Title:
Effects Of Clouds On A Solar Panel

Word Count:
661

Summary:
Solar panels hold a wealth of benefits, both for individuals and for the world at large. Economically, solar panels promise to lower the cost of electrical power. Environmentally, solar panels can give us cleaner power, sustainable power that will not require further damage to the environment. Solar power can reach remote areas. It can carry education, or urgently needed medical information.

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Keywords:
effects of clouds,solar panel,solar park,solar panels

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The effects of clouds on a solar panel, though, might diminish those and other promising benefits.

The effects of clouds on a solar panel might make it far less efficient in certain parts of the world and at certain seasons.

For that reason, people who are considering solar panels for their homes are often heard to ask: will clouds affect my solar panels?

Will Clouds Affect My Solar Panels?

Clouds do affect solar panels. The amount of power your solar panels can produce is directly dependent on the level of light they receive.

In full, bright sunlight, solar panels receive maximum levels of light. During those "peak" sunlight hours, your solar panels will produce power at their maximum capacity.

When clouds cover the sun, light levels are reduced. This does not shut down power production, however. If there is enough light to cast a shadow, in spite of the clouds, your solar panels should operate at about half of their full capacity. Thicker cloud cover will reduce operations further. Eventually, with heavy cloud cover, solar panels will produce very little useful power.

The Good News!

The effects of clouds on a solar panel can be surprising good, however. Incredibly, your solar panels will put out their ultimate amount of peak power during cloudy weather!

As the sun moves into a hole between the clouds, your solar panels will see something wonderful. They will see full direct sunlight "plus" reflected light from the clouds! They will drink in more energy than they could on a cloudless day!

The effects of clouds on a solar panel could then produce peaks at or above 50 percent more than its direct-sun output!

Meeting the Challenge

There are ways to meet the cloud challenge.

1. If you often have clouds in the afternoon, but mornings are clear, aim your solar panels slightly toward the east.

2. Be sure you use a large enough battery system to maximize the amount of power stored for use when the clouds arrive.

3. Make sure your controller has plenty of headroom over the rated panel output power so that it can absorb the surges when the sun reflects off the clouds.

Those tricks and more are practiced in cloudy regions of the world where people have sprinted far ahead of the United States in their use of solar panel energy.

Effects of Clouds on a Solar Panel in Germany

Germany is typically a very cloudy country. Read about the climate of Germany, and you will find that it is "temperate and marine; cool, cloudy, wet winters and summers; occasional warm mountain (foehn) wind" according to Nation Master's website.

In spite of its cloudy climate, though, Germany is by far the world's biggest user of solar panels. If you lived in Germany, you could sell back to the main power grid all of the excess electricity produced by your solar panels. Why would I even care in such a cloudy climate? If clouds affect my solar panels too much, I would not worry about selling back to the main grid.

In 2006, Germany opened the largest solar park in the world. Germany also has Europe's most modern solar housing project – a solar village of 50 solar houses that produce more energy than they use!

Will clouds affect my solar panels? Even if I lived in Germany, the effect would not be enough to forego solar power.

Tip: There are few places that are so consistently cloudy that solar power is out of the question. Improvements are being made constantly, and even solar panels small enough to fold into a briefcase can produce helpful amounts of power.