Backing the green horse

Bricks and mortar have long been a trusted safe bet. **Warren McLaren** reports on what makes straw an even safer bet.

For the most part, developers and builders have not wanted to gamble on another horse in their race. But members of the general public have been prepared to take a punt on the long odds, with the expectation of reaping a greater return. Some have even been turning their back on the course favourite of brick veneer, opting instead for the apparently fresh filly of strawbale construction.

But strawbale is not a new phenomenon. It is a construction medium that dates back 100 years, when farmers on the treeless grasslands of America's Great Plains used their hay balers to make not cattle feed, but giant Lego style building blocks. And our own Melbourne even has straw panel homes that have been going strong for the past 60 years.

Bridget Puszka, principal architect at BP Architects, was approached by clients wanting her to design a house to suit an unfinished post and beam farmhouse on their land in Gippsland, Victoria. One half of the couple wanted to make the dwelling as environmentally benign as possible, and both were keen for the external walls to be strawbale.

The client was keen to raise the bale walls themselves, with assistance from friends and family, but with everyone being time poor these days, it did not pan out that way. The local builder initially contracted for the job was reticent to tackle a building material he had little experience with. So, in the end, an experienced strawbale team travelled from Central Victoria to complete this aspect of the project. The bales also came from that region, working out at around $10 per bale, delivered.

In all it did not come in as economically as Puszka's clients had first envisaged. She does, however, feel that monetary pay back is often an overstated argument. Comfort, aesthetics and atmosphere are very positive intangibles hard to put a price on. She points out that the other half of the couple was, at first, very sceptical, but is now a complete convert, eager to send her data showing how the house provides a very liveable internal temperature, regardless of the outside conditions. The house has since been opened up for the 2008 Sustainable House Day Tour.

Not only are home owners embracing the benefits of strawbale construction, so too is the commercial sector. Gail Gipp is manager of the Australian Wildlife Hospital, the largest operational element of Wildlife Warriors a an independent charity established b the late Steve Irwin and his family. S thousand wildlife animals are treatec each year by the hospital's 97 volunteers and 23 staff. Those sorts of log tics are not best served by a convert avocado packing shed, so Gipp hatched a plan to build, what at the time, would be the largest wildlife hospital in the world. Made of straw

Gipp looked up everything she co on the subject. Eventually she found herself in touch with Andrew Webb, director of WD Architects, and Fran Thomas of Yesterday-Today-Tomorro Strawbale Construction. They ended up crafting what is probably the larg strawbale building in Australia. Bein open to the public, the hospital wall required a durable, protective skin. This was achieved by rendering then with lime, which cures to a rock har surface. Internally, Webb added rammed earth walls, harnessing its thermal mass to even out swings in temperatures.

The strawbale construction has become as much of a talking point a the hospital's work of animal welfare

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Gipp explained this is intentional. "Not everyone is interested in animals. You'd be surprised how many visitors are here because they were dragged along by their other half," she says. "I wanted those people to also gain an environmental education." Gipp relates an encounter with a surgeon who was visiting the hospital and commented it was "nicer than any private ward I've attended".

Like Puszka with her residential strawbale project, Webb feels that many people believe, for various reasons, that DIY bale raising events or using an agricultural waste material that is a strawbale structure, will work out cheap. However, according to Webb, it still remains a labour intensive construction method, especially in prepping the walls for their three coats of render, even if spray is applied, rather than hand trowelled.

Thomas agrees. After working on nearly 90 strawbale buildings in more than 10 years, he believes that without going to the effort of arranging workshops to facilitate free labour, clients should expect their strawbale building to cost the same as a conventional one. After all, as he points out, the walls are probably less than 30 per cent of the total cost of the structure.

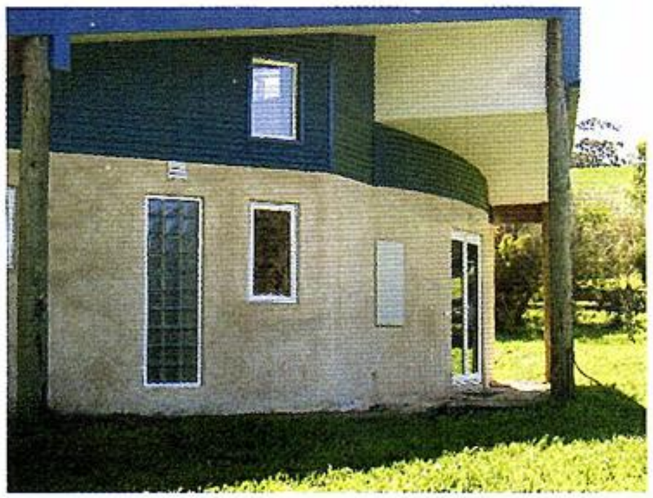
But all agree that wonderful aesthetics aside, strawbale construction affords strong, long-term energy efficiency returns. Thomas has sighted test results that rate rendered strawbale walls at R8 and R10. Even using the conservative figure of R4.8, which is the one nominated in the Gippsland farmhouse 6 star energy rating, insulation standards are exceeded.

When asked what it would take for century old strawbale construction to move more mainstream, Webb did not seem overly worried as most of the residential projects on his books were currently employing strawbales. He did observe that an enterprising individual who can make bales more regular would be well received.

For Puszka, it comes down to the industry at large taking note of market forces and responding proactively to the client side demand for greener homes.

Thomas, convinced that strawbale interest is already there from home owners, thinks the key now is to remind building professionals that all we are really talking about is an alternative envelope of the house. All the skills are still required to construct the rest of the building, it is just that they would now be backing the horse with the bright green colours.

A wall raising working bee in Sutton Forest, Southern Highlands, NSW. The strawbales carry the main load of the roof and the posts are only used where openings are situated. (Image courtesy of Yesterday-Today-Tomorrow, Strawbale Construction)



Mirboo House, designed by BP Architects, received a Highly Commended in the 2008 BPN Environ Sustainability Awards.