

# Room for improvement



Often attacked for its wastefulness, the hospitality industry is slowly starting to think and act in a more environmentally responsible way. And building and operating in a sustainable way not only gives hotel chains the green credentials they crave, it makes good business sense, as award-winning architect Jeremy Blake – who has drafted a series of conceptual drawings exclusively for *Geographical* – explains to Natalie Hoare

SITTING ON A PLUSH LEATHER SOFA IN THE LARGE GLASS- AND marble-clad atrium of a posh new arts centre a few minutes walk from King's Cross, my companion's enthusiasm for what he does becomes apparent within moments of shaking his hand. We've only just sat down and Jeremy Blake is off, leaning forward on the edge of the sofa and talking excitedly about his firm of architects, Purcell Miller Tritton (PMT), and the 'fantastic' and 'exciting' projects on which he's currently working.

'We work across all sectors,' he says with a glint in his eye and a sweeping hand gesture, reeling off an impressive list of clients that includes St Paul's Cathedral, Westminster Abbey, the House of Commons and Robert Falcon Scott's expedition hut in the Antarctic. 'But I head up the practice's Sustainable Heritage Hotels initiative (known as Shh!), which is helping clients in the hospitality industry to find greener ways in which to build and operate.'

Whether the project involves converting a listed building for

hotel use or constructing anew, Blake believes that sustainability makes good practical and economic sense. And as we go through the conceptual drawings he has put together for *Geographical*, it soon becomes clear that the technology and know-how needed to build sustainable, carbon-negative hotels isn't confined to the distant future; it's here now.

'I have been involved with delivering BREEAM Excellent-rated buildings for more than 15 years,' explains Blake. 'What BREEAM (or Building Research Establishment Environmental Assessment Method) has been doing for a number of years is analysing a build and then monitoring its performance in terms of its environmental impact: how it's made, how much energy and water it uses, and so on.' After a building has been evaluated, it might be awarded a BREEAM rating: Good, Very Good, Excellent or, a new category, Outstanding.

## GREEN BEER

One of the most pioneering buildings that Blake has designed is a distribution centre for Adnams Brewery (completed in 2006) in Southwold, Suffolk, which gained a BREEAM Excellent rating. The project embodies many of the technologies and design features that Blake has drawn here and has incorporated in many of his hotel designs since.

The key criteria of the £6million project were that it had to be green, clean and efficient, in order to match the company's ethos. Consequently, the warehouse walls were built using a mixture of hemp, lime and chalk – a material that uses less energy to manufacture than conventional concrete, is very environmentally friendly and is an extremely good, breathable insulator. Consisting of two skins with a cavity between that is filled with a hemp-lime mix, the walls themselves lock up carbon dioxide, both in the hemp before it was harvested and in the lime, which absorbs CO<sub>2</sub> as it dries (the company that produces the material quotes a figure of 110 kilograms of CO<sub>2</sub> per cubic metre wall).

'Significantly, this was the first commercial use of lime hemp in the UK, and the thermal efficiency of the building, which has now been operating for two years, is impressive,' Blake says, barely

pausing for breath. 'They've neither had to heat or cool the warehouse since they've opened it and it has maintained a stable environment for the beer to be kept, as well as a well-ventilated and healthy environment in which to work.' The revolutionary building design also negated the need for Adnams to install a £400,000 cooling plant – demonstrating the attractive economic impetus for building green – and has reduced staff sick leave by 85 per cent since the move from the old distribution centre.

'This building also supports the UK's largest living roof,' says Blake. 'A 2,500-square-metre area covered entirely in sedum – a living carpet of thick fleshy plants – and several solar panels, which provide 80 per cent of the operation's hot water.'

The centre also harvests rainwater, which is used to flush the toilets and wash Adnams' fleet of lorries, and sewage is processed through a reed-bed drainage system, which transforms raw sewage to potable water in less than a fortnight as it progresses through a series of reed beds. 'If you have reed-bed drainage, you're actually creating a new habitat,' says Blake. 'And sedum roofs are a fantastic habitat for skylarks and can actually be used to grow goods – herbs for example – for hotels.'

But how many hotels are actually planning to use these designs

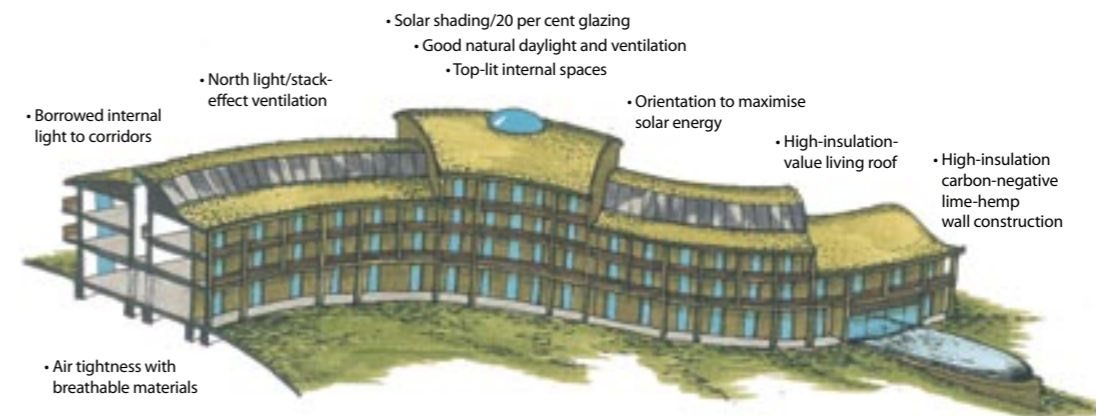
in the future? 'Interestingly enough, in Europe and the UK, many hotels are now focusing in on a green and sustainable agenda,' says Blake. 'I'm chairman of this year's European Hotel Design Awards, and in the sustainability category, we have three BREEAM Very Good hotels – all of which are in the UK. Interestingly, these hotels belong to Holiday Inn, Travelodge and Premier Inn.'

The Hilton, IHG (Intercontinental Hotels Group), Radisson SAS Hotels & Resorts, Starwood Hotels & Resorts Worldwide and many others are all now embracing a green agenda, according to Blake, not just because it's environmentally responsible and they have to be seen to be acting in a certain way, but because it makes commercial sense.

'We have some fascinating hotel projects on site now,' says Blake. Bowood Hotel in Wiltshire, for example, will open in the spring and will be built using recyclable natural lime mortar. Its water and heating will be provided by a biomass boiler, which will pay for itself in energy savings within 27 months. 'The client will save £86,000 a year on gas bills.'

Elsewhere, on the South Atlantic island of Saint Helena, Blake's firm has a brief from the Oberoi Group to deliver an 88-bed luxury hotel. 'They want it to be the greenest hotel in the

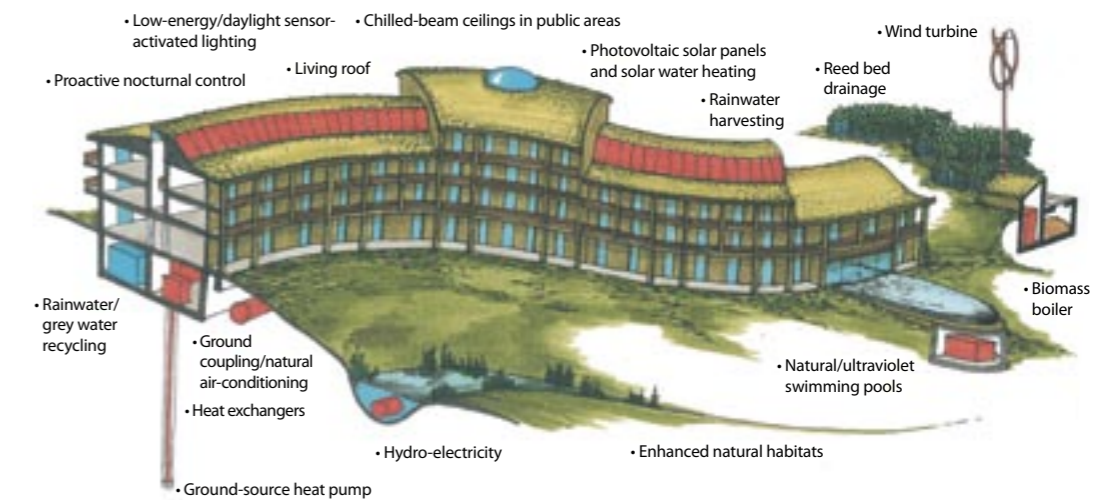
## PASSIVE DESIGN



Left: this hotel design incorporates a number of so-called 'passive' design features, whereby the use of insulation and building orientation help to maintain a comfortable and stable interior temperature without the need for active heating and cooling systems. Similarly, the use of natural light reduces the need for internal lighting systems

## ACTIVE DESIGN

Right: the 'active' design concept brings together cutting-edge technology to reduce the hotel's resource use and other detrimental environmental impacts. For example, biomass boilers and wind turbines are used to produce green energy; a reed bed drainage is used to treat sewage; chilled-beam ceilings, through which cold water is piped, and heat exchangers replace air conditioning; and rainwater harvesting and grey water recycling reduce water use



**TRAVEL TRENDS**

‘We anticipate an increased demand for active, special-interest travel. The retired are likely to play an ever more dynamic role in society, and this will be reflected in the holidays they choose. Many will opt for a mix of simple breaks to familiar destinations, which they will probably book themselves, and organised holidays involving, for example, art, architecture, history, geography and the great outdoors, in which the opportunity to make friends and mix with like-minded individuals will be an important attraction’

*Hugh Barnes*, DIRECTOR OF OPERATIONS, ACE STUDY TOURS

world – so we can really go to town with that one,’ he says, unable to disguise his glee. ‘It, too, is going to be built from lime hemp and pretty much all of the things incorporated in these drawings.’

PMT is also working with a company called Island Eco Resorts, which owns ten islands worldwide and is planning to construct and maintain all of its hotels and resorts on a totally environmentally friendly basis. The owner is so committed, Blake says, that he’s currently building his own solar- and wind-powered container ship to get the building materials on site. ‘And once the hotels and resorts are finished, guests will travel to and from the island on solar-powered ferries.’

**ALL-ENCOMPASSING ETHOS**

There’s little point in building the most radically designed sustainable hotel if none of the day-to-day processes and operations within the hotel follow the same policy. So, for every sustainable building project with which Blake is involved, he tries

to encourage the use of a sustainable operational management strategy across all areas of the business (*see below*).

‘When you’re in the hospitality business, there are obviously a lot of people, goods and services arriving at your hotel, so a green transport policy is key,’ says Blake. ‘It will be the key driver in determining planning consent.’ Making sure to source goods, services and staff locally, where possible, is also crucial. ‘Not only will local produce celebrate the hotel’s local distinctiveness, helping to attract guests in the first place, it also reduces the carbon footprint of the transport used to get those products there.’

And finally, what do you do with the waste? The key thing is to try to stop it being transported off site by recycling as much as possible and even transforming it into energy. ‘A fascinating thing I’m looking at with a consultant at the moment is using hotel waste to produce bioethanol, which can then be used to create electricity, to sell to the grid or to fuel a minibus system.’

It all sounds very appealing, so why aren’t we seeing sustainable hotels popping up all over the place? ‘Costs are anything between ten and 20 per cent more than for a traditional build,’ Blake admits. ‘But that increase in capital spend is more than offset by savings on energy, waste, water and sewage, and so on, so the initial capital investment would be returned within a very short time.’

Currently, the two main running costs of hotels are staff and energy, and Blake is convinced that if you can deliver substantial energy savings, as well as impeccable green credentials, we will see increasing demand for sustainable hotel designs in the future.

‘I think, increasingly, that we’re going to find that building design will lean towards that of pre-oil times, where natural materials are being used in a 21st-century technological way,’ says Blake. ‘We’re almost in a 21st-century renaissance, where the legacy of the Industrial Revolution is in its death throes, but the new green revolution is just beginning.’ **G**

**OPERATIONAL MANAGEMENT**

