11 Green Building Materials That Are Way Better Than Concrete

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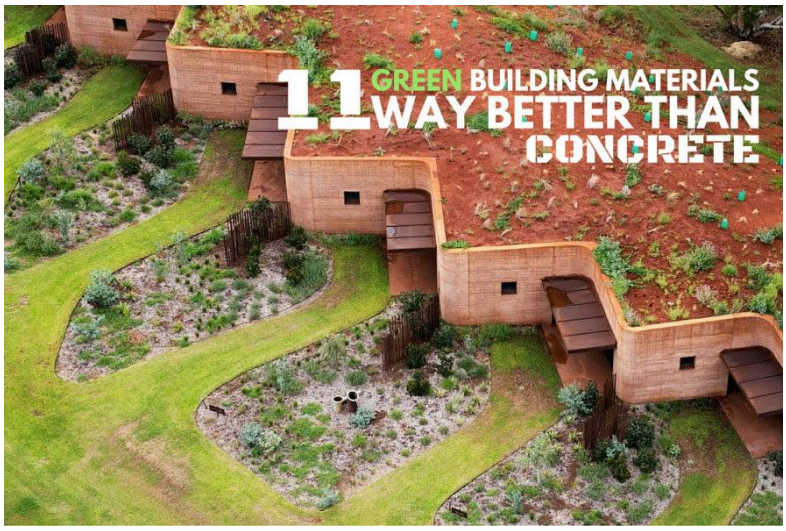
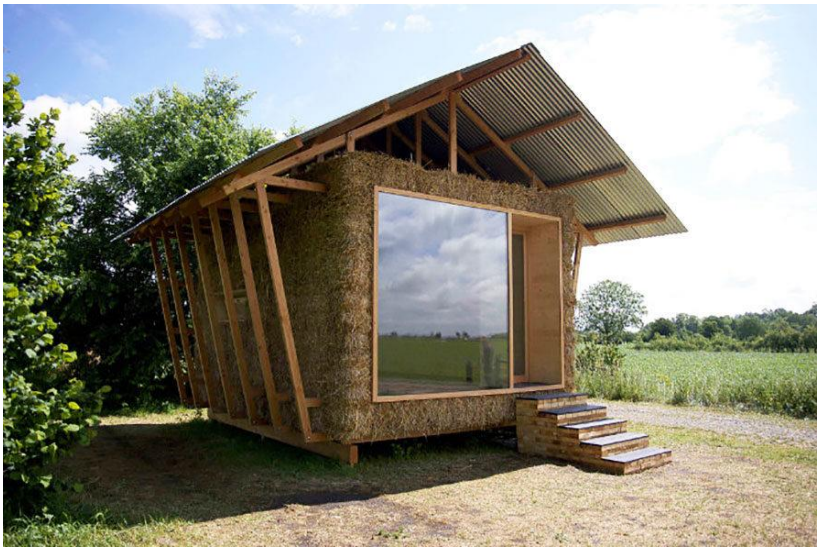


by Emily Peckenham



1. Straw Bales

Rather than relying on new research and technology, straw bale building hearkens back to the days when homes were built from natural, locally-occurring materials. Straw bales are used to create a home's walls inside of a frame, replacing other building materials such as concrete, wood, gypsum, plaster, fiberglass, or stone. When properly sealed, straw bales naturally provide very high levels of insulation for a hot or cold climate, and are not only affordable but sustainable as straw is a rapidly renewable resource.

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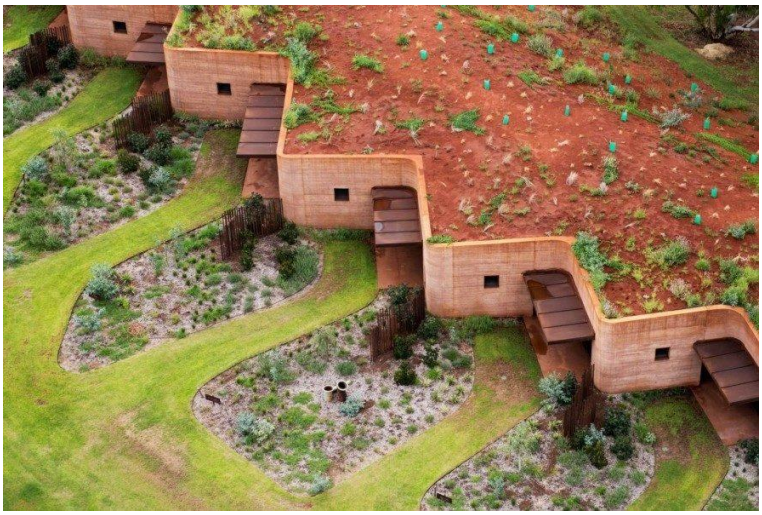
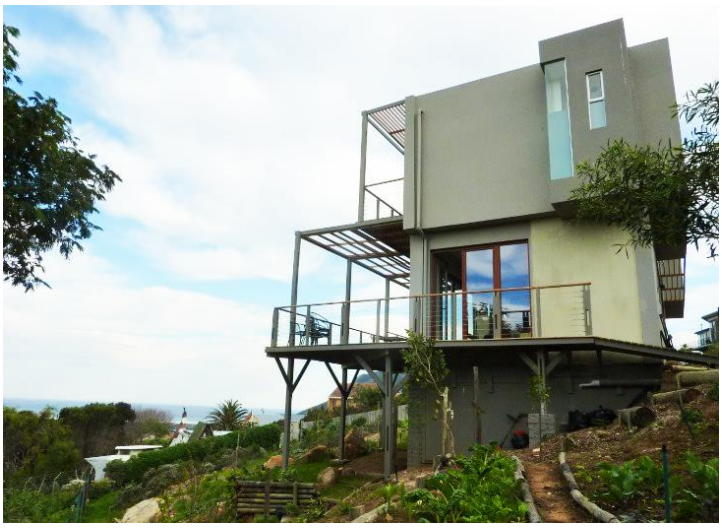
2. Grasscrete

As its name might indicate, grasscrete is a method of laying concrete flooring, walkways, sidewalks, and driveways in such a manner that there are open patterns allowing grass or other flora to grow. While this provides the benefit of reducing concrete usage overall, there's also another important perk — improved stormwater absorption and drainage.



3. Rammed Earth

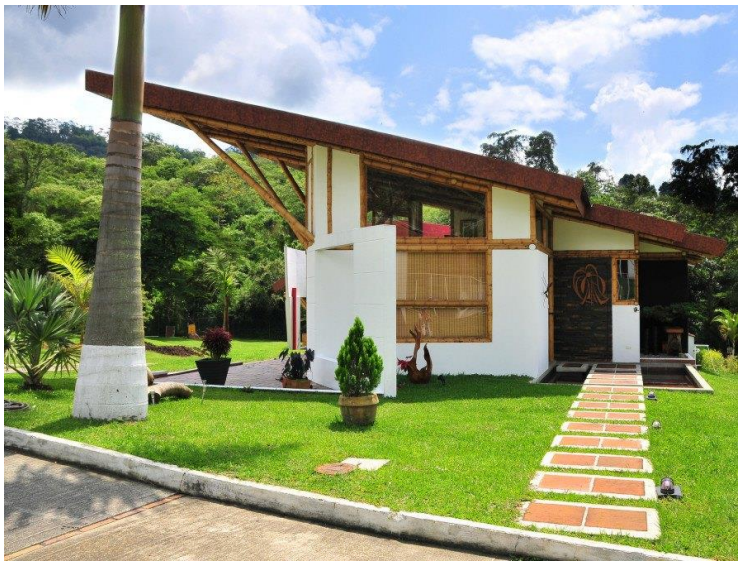
What's more natural than the dirt under your feet? In fact, walls that have a similar feel to concrete can actually be created with nothing more than dirt tamped down very tightly in wooden forms. Rammed earth is a technology that has been used by human civilization for thousands of years, and can last a very long time. Modern rammed earth buildings can be made safer by use of rebar or bamboo, and mechanical tampers reduce the amount of labor required to create sturdy walls.



4. HempCrete

HempCrete is just what it sounds like – a concrete like material created from the woody inner fibers of the hemp plant. The hemp fibers are bound with lime to create concrete-like shapes that are strong and light. HempCrete blocks are super-lightweight, which can also dramatically

reduce the energy used to transport the blocks, and hemp itself is a fast-growing, renewable resource.



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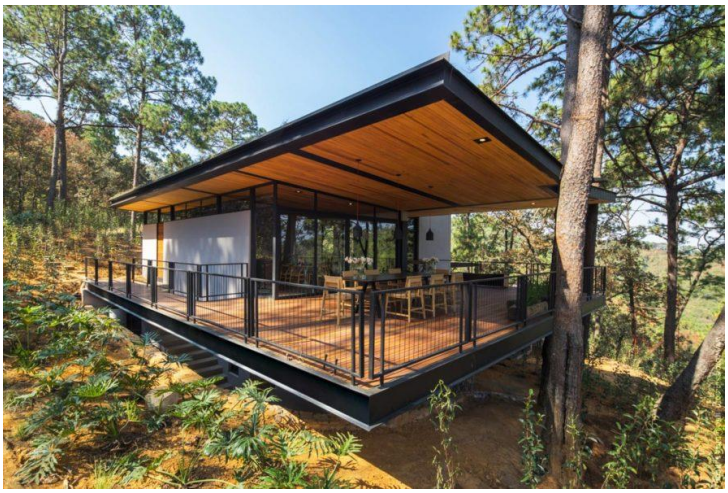
5. Bamboo

Bamboo might seem trendy, but it has actually been a locally-sourced building material in some regions of the world for millennia. What makes bamboo such a promising building material for modern buildings is its combination of tensile strength, light weight, and fast-growing renewable nature. Used for framing buildings and shelters, bamboo can replace expensive and heavy imported materials and provide an alternative to concrete and rebar construction, especially in difficult-to reach areas, post-disaster rebuilding, and low-income areas with access to natural locally-sourced bamboo.

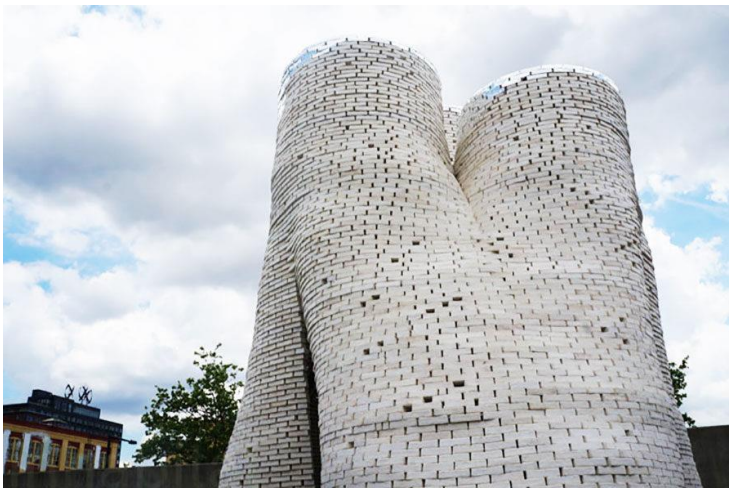
6. Recycled Plastic

Instead of mining, extracting, and milling new components, researchers are creating concrete that includes ground up recycled plastics and trash, which not only reduces greenhouse gas emissions, but reduces weight and provides a new use for landfill-clogging plastic waste.



7. Wood

Plain old wood still retains many advantages over more industrial building materials like concrete or steel. Not only do trees absorb CO2 as they grow, they require much less energy-intensive methods to process into construction products. Properly managed forests are also renewable and can ensure a biodiverse habitat.



8. Mycelium

Mycelium is a crazy futuristic building material that's actually totally natural – it comprises the root structure of fungi and mushrooms. Mycelium can be encouraged to grow around a composite of other natural materials, like ground up straw, in molds or forms, then air-dried to create lightweight and strong bricks or other shapes.

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9. Ferrock

Ferrock is a new material being researched that uses recycled materials including steel dust from the steel industry to create a concrete-like building material that is even stronger than concrete. What's more, this unique material actually absorbs and traps carbon dioxide as part of its drying and hardening process – making it not only less CO2 intensive than traditional concrete, but actually carbon neutral.

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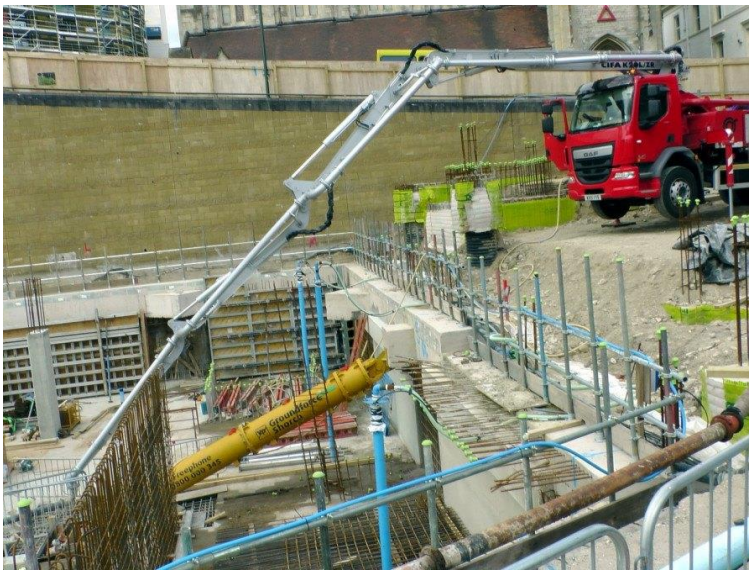
10. AshCrete

AshCrete is a concrete alternative that uses fly ash instead of traditional cement. By using fly ash, a by-product of burning coal, 97 percent of traditional components in concrete can be replaced with recycled material.



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11. Timbercrete

Timbercrete is an interesting building material made of sawdust and concrete mixed together. Since it is lighter than concrete, it reduces transportation emissions, and the sawdust both reuses a waste product and replaces some of the energy-intensive components of traditional concrete. Timbercrete can be formed into traditional shapes such as blocks, bricks, and pavers.