



timber building



what is it?

Way before stone-age people lived in caves, trees would have provided a haven for our ancestors. And after caves, timber would probably have been one of the first human building materials.

Nowadays there are several styles of timber building. The eco-lodge (right) is an example of a stud frame with timber cladding. The 'skeleton' of the building is made of 'studs' – e.g. pieces of 6"x2" (150mmx50mm) timber of various lengths, fixed together with nails or screws. Then on the outside of this is fixed wooden cladding, and on the inside, insulation, and whatever you want your internal walls to be – possibly boards.

A timber frame building could have large timbers as its main structure, but the walls could be infilled with something else, for example bricks, straw bales or wattle & daub. A traditional timber frame building would have large square timbers with wooden pegs and mortice & tenon joints, with no metal fixings at all. This is the style of our old cottages, usually with wattle & daub infill and a thatched roof.

A round-wood timber frame building involves less 'processing' of the natural timber, as the lengths are not squared off, and the bark could even be left on. Even closer to nature, you could have a log cabin.

Timber can be used for a new build or an extension; and you can even use wooden shingles as your roofing material.



This stud frame house has timber cladding, but conventional roofing tiles; an alternative is wooden roofing shingles, which you can buy or make yourself. You can just make out at the base of the house on the right, that it's sitting on brick pillars.

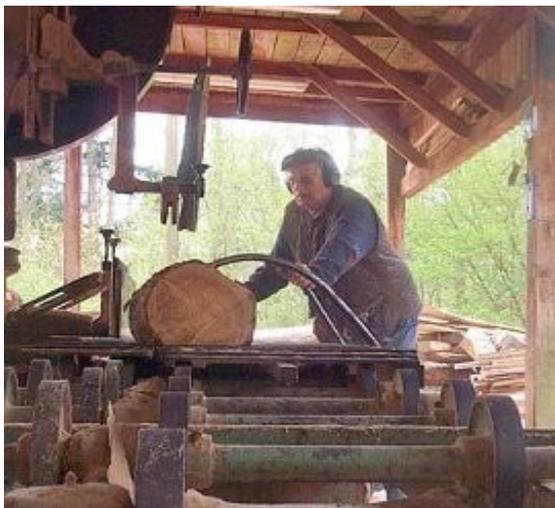
We don't have many timber houses in the UK compared to the US, Australia and New Zealand. That's probably because they fell out of fashion as we ran out of trees.

what are the benefits?

There's a lot of talk at the moment about carbon sequestration – that is, pumping carbon dioxide underground into the spaces that used to contain oil and gas. In this way, we avoid carbon build-up in the atmosphere. Well, another way of locking up carbon is in our homes. Trees take carbon from the atmosphere throughout their lives, and then we can sequester this carbon in timber houses. Bricks produce lots of carbon emissions and pollution in their firing and transport, and the cement industry is responsible for 10% of global carbon emissions (and rising). Timber buildings avoid the need for bricks or cement – even in their foundations. Because they are lighter than brick buildings, they can perch on pillars rather than extensive foundations, and those pillars could be natural stone and lime mortar.

The environmental benefits of timber are increased if the timber is local, and if new trees are planted to replace the ones cut down. The Forest Stewardship Council lists suppliers of sustainably-produced timber.

You can also use reclaimed timber for studs or cladding, and timber houses are, of course, biodegradable.



You can purchase locally-grown timber direct from a sawmill.



what can I do?

Various companies provide off-the-shelf timber houses, or will design and build one for you; alternatively you can have a go at designing and building your own. If you've never done it before, it would probably be a good idea to try a shed first, and to come on a course (see resources). If you don't have carpentry skills, you can often find basic carpentry courses at your local college.

If you can find your nearest sawmill, you can source the timber for the job from there, cut to the dimensions you need. This is a better source than most builders' merchants, where the timber will probably be imported.

Of course you will need planning permission, and after that you will need to make sure your ideas conform with building regulations. There are two ways to do this: full plans, where everything is organised before you start, including specifications; and building control, where the finer details are worked out as you progress. You will need standard carpentry tools, nothing particularly specialised – but don't buy cheap ones, as they won't be good enough quality.

Foundations don't need to be as extensive as those required for a brick building, as timber buildings are lighter. A shed could sit on paving slabs or stones, and a house could be on brick or stone pillars.

You can find reclaimed timbers, plus windows and doors at salvo.co.uk. You could be a purist and only use natural materials in your timber house, but if you do come across synthetic reclaimed materials (for example, polystyrene for insulation), then from an environmental perspective, it may be better to use them than landfill them.

You could use a wide range of roofing materials, including reclaimed slates or tiles, recycled plastic slates, wooden roofing shingles (buy or make your own), or 'onduline' (corrugated sheets of pressed bitumen) is a relatively cheap and quick alternative.

Traditional timber frame builders tend to use oak or ash – very durable and hard; for stud



Finishing off the stud frame, onto which will be fixed insulation, exterior cladding, interior walls and roofing material.

frame building, larch, douglas fir, cypress and western red cedar all have natural durability, and won't need preservatives if kept dry.

Timber houses are obviously more of a fire risk than brick houses, but not much more if you use common sense. If you have a wood stove, make sure that it's not too close to anything flammable, and that the flue is insulated when it passes through the roof.

resources

- lowimpact.org/timber-building/ - for more info, courses, links, builders and books, including:
- Andy Reynolds, *Timber for Building: Turning Trees into Houses*
- Elliott & Wallas, *The Timber Framing Book*
- Sam Clark, *Independent Builder: designing & building a house your own way*
- Klein & Leckart, *Cabin Porn: Inspiration for your Quiet Place Somewhere*
- Jack A Sobon, *Build a Classic Timber-Framed House*
- Ben Law, *The Woodland House*, (incorporates round wood, straw bales and shingles too)
- fsc.org.uk - Forest Stewardship Council, certifying timber sourced from sustainable forestry
- structuraltimbermagazine.co.uk – Structural Timber Magazine

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