

Sustainable Building Design for a Green Home

Building a completely “green” or sustainable home can be a difficult challenge - it takes careful planning.

The fact is: every decision in your building or remodeling project impacts both the environment and your finances. There are often multiple options that need to be weighed for sustainability advantages and disadvantages. You can make wise choices that result in green building if you are willing to put the time and effort in research and preparation. Here are just a few of the aspects of a green home that you will have to consider:

Sustainable Roofing

Roofing is a hard aspect to plan for green design. You want something that has minimal environmental impact, lasts a long time, and looks attractive. Green roofing options include tile, cedar shakes, and metal. Living roofs are growing in popularity, especially in cities. They are mostly flat and contain a layer of soil to support plant life. The plants can actually deflect heat from the building, providing an insulative layer. However, they are heavy, and the building’s infrastructure would have to be adequately designed to support the extra weight. The plants would also require watering.

Sustainable Decks

For an attractive and eco-friendly outdoor living space, the best material for a green deck is salvaged lumber. Other lumber is still less environmentally damaging than concrete or metal, as less fuel is used in making and transporting it. If the lumber has been harvested where good conservation laws are enforced, you will be using a renewable resource. Another possible option is composite lumber, which is made from recycled wood waste and plastics. However, potentially toxic materials are added in manufacturing the boards, and it is not as easy to work with.

Water Usage

When building a green home, water conservation is an important consideration. Efficient toilets are a must. Your home’s water usage will be reduced dramatically by using low flow toilets, as they can save thousands of gallons of water a year. A rainwater cistern that collects water to water plants is another great way to reduce water usage and use what you already have.

Heating and Cooling

An amazing amount of energy goes into heating and cooling a home. To save energy, a heat pump can be used to siphon ground heat when it’s not quite cold enough for the furnace or hot enough to kick on the air conditioning. This can save you energy, and also reduce your energy bills. Other energy efficient forms of heating include solar heat, pellet stoves, and radiant heat.

Paint and Finishes

Always choose paints and finishes that are natural and low in volatile organic compounds, or VOCs. After paint is applied, VOCs can still be released for years into the air. They are possible carcinogens and very hazardous for anyone with chemical sensitivities.

Flooring

Traditional synthetic carpet wears out quickly, is hard to recycle, and toxic to produce. For a more sustainable option, consider tile flooring made up of recycled glass, bamboo, wood flooring from recycled or sustainable sources, or old fashioned linoleum.

These are just a few of the factors to consider in designing a green home. Knowledge is power. Learn what your most sustainable options are and apply them, and you will be well on your way to inhabiting the perfect green home.