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SMALL TURBINE COLUMN:

Planning Your Wind System—Finding and Hiring An Installer

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Retracing previous steps, you've already had a wind site assessment, so you know the minimum acceptable tower height required at your site, and you have a reliable estimate of the wind resource at that tower height. You've also researched your local zoning ordinances and the building permit process. In addition, you've contacted your local utility for the requirements you will need to meet to interconnect your wind system to the grid, and secured the appropriate application forms. And finally, you've gotten insurance quotes for both the wind system and liability coverage required by your utility.

By now, you also should have a fairly good idea of who sells and installs wind systems in your area. At this point, there are two directions you can go. You can either buy a wind system and the equipment you need from a 'broker' of equipment, or you can hire a full service installer. To a great extent, these two are mutually exclusive paths.

To D.I.Y. or not

Brokers are easily found on the Internet, many advertising the lowest prices for the equipment they handle. If you are handy, persistent, and prepared for an involved construction project, buying equipment and installing it yourself may be a good approach. You will act as your own general contractor and labor force, with whoever else you may be able to solicit to hire on or lend a hand. Just be sure you know what you are getting into. If you are interested in installing your own wind turbine, see <http://www.renewwisconsin.org/wind/Toolbox-Homeowners/Installing%20your%20own%20wind%20system.pdf> for a previous *Windletter* column on installing your own wind system.

If you get into a bind, or invariably need experiential or technical information that your equipment supplier does not know or have, don't expect an installer to bail you out. Like small plumbing shops that compete with 'big box' lumber and hardware outlets, small installers earn a living on their knowledge as well as on their sales and labor. They are

understandably no more likely to tell you how to install your wind system than the local plumbing shop is likely to tell you how to install the sink you bought on e-bay.

Hiring an installer

Let's assume you have more money than time on your hands, and that you want to hire a company to do all of the work. How do you find such a company or person? And what do you need to ask them so you can be sure they are competent and reliable? Ask around, especially anyone living in your area with a wind system. Contact the manufacturer of the wind turbine you are interested in installing for their suggestions and recommendations. While you have the manufacturer on the phone, find out how active their recommended installers are. Are they new to the industry? Is the installer a former electrician turned tower-jockey? Has the installer been 'wrenching' on wind generators for 20 years? You are still fact finding at this point, so don't necessarily rule anyone out, making the assumption they are inexperienced.

Once you have a short list of capable installers, contact all of them for quotes for the equipment and installation. Don't hide the fact that they are competing with other installers, but don't try to talk them out of 'an arm and leg' either. Most all installers in the small wind turbine industry are small 'mom and pop' shops, meaning they are sole proprietors, with maybe an employee or two. Remember, they have just as much right to earn a living as you do. (Consider your response if your boss looked around the workplace for the 'cheapest guy on the roster' before doling out work and paychecks.) That said, any quote that is either too high or too low should be questioned. All of the bids should come in relatively close, depending on how far the installer needs to travel.

Your bids will likely be rather generalized and not include detailed itemizations of every last bolt or quarter hour of time. Be content with this. Many small companies are justifiably wary of going through the effort of generating a very detailed proposal, only to have it thrown back at them that Acme Wind Company charges \$0.25 less per yard for the concrete, or some such silliness, and can they match that price—in other words, your basic 'nickel and diming' for a better price. If you insist on the lowest bidder, that's exactly what you will get. Remember, you are looking for a competent wind technician that you can rely on for the life of your wind system, maybe 20 or 30 years. Scrimp for a few dollars off now and you will pay for that many times over in the future.

What you are actually looking for is competence and attention to detail, and while that usually comes with years in a business or experience, this does not necessarily follow. There are plenty of 'it's not my job' attitudes out there associated with people who have been in the business, somehow, for years. The customer service you receive in terms of returned phone calls speaks volumes about how well the company cares or how responsive it will be in the future. But be reasonable about this, too. There are untold numbers of 'propeller kickers' interested in wind with endless questions that can tie up overworked installers, should they let them. Making it known that you are willing to pay for their expertise will go a long way in getting a company's attention.

While you are interviewing installers, ask about how many similar installations they have under their belts. By all means, ask for references, then call these ‘satisfied customers’ for their evaluation of the job the company did. Would they hire this company again? If not, why not. Keep in mind that it takes two to make a good relationship, and there are plenty of people with unrealistic expectations who simply cannot be pleased, no matter what a company does.

You might also ask what if any work will be subcontracted out. Examples of this might include excavation for the foundation and backfilling, pouring the concrete foundation, and all electrical work. Some companies do all of this, while others farm this work out, and it is just good to know how your chosen installer will proceed. Do not expect any installer to be responsible for re-landscaping your yard after the wind system is installed. You will have plenty of heavy equipment showing up, including a backhoe, maybe a dump truck, cement truck, and possibly a crane. Any of these can leave substantial ruts in a well manicured lawn. It will invariably be cheaper for you to deal with this after the fact than have a wind installer try to put things back as they were.

You will also want to know when the construction will begin, and how long it will take. While some independent contractors are notorious for having short attention spans, starting one project, then rushing off to begin another with hopes of getting back to the first someday, wind installers do not usually fall into this category. However, shipments and equipment are sometimes unexpectedly held up for months while the wind turbine manufacturer gets this part galvanized or that part painted. It is always best to wait until all equipment has been delivered before beginning the installation, as it will then have the installers’ full attention. The exception to this is the concrete foundation, as most manufacturers specify that the concrete must cure for 28 days before installing the tower on it.

Post-installation service

One critical question is what sort of warranty is offered on the installation. This is different from the warranty on the wind turbine, tower, and inverter, which are offered by the respective equipment manufacturers. An installation warranty is essentially a guaranty that the system was installed correctly, and if any mistakes are found, the installer is to rectify them. Such warranties basically cover workmanship for tower and turbine assembly, electrical and foundation work—these sorts of thing. Most installers offer a one or two year workmanship warranty, which should be plenty of time for any problems to arise if indeed they are going to. It should be noted, however, that good installers work hard to keep their customers satisfied, and it is not unusual for an installer to make good on workmanship problems beyond the nominal warranty period.

Another question to ask is whether the installer does service and repairs on the equipment you purchase and they install. This is one of the primary reasons to hire an installer in the first place, so that you have someone you can depend on to inspect, maintain, or repair your wind turbine as necessary for the 20 to 30 year life of the system. If the installer

does not offer such services, you are back to square one in terms of finding a contractor to do such work.

Some installers will also help with the applications required by both the local building permitting agency and the utility for grid-connected wind systems. Others offer these services for an additional fee. While seeking bids, find out what help you can get from the installer with these permits and applications. At the very least, the installer will need to supply you with any pertinent blueprints and specifications required by the planning and zoning committee or local utility.

Finally, ask the installer if he will be willing to walk through the system with you once it is up and running. Every person in your house should know how the wind system operates, and how to shut the wind turbine and inverter off if the need arises.

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Editor's note: The opinions expressed in this column are those of the author and may not reflect those of AWEA's staff or board.