



## SERVICE PROVIDER GUIDE

### Guidelines for Selecting a Solar Design Consultant

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#### **Intent:**

This guide will help you learn more about what services solar professionals provide and help you select a qualified company or individual that will integrate well with the project team.

#### **Background:**

Solar services that you may require include design, analysis, procurement, and installation of two distinct solar energy technologies – solar thermal and solar electric. Solar thermal technologies use the sun's energy to heat a building or provide hot water for domestic, commercial, or industrial uses. Solar electric technologies (photovoltaics) convert the sun's energy directly into electrical current. Solar professionals may have expertise in either or both of the solar energy technologies and may provide one or all of the technical services you require. Note that in the context of Green Building and Integrated Design, solar passive features generally fall into the domain of the architect and the energy analyst.

#### ***Q1: How do I determine which solar services I require?***

You may need to consult with a solar professional initially to determine which of the solar technologies best suit the needs of your project. This professional should have experience with the solar technologies you are interested in and have the ability to estimate how much energy load can be offset by using those technologies. You may want to compare both dollar savings and carbon emission savings.

#### ***Q2: How do I choose among solar providers?***

Compile a list of prospective solar providers. The Colorado Solar Energy Industries Association (CoSEIA, [www.coseia.org](http://www.coseia.org)) is a good place to start. You might first consider those closest to you, because travel costs might add to your system price and increase the cost of maintenance. Next, contact these providers and find out what products and services they offer. The following questions may give you a good sense of their capabilities:

#### ***Q3: Does the company use an analysis tool for system design?***

This will not be necessary for small projects and may require a separate consultant for medium and large projects. Your electrical or mechanical designer may be able to provide these services.

#### ***Q4: Is the company familiar with building-integrated solar collectors?***

Both solar thermal and solar electric collectors can be integrated into the building structure. These technologies are relatively new but may be preferred for material savings and aesthetics.

#### ***Q5: Has your company installed solar thermal systems for solar water heating, pool heating, or space heating? What sizes?***

Choose a company that has experience installing the type of system you want and servicing the applications you select. Solar thermal systems come in a range of configurations and may use water, glycol, or air as the heat collection fluid.

#### ***Q6: Has the company installed grid-connected PV systems?***

Most green building projects using photovoltaics will interconnect their systems with the utility grid. Grid-connected systems are relatively uncommon and most contractors with PV experience have worked only on systems such as those that power remote cabins or homes far from the nearest utility line. This means they have experience with all aspects of PV system

installation except the connection with the utility grid. Although grid-connection work is different from “off-grid” work, a competent company with PV experience should not be eliminated just because it has not installed grid-connected PV systems in the past. In fact, experience with off-grid systems is valuable because grid-independent systems are more technically complicated than grid-tied systems.

***Q7: How many years of experience does the company have installing solar energy systems?***

A company or contractor that has been in business a long time has demonstrated an ability to work with customers and to compete effectively with other firms. Obviously, the more experience the better. A business that has been working with these systems for a long time will be more professional, know more about current technologies and recent advances, and be less likely to make costly mistakes. Request a list of past customers who can provide references.

***Q8: Is the company properly licensed?***

Solar energy systems should be installed by an experienced and insured contractor. Few local jurisdictions in Colorado require solar installers to be licensed, although any work on the AC side of a photovoltaic system must be done by a licensed electrician. Contact the appropriate city or county for additional information on licensing. It is recommended that installers demonstrate that they possess special knowledge about installing solar energy systems. This knowledge can be demonstrated in any one of the following ways:

- ❖ Possession of a solar contractor specialty license, issued by a local building jurisdiction, that recognizes—through testing or other means—special knowledge of solar energy systems.
- ❖ COSEIA certification.
- ❖ A letter from the manufacturer of the system stating that the installer has experience and/or training necessary to install the system properly.