

## **Introducing The Environmental House - [www.environmentalhouse.com](http://www.environmentalhouse.com)**

**Finally a totally green building technology for new home construction and additions that makes \$ense. Do your part to be a good steward of this planet's resources and help slow down global warming – get our country off needing imported oil. Set a good example that going green can be done and is for ALL houses.**

**“Build it right the first time,” is our motto. Whether for new home construction or an addition, with our system you will save on your initial costs and the house will actually pay for itself because you produce all your power and then some. Our designs allow you to build it yourself with a little training!**

### ***The Green Systems***

Can a house pay for itself by producing electricity? Sure can, and why not? First off we design our houses to last at least a few hundred years and we estimate that in just over a 30 year time period you will have produced over \$120,000 in electricity. Plus you did not dump tons of pollutants into the atmosphere by living in a green home. You will have lower insurance costs with our environmental house because it can't burn or blow away.

Did you know that there's enough solar energy to COMPLETELY power your home if you get rid of your AC/heating unit? Here's how you get rid of the AC and heat and how it works:

Did you know that that the ground temperature is ALWAYS – winter or summer - 76 degrees at a 4 foot depth? So why not dig trenches and then bury air ducts (4" plastic pipes) and let the ground cool or heat your home? You'll always get 76 degree air coming into your home when properly engineered. Think of an air conditioner as a device that removes heat. In our system you give the unwanted heat from inside your home to the ground because it's cooler and will readily accept this heat from your home. 76 degrees is warm enough for heating your home as well – so the system creates heat in the winter because the ground temperature is ALWAYS 76 degrees.

Yes, part of the system requires a dehumidifier because this system does not get rid of humidity. Humidity is basically water in the air. But a dehumidifier uses MUCH less electricity than an AC unit.

### ***Why Insulate? We Do Something Different***

What we do is equal to about 2 feet of fiberglass insulation. (Fiberglass is nasty stuff by the way. Ever breathe glass? It cuts your lungs. When it gets moist it is useless and creates a nice place for mold to grow. It is banned in some countries for good reasons - health.) For our additions and new construction we don't use any insulation and here's why. We make the entire exterior of your house function just like a radiator. What we do is install a grid of special plastic pipes in your walls and your roof. As the day gets

hotter, the liquid inside the pipes also gets hotter. Now we run those pipes from your wall and roof into the ground and we exchange that heat in the pipes with the ground's cooler temperature. We have a small solar powered circulating pump to move the liquid in the pipes around and around from the house to the ground. But first we get rid of some of the heat by putting the heat into a tank of water. Now you have warm to hot water feeding your hot water heater instead of cold. It's not rocket science to envision that you save money on your hot water bill. But the real point is that with this system the outside of your house never EVER gets above 80 degrees. Some roofs get as hot as 150 degrees. If your house doesn't get hot then how much AC do you need? Much less = better conservation. If the outside of your house is 80 degrees in the winter how much heat do you need? Much less = better conservation.

### *The Wood Frame House Will Become Obsolete in Florida*

The phrase, "green construction" sounds kind of wimpy, but the way we build green is super tough and extra heavy duty strong - designed to not ever fail in any category hurricane. Building with wood won't hold up. Why? Basically when one part of the house fails – like one single edge of a piece of plywood on the roof, the next piece is stressed beyond design limits and then like a zipper the house comes apart. It's not the wood that is weak per se, it's the nails. They WILL eventually rust. When they rust the nails get thinner. When they get thinner then the house is weaker. Please note that I did not say IF the nails get thinner, I said WHEN, as it is only a matter of time. (Only stainless steel doesn't rust and they don't build houses with stainless steel nails.) Wood eventually decays, loses its mass from the heat and losing its holding power for the rusting nails. So each year the wood frame house loses more and more hurricane resistance. Ask the architect or engineer to design a hurricane 4 wood frame structure made from 2x4's or 2x6's and he won't sign off because it can't be done. Never mind a hurricane 5. Don't even bother to ask if the house built for a category 3 today will still resist a hurricane 3 twenty years from now. Do you see what does not make sense here? In Florida we live with knowing that it's just a matter of time before we get hit with a hurricane 4 or 5. So why do we build houses to resist a hurricane 3???? Why is it that wood frame construction is banned in Puerto Rico? The only reason it isn't banned in Florida is because wood is cheaper. We think in ten years building with wood in Florida will become obsolete.

Our houses can't burn, don't rot and you never have to worry about termites. (Now why are we building with wood?) In **flood** zones and **hurricane** zones and especially in **tornado** zones you want your house as **HEAVY** as you can make it. This is because of some simple physics – inertia. Envision the bigger rock doesn't move in a stream because it has sufficient weight (inertia) to overcome the force of the rushing water. The small rock, because it is lighter, gets moved downstream because it is lighter. Houses work the same way. In a flood it will be the house that weighs the most that will stay put. I don't really care how well you fasten the lighter structure (wood frame) to the foundation; the rule that the heavier house will stay put is king. Someday you'll be buying one of our houses and after the price tag you'll ask how much the house weighs. After a Katrina-type flood you simply wash the inside of the house out. (We don't recommend installing drywall in flood zones and have alternatives for that, too. More expensive though.) Understand that NOTHING is going to stop a storm surge where millions of pounds of water are smashing into your house - nor do I think the house will hold up to a super fierce tornado. But hurricane wind forces are NO PROBLEM WHATSOEVER. Someday we'll be big enough to have our own insurance company for our houses only and this will be just silly money for us because it can't burn or blow down.

## *Green Construction Materials – Hurricane Tough*

The right way to build in hurricane, flood and tornado zones is building with reinforced concrete roofs and walls. This recognized superior construction method (bridges and the highest building in the world are concrete) will be reflected on your lowered hurricane insurance premium. Why? The entire shell of the home is made using a high strength concrete imbedded with extra steel reinforcing bars. These homes are BUNKERS. We even make the roof out of concrete. We don't really connect the roof to the walls because the roof and the walls are all made in one - all concrete, reinforced with extra reinforcing bars. When we make the walls and the roof we put together a grid of 5/8th" diameter reinforcing bars spaced about a foot apart. Yes, this adds about \$.50 per square foot onto the construction costs but we think you will like it because you'll like the security knowing your home will resist a hurricane 5 better than any emergency shelters they want you to go to.

When we pour the concrete for the roof we have already made a grid of reinforcing bars and we also place "J" bolts into the grid, too. After the concrete cures, these "J" bolts can never come out. They hold the solar photo voltaic panels in place. These panels produce all your electricity. Approximately 28 panels (each panel is 3 feet x 5 feet) should produce ALL your electricity. Any extra electricity produced you get to sell to the power company. Did you know you can receive \$30,000 from the State of Florida and in some areas the power companies give you another \$10,000 when you install a solar electric system? Did you know you get over \$2,000 in Federal income tax credit too?

Finally we can talk about green construction. We use a bunch of recycled wood to make your house. What we do is grind it up and mix it with cement and we make an outside wall and inside wall (like a sandwich – where we pour the high strength concrete and reinforcing bars in between our two walls). We also use the stock of a plant that we grow - kenaf, to make the panels. (We got into kenaf because our company has a special interest to help build homes in developing countries and they don't have any recycling. Kenaf grows fast – In 120 days we get about 5 houses per acre.) Our double-wall system only functions as forms to hold the wet concrete and after the pour our walls stay in place. We like to use our own blend of concrete that uses in part ground-up recycled concrete instead of gravel because it makes a higher strength concrete and using recycled materials is green construction.

## *I Want an Environmental House*

Sound good? Here are ways to start:

1. We convert your plans to our system and give you an estimate for the materials and a quote for 3 sets of stamped sealed engineered prints. (Small fee of \$300 for converting your plans – DOES NOT INCLUDE THE ENGINEER'S SEALED PRINTS, just his estimate.) Things you can do to keep the engineering costs low when you are ready for the Building Permit Sealed Plans are to include a site plan, survey and perhaps a soil survey might be needed. Sometimes the engineer MUST do a site visit – that's extra. If you are building it yourself then we will have everything on our material list relating to the shell of the home and our specialty items. No doors or windows, cabinets, finished floor (carpet, tile); fixtures like toilets, appliances will be addressed in our materials list. We include pricing for a menu of roof finishes and exterior wall finishes, so you can pick and choose. We also include pricing with a menu of interior wall systems. But we

do not price trim or paint finishes. We are on your team and want to be as helpful as we can but we are NOT your architect or your interior designers.

2. Assuming you like the estimates, then we do a contract for the materials that we supply and deliver. What we will eventually deliver to you is ONLY the materials that we make for the exterior shell. Anything you can buy at Home Depot, Lowe's, etc., will not be part of our contract and we'll make it very clear for you what you will need to buy, what you will contract out, etc. Why we don't include everything for the houses is because you will get a better deal from Home Depot, etc., as there would be less shipping and handling costs. I mean do want us to deliver drywall when you don't even have a roof yet? Of course not.
3. If you don't have a set of plans and want an environmental house then we refer you to our affiliated architects. They are REAL good people who love to design and build green – using in part our system!
4. If you want to build it yourself we advise you do at least a week of hands-on training to build the shell. (\$1,000 for this course.)
5. If you want to install the systems yourself, solar and AC ,you will need to budget another week (\$1000). NOTE: You will need a licensed electrician or have a certified solar licensee install the solar. Your best bet is to hire an electrician by the hour and let him pull the permit and do all the connections, etc. The power company will put in the new meter that keeps track of how much extra electricity that you sell to them. You need the permit and final inspection to get the \$30K Florida rebate.
6. If you'd like to be part of our sales or delivery team please send your resume by email to [Loftus@environmentalhouse.com](mailto:Loftus@environmentalhouse.com)

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