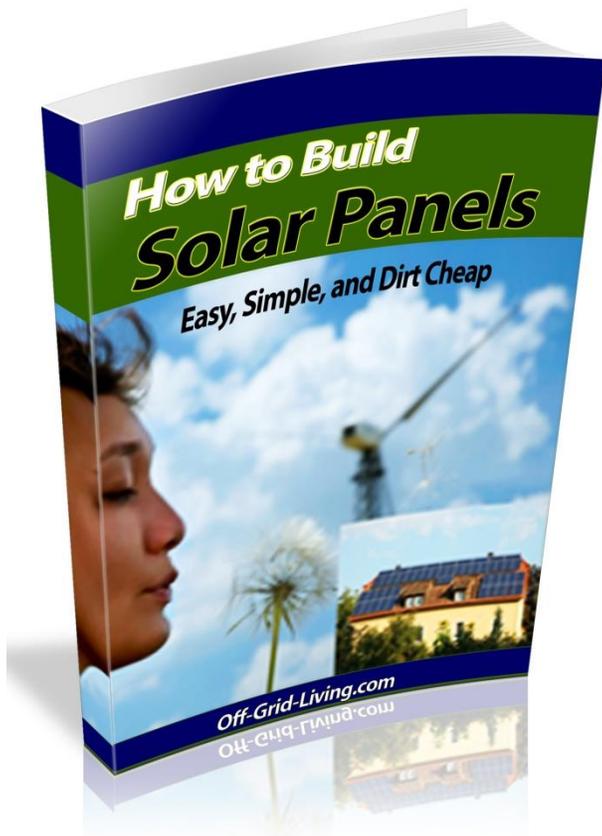


# ff-Grid-Living

In An Urban and Suburban World



**Lesson #25 ...**  
**Getting solar panels for free**

## Introduction

### FREE SOLAR PANELS

Solar Panels are expensive! At \$800usd for a 170 watt panel it would take over \$10,000 to power the normal off grid home with solar energy. That is a lot of money for our family, a lot of money for any family in fact...

If you're smart however, solar panels can cost you absolutely nothing, that is, free. You can just haul them away.

How?

Where?

Let me guess...This is one of the reasons you bought this book, right?

Then let's get to it. How many times driving down the highway have you seen flashing "arrow" signs near road construction? Guess what? These days many of these are powered by the sun.



The alpha numeric signs you see that flash words and numbers are usually solar. In the old days these bulbs used in the sign to make the flashing arrows used to be powered by small combustion engines. Not anymore.

More and more these days the signs are powered by solar panels, large batteries, and LED based illumination. A simple

"arrow board" trailer typically has two 55-watt solar panels on it with two or three "8D-sized" lead acid batteries. Cities are looking to cut energy costs the same as you and I are.

Every now and then, someone bumps into them. Well...actually, it happens all the time. Drivers hit these things on a VERY regular basis, especially during the wintertime.

## How to Build Solar Panels

However, this doesn't mean they are broken beyond repair. The workman that we talked to at the equipment yard said that "because the panels are mounted on the top of the mobile signs, they rarely take a direct hit, and are frequently only cracked or shattered."

What happens usually is the panel end up getting "cracked." Actually, the glass laminate on top of the polycrystalline solar cells gets cracked while the cells themselves are usually okay. Thousands of cracks will run around on the surface of one panel making the top of the solar panel "less clear." What happens is the glass absorbs some of the incoming solar light or it gets dispersed, it generates heat instead of striking the solar cells. Not good from an efficiency stand point.

These panels, that were 55 watts when new, now put out 15 to 25+ watts in the summer sunshine. But, they were free. When NEW (2007), each 55-watt panel costs \$230- \$330. Your cost for the fractured panel at half-output can be \$0.

That's free energy.

**Here's what you do:** As you drive down the highway and see these arrow boards, pull over, get out and examine the signs. Take note of the names of the company on the arrow board. Most of the time they aren't owned by the state. Usually the state will RENT the arrow boards from a rental company.



Write down any and all information you see you the signs.

**Step two:** Approach the rental company, either by letter (formally) or by phone, and ask them what they do with their broken panels. They normally throw these in the trash. If this is the case, BINGO! Ask them to save the broken solar panels for you.

**Step Three:** Find out where they are located, and ask if it is OK for you to pick them up. When you get there, be sure to bring hot

## How to Build Solar Panels

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coffee, donuts, or any homemade food you might have. A little goodwill can go a long way.

Some of the panels might be bent, and all of the panels have a cracked laminate on top of the solar cells. All of the panels will require minor work and will output energy in the sunshine.

The insurance company for the construction company will pay the rental company for the damaged panels. So they have nothing to lose by giving them away.

**Step Four:** After getting the panels home we wanted to know just that. Do they still work? We put them in full sunlight at noon and measured the current to see if they still produced power.

Only two of the units were ruined beyond fixing. The remaining eleven panels produced about 20 to 24 watts of power apiece in full sunshine. That meant we had over 200 watts of solar panels, about \$1000 worth for the cost of going to get them!

That is about as close to free solar panels as you will ever find. Just find out the name of the company who rent signs to the highway maintenance company and give them a call.



*Home Energy Made Easy* is NOT going to be the typical solar energy book you read. This book is going to SHOW YOU HOW to do experiments around YOUR house with simple tools and inexpensive or FREE materials. This book will ENABLE you, not just tell you about things you can only dream about or that are out of your reach.

### Free Solar Panels Found- Source #2

Solar panels are getting better and more efficient every day. New manufacturing process is making them more efficient and cheaper all the time too.

## How to Build Solar Panels

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Now many home owners who already have had solar panels on their home, are looking at upgrading. You could almost compare it to buying a new car every few years. Installers and dealers are now getting calls every day from people wanting to put up a new solar panel array.

What happens to the ones they replace? They go to the dump!

Call your local dealer or installer, ask them what they do with the solar panels they receive when a customer upgrades. Better yet, call a bunch of them and see if they will save out old solar panels that are being replaced. You can also always offer to pay a token for them. It's that easy.

### **Inexpensive Solar Panels**

While you're at it, ask your dealer/Installer one more thing...

Since Solar panels are very fragile and frequently get broken during shipping and occasionally during installation. What do they do with these solar panels that are either damaged or arrive "2Q?" (Second quality)

You guessed it. To the dump, or in some cases they go back to the manufacturer.

These panels you will not get for free usually. Most of the solar panels can be bought for one quarter of their wholesale price though.

Be sure to test the solar panels to see how many watts they are producing before you buy them. Usually the relative amount of watts produced compared to the actual amount they were supposed to produce when new will determine the price you will pay.

There will be no warranty in any case, so make sure of what you are buying.

### **We have also found one more source of inexpensive solar panels.**

Used solar panels are also available on e-bay. Yes, get an account, it's pretty simple and start shopping. Usually some pretty good deals here.

Again, be careful, check the sellers "feedback" and make sure the shipping is included in the price, which can get expensive. Ask if the seller will guarantee their condition for 30 days. If the panels are good quality they should do this for you.

### This Week's Assignment

- 1) **Get started immediately cruising the highways.** As soon as you see a solar powered highway sign, pull over and write down any and all information.
- 2.) **Contact the company involved and see what they say.** The worst that can happen is they will say no.
- 3.) **Contact dealers/ installers in your area.** Start asking around. Once again, most folks are happy to help out if it is within their power to do so. Anyone in the business would rather see something put to use than thrown out.

PS...Don't forget you can get personalized coaching at [www.making-biodiesel-books.com/...html](http://www.making-biodiesel-books.com/...html) For some this is the ideal way to get hands on experience as well as personal attention needed to make this work for you.

#### Coming Up Next ...

Lesson #26: "Installing solar panels"

In the next lesson we'll be covering how to install your solar panels the same as the pros do.