Solar powered container homes

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Anthony Richardson via Bowerbird

Off Grid solar powered shipping container cabin with an attached greenhouse. This is another Off Grid World original home design which combines the best of many aspects of off grid living. Shelter, food, and power. This design assumes water is readily available through a well or city water system. It might appear the cabin is placed directly on the ground, but this article assumes there are foundation pillars or a concrete slab foundation already in place under the shipping containers.

The idea of course is to build the simplest structure possible while still being sturdy, practical, efficient, and inexpensive. Building inexpensively seems nearly impossible in this day and age, but it’s truly not expensive if you use some creative material sourcing and throw in some good old fashioned hard labor and do as much as possible yourself.

I wanted to design something that met the basic criteria for self sufficiency while at the same time provided maximum living area, small footprint, and a large growing area to produce as much food as you could possibly eat.

Energy efficiency needed to be considered as well. Since the cabin will be powered by solar, there needed to be an efficient heating system. So borrowing from the Earthship design, I’ve combined several of the efficient systems used in Earthship design with shipping container home design and greenhouses.

I’ve personally always loved the idea of having an attached greenhouse, and the Earthship design is a beautiful example of this. Not only does having an attached greenhouse make it convenient to grow you food close by, it also helps heat your home in winter. Now in summer this might pose an issue, so in geographical areas which receive more sunlight or areas which are more arid, one could essentially build a thicker south facing wall on the exterior of the shipping container to better insulate the cabin.

This home starts with the most basic of structures and build onto it’s sturdy and efficient modular design. Shipping containers are also inexpensive and by using them for shelter, you’ll be recycling materials as well as creating a home for yourself.

Each shipping container is 40 foot long and has 320 square feet of space inside.

Stacking two shipping containers together doubles the living area and also provides some height that is needed to create a large surface area for the greenhouse that will be attached.

Shown above is a large wooden beam which will be the base to attach the greenhouse frame to. The frame can

be simple 2×4 lumber,or PVC pipe. The greenhouse panelscaneither be polycarbonate panels (which are pricey) or you can use roll plastic which won’t last as long, but will be inexpensive and get the job done.

The steep roof should keep all the heavy snow off your greenhouse.

You can choose to put vents in the roof and the sides of the greenhouse to circulate the air and manage the temperature/climate inside.

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