

Chapter 1

Wind Development Options and Obstacles

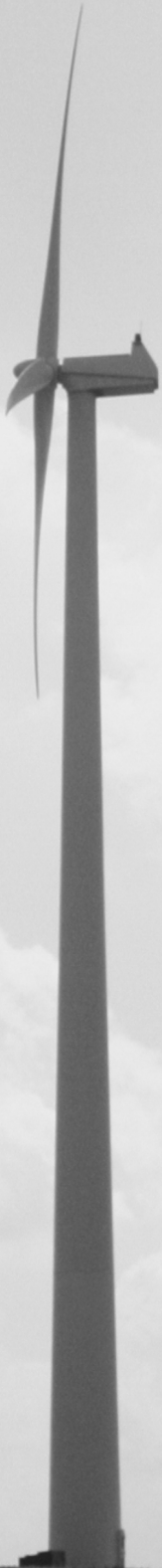
I. Choosing to Invest in Wind

Wind energy presents exciting new opportunities for many farmers, and those farmers who wish to make productive use of the wind on their farms have many different development options. Projects come in many different sizes and styles, and farmers have a range of opportunities to invest in, and benefit from, the wind.

But it takes more than just wind to make a wind energy project work. Even the smallest wind turbines require time, money, and some technical expertise. For very large commercial-scale projects, the stakes are even higher, and a successful development requires tenacious advocates, the local community's support, and—perhaps most importantly—access to a market for the generated electricity.

One primary obstacle new wind energy projects will face is simply the electric grid itself. The grid is stationary, and its limited capacity can be easily taken up by electricity from traditional energy sources, such as large coal-burning power plants. To be able to sell energy and be financially viable, a wind project must be located close enough to the grid to connect with the local power lines, and there must be sufficient capacity on those electric lines to make them physically available to transport newly generated wind energy.

However, even in the best location, successful development of a wind resource will require overcoming legal obstacles as well, namely the requirements imposed by the tremendous variety of complex and ever-changing laws that will affect a wind development project. Legal issues will arise at every stage of wind development: in contracts with consultants to explore the wind resource; in state and local regulation of project siting; in agreements allowing use of land for wind turbines, transmission lines, and other project activities; in loans and capital investments needed to finance the project; in formation of a business entity, if desired, to own and operate the project; in contracts to purchase and install wind turbines and other equipment; in planning for potential liabilities



associated with the project; and—most dauntingly—in negotiations with electric utilities, entities subject to an enormous amount of regulation, for transmission and purchase of the generated electricity.

This guide is intended to help farmers understand the legal backdrop they must navigate in order to pursue wind energy development. It does not promote any one choice over another, nor does it provide a perfect roadmap to a single successful development model. As is true of any type of enterprise, some wind projects will fail. To guard against this, farmers interested in developing a wind resource must learn as much as they can about the technical and legal requirements of the industry and seek individualized assistance from experts.

The next chapter of this guide gives an overview of energy law principles and requirements that will determine how a wind energy project ties in to the larger electric industry. Throughout the rest of this guide, each chapter describes specific components of the legal framework affecting wind development, such as land use restrictions, leases and easements, power purchase agreements, financing arrangements, business entity formation, liability risks, insurance, and tax implications. While some aspects of this legal framework are imposed by state or federal regulation, others are created through private contracts with electric utilities, neighboring landowners, creditors, investors, contractors, and others.

As has been stated and will be repeated often throughout this guide, finding and hiring an experienced and knowledgeable attorney to work with throughout the project development will be necessary to successfully identify and meet the legal challenges of developing a wind resource. This guide cannot substitute for experienced and committed attorneys who will represent a farmer through the entire development process, and this cannot be emphasized enough. In addition, other experts—including engineers or wind development consultants—can be useful for tackling the technical design and managing the financial cash flow of a wind project. The wind is a valuable resource, and farmers should not let misunderstanding or ignorance of the law prevent them from making the most of their wind energy opportunities.

II. Types of Wind Development

Farmers' efforts to gain revenue from their wind resources can generally be grouped into three distinct categories of wind development: working with a third-party wind developer, installing a small turbine for on-site energy use, and developing a large farmer-owned wind energy project. This section includes a

brief overview of these development categories and highlights which chapters of this guide may be most relevant to each.

Assuming an excellent wind resource in a good location, farmers who are interested in developing the wind must make decisions about the desired project scale based on their financial situation, their individual comfort level with risk, the amount of time they are willing to commit to developing the project, and their degree of interest in wind development. The three development categories are discussed here in a sequence generally reflecting farmer commitment, from lowest—negotiating with another party who will develop the wind resource on the farmer’s land, to highest—direct investment in a commercial-scale wind facility.

A. Negotiating with a Third-Party Wind Developer

Farmers may choose to take advantage of well-situated windy land by selling or leasing their wind rights to someone else who will then construct and operate a wind energy facility. In this scenario, the farmer would convey the wind development rights to a developer, most likely using an option, lease, easement, or some combination of these. The developer would then likely do all of the work to develop, build, and operate the actual wind project, with the farmer simply providing the land on which the project sits. The farmer would most likely receive some rental income or a small percentage of revenues, but not the full return of project ownership.

This option for wind development entails less risk to the farmer than direct ownership in a wind facility would, and it often requires no initial capital investment by the farmer. Contracting with a developer does require a farmer to carefully negotiate legal agreements to ensure fair compensation and a fair allocation of the rights, responsibilities, and risks associated with wind development. However, negotiating this kind of agreement requires significantly less effort than developing an entire project.

This development model is currently the most common form of commercial-scale wind ownership, mainly because investing in turbines can require so much capital, and developers’ prior experience with wind energy projects makes it easier for them to successfully pursue new opportunities.

This type of development usually begins with a wind developer approaching a farmer who the developer believes may have a significant wind resource on his or her land. Initially, developers will often ask a farmer to sign what is called an option agreement and possibly also a separate agreement to allow installation of

wind testing devices. In exchange for relatively small payments (often several hundreds of dollars), these agreements usually give the developer the right to investigate the wind resource on the farmer's land and to contract with the farmer to develop that wind resource within a specified amount of time. If the decision to actually develop a project is made, the developer will typically execute a lease, easement, or purchase agreement, or some combination of these, with the farmer.

Although this type of wind development is less complicated than others, it is still a major undertaking affecting the farmer's legal rights and responsibilities and the condition of his or her land, and the advice and assistance of an experienced attorney will be critical.

The legal agreements farmers might enter into with a wind developer are discussed in more detail in Chapter 3 of this guide (Negotiating Wind and Land Agreements). Farmers who contract with a developer to allow a wind project on their land may also face issues discussed in Chapters 5 (Liability Concerns) and 13 (Tax Benefits and Obligations) of this guide. Although these chapters are directed primarily at farmers who will themselves be owners of a wind facility, the discussions of liability risks and possible property tax increases are also relevant to a farmer who allows a wind facility to be constructed and operated on his or her land.

B. Installing a Small Turbine for On-Site Energy Use

The second general category of wind development a farmer could pursue involves direct purchase and ownership of a relatively small wind turbine designed to supply the farm's own energy needs. For purposes of this guide, "small" refers to a project with a nameplate capacity of 100 kW or less.

In this type of wind development, a turbine might be off grid and installed exclusively for on-farm use. Projects that supply energy for home or farm use provide farmers with the economic benefit of producing their own electricity and not having to pay for it from an electric utility.

Alternatively, a farmer's wind turbine might be connected to the electric grid to allow the farmer to sell any excess electricity back to the local utility, providing an additional source of revenue. Most often, a utility's buy-back of excess electricity generation is negotiated through a process called net metering or net billing. Net metering permits customers with small energy generators, like some wind turbines, to first use the energy they produce for their own needs and then sell any excess power back to the electric grid using the power lines that

normally bring electricity to the customer. Because electricity flows to and from the customer through a single meter, the customer's meter runs backwards when excess power is fed to the grid. If, in a given month, a farmer's wind turbine produces more energy than the farm uses, the utility will pay the farmer for that excess or credit it against the farmer's future electric bills.

Net metering laws have been implemented in a majority of states and typically are available for an energy generation system with a capacity up to 50 kW.¹ This size project is much smaller than most commercial wind developments. Therefore, net metering is primarily intended for small producers who seek to use the energy for their own facilities.

On-site wind projects are costly, and it can sometimes be difficult to make them profitable. Purchase and installation of smaller home- or farm-sized wind turbines usually costs approximately \$3,000 per kW of nameplate capacity. Thus, a single small turbine could easily cost close to \$40,000, and it may be that efforts at electrical efficiency would be more cost-effective than an on-site wind project.

A farmer who installs a wind turbine on his or her own property must take care to comply with the vast array of laws that can affect where the turbine is located, including local land use restrictions, environmental regulations, and any relevant farm program requirements. These and other siting considerations are discussed in Chapter 4 (Siting).

In addition, even a small turbine has the potential to expose the owner to some liability, whether from neighbors' complaints or state and federal regulations. These and other liability issues are discussed in Chapter 5 (Liability Concerns).

And, a farmer wanting to install an on-farm wind project will need to purchase, install, and maintain the turbine and other necessary equipment. These issues are discussed in Chapter 6 (Turbine Purchase and Installation).

There may be some government incentives available to farmers seeking to install small wind turbines, and some of these are summarized in Chapter 12 (Incentives). Furthermore, tax-based incentives and tax consequences of wind developments are discussed in Chapter 13 (Tax Benefits and Obligations).

¹ Farmers should be aware, however, that several states have limits below the 50 kW average cited above. For example, Minnesota's net metering law applies only to facilities with a capacity of less than 40 kW. Minn. Stat. § 216B.164, subd. 3 (2006).

Finally, a range of legal issues that arise specifically in the context of small wind projects are discussed in Chapter 7 (On-Farm Small Wind Development), including the process for connecting a small turbine to the grid and negotiating for the most beneficial power arrangements with the local utility.

C. Developing a Commercial-Scale Wind Project

The third model for wind development by farmers is to invest directly—either on their own or in collaboration with others—in a commercial-scale wind project. For purposes of this guide, “commercial scale” is defined as more than 100 kW of nameplate capacity; however, many projects are significantly bigger than this—ranging from 2 MW to 200 MW and beyond.

These large wind projects are designed to produce electricity for the purpose of selling it to a utility, or other purchaser, for a profit. In addition to all of the legal agreements needed to site and construct a large wind project, the sale of generated electricity will require a contract called a power purchase agreement between the wind project owner and the utility. The farmer must also negotiate to connect the project to the electric grid and may have to pay one or more local utilities to install sufficient capacity on that grid to accept and transmit the generated power.

A large-scale wind project with several commercial-size turbines can cost many millions of dollars, requiring significant investments in purchases of turbines and other equipment, construction services, and consultant and attorney services. Experts generally say that the installed cost of a medium to large wind project is about \$1,000 to \$1,500 per kW of nameplate capacity. This is based, in part, on the assumption that installing several turbines at once will reduce some of the construction and installation costs.

Installing and maintaining a wind energy system can be an expensive, time-consuming, and even risky endeavor. However, farmers who own a large wind project in a prime windy location, and who can access a market for their generated electricity, have the potential to earn significant revenues from the project.

Developing and owning a wind project can take significant time and effort. A large project like this will require a farmer to navigate all of the issues faced by smaller projects. The farmer will need to negotiate to ensure sufficient access to the wind and land needed to build the project (Chapter 3); to site the project in compliance with all local, state, and federal laws (Chapter 4); to address liability concerns (Chapter 5); and to purchase the turbines (Chapter 6).

In addition to the legal issues presented by wind projects of any size, large commercial-scale projects raise still more issues that must be addressed. Financing must be secured to purchase and construct the project, generally involving secured loans, perhaps with personal guarantees from the project owners, and equity investments. The project must also secure a contract to sell the generated electricity. These are major issues in the success of any project, and they are discussed in Chapters 8 (Financing) and 9 (Selling Power).

A farmer developing a commercial-scale wind project must also make careful decisions about how best to structure the business side of the wind project, including which type of business entity will best fit the project's investment and ownership structure and how the project owners will comply with securities laws, filing and reporting requirements, and other legal obligations. These issues are addressed in Chapter 10 (Business Structure).

While all of this is happening, the farmer must also negotiate with the local utility—or several utilities, depending on the circumstances—to gain access to the grid for the large amount of electricity that will be generated and to transmit that electricity to the ultimate purchaser. This is an extremely complicated process, both legally and technically, and it is discussed in Chapter 11 (Interconnection and Transmission).

Finally, even more so than with smaller wind projects, a commercial-scale wind project must consider how various government incentives can make the project more financially feasible, and how the tax consequences of the wind project will be addressed. These issues are discussed in Chapters 12 (Incentives) and 13 (Tax Benefits and Obligations).

Community Wind

Community wind refers to wind energy development that intentionally seeks to optimize local benefits. Although a formal definition of community wind may not yet be agreed upon within the industry, as a general matter, community wind means locally owned wind projects that sell energy back to the electric grid. For a project to be locally owned, members of the local community must have a direct financial stake in the project beyond just land leases or local tax revenue. For example, a community wind project could include several local landowners joining together to purchase multiple turbines and share in a larger investment, or it could be a local school district purchasing and operating a turbine behind a school building.

III. Conclusion

The decision whether to contract with a developer, or to invest directly in a self-owned project (and, if so, at what size) is tremendously complicated and will have long-lasting, perhaps permanent, effects on a farmer's land and operation. Such a decision necessarily turns on a wide variety of factors, many of which are intensely personal.

Some of the practical factors to consider include the quality of the wind resource; the amount of time and effort available; the financial viability of the project; and the availability of various legal incentives ranging from tax credits to protection from certain liability. To help with these considerations, farmers should seek out additional information on the financial and technical aspects of wind development. A list of Additional Resources is provided at the end of this guide as one place to start.

In all wind projects, there are also complicated legal issues. This guide attempts to identify the legal issues that might arise and describes how some wind projects have addressed them. But this guide provides only an introduction to the legal decisions and dilemmas that farmers developing a wind resource must face. Once again, it is critical for any farmer considering wind development to get the assistance of an experienced and knowledgeable attorney early in the process, and certainly before entering into any agreements.

