

# Choosing *Your* RE Installer

Finding the right renewable energy installer can make the difference between a satisfying experience and a nightmare. In a growing industry, new companies are popping up on a regular basis, and it's not always easy to know which installers are adequately qualified.

by Laurie Guevara-Stone & Ian Woofenden

Installers Eric Hansen and Bob-O Schultze of Electron Connection, doing the heavy lifting for a solar carport.

**M**ail-order companies, large discount warehouses, small mom-and-pop businesses, and large corporations all sell and/or install renewable energy (RE) systems. As the number of dealers, distributors, and installers grows, being an informed consumer is increasingly important. It will save you money, time, and aggravation to do advance research to find an installer who best meets your needs. You'll want to be sure that the person designing and installing your new system has the expertise to make it efficient, safe, and reliable.

Geoff Greenfield, an installer with Third Sun Solar and Wind Power of Athens, Ohio, advises people to verify an installer's experience before hiring them. While everyone has to learn somewhere, if you want to hire a novice, make sure you are willing to risk being part of their learning curve. New installers should learn by working with experienced industry professionals—not by trial and error on your system.

Greenfield also suggests that you take a close look at your prospective installer's approach and attitude. "Select someone who will listen to and serve *your* true goals and motivation," he says. "Too often a client will end up with a one-size-fits-all solution that isn't what they really wanted. If your installer's only solution is a hammer, everything starts to look like a nail."

Experience pays off in the end. The pain of a poorly designed or installed system lasts much longer than the short-term sting of paying a bit more. You can, however, choose to save money by



working with the installer on parts of the project. Why pay an installer's wages to dig that trench, or pour that cement? If your installer is agreeable, it may save some money to do it yourself.

"If you want to assist in the installation," says solar consultant Joel Davidson, "be sure the installer understands what you want to do. Some technicians will not work with homeowners because of the hindrance factor or insurance liability; others won't because their own lack of skill and experience will become obvious."

Veteran installer Dave Palumbo of Vermont-based Independent Power says, "One thing I tell do-it-yourselfers is that this stuff is not easy. It may look slick when you see a completed system, but there are 101 ways to mess it up along the way." Palumbo has seen customers balk at his prices, only to later realize that it was a bargain to have the job done right the first time rather than labor over the details themselves or deal with an inexperienced installer.

## Choose Wisely

Most of us want the best product for the least cost. But shopping by price alone can get you in trouble in the long run. What you're trying to buy is renewable energy for *years*. That means that you want reliable equipment installed for the long haul. Here's a listing of some key issues to consider when selecting an installer.

**Professional Credentials.** Organizations are now certifying installers by a set of standards, and seeing an installer's credentials can give you an idea of their qualifications. The North American Board of Certified Energy Practitioners (NABCEP) offers solar-electric and solar-thermal certification, and they are working on a wind certificate—all fairly rigorous certifications that involve not only difficult written tests but also require field experience. That said, many seasoned pros with excellent qualifications don't see the need for additional certification. They may choose to not dedicate the extra time or expense to become NABCEP certified.

Competence will always be as important as credentials, and always harder to judge. Randy Brooks of Brooks Solar in Washington State recommends that prospective system owners trust their instincts. Ask yourself



Anne and Randy Brooks are the principals behind Brooks Solar of Chelan, Washington.

if potential installers look and sound like they know what they are doing, he says. Interviewing more than one prospect and comparing their responses will help you feel more confident about your judgment through understanding your own needs and learning what to appreciate in an installer.

**Electrical License.** If you contract with an installer who doesn't have an electrical license, you or your installer may need to hire a licensed electrician to obtain the permit, supervise the job, and do the final AC hookup. Regulations for residential electrical work vary from state to state, so be sure to check with your local code officials prior to installation. Your installer should have a good working relationship with the local electrical inspector. Also, if you expect to take advantage of financial incentives, be aware that many states won't provide rebates to unlicensed or unapproved installers.



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**Dave Palumbo of Independent Power designs and installs RE systems in northern Vermont.**



**Bonded & Insured.** Make sure your installer has liability insurance to protect you against installation mishaps—a ladder that accidentally shatters a picture window, for instance. You need to be protected if the installer's work damages your house during or after the installation, or if one of the company's workers is injured on the job. Some installers advertise that they are "bonded" as well. This guarantees that the contractor will meet their obligations in a satisfactory manner. Failure to do so results in the bonding company paying you compensation. However, being bonded is expensive, so if you want an installer who is both bonded and insured, you'll probably have to forego a one-person operation for a larger installation company.

**Training.** How recently and where has your installer been educated and trained? Find out if the installer has kept up-to-date with training courses on the specific products they sell. Many companies that manufacture and distribute RE products offer training, enabling installers to stay current on new product developments and how they fit into RE systems.

**Experience.** Don't be shy about asking about an installer's experience. Every installation is different, so the more installations an installer has handled, the more likely yours will be manageable for them. Find out how many systems similar to yours the installer has designed and installed. Plus, there are always new products entering the market, and new regulations to deal with. An installer who has completed several recent installations will probably be familiar with the newest products and the latest code issues.

**Variety & Quality of Products.** The variety of products an installer carries may or may not be important to you. But the more brands an installer carries, the more likely they will have one that fits your application. However, if the installer only carries a couple of brands and those brands work for your system, variety is not



important. While the variety of products might not be crucial, the quality always is.

Research the components that your installer suggests. Do the electrical products meet industry standards? All components used in your system should be listed by Underwriters Laboratories (UL) or an equivalent testing agency. UL is a nonprofit product testing and certification organization that verifies electrical products are safe for their intended use. ETL Semko and the Canadian Standards Association (CSA) provide similar acceptable approvals. Checking products to make sure they are UL-, ETL-, or CSA-approved is one way to make sure the equipment used for your installation is reliable and safe.

What kinds of warranties come with the products that your installer carries? Also, how long have the equipment manufacturers been in the industry? Warranties are meaningless if the manufacturers aren't around in a few years. If you know of other people who have used these products, ask for their feedback: Are they satisfied? Have they had problems?

**Service Agreements & Performance Guarantees.** Installers may provide you with some kind of optional service agreement. If problems arise with your system, what services will the installer provide and for how long? Will the installer be readily available to troubleshoot and fix problems? If something goes wrong, who is responsible for repair or

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## Questions to Ask Potential RE Installers

### All Technologies

- Do you live with renewable energy systems yourself?
- What is your motivation for working in this industry?
- How did you learn your trade?
- How many years have you been in business and how many systems have you installed?
- Are you licensed, bonded, and insured, and do you hold certifications?
- What certifications do your installers hold, and what ongoing training do they receive?
- Do you offer warranty support and service contracts?
- Can you provide me with business and customer references in my area?
- What sort of lead time will there be from the time I write the check until the time my system is producing renewable energy?
- Do you include energy-efficiency and conservation techniques in your site analysis to make sure I get the most out of my RE system?

### Renewable Electricity

- Do you have experience with both battery-based and batteryless systems, and on-grid and off-grid systems?
- What different module, turbine, and inverter choices do you offer?
- Do you give an accurate estimate of system production with your quotes?

### Wind Electricity

- Do you install tilt-up and fixed towers?
- What are the tallest and shortest towers you've installed?
- How do you perform a wind site/resource assessment?
- What turbines have you installed, and what's your track record for reliability and production?

### Hydro Electricity

- How will you measure head and flow?
- Do you work with high-head and low-head systems?
- What sorts of intakes do you install and how have they worked?
- How do you protect the flora and fauna in the streams you work on?

### Solar Hot Water

- What types of SHW systems do you install, and what are your preferences?
- Do you use flat-plate collectors, evacuated tubes, or both? Why?
- How do you estimate and measure performance of the systems you install?

replacement costs? Who is responsible for maintaining the system? If you are responsible, what kind of training will the installer provide? Will basic system safety issues be explained? Although service or maintenance agreements have not been standardized throughout the industry, many installers will agree to a site visit at least once a year to make sure the system is performing satisfactorily. For the early years of a system's operation, consider buying a service contract.

**References.** Ask for and contact an installer's former clients to find out if the installer was knowledgeable, easy to work with, and took the time to explain the system's operation. Also find out if their systems are working well, if there have been any problems, and, if so, how the installer handled them. Ask for an installer's business references, and check them, especially if the company's reputation is unknown.

"Asking for references is good," says installer Kelly Keilwitz of Whidbey Sun & Wind in Coupeville, Washington, "but keep in mind that the contractor will use their most-satisfied customers as references. It may be possible, with a little sleuthing, to find and approach other past customers, not specifically recommended by the contractor. This may give you a more balanced picture of the contractor's suitability for your project."

**Energy Efficiency.** Ask about how to maximize the benefits of your system through energy efficiency and conservation. Installers willing to take this extra step of reducing demand can be worth their weight in gold. Many otherwise competent installers get in, install, and get out without ever touching on this important subject. For every dollar spent on efficient lighting and appliances, \$3 to \$5 can be saved on the RE system used to power them.



