SCAM ALERT:
Earth 4 Energy and affiliates

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FOR IMMEDIATE RELEASE

These ads are all over the Internet these days:

*"**FINALLY REVEALED:** The secrets to making your own solar and wind power for less than $200."*

*"Hi, my name is Michael and I'm going to help YOU reduce your power bill by 80% or even **eliminate it completely**. Not only that, if you create more energy than you use, your power company will actually pay you! After 15 years in the renewable energy industry I know what works and I know how you can start saving money."*

Sounds too good to be true, doesn't it? Buy this Ebook for $49, spend $200 on Ebay and at the hardware store for parts, build your photovoltaic (PV) panels or wind turbine in a weekend, wire it up, and 80 percent of your electric bill is paid for. Build another turbine or set of solar panels and the power company will be paying you!

It IS too good to be true, and buyer beware. Ads for this Ebook appear under dozens of different affiliate domain names via Google AdSense and AdWords. The Ebooks from various sellers are slightly different, but the basic content remains the same. In fact I have a hard time keeping up with blocking them from my websites. Why block them? Because of the deceptive ways in which this Ebook is marketed, and because the content has so many errors and so much bad advice that the uninformed consumer has a great chance of burning their house down by following the Ebook guidelines.

Marketing:

First, the marketing. The implication is that for $200 plus the $49 Ebook, you can save 80% on your electric bill. One little tiny problem, though—there's no mention in the advertisements about the cost of the balance-of-system equipment required to tie into the utility grid and power your home AC circuits, or of the mandatory government and utility inspections, permits and fees. You find THAT out only after you buy the Ebook.

The FAQ section on the Earth4Energy website does give you a tiny bit of warning:
"Will I learn how to wire the renewable power into my homes AC breaker panel?"
"Wiring your own power into the AC breaker panel is very dangerous and is illegal unless it is done by a qualified electrician. You can save a lot of power by running items straight from your inverter but if you must bring the power into the home AC breaker panel than we recommend you contact a local electrician."

So, the implication here is to run extension cords around the house from your inverter to your fridge, air conditioner, dishwasher, and TV? My actual copy of Earth4Energy confirms this:
"If you do not wish to go as far as connecting your system to the breaker panel you can simply run your appliances straight from your AC inverter. Running your appliances straight from the inverter is easy and a very cheap option. "

Your local electrician and local Fire Marshal may have something to say about that really dangerous idea...

And even the Ebook itself leaves out the fact that your "local electrician" is either going to A) be rolling on the floor in paroxysms of laughter, or B) run back to the van in a panic and drive at high speed directly away from your location. Why? Because the basic content in all versions of these Ebooks is this: Build your own PV panels by gluing cheap surplus or broken PV cells from Ebay to a piece of plywood and wiring them together into a PV module, and build your own wind turbine by sticking 4-foot PVC pipe blades onto a small surplus tape drive motor from Ebay.

PV Instructions:

Let's look at the PV module problem first. Commercial PV panels usually have a 25 year warranty. The manufacturers can provide this because everything is hermetically sealed and superbly connected under cleanroom conditions, and then mounted in sturdy aluminum frames. Renewable energy (RE) enthusiasts have been building their own PV modules out of surplus and broken cells for two decades now, and they always run into the same problems:

- Glass fogging from humidity and temperature changes: Individual PV cells are very fragile, and must be protected from hail and other impacts by a tempered glass cover. In commercial modules, there is no air inside and the cells are embedded on a sturdy plastic substrate. When building them from scratch in your garage, it's unavoidable.
- Corrosion of electrical connections: Any water or water vapor intrusion can eventually degrade electrical connections. A wire home-soldered to the flat back of a PV cell is likely to contain voids unless the solder job is perfect, and corrosion grows rapidly in those voids.
- PV module flexing during wind: This one is both insidious and dangerous. You may not see or hear the flex, but any small movement of the homemade plywood flat surface onto which the PV cells are glued will weaken electrical connections. If they finally break loose, you have relatively high DC voltage applied directly to flammable wood. This is a serious fire hazard!

The Earth 4 Energy E-book also claims that PV system owners frequently "upgrade" their PV modules and these can be had for free or at low cost: *"The old panels usually get thrown away because they are not the latest and they cannot be sold. "* That's not quite how it works, ask any PV installer...

The FAQs on the Earth4Energy website do mention the number of panels one might need to power a home, though in a very vague way:

"Can I power my whole home with just a $200 system?"
"The solar power system that you can make for $200 is our portable model and this will not produce enough energy to power a whole home. However, we have given instructions on how to build on this system by adding multiple solar panels and a larger battery bank/inverter. By expanding the smaller $200 system you can power much more of your homes energy needs."
"How much power does the Earth4Energy solar panels produce?"
"Our manual provides instructions to build 100 watt panels and you also get the instructions so you can join multiple panels together to raise the output to 1000 watts +."

Wind Turbine Instructions Summary:

Next, the wind turbine problem. Sticking blades on a surplus DC computer tape drive or treadmill motor to make a wind turbine is not a new concept, either—it's been done for decades and is well-documented on the internet. But such tiny generators are only suited for a kid's high school science fair project:

- They can take, at most, a 4 foot diameter rotor (2-foot blades), while the Earth4Energy Ebook suggests 4-foot blades for an 8-foot diameter rotor and 500-1000 watt output. That is completely absurd. Because:
- At most, these motors can be counted on for 100 watts.
- The bearings are not designed for the thrust loads of a wind turbine rotor.
- The motors are not weatherproof
- They are not wound and wired properly for energy production (they burn out easily in high winds).

PVC blades are again fine for science fair projects, but give terrible performance with a legitimate wind turbine. With the generator performance so dismal, though, nobody is likely to notice that the blade design is also ludicrous.

From the Earth4Energy website FAQs:
"How much power does the Earth4Energy windmill produce?"
"Our aim is to produce 500 watts of power by using blades that are 8 feet in diameter with wind speeds of 20 miles per hour. You can join multiple windmills together for more power. This is explained in the book."
Also, the Earth4Energy plans present a wind turbine design that has no way to protect itself from high winds—there IS no furling system. That's asking for a catastrophic and dangerous disaster, full of flying chunks of blade and toppling towers.

Grid Tie Issues:

Tying your renewable energy system into the utility grid is a serious undertaking—an error or pirate install could kill the lineman who is climbing a nearby electric pole, trying to restore grid power during a blackout. And that's why any attempt by you to grid-tie your system will come under such careful scrutiny from myriad governmental and utility company regulators. Approval of a DIY install of plywood PV modules and tape drive motor wind turbines is extremely unlikely.

Conclusion:

Earth 4 Energy and it's affiliates are having great success at promoting a “bait and switch” scam, and making lots of money doing it. They imply that for the cost of a $49 E-book and $200 in junk from Ebay and the hardware store, the average homeowner can reduce electric bills by 80%. This is complete fantasy, but the buyer does not find out about the high costs and required agency approval needed for a grid-tied home until after purchasing the E-book. Other deceptive marketing practices include running websites that purport to “review” the E-book, while in fact multiple affiliates conspire to simply review each other's nearly identical products.

Neither of the projects (PV and wind) included in the Earth 4 Energy E-book have much chance of code approval by an electric utility or local building / electrical inspector. The rest of the E-book, explaining how RE systems work, is public information that can be found on the DOE / EERE / NREL websites.

The deceptive marketing and bad information that surround Earth 4 Energy and its dozens of affiliates give the entire home renewable energy industry a bad name. People feel ripped off, and they come to the conclusion that “renewable energy doesn't work.” That's the LAST thing that those of us in the RE industry want to hear!

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