

Residential Renewable Energy Solar Self Assessment

This self-assessment is the first step in understanding your roof's potential for a solar electric or solar water heating system. If you are interested in pursuing a solar energy installation you should go through the following questions and evaluate your property's potential to create energy from the sun.

1. Does my residence have suitable space on its roof for mounting solar panels?

Suitable roof locations for a solar electric system would be within 45° west or east of due south, or oriented to allow arrays to face this direction using roof-mounting hardware. A basic solar installation will require approximately 100 square feet of roof area for installation of the panels (slightly less for solar water heating systems).

Minimum roof slope for flat mounting of a solar water heating system is a 4:12 pitch. Steeper is better. Low slopes will require a rack at an additional cost and potential structural reinforcement.

2. Does solar mounting location have uninterrupted solar access in all seasons between the hours of 10 am and 2 pm?

There should be no shading from trees, bushes, chimneys, fire walls, fences (if ground mounted) etc., on the array during this time period. Potential vegetation growth leading to array shading must also be considered. Keep in mind that the sun is lower during the winter months. Watch for trees in the horizon that may not create a shading problem in the summer months, but could do so in the winter.

3. Is there room in your basement for a solar water heating system?

There needs to be room in the basement/utility room for a water tank and AC outlet to power the required infrastructure. In addition, there needs to be a place to run the piping from the roof to the utility room (can be exterior or interior), the length of piping should not exceed 100 feet.

4. Do you have a spare 240 V breaker slot on your electrical panel?

A solar electric system requires a 240 V breaker and space for installation of an inverter.

5. Is the condition of the roof suitable for the installation of a solar system?

The roof needs to be structurally and materially sound in order to support the weight of the solar panels. Assess the condition of the entire roof in addition to the specific location where the array will be mounted. The need for roofing repair or replacement could prohibit the installation of solar panels.

If you feel you meet these basic requirements you should then contact a solar professional and have a detailed assessment of your property so that you can make an informed decision about the installation of a solar electric or solar water heating system.