Energy Center	North Dakota	2008	NextEra Energy (formerly FPL)	n/a	148.5 MW	99 GE 1,500 kW turbines	$8,080	$5,387		30
Crystal Lake – GE Energy	Iowa	2008	NextEra Energy (formerly FPL)	n/a	150 MW	100 GE 1,500 kW turbines	$6,000	$4,000		31
Smokey Hills Wind Farm	Kansas	2008	Enel North America	Sunflower Electric/Midwest Energy/BPU	100.8 MW	56 Vestas 1,800 kW turbines	$3,000	$1,667		32

CHART B. *Wind Energy Lease/Easement Compensation Information: Public Lands*

Project/Agency	State	Commission/ Adoption Date	Project Size	Turbine Information	Project Information	Payment Information	Notes	Source
Ponnequin Wind Farm Phases I-VI	Colorado	1998, 1999 and 2001	31.65 MW	29 NEG Micon 750 kW and 15 Vestas 660 kW	23 turbines on 942 acres of state land and 21 turbines on 420 acres of private ranch land	$2,475 per MW per year	Per MW inflation payment can be adjusted for inflation every five years. Upfront payments of $1.50 per acre ($1,414) and a $14,000 signing bonus. 52 year lease.	16
Montana State School Trust Lands	Montana	current				Starts at $2,500 per MW or 4% of annual gross revenue	$2,500 up front payment per MW. YR 1-10: the greater of $2,500 per MW installed or 4.0% of annual gross revenue; YR 11-20: the greater of $3,500 per MW installed or 6% of gross annual revenue; YR 20 - 30: the greater of $4,500 per MW installed or 8% of gross annual revenue	33
Texas Wind Power Project	Texas	1995	35 MW	112 Kenetech 315 kW turbines	First commercial wind project in TX	About $2,100-$3,500 per MW per year	Since the ribbon-cutting for the Texas Wind Power Project in 1995, the Permanent School Fund has earned more than $750.000 from the project. It is expected to earn more than $3 million for the PSF and create $300 million in increased economic activity over the 25-year lease period	34
U.S. Department of the Interior– Bureau of Land Management School Trust Lands	9 western states	2002-2005				Minimum of $2,365 per MW per year plus a production fee	Interim Wind Energy Development Policy. The minimum rent is phased in and applied in full in year 3. Production fee will be determined for based on electricity prices and market rates	35
U.S. Department of the Interior– Bureau of Land Management	11 western states	2005					Wind Energy Development Program will replace the Interim Policy when a Record of Decision is published. The Final Programmatic Environmental Impact Statement was published in June 2005	36

PART III: WHAT FACTORS INFLUENCE COMPENSATION LEVELS?

General Factors

As is evident in the chart in the previous section, compensation for hosting wind turbines varies widely based on many factors and has changed as the wind industry has grown and wind technology has advanced. In this section, we will briefly discuss several factors that seem to influence compensation levels. In general, all of these factors will have some influence on most projects in that they all influence the overall economics of wind energy, but their relative influence might vary widely from project to project. A key factor for one project might be nearly meaningless for another project even in the same region or with other characteristics. The primary goals of this section are to 1) identify factors that influence compensation levels for hosting wind turbines, 2) provide information on how these factors influence compensation levels, and 3) provide insight into the kinds of circumstances where each factor might be most relevant. Keep in mind that all of these factors are interrelated.

Land Characteristics

Geography, land use, the value of land for wind development, and the overall value of land can all contribute to how landowners are compensated for hosting wind turbines. It's important to note that many of the factors listed below might in reality have more influence on whether a site is attractive for wind development than on how much the landowner is ultimately compensated.

Geography and Regional Variations Landowner compensation levels vary regionally and within states for a variety of reasons (most of which are described in more detail below). From what we have seen, the highest rates seem to be offered in California where energy prices are high and in the Northeast where land is scarce and energy costs tend to be high also. The Midwest and Northwest, Southwest, and Inner West are more variable.

Wind Resource Having wind, of course, is a critical factor for making land attractive for wind turbines. However, while wind resource is likely to attract wind energy developers, it doesn't seem to have a large direct impact on compensation levels. The windiest sites in North Dakota have significantly more wind than the windiest sites in Illinois, but they do not command higher prices. There are two main ways that wind resource can affect compensation levels: 1) higher levels of energy production can result in increased project revenue that can be passed on to the landowner or 2) specific characteristics of a region's wind resource can create competition, which can influence compensation levels. Where suitable windy land is scarce and demand for wind energy exists, competition for these sites might drive compensation levels up. A situation where windy land is abundant, but demand for wind energy is low might have the opposite effect.

Transmission Access For wind energy developers, access to adequate transmission and the ability to economically interconnect to the grid is almost as important as finding a windy site. Good access to transmission lines with available capacity for new generation is an asset that could command higher compensation.

Land Value The influence of land value on landowner compensation levels is most easily detectable when land value is especially high or especially low. For agricultural land (farmland or ranchland), the revenue from hosting wind turbines is almost always greater than that from ranching or farming on a per acre basis. When considering whether a wind developer is offering enough, a landowner must consider compensation package relative to the value of other land uses that would have to be given up. Land with many alternative high value uses, whether they are agricultural, recreational or for other development might command a higher price for wind development.

Photo courtesy of Tom Wind.

Project, Market, and Political Characteristics

Turbine Size Turbine size is one of the clearest determining factors for landowner compensation levels. Advances in wind technology have created larger and more efficient wind turbines that produce more electricity than older models. At this writing (2005), most new wind turbines for commercial projects are approaching 2 MW in nameplate capacity and many

developers are planning for 2 MW and greater wind turbines in the near future.

Price of Energy The price of energy is another dominant determining factor for landowner compensation levels. How much the project owner receives for selling wind-generated electricity will directly determine royalty payments (along with the turbine's production performance and the site's wind resource). Even when a landowner receives fixed payments, those payments were likely established at least in part by the anticipated power purchase price and overall economics of the project.

Public Policy Any factor that influences the economics of wind projects can also influence landowner payments, including public policy incentives. Production incentives and the federal Production Tax Credit are not usually included in royalty-based landowner payments, but they are often critical in determining the overall viability and profitability of a project. Public policy can also create markets for wind energy through renewable electricity standards, goals, and specific mandates for renewable energy. These kinds of policies influence the prices paid for wind energy and the selection of locations for wind project development; and thus which landowners have the opportunity to host turbines and to some extent how much they are paid.

Business Philosophy Landowner compensation levels are a function of a wind project developer's business philosophy. Developers have varying views of their relationship with landowners and how much of their operating budget they want to see going toward land leases and easements. There are no set rules here, but it's important to note that compensation levels also vary based on who is offering the contract. Individual wind developers also tend to have a preferred type of compensation package that they offer in their land agreements.

Competition and Alternatives As with other markets, the price paid for leasing windy land is somewhat determined by competition. Landowner payments might be higher in regions where landowners have multiple offers for leasing their land or have considered developing their own projects. There are also cases where landowners have negotiated better deals by working together as a group or offering added value to developers by doing some of the project predevelopment work themselves. (See Part IV for some specific examples.)

Community Support The local community's general support for or skepticism about wind energy can have some influence on landowner compensation levels. A developer sensing reluctance in a community might try to "sweeten" their contracts in order to convince more people to sign on. Alternatively, a developer in such a position might look to provide broader benefits to the whole community rather than the individual landowners.

Community and Landowner Knowledge Base And finally, landowners who have done their homework and know their options tend to have the best results when negotiating land agreements.

Summary

There is no single factor that determines landowner compensation levels, but rather a variety of factors that work together and have varying levels of influence for different projects. Land value, turbine size, price of energy, and landowner knowledge base seem to have the most consistent influence on compensation levels.

Types of Compensation Packages

Compensation packages for landowners hosting wind turbines are typically structured in one of four ways: 1) one time lump sum payment, 2) fixed payment at scheduled intervals (i.e. a set amount per turbine per year); 3) royalty payments based on gross revenues (i.e. a certain percentage per year); or 4) combination of payment methods. Combination packages most typically provide for either a minimum fixed payment or a royalty payment (usually whichever is greater) or a fixed payment plus a royalty payment. Wind energy land agreements also usually include an option period in the beginning for the project developer to assess the site and determine if they want to go forward with the project. Landowners usually receive some compensation for this option period for use of their land for wind testing and other site assessment and often for exclusive rights to use the land for wind development. Compensation packages for the option period vary widely; sometimes compensation is based on the number of acres leased and sometimes it is a fixed or escalating fee per year. In some cases, landowners might also receive a signing bonus for either the option period or when the lease or easement is executed.

Relative Benefits of Compensation Structures

One Time Lump Sums Lump sum payments should generally be avoided. There are two main disadvantages of this payment method. 1) The value of the wind project does not stay tied to the land. As a result, the value of the land might be reduced for heirs of the property or in a future sale of the land. Wind turbine land agreements are long term, often lasting for 20-40 years. The benefits of a lump sum payment might be long forgotten after decades have passed, even if the payment seemed like a good deal in the beginning. 2) The landowner has no stake in the long term success of the wind energy project. The lack of on-going benefits for the landowner might eventually create an adversarial relationship with the wind project owner.

Fixed Payments The main advantages of fixed payments are their simplicity and knowing exactly how much to expect every year. For fixed payments, it's advantageous for the landowner to request an annual (or regular) escalator so that the value of the payments does not diminish over time. Also, the landowner can be assured of compensation even if the turbine stands idle for a long period of time. From the landowner's perspective, the main disadvantage of fixed payments is that there is no potential for the landowner to benefit more if the project performs well. From the developer's perspective, the landowner has little incentive to facilitate efforts to maximize plant performance.

Royalty Payments Royalty payments can be advantageous for a project because both the landowner and the project owner's benefits are tied to the performance of the project. Everyone has an interest in keeping the turbines in good working order. The downside of royalty payments for landowners is that the payments will be variable and harder to predict. Also, for landowners to know that they are receiving the amount agreed to under the contract, they need to have access to information about the power purchase agreement and energy production data. Contracts using royalty payments should expressly state how landowners will have access to this information

In summary, royalty payments have greater risk for the landowner, but also potentially greater reward than fixed payments. Some combination of the two kinds of compensation might be most advantageous for a landowner with a guaranteed minimum payment and the potential to benefit from good project performance through a royalty payment. However, what is best in any given situation is a decision best left to the negotiating parties.

Recommendations for Landowners

Based on the factors above and our experience in the wind industry, we provide the following recommendations for landowners considering compensation for hosting wind turbines:

- Consider what you are giving up. Are you giving up a significant source of value for your land, such as hunting rights? Leases and easements should be explicit about which rights are covered by the agreement. (See the Wind Energy Lease/Easements Outline for details). Compensation levels should be related to rights the landowner is relinquishing.
- When negotiating with a wind developer, also consider non-monetary forms of compensation. For example, consider acquiring access to the wind data collected on your land during the option period of the agreement.
- When a percentage of revenues is offered as compensation, audit rights should be clearly defined in the contract. Also, consider what steps would be necessary to exercise audit rights. For example, would the landowner have to travel to the company's headquarters?
- Carefully weigh your alternatives and expectations before signing a contract. You don't have to sign on with the first wind development company to knock on your door. We have only just begun to tap the potential of wind energy in the U.S. Land that is attractive for wind development today will likely still be attractive in the future.
- Work together. Whether you want to negotiate a developer's offer or market your land for wind development, you will have the most power working as a group of landowners.

PART IV: LANDOWNER AND COMMUNITY EXPERIENCES: STORIES FROM AROUND THE UNITED STATES

High Winds, Solano County, California

High End at High Winds: Price of Energy One of the clear outliers in our chart presenting published compensation information from wind projects around the United States is the High Winds Project in Solano County, California. The project owner reported to the U.S. Government Accountability Office (and later confirmed for Windustry) that they estimate they will pay about $25.5 million in lease payments to landowners over the 25-year life of the project. There are 8 landowners hosting 90 Vestas 1.8 MW turbines for a total of 162 MW of capacity. This means that, on average, landowners will receive about $9,500 per turbine per year or about $6,300 per MW per year. Actual payments received by landowners will be a little different because the contracts include an escalator. That is, payments are lower now than they will be in 10 years or 20 years. These high prices are likely the result of a variety of factors, but the most significant variable was likely the price of energy. Avoided cost rates in California were quite high at the time the High Winds Project was in development, in the wake of California's energy crisis. The project developer passed on some of these higher revenues from electricity sales to the landowners.

High Winds Project, Solano County, California.
Photo courtesy of the U.S. Government Accountability Office.

Top of Iowa Wind Farm, Worth County, Iowa

The Top of Iowa Wind Farm compensates 49 landowners for hosting 89 900 kW wind turbines spread over 5,900 acres in north central Iowa with approximately $2,400 per turbine per year. This rate was fairly typical in the Midwest circa 2001 when this project was commissioned. Top of Iowa also offered Neighbor Agreements to landowners within 1,200 feet (approximately 7 rotor diameters) of wind turbines, which is a less typical arrangement. The project developers (Midwest Renewable Energy Corporation and Zilkha Renewable Energy) also worked closely with the landowner hosts on the project site design, especially in placing the access roads to minimize interference with farm operations. Less than 100 acres of land (formerly used to grow corn and soybeans) was taken out of production for facilities related to the Top of Iowa Wind Farm.

Top of Iowa Wind Project.
Photo courtesy of NREL

Ainsworth Wind Energy Facility, north central Nebraska

Land Value and Public Power Nebraska Public Power District's 60 MW Ainsworth Wind Energy Facility, currently under construction and slated for completion by the end of 2005, has the lowest price per MW in landowner compensation among the projects listed in Chart A that were built in 2002 or later. The $1,515 per MW ($2,500 per turbine) rate is in the same range as several older Midwest wind projects, but is on the low end for newer projects using megawatt class turbines. Several factors might contribute to the Ainsworth project providing this level of compensation. First, the Ainsworth area largely consists of arid ranch land and the value of alternative land uses is low relative to wind power. Second, that this is a public power project in a state that has all public power has implications for the project's economics. There is no commercial competition among private wind development companies in Nebraska and NPPD is not able to use the federal production tax credit. In general, land value is not a primary driving factor in determining landowner compensation levels, but the value of alternative land uses and the level of availability of windy land seem to be significant in this case.

An older two turbine wind project in nearby Springview, NE.
Photo courtesy of NREL

Higher Levels of Landowner Participation

As the wind industry has grown, options for landowners to participate have expanded greatly. Below are three stories about landowners who are organizing and taking more active roles in wind energy project development.

Trimont Area Wind Farm, Jackson and Martin Counties, Minnesota

A 100 MW Landowner Organized Project The largest landowner organized wind project is under construction in southern Minnesota and planned for completion by the end of 2005. Trimont Area Wind Farm is the result of 46 farmers in Jackson and Martin Counties successfully bidding to develop a 100 MW wind energy project for Great River Energy (GRE), a large generation and transmission cooperative based in Minnesota. GRE chose Trimont for usual reasons such as its competitive price, access to transmission line interconnections, and location in GRE's service territory as well as for Trimont's unique attribute of being organized by local landowners who also happen to be customers of a GRE member electric cooperative. The site itself was also attractive for its wind resource and location close to a natural gas peaking plant that will pair well with a wind farm. After winning the bid, the Trimont landowners selected PPM Energy of Portland, Oregon to finish developing the project and bring it to fruition. PPM brought needed financial resources and expertise in exchange for taking over primary ownership of the project.

In the end, Trimont is not a locally owned project, but the landowners have a much larger stake in the project than is typical. Landowners actually hosting turbines will receive traditional lease payments, which PPM has estimated will be $250,000-$300,000 total per year (or about $3,500-$4,000 per turbine). Beyond that, all 46 members of Trimont Area Wind Farm LLC, even those who will not be hosting turbines, will have revenue participation based on electricity production that could be worth as much as double the lease payments. LLC members have a direct financial stake in the success of the project, having put up close to seven figures each. Beyond, financial considerations, Trimont farmers have a different kind of ownership in their wind farm: they conceived, organized, and planned this project themselves, bringing in outside professionals and resources when it suited them. They leveraged their unique assets to bring a $100 million investment to their community that keeps more of the benefits local than any wind project of this scale ever has before. Trimont board member Neal Von Ohlen told Rural Electric magazine, "If you get a turbine on your land, you get a greater return, but all the partners will benefit, and that's a lot of people in a small community."

Cherry Valley, New York

The Power of Working Together When New York State adopted a policy to increase the state's proportion of renewable energy sources from 19% to 25% by 2013, wind energy developers took notice. Wind energy projects, including a proposed project in Cherry Valley, gained new momentum. In the fall of 2004, a wind developer was working to sign agreements with landowners on two ridges near town, that have what a company representative described to the local paper as some of the finest wind in New York. The landowners saw the wind project as an attractive opportunity, but were not satisfied with the contracts terms offered by the developer. Rather than "take it or leave it" as individuals, the landowners organized themselves into a group called Cherry Valley Wind Farmers. The group, which included every landowner from the proposed project sites, gathered extensive information and developed a list of priority issues including the landowner share of project revenue, financial escalators, the length of the option and lease periods, compensation for non-turbine infrastructure and lost timber, and approval of turbine locations.

When the developer working in town did not meet the group's requirements, the Cherry Valley Wind Farmers had no intention of abandoning wind power. Instead, they sent out a request for proposals to several other wind developers and received and outstanding 80% response rate. After inviting four companies to make final presentations and careful analysis of the offers, the group selected a much improved proposal from the original developer. This time around, the company was quite responsive to the terms and conditions the group deemed to be

A New York State wind project.
Photo courtesy of NYSERDA

priorities. According to John Fila, one of the Cherry Valley Wind Farmers, "The key here was the group. Dealing as individuals puts landowners at a severe disadvantage and allows the developer to control the process. Once organized, we felt in total control throughout the process armed with the knowledge that we were the ones positioned to say "take it or leave it" knowing that 4 or 5 other developers where waiting and anxious to jump in and negotiate the right to develop our wind park."

Sieve Wind Farm, Lincoln County, Minnesota

Making the Best of the Worst Case Scenario Don Sieve, a now retired farmer from southwest Minnesota, became a wind turbine owner when plans to lease his land went awry. The wind developer went bankrupt before completing the project leaving a concrete foundation for the turbine and an unpaid contractor. Unable to collect payment from the developer, the contractor put a lien on Mr. Sieve's land. In the end, he determined that the best way to resolve the situation was to complete the project himself. The final financing arrangements were not made until well after construction of the turbine was complete. Although, it was a complicated process, the Sieve Wind Farm is now one of the successful farmer-owned wind projects in southwest Minnesota, consisting of a 950 kW wind turbine and a power sales agreement with Alliant Energy. Mr. Sieve made something positive out of a difficult situation, but his story should serve as a caution to other landowners considering leasing their land for wind energy development. Fair compensation is important, but other lease/easement contract provisions can be equally important for protecting landowner interests. Most projects proceed much more smoothly than Mr. Sieve's, but unforeseen situations such as bankruptcy and liens need to be addressed in land agreement contracts.

A farmer-owned wind project in Southwest Minnesota.
Photo by Lisa Daniels

PART V: REFERENCES AND NOTES

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