



RECYCLED APPEAL: Timber is an easy material to work with and requires relatively basic skills, making it ideal for owner-builders.



The bare necessities

Felicity Richardson discovers the lifecycle of organic building materials

SUSTAINABILITY is a word on many people's lips and when it comes to building or renovating, and it is a practice that can easily be followed.

With many Sunshine Coast builders applying sustainable principles, it has made it a lot easier for those who are building or renovating to use like-minded industry professionals.

"Sustainability has always been an interest of mine, and when we started the business over six years ago, that was part of our company plan to be proactive in that area," Altum Constructions' director and green-star accredited builder Rob McCready said.

"When you are a builder, it's very easy to overlook that. We just wanted to make sure we are trying to use better practices than what the norm is and to offer some alternative ways of building."

It's about education as well, Rob continued, and with sustainability and the issues of global warming and

resource conservation becoming increasingly important, Altum engages with clients, designers and consultants in the early stages of each project, and encourages them to adopt environmental initiatives.

"We can present different ideas and environmentally sensitive design ideas to potential clients and get them to start to think about what they can do also," he said.

"We look at a range of different things right from the start when we get involved in the design of the building. We look at what sort of materials we're using, how it's going to be built and the lifecycle of the materials we use. We also look at the emissions that the building is going to end up producing and we look at the indoor environment quality."

Part of sustainability for Altum Constructions is not just energy control; it's a broad range of things including sourcing products locally where possible.

"Take timber for example. We have plantations with enough different species of trees that we can generally

source local plantation timbers," Rob said, adding that the use of recycled timbers is popular at the moment, with the cost now sometimes equal or more than plantation timber.

"People like the idea that they are using recycled timber and they also like it for its aesthetic appeal. I love the aesthetic of recycled timber," Rob said.

"If I'm using recycled timber, I'll make it the feature of the house. For example we got some fantastic old red iron bark for a house we just built on Peregrine Esplanade at Peregrine Beach.

"The really big timbers came from a man out towards Dalby that had a contract to demolish a whole heap of bridges on the eastern Darling Downs. The big old bridges are being replaced with concrete ones so we got some fantastic timber that would be about 100 years old with huge bridge bolt holes through it. We re-milled that, tidied it up and used that for a large part of the structural frame of the house."



Recycled timber in demand

FOR the environmentally-conscious architect, builder and/or home owner, timber is a logical choice.

Offering the builder or designer several environmental advantages, using sustainably sourced timber can help tackle climate change.

Pomona New and Recycled Timbers consists of two companies, the first being the recycling yard at 25 Hill St, Pomona. The second is Precise Contracting Pty Ltd, their demolition and asbestos removal arm.

"We demolish structures all over Queensland and then freight the salvage back to Pomona for recycling," owner Mark Edwards said.

"This enables us to offer a wide range of

recycled timbers to retail, DIY and builders. We deal often in species, lengths and sizes no longer commonly available. Our demolition crews are well trained to salvage everything possible from the sites. This allows us to offer a wide range of products other than timber including doors, windows, roofing iron, structural steel, kitchens, bathroom fixtures, cabinets and a constantly changing stock range."

Mark has noticed an increase in demand for recycled products over the last five to 10 years. He believes this is due to a number of factors.

"People have become more environmentally aware and now realise we must recycle our resources for a sustainable future," Mark explained.



Renewable materials

Concrete

Concrete is an excellent material for creating thermal mass in a passive solar designed home. In temperate and cool climates thermal mass helps regulate a home's temperature and keep it warm in winter and cool in summer.

ICF blocks

These are a relatively new building system that started in Australia with thermacell blocks. Generally, these systems consist of a range of wall blocks and corner blocks that are assembled onto a solid foundation.

Timber

Timber is probably the most commonly used building material there is. It is strong, flexible, readily available and providing it is sourced properly, is a renewable resource.

Mudbrick

Often made on site from local soil, providing there is enough clay content. The soil is mixed with water and reinforcing materials such as straw and even cement and then pressed into wooden forms and allowed to set.

Strawbale

Strawbale building like mudbrick is a good sustainable choice as it is made from natural materials they are a sustainable, recyclable, non-toxic and healthy form of building construction. Rectangular strawbales are stacked up to form walls, fixed in place with metal or wooden pins, and then trimmed and shaped (often using a chainsaw) before being rendered with mud or cement based renders.

Timbercrete

Timbercrete is a combination of timber waste (sawdust) from various sources and concrete. This results in a material that is lighter than solid concrete, but of greater strength and with better insulating capabilities.

Rapidwall

Rapidwall is a load-bearing wall construction system that uses large prefabricated panels to assemble both inner and outer walls in one go. The panels are made of fibreglass reinforced water resistant gypsum plaster which is moulded to the required size.

Rammed earth

Not to be confused with mud brick, rammed earth is a precisely controlled mixture of gravel, clay, sand, cement, and sometimes lime or waterproofing additives.

Brick

Common clay house bricks as a building material have the advantage of high thermal mass, so they can be used to store or absorb heat to help provide temperature stability inside a home.

Source: <http://builditbackgreen.org>

of smart building

Additionally, concrete was also used in the home which, in July, was acknowledged by Master Builders Sunshine Coast, taking out the awards for Best Use of Timber and the award for Quality Workmanship.

"There are a couple of reasons why we use concrete. One is that it offers a great thermal mass so in a warmer climate like this, if you have a shaded concrete floor, it keeps cooler during summer and a more stable temperature in the house," Rob suggested.

The Australian Government's Your Home Technical Manual describes thermal mass as "the ability of a material to absorb heat energy. A lot of heat energy is required to change the temperature of high density materials like concrete, bricks and tiles.

"They are therefore said to have high thermal mass. Lightweight materials such as timber have low thermal mass. Appropriate use of thermal mass throughout your home can make a big difference to comfort and heating and cooling bills."

“If I'm using recycled timber, I'll make it the feature of the house”

Rob added, "you can also use concrete in either north-facing walls or floors that are exposed to the lower northern winter sun. This helps warm that floor or wall so that when the sun goes down, it keeps in the warmth which has been generated during the day and helps radiate that through the house during the cooler nights," he said.

"The other thing is that the lifecycle of concrete is fantastic. If you have poured it well and you have looked after it when you've been placing it and curing it, it will last for hundreds of years.

"Then when the house needs to be demolished, the concrete can be recycled."

Together, concrete foundations and recycled timber features provide a home that is as aesthetically appealing as it is practical. As a result, the home feels strong reflecting it's natural surrounds.

"It does feel good. It keeps the feeling a bit earthy and very strong," Rob said.

for its stability and strength



LOCAL: Pomona New and Recycled Timbers owner Mark Edwards.

"Also governments now state a percentage of materials for new projects must be recycled where possible. Although now well managed, our forestry reserves are strugg-

ling to keep pace with demand both domestically and internationally. This is driving up our new timber prices annually. However recycled costs are labour driven and do not experience this annual price rise to the same extent.

"Recycled timber in itself offers advantages over fresh sawn. It has naturally dried making it more stable, no shrinkage and is stronger."

Pomona New and Recycled Timbers also supplies all new timber products, such as hardwood scantling, flooring, decking, ply, pine frame and engineered timber products.

"As recycled timber is not produced to order, we can only supply what is available at the time or take orders on what we may salvage in the near future," Mark said.

