

Battery Care in a Renewable Energy System

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Before I learned that you could build solar panels and wind generators yourself, I had worked a lot with lead-acid batteries. If you have a renewable energy system for your home (solar, wind, or hydro power), and have a battery bank to store excess energy, there are some definite things you want to do to make sure your set of batteries will last for the maximum amount of time.

First off, if you have batteries in an enclosed building (which you should), you should have them enclosed in a battery box. This is simply a wooden enclosure for the batteries, and a lid to go on top. You want to attach a vent to the battery box and run it outside. The vent should be at the highest point on the box. While charging and during use, lead-acid batteries outgas, which means they give off hydrogen gas which is flammable. However, if you vent it to the outside, you will be fine. You also want to drill a two inch hole on one side of the battery box near the bottom. Put some screen material on the inside of the box so that nothing can crawl in the hole, but air can still pass through.

Next, I would ditch the plastic battery caps that come with the batteries and invest some money in Hydrocaps. A hydrocap screws in the battery cell hole and sticks up above the battery about three inches. This is a type of recombining device which will take the outgassing and convert it back into water. These things are great and will reduce the number of times per year that you have to add water to the batteries. However, they won't eliminate you having to add water to the batteries. I have found that even with Hydrocaps you will have to add water to the batteries every six months. Now, Hydrocaps aren't cheap. As I recall they are around \$30 a piece. But they are a worthwhile investment in my opinion. Some people balk about the cost of Hydrocaps and won't spend the money on them. All I can say is that I have been happy with them.

When you add water to the batteries, it has to be distilled water. I know you may want to add tap water because it's free and available, but the minerals in tap water will destroy an expensive set of batteries. Now, I know what you're thinking. Your father always used tap water in the batteries in the car and pickup and he taught you to do the same. Well, my father did the same thing. But you have to use distilled water in your renewable system's batteries if you want to get the maximum life out of them.

Some people advocate the use of a hydrometer when you check the battery cells. I admit I have never done this, so I have no experience with it. But I thought I would mention it.

The last thing you need to do is to keep the battery terminals and the interconnect cable ends absolutely free from corrosion. The easiest way to do this is in the beginning when you put your system together, because everything is pristine at that time. I use something called QuickCote. It comes in a can with a brush on the cap, and it a paste. You coat all every piece of metal that is showing on the batteries and the cable ends. Use it liberally. I have had the same can for 10 years, so it lasts a while. If you coat the terminals well, you will never have corrosion. I have never had a problem with corrosion because I was told to use QuickCote in the beginning, and I'm very happy about that.

If you keep your batteries in a battery box, use QuickCote on the terminals, use Hydrocaps, and use only distilled water, you will have a clean set of batteries that will last for many years. After all that's what you want, and the reason you invested all that money in your renewable energy system. So you would have power when you need it.