

Green materials can transform the construction industry

Transparent Wood. Invented by Swedish researchers, wood can now be treated and compressed to become a transparent material. [Transparent wood is created by compressing strips of wood veneer in a process that is similar to pulping.](#) This removes the lignin and replaces it with the polymer, making the wood 85% transparent.

Buildings that breathe. EcoLogic Studio has invented an algae-based 'cladding' system, called [PhotoSynthetica](#). Large panels are attached to new, or old, buildings which 'suck in' unfiltered and polluted air from the street that then rises up through the panels. The algae capture the CO₂ and other pollutants and releases photosynthesised oxygen back into the street or the building interior. The company claims that two square metres of PhotoSynthetica panels can absorb as much CO₂ as a mature tree.

Super-hydrophobic Cement. Scientists in Mexico have discovered that changing the microstructure of cement can make it absorb and reflect light, creating [super-hydrophobic cement, also known as luminescent cement.](#) The cement is able to absorb and reflect light, offering an alternative to street lighting as the ground would be lit up using this luminescent cement.

Breathe Bricks. Acting as a secondary layer of insulation, [these pollution-absorbing bricks](#) can remove 30% of fine particles and 100% of coarse particles, making air within office spaces and public buildings healthier to breathe. This is particularly useful as a way to improve air within buildings in areas with poor air quality. This is a cost-effective way to reduce air pollution, as it requires no further maintenance once installed.

Super Wood. Scientists have now discovered a way to add strength to wood by boiling it in a solution of sodium hydroxide (NaOH) and sodium sulphite (Na₂SO₃) before it is compressed. [The compressed wood is far stronger and more durable than wood in its natural state;](#) therefore, it can be used in a greater range of construction projects. The wood is so strong it can stop bullets, but is far lighter than comparable materials of the same strength.