

Earth Sheltered Homes: Why Every Prospective Homeowner Needs to Get One

There is a growing need for new ideas on how to live comfortably while maintaining an energy-efficient, eco-conscious lifestyle. Many Americans are now aware of environmental problems like pollution, biodiversity loss, and decreasing abundance or degradation of natural resources; we have taken steps to minimize these problems. However, one important area often overlooked when trying to minimize large-scale environmental problems are our homes--not what we put into them or what we do in them, but how we build them. Most of us don't realize that much of the country's resources goes into the production of products and energy to maintain homes, and to supply them with heat and electricity. From this, it follows that the design and energy efficiency of a home is something that needs a second look if we want to try to conserve our nation's energy and natural resources.

This paper will focus on the advantages of owning earth sheltered homes over traditional, above-ground homes. These advantages will provide the primary reasons why most prospective homeowners should consider owning an earth sheltered home. An earth sheltered home is defined here as a structure partially or completely recessed in the ground, and not completely covered by earth. It has windows and doors just like other homes. It also has utilities like electricity, running water, and sewage disposal that other homes have. However, earth sheltered homes also have other features that make them superior in energy savings, maintenance costs, design flexibility, temperature comfort, and aesthetic appeal than most traditional homes. My claim: People should become more aware of what earth sheltered homes are, and eventually, to gain enough information to decide constructing an earth sheltered home over building or moving into a traditional on-the-ground home. This is because earth sheltered homes have proven themselves to be superior in energy efficiency and comfort, and to be cheaper to maintain in the long run, than traditional homes of the same size.

Reasons why people don't think they want to own an earth sheltered home

There are lots of reasons people might not want to live in an earth sheltered home. First, we don't see many people around us living in them, so we conclude that earth sheltered homes must be unpopular. Second, many of us may not even know what earth sheltered homes are. Third, many people hold the misconception that earth sheltered homes are cold, wet, and dark. We also have cultural fears of being "buried underground," and coupled with the mistaken notion that these houses are dark and damp, we don't want to live in them. Finally, people are deterred from owning an earth sheltered home because their construction cost can often be higher than that of a traditional home.

Lots of people we know aren't living in earth sheltered homes, so we think they're not commonplace and are only spectator structures. Therefore, people might not be very interested in them. Unless you're bored with traditional houses or are interested in building a more energy efficient home, you're not very likely to be or know an earth sheltered homeowner. This is simply because earth sheltered homes aren't around in places where people are perfectly happy living in their traditional homes and who don't feel they're having much of an energy conservation problem. If people aren't aware that earth sheltered homes exist and are a competitive, eco-conscious option to living in a traditional home, they won't be very interested in owning one.

In Stu Campbell's The Underground House Book, Campbell relates common thinking about houses in 1980 that is still present today--that people won't buy a book on underground houses because people aren't interested in building underground homes. "While my education in California real estate was going on, Roger Griffith, editor and friend, called me from Vermont and suggested I write a book about underground houses. My first reaction was, 'People will buy a book about underground houses?' " (3).

Many people hold the misconception that all earth sheltered homes are completely underground and are consequently wet and dark. We also have cultural fears of being "buried underground." Most Americans have a distaste for subterranean life that stems from our cultural upbringing. Being creatures restricted to the earth by gravity, human beings have held, at least since the beginning of recorded history, a polarized view of the earth. We still carry this view with us in the form of archetypes present in all cultures. There is the sky and the ground, up and down, Heaven and Hell. In the sky there is light; in the earth, there is darkness. Light

is viewed as a source of strength; darkness is its sinkhole. Campbell writes, "We like to think our prehistoric ancestors were smart enough to move out of their caves, gradually learning to build shelters from sticks and skins, stones and sod, mud, boards, and glass" (9).

Campbell also touches on cultural and emotional reasons why people might not want to live in earth sheltered homes. People don't like dark, damp places, and it is a common misconception that earth-sheltered homes are dark and damp because they are either partially or almost completely underground. "Any number of things explain our negative feelings," Campbell writes. "A lot of it is cultural. Heaven is always up; Hell is down. When we die, we get 'planted' in the earth. One of man's worst nightmares is that of being 'buried alive.' Almost as bad is the thought of wandering lost in dark, endless catacombs" (8-9).

The initial cost of building an earth sheltered home is often greater than buying or building a traditional home. Yes, earth sheltered homes cost a bit more to build than traditional homes, but the cost is very little in comparison to the benefits the owners will receive. Campbell asks an architect whether he could design an earth-sheltered home comparably sized to a traditional home for 10 percent below the average cost and while running on only half the energy of a traditional home. The architect responds, "A properly built underground house...would probably cost 10 percent more. But the energy savings should be more than 50 percent--possibly 75 percent. The extra construction costs would be paid back very quickly" (7). This reason emphasizes the fact that although earth sheltered homes cost a bit more to build than traditional homes, they quickly pay for their extra cost through energy savings much faster than any traditional home can.

Reasons why an earth sheltered home might be the best investment one will ever make

There are lots of reasons for not wanting to live in an earth sheltered home, but there are many more reasons why one should. Besides the obvious environmental benefits, earth sheltered homes offer homeowners superior comfort and flexibility of design than traditional houses can offer. Environmental benefits include conservation of natural resources and reduced environmental impact caused by construction. Earth sheltered homes are also easier to maintain and provide a comfortable indoor temperature regardless of season. They aren't dark or damp at all. And, whereas traditional houses can only be built into boxlike, rectangular shapes,

earth sheltered homeowners can design rounder, more curved homes. Finally, earth sheltered homes allow homeowners to earn incredible savings on their utility bills which will quickly pay back the extra cost of building the house over a traditional house.

Earth sheltered homes have an unmatched capability of maintaining a comfortable indoor temperature with only modest expenditures of energy. Perhaps the most amazing feature of earth sheltered homes is their ability to maintain a near-constant indoor temperature without any hassle at all. Unlike above-ground passive solar homes, which are quite popular in California and a few other areas in western states, earth sheltered homes do not require daily openings and closings of window sun covers to prevent overheating. The earth sheltered house just sits there, soaking up rays all day, and still manages to keep itself at a comfortable temperature regardless of the season. This is because the home's thermal mass acts like a capacitor for slowly storing and releasing heat. Claire Clair, a woman who built her earth sheltered home in Aguanga, California, "lived in her home for 9 years and has found that it sustains a remarkable year-round temperature of 72 degrees, plus or minus 6 degrees, making it one of the most successful passive solar houses in existence" (qtd. in Eco-Home Network 1).

The method of construction gives an earth sheltered home superior strength compared to traditional homes. Here is more evidence to support the claim that earth sheltered homes are stronger in design than traditional homes. People living along the East Coast fear having trees fall on their houses during hurricane season. If those same people had decided to live in earth sheltered homes, they would have little problem with trees falling on their houses and caving their roofs in. "As I scrutinized plans," Claire Clair says, "I couldn't help but read about earth sheltered homes and all of their outstanding qualities. Everything that I read was appealing, but particularly their strength. You can drive a caterpillar over the top of them without causing any damage" (qtd. in Eco-Home Network 4). If a bulldozer can't cave the roof in, then certainly a falling tree won't be able to do much harm. Readers might be asking, "Well, what about problems with flooding?" It's easy to imagine how an earth sheltered home can be viewed as a hole in the ground, into which floodwater can just fall into during flash floods. However, if earth sheltered homes are built on high ground, as all traditional homes should also be built, there is no more of a problem from flooding in such a house than in an above ground house.

Building an earth sheltered home makes less of an impact on the environment--both local and global. A traditional home's framework is made from concrete, lots and lots of wood, and metal to hold everything together. In contrast, the framework of an earth sheltered home consists of steel, concrete, and lots and lots of dirt. The steel helps to reinforce round rooves and walls; special concrete gives the home its basic shape and waterproofs it, and dirt is the extra thick equivalent of exterior paint or vinyl siding. Since an earth sheltered home does not require wood as its primary building material, forests are protected from loggers wanting to transform them into lumber. Steel is reclaimable from old unused cars, and the dirt used to cover the house automatically appears when excavating the site on which the new house will be built. The materials used to build earth sheltered homes are easy to come by. Also, since earth is used to cover these houses, vegetation can exist on the space taken up by the house whereas in the case of traditional houses, the house takes up a certain amount of space equal to its size in the ecosystem. Because of this, earth sheltered homes make less of an impact on the environment.

An earth sheltered home offers comfort, aesthetic pleasure, and more freedom in designing one's home. The natural world is an essay on roundness, randomness, and curvature. Go into any natural setting and you won't find many right angles. Why, then, are so many traditional houses built with rectangular rooms? In most of our houses, we have a cube for the kitchen, a cube for the living room, cubes for the bathrooms, and if we're lucky, we'll have rectangular solids for our closets and bedrooms. We seem to build homes that compartmentalize our belongings and lives, although we probably would much rather like to live in more spacious homes that remind us less of our cubicles or office rooms at work, and more of ourselves and the natural world. Many modern earth sheltered houses have just the thing to get rid of traditional cubicle houses--a round or some other curved design that also helps to add to the house's strength.

Clair was attracted to build an earth sheltered home because she wanted to have a home built to her needs. "At the time, I was pretty bored with traditional, square houses. I had the idea that I wanted a round house with a round floor plan that conformed. Earth sheltered homes came into my awareness because they tended to be circular with circular floor plans...I'm much more into my own concept than anyone else's and my idea of a home is a studio 'with a place to live.' One, big, circular room with a place to eat, a place to read, a place to

sleep, a place to cook and so on. You know, places, not partitions. I guess it relates back to my designing background" (qtd. in Eco-Home Network 3).

Earth-sheltered homes are easier to maintain and will deliver substantial energy and maintenance savings in the long run. Besides eliminating heating and cooling costs, earth sheltered homes decrease maintenance spending in other ways. You'll never have to paint your house again. Of course, above-ground homeowners solve this problem using vinyl siding. But, there's the problem with replacing roof shingles and cleaning vinyl siding every so often that's solved by having almost all the exterior walls underground. Termites and other pests inside the wooden walls? An earth sheltered home solves this problem by having waterproof concrete walls. Earth sheltered homes away from flood-prone locations are also protected from hurricanes, tornadoes, and even earthquakes more so than traditional homes because of their low profile on and in the ground. Of course, having a house in one piece will make it easier to maintain.

There is nothing anybody can really write in any paper that can convince readers to have an interest in earth sheltered homes. We must learn for ourselves to overcome our fears of things we haven't even learned about yet, and to actively search for ways to live a more eco-conscious lifestyle. By doing this, we can stop being ignorant of how earth sheltered homes can combine all the comforts we expect from a home with our need to respect and conserve the environment. In one last quote from Clair that I whole-heartedly agree with, "I think all the world's people and critters should attempt to live together in a synergistic partnership in which everyone and everything co-exists in harmony with nature and the environment. I think earth sheltered houses and their lack of heating and cooling costs, both monetary and environmental, are one, very important way to accommodate this process" (qtd. in Eco-Home Network 7).

References

Campbell, Stu. The Underground House Book. Vermont: Garden Way Publishing, 1980.

Earth Sheltered Home from Ecolution, the Eco-Home Network Newsletter. Eco-Home Network. 30 Sept.

1999 <http://ecohome.org/ecolution/earth_sheltered_home.htm>.

If you've ever lived on a farm or know anything about what farm life is like, you know how difficult it is for a family to approach or maintain a self-sufficient, sustainable lifestyle. It takes a lot of resources to clear land and build a home, and it takes even more resources to plant and harvest crops, feed animals, and to maintain the home. Most middle-class Americans are far removed from this kind of lifestyle; Middle-class Americans make up the majority of our nation's population, and consume much more energy and resources through

Yes, earth sheltered homes cost a little more than a traditional home to build. However, an earth sheltered home can easily pay back its construction cost within a decade in terms of energy savings. Also, because of their passive solar design, earth sheltered homes eliminate heating/cooling costs. The earth sheltered homeowner thereby helps to conserve resources such as firewood, natural gas, and fossil fuels used to make electricity for electric heaters.