

Don't let my timber dream go up in smoke

Ask the architect

How to build fire protection into your house, and ways to make your home comfortable for old age. By *Anthony Thistleton* and *Sarah Wigglesworth*

We are in the early stages of building our next home and want it to be as sustainable as possible and built from timber. But we are concerned that timber is a fire hazard. What do we need to consider?

There is a common misunderstanding that timber construction is more susceptible to fire than other building materials. The cause of most domestic fires is electrical faults or people, such as smoking or kitchen accidents — fires very rarely start in the structure.

The fact is that all materials have some vulnerability to fire, for example, steel softens and concrete explodes.

Timber has a unique quality in that when it burns, the char that forms protects the material beneath

The key therefore is to protect the structure to ensure that the building retains its integrity to enable inhabitants to escape and allow time for fire fighters to deal with the blaze.

Timber has a unique quality in that when it burns, the char that forms protects the material beneath. In large timber pieces such as glued laminated, or glulam, beams or cross-laminated timber (CLT) panels, the structure is made safe by this self-protecting process. A space enclosed by solid timber CLT panels will form an effective compartment holding the fire in the room where it started for a long period and stopping it spreading to the

rest of the building — which is one of the most devastating aspects of a fire.

There are many other ways to reduce fire risk, such as installing a low-voltage smart power system and installing a smoke and heat detection system linked to your phone.

It is great that you are thinking of using wood. It is the only carbon-negative building material and using it helps to drive reforestation — which is the only way we can hope to meet the CO2 reductions needed to save the planet.

Anthony Thistleton of Waugh Thistleton Architects, waughthistleton.com



James Fryer

Can I future-proof my home?

I've recently retired and downsized to a property that needs cosmetic work. I would like to be here for a while. What are the practical ways of future-proofing my new home for older age?

Focus on the following:

- **Connectivity.** You have already downsized, so hopefully you are close to amenities and transport links. Ensure that you have good-quality broadband as digital technologies such as a ride sharing app could be beneficial.
- **Space** Daylight and vertical connections can make a home feel more spacious. Can you introduce new windows, make double-height spaces, or combine rooms to make larger, flexible spaces — for friends, family or a carer?
- **Accessibility/adaptability** Are you in a position to widen doors and hallways or convert your bathroom to be wheelchair-friendly? Can you extend or remodel to accommodate live-in carers?
- **Being green** Reduce your energy bills and increase access to nature. Improve the thermal performance and air quality by adding insulation, increasing air tightness, using non-toxic products and having indoor planting/window boxes.
- **Comfort/pleasure** Make sure that your home is comfortable. Ensure rooms are well-lit and echo-free. Fittings and fixtures should be at heights that are easily reachable, and doors/windows should not require too much strength to open.
- **Manageability** You do not need to relinquish control of the management of your home, but you can change some aspects so that they are easier to maintain, for example, by having potted plants rather than a flower bed.

● **Being social** Contact with people is good for health, so make sure you are set up for hosting people. Do you have a porch area where you often bump into your neighbour? If so, spend time here and make it pleasant.

Sarah Wigglesworth of Sarah Wigglesworth Architects

Opinions in this column are for general information purposes only. They should not be relied on as a substitute for bespoke professional advice.