



My dream of an eco-friendly mansion

I have a dream. It is to live in a five bedroomed house with beautiful wooden floors, unique tiles and lot of natural light. It would have a front garden and a small kitchen garden where I would grow all my vegetables and fruit. It would use renewable energy for power and have a sustainable water system.

No more black outs, no more water rations, no burst sewer pipes, no more waste!

Where would I start? When one is looking for sound innovative technology at it's best you look to the Germans. In Neustadt an der Weinstrasse, South West Germany the citizens take their recycling seriously, so much so that there is a collection point at the recycling depot for dead animals.

"People bring their dead dogs here," says Stefan Weiss, one of the town's waste managers. "All these animals get rendered down at a nearby facility for their fat. It then gets used to produce things like this," Weiss says

, pulling a tube of lip balm from his pocket.

However, Michael Reynolds, a highly versatile and prolific eco-architect based in New Mexico USA, believes in the sustainable use of materials and the earth's precious resources. He designs buildings, where by owners can support themselves energy-wise and resource-wise (water and food) using the structure as the principal resource.

Unwanted garbage

Since the 1970s Reynolds has been designing and building 'earthships' sustainable, self-sufficient homes that can be built from recycled and natural materials. You'd think that being built from unwanted garbage they'd be ugly, collapsible and makeshift.

Yet these dome-shaped dwellings have been described as 'magical', 'beautiful', 'the eighth wonder of the world' even. Plus, they are sturdy enough to withstand earthquakes measuring force nine on the Richter

scale. The value of these houses lies in their self-sufficiency. They can operate entirely off-grid, with no power, gas or water lines coming in and no sewerage lines going out. The primary retaining walls are constructed with used tires, filled with earth and stacked up like bricks.

The interior surface of the tires is then plastered with adobe (sun dried rammed clay with a cement additive, which are pressurised to mould the blocks) or cement so the tires don't normally show.

Internal, non-load-bearing walls are made with recycled empty aluminium cans or bottle mortared into lightweight, curvable walls. The cans are set like honeycomb bricks and joined by concrete. These walls are usually thickly plastered with stucco. (a material made of an aggregate, a binder, and water.) The roof is heavily insulated for energy efficiency.

Earthships employ ecological concepts such as water catchment from the roof, reuse of grey water, composting toilets, and indoor gardening.

They also make use of solar and wind electricity, contained sewerage treatment and water-harvesting. Earthships are built to utilise the available local resources, especially solar energy.

School stuff

They even have internal space designed for growing food with drip-irrigation systems. What's more, Earthships are relatively easy to build. Reynolds says the technology is graduate-school stuff. It's easy. It's there for the taking.

Finally, it would be economically feasible for the average person with no specialised construction skills to be able to create. Imagine a home that provides its own water, its own energy and grows its own food. Imagine that it needs no expensive technology, that it recycles its own waste, that it has its own power source. I have a dream.

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