



SHEEP VS GRASS



With all great movements come fresh ways of thinking - some good, some, frankly, not so good. **Roxane McMeeken** asked five sustainability experts to name their favourite green ideas and those that they would send straight to the recycling plant

FIVE GREEN DUDS

1 **Sheep's wool insulation** *Nominated by Brian Mark, director, Fulcrum Consulting*

Sheep's wool insulation should be a gem of a green idea - it's warm, breathable, from a renewable source and takes a fraction of the energy to produce of other types of insulation. Which is why Brian Mark tried it. "I literally bought some sheep's fleeces, mixed them with Borax and put them in the walls of my house."
Borax is an insecticide and it's used to stop moths from getting into the wool; Mark used it because it was the least potent chemical he could find. He was told it would last for four years. "It lasted for four years and a day. After that I couldn't breathe for moths."
Mark says: "You need a really powerful pesticide to keep pests away. You're talking about the kind of stuff that will kill animals for 100 years. How green is that?"

sustainability terms a couple of thousand years ago: "Most of the eco-towns being floated are simply new towns with 'eco' sprayed on to help them get planning permission. In a true eco-town, everything should be in walking distance and the location should be a natural economic centre, like London in Roman times."

3 **Go-slow kitchen taps** *Nominated by Bill Gething, partner, Feilden Clegg Bradley*

"I can think of nothing more irritating or pointless than restricted-flow kitchen taps", says Bill Gething. Such taps, rapidly becoming a staple in eco-showhomes, aim to reduce your water usage. But Gething says: "I don't have a problem with them in the bathroom, but if you are running the tap fast in the kitchen, there's a reason for it. If you want people to use less water, charge them for it. If a tap doesn't run fast, rip it out and fit a better one."

4 **Code for Sustainable Homes** *Nominated by David Strong, chief executive, Inbuilt*

It may seem like a controversial choice, but David Strong reckons this green initiative often creates a "perverse" outcome.

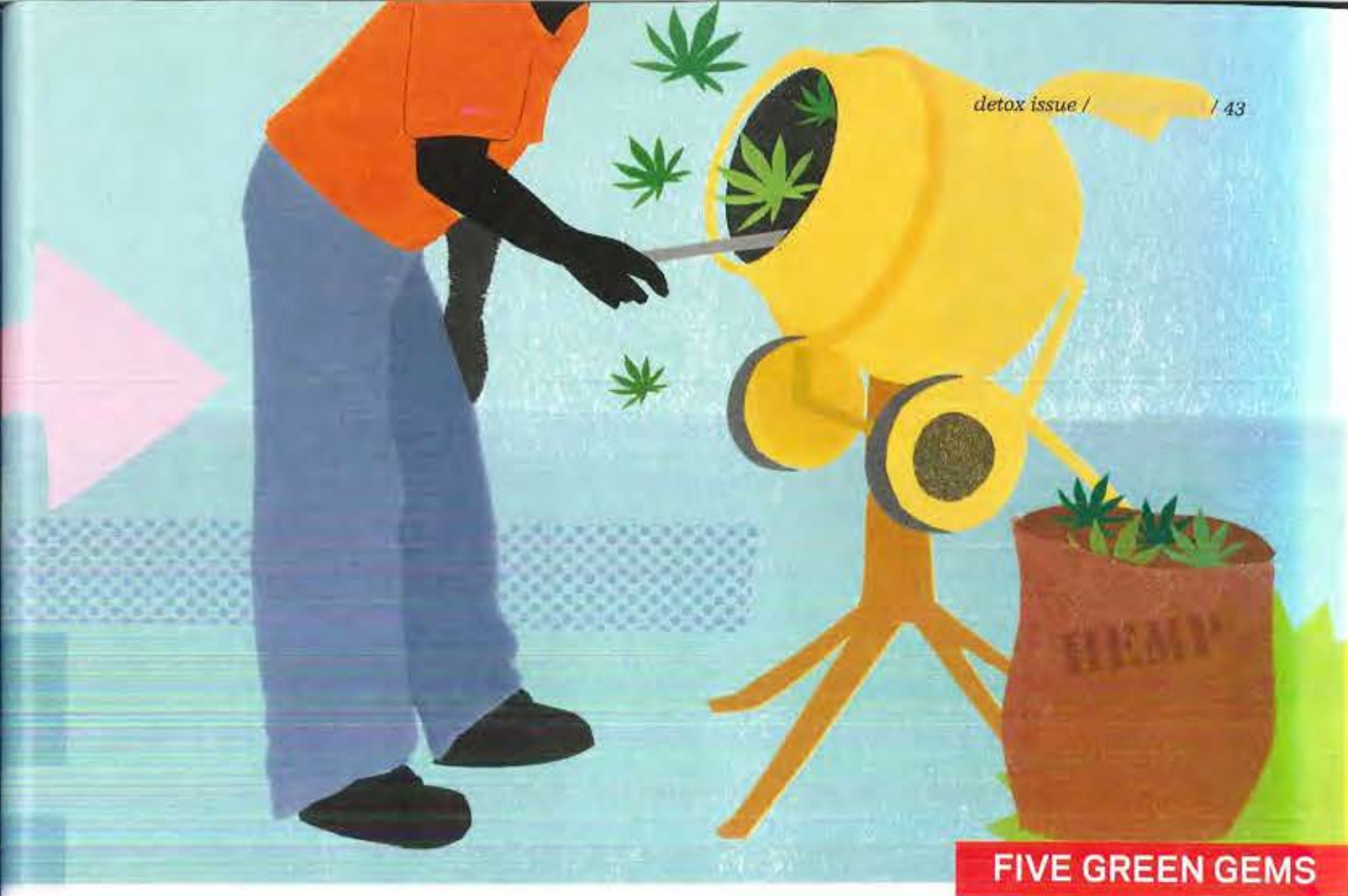
Strong says the government's ambitions to make all new homes zero carbon by 2016 is admirable on the face of it, however developers' attempts to comply with the code can result in distinctly unsustainable situations. For instance, making a home airtight gains credits even if it creates poor air quality, while you also get points for unshaded glazing and high standards of insulation, which can lead to over-heating in summer.

Monster cables and space brollies

5 *Nominated by Bill Dunster, founder, Bill Dunster Architects*
Bill Dunster reserves his scorn for two wildly ambitious schemes. One is a proposed £35bn project to put solar panels in the Sahara desert and send the power they generate down a giant cable to Europe. This is "an idea loved by all developers who don't want to meet their renewable energy targets. It is the ultimate off-site power generation fictitious fandango. And the cost would be unheard of."
Space umbrellas, proposed to shield the earth from the sun and fight global warming, draw similar contempt. Their green credentials are obliterated by the amount of carbon invested in producing rockets and blasting them into space. Dunster's verdict: "It's just bonkers."

2 **Eco-towns** *Nominated by Sandy MacKay, director, BRE*

Sandy MacKay reckons that not only are Gordon Brown's much-heralded eco-towns little more than a rehashed idea from the fifties, but they were surpassed in



FIVE GREEN GEMS

1 **Algae** *Nominated by Bill Dunster*

"Completely fantastic", says Dunster. You dry the algae in the sun, burn it without oxygen and it gives off methane hydrogen syngas. The gas goes into a CHP engine or fuel cell, which generates electricity and the waste heat can be used to drive absorption cooling units, which can be put in facades. "Algae has a massive energy density, it's gas can be piped around easily and it can be grown in desert conditions. Most advanced economies will be running on hydrogen soon," says Dunster.

2 **Solar concentrators** *Nominated by Sandy MacKay*

Made famous by Bond movie *The Man with the Golden Gun* - remember the scene where something resembling a laser beam comes close to zapping 007 where it counts? Solar concentrators focus the sun's rays at a single spot. The heat generated can be used to create steam to power a turbine. (Just watch where you aim that beam.)

3 **Hemp** *Nominated by Bill Gething*

Cannabis and construction may seem unlikely bedfellows but products such

as Hempcrete are both ultra green and perfect for modern construction methods. Hempcrete locks away the carbon dioxide that would normally be released when hemp decomposes by mixing it with lime to stop it from rotting.

It can also be used continuously throughout a building, which helps to achieve airtightness by avoiding thermal bridges. A final bonus, says Gething is that relatively unskilled people can apply it.

4 **Interseasonal thermal storage** *Nominated by Brian Mark*

This concept comes from Holland, where researchers found 30 years ago that groundwater held in an aquifer could be used to store heat. Buildings that require cooling in summer can use water from the aquifer, which has an average annual temperature of 11°C. As this water cools the building, it rises to about 24°C and is then returned to the aquifer. Buildings that require heating can then use this warmed water by upgrading it with a heat pump - which emits much less CO₂ than other forms of heating. Such systems are required by law in Holland, a concept that Mark loves. He says, "It means that heating and cooling must be dealt with at a masterplanning level to ensure no energy is wasted. It leads to heat rejected from

buildings being used to de-ice roads and airports. There are even Dutch heat police."

5 **Simplicity** *Nominated by David Strong*

Sometimes it's not about having the best gadgets at all. "Simplicity tends to work, complexity tends to fail," Strong says. His favourite example is the Elizabeth Fry building at the University of East Anglia. "It was built almost 20 years ago and it's so simple but absolutely excellent." The building's heating, cooling and ventilation all happens without mechanical systems: hollow concrete slabs combined with high quality insulation allow the building to absorb heat and cool the ceiling units overnight.
Likewise, PassivHaus designs aim to eliminate the need to spend energy on heating and cooling by adopting "passive" measures such as super-insulation, airtight fabric, passive solar gain and triple glazing.
On the simplicity theme, Gething loves Ecoplay's micro-greywater recycling system, which uses bath and shower water to flush toilets. You see, saving the planet doesn't have to be complicated, does it?