



LOW-COST STEEL STRUCTURE SCOOPS THE TOP PRIZE IN THE 'SELF BUILD ON A SHOESTRING' DESIGN COMPETITION

5 October 2013

An innovative self build house – that utilises an incredibly low cost off-the-shelf agricultural barn structure to form the basic 'envelope' for the property – has won the top prize in the competition. The two/three bedroom house that sits beneath this 'envelope' is very generously proportioned (100m²) and super insulated - yet costs just £41,000 to build.

The design was submitted by architect Ed Green; an associate with Cardiff based Pentan Partnership. Mr Green was presented with his cheque by TV presenters Kevin McCloud and Charlie Luxton on Saturday 5 October at an awards ceremony held at the Grand Designs Live exhibition at the NEC in Birmingham.

The competition was organised by the National Self Build Association (NaSBA) and the judges included Kevin and Charlie, the Mayor of Bristol George Ferguson (a former president of the Royal Institute of British Architects) and the chair of NaSBA, Ted Stevens. Seasoned self builder Geoff Stow was also a judge.

The competition was open to anyone, and the brief was for entrants to come up with innovative, sustainable and good-looking ways of self building a typical home for a family of four. All the entrants had to provide a detailed cost report that demonstrated that the house could be constructed for less than £50,000.

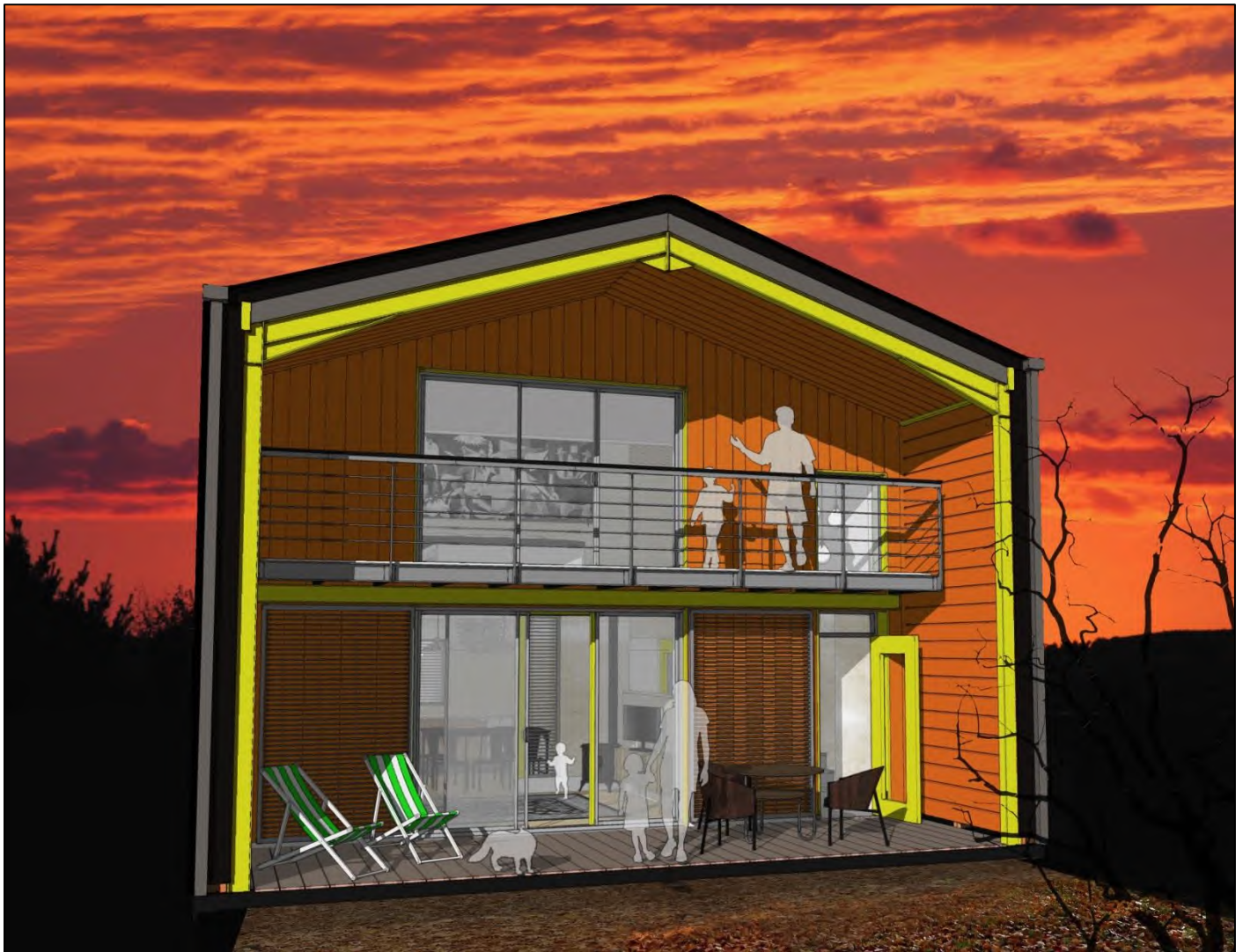
Mr Green's winning design – called BARNHAUS – utilised a standard modern steel barn frame to form the basic covering for the home, as it only cost about £2,500. He then lined it internally with lots of insulation (straw bales are a very cost effective option), and inserted doors and windows at either end. The result is a large home (100m², making it much bigger than most of the starter homes available from the volume housebuilders), for just £41,000.



The competition was sponsored by the Grand Designs Live exhibition, and all the top 16 entries are currently on display at the NEC until Sunday. The organisers are now exploring if it is possible to build a full mock-up of the winning entry at the next Grand Designs Live exhibition in London next year.

NaSBA chair and judge Ted Stevens said: "We have been overwhelmed by the calibre of ideas and innovations suggested by entrants. All of the submissions were accompanied by a detailed cost report, so it proves that it really is possible to get a great looking family house built for under £50,000 – if you are prepared to be innovative and do some of the construction work yourself."

Ed Green is a 39 year old architect who lives with his wife and three children in Cardiff. He says he's passionate about building his own home in the near future, and he's very committed to the sustainability agenda. "The simplicity of the BARNHAUS, and the fact that it's really, really buildable for a very modest budget are what make it special," he said. "The result is a much larger home than normal and a very spatially rich internal volume. I think the design proves that everyone can have a home that they really love for just £41,000. And if this design could be replicated and made available widely I think there are tens of thousands of families in the UK who would want to build one."



The competition generated 39 entries and many clever ideas for building cost effective, simple-to-construct homes. Among the other entries were innovative solutions that included:

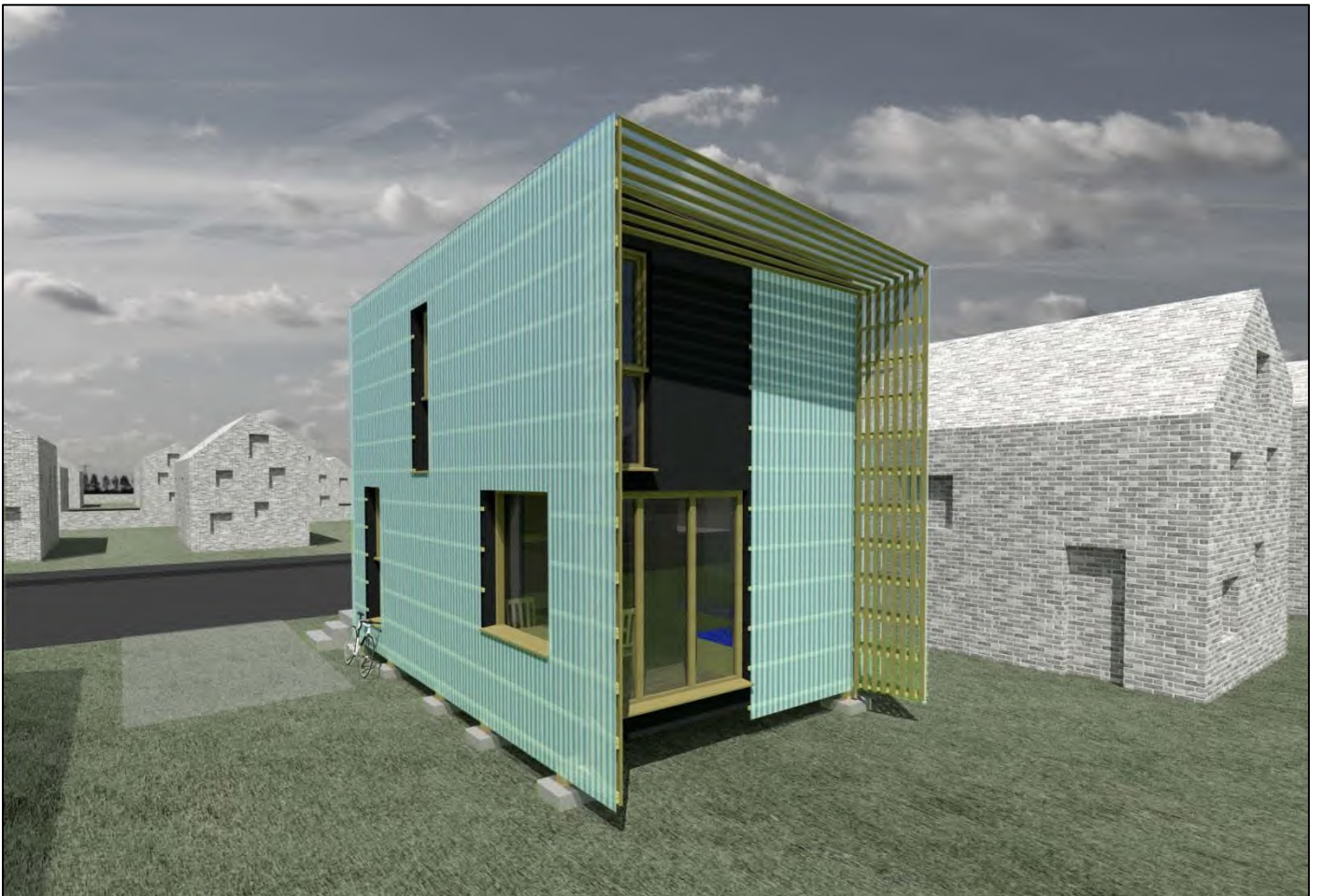
*A house built from cross-laminated timber panels (right) that are then wrapped in EPDM rubber (ethylene propylene diene monomer) to make it super airtight. The result is a very good-looking two bedroom home.

*Building a home using a series of standard 'cubes' based on a 3.6m x 3.6m module (below). Six of the cubes can be arranged in a number of configurations to provide a lounge, kitchen, diner, bathroom, and two bedrooms. Each cube can be built by the average DIY-er and all the materials, fixings and tools can be ordered online from a builders' merchant. The other clever thing about this approach is that there are hardly any wasted materials (as the 3.6m dimension uses standard lengths of timber, and plasterboard and other sheets come in 1.2m widths - so three of these drop straight into place on a 3.6m wall with no cutting. And with kitchen units 0.6m wide these also fit perfectly).

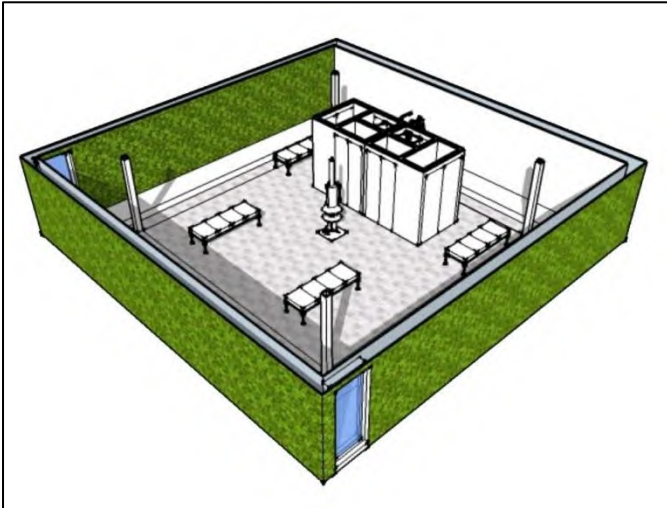




***Employing a range of very low cost foundation solutions. With most houses the cost of the foundations and the ground floor slab can run into tens of thousands of pounds. So several of the entrants devised solutions (example below) that radically reduced the need for such extensive works – by designing homes that were relatively lightweight in the first place, and employing much simpler (and significantly cheaper) pad foundations.**



* A very simple square bungalow (where all four walls are the same - making it extremely cheap and easy to build) that is then fitted with a factory produced "service module" that has all the fancy bits in it for the kitchen and bathroom (below). By keeping this module very compact and including all the heating, cooking and other services in one focused unit it makes the actual construction of the rest of the house very easy, cost effective and simple. This little building costs just £24,000, if the self builder does all the construction work.



* A 'contemporary cottage' (below) that consists of four factory-made super-insulated wall panels that can be erected in 3-5 days.

Once this basic envelope has been constructed the self builder can then easily finish the homes off. And as the house is so ultra-energy efficient it costs just £60 a year to run.



ENDS

NOTES:

- *For further information about the competition, please contact Ted Stevens, Chair of NaSBA on 07860 336087.*
- *The winner, Ed Green, can be contacted on 07731 310805.*
- *To request high-resolution versions of the above images, please contact Tom Lowe, NaSBA Media Manager on 07557 129229 or email info@nasba.org.uk.*
- *To see the competition brief, please visit www.nasba.org.uk/selfbuildonashoestring.*