

Negative thinking

These days, it's not enough to be carbon neutral, says **Peter Conradi**. You really should be giving something back

A small patch of reclaimed land at the confluence of the Mole and the Ember, in prime commuter-belt Surrey, is not the most obvious site for a prototype for sustainable housing. But here, amid the cul-de-sacs of mock-Tudors and neo-Georgians, Bill and Sue Dunster's unusual three-storey wood-and-glass home provides an intriguing glimpse into the future.

Thanks to its thick insulation and huge south-facing glass wall, the house in East Molesey, just round the corner from Hampton Court Palace, was ahead of its time when the couple built it in the 1990s. In the years since, it has been modified with a host of features, ranging from photovoltaic panels, a wood-pellet-burning stove and an induction hob to the obligatory wind turbine on the roof. Last year, the Dunsters took great pleasure in disconnecting from mains gas.

As it is, the house would already qualify as carbon neutral – and thus be exempt from stamp duty under provisions outlined by the chancellor of the exchequer, Gordon Brown, in his budget last month. To qualify, houses must have “zero net emissions of carbon dioxide from all energy use in the home” – a standard that few properties in the country satisfy.

Yet Dunster, one of Britain's foremost green architects, is striving for more. By adding extra solar panels and a new, more sophisticated wind turbine, he wants to make his home “carbon negative” – that is, have it generate 15% more energy a year than it consumes, with the surplus fed back into the grid.

“Take the average life of a building at about 100 years or so,” says Dunster, 46. “The aim is to put back enough energy during its lifetime to compensate for the carbon used in its construction.”

As he speaks, he looks wistfully over towards the weir at the end of the garden. “If they allowed us to harness that energy, we could power the whole street,” he says.

Since studying architecture at Edinburgh in the late 1970s “under a few fading hippies”, Dunster has pioneered green buildings. Chief among them is BedZed (or the Beddington Zero Energy Development, to give it its proper name), near Wallington, Surrey, comprising 82 residential and 14 live/work units. Completed in 2002, it forms Britain's largest carbon-neutral eco-community.

Zedfactory, his firm, where Sue, 47, also works, has since been involved in various other schemes across Britain, but the family home, where they live with their daughters, Sophie, 15, and Rose, 12, still plays a vital role. “We never recommend things to our clients we have not tried ourselves,” he says.

As the two Davids – Cameron, the opposition leader, and Miliband, the environment secretary – battle for the green vote, Dunster could be



The Dunsters want to configure their home to generate 15% more energy than it uses

Zedfactory has planning permission for this country ecohouse near Bath

We aim to put back enough energy to compensate for the construction of the building

16 small turbines on the roof and a large one with a 150ft-diameter blade nearby, the building is intended to provide more electricity to the grid than it uses. Prices start at £59,000 for a studio and £85,000 for a one-bedder.

Nor is all this eco-awareness confined to affordable urban developments: there is a discernible greening at the luxury end of the rural market, too. Zedfactory has commissions for three substantial but highly ecological new houses in the country – one of which, near Bath, has just been granted planning permission.

“We are talking about people pulling down houses built in the 1960s and 1970s, and replacing them with something new,” Dunster says. “These people want a result, the best of everything, and they are all asking for carbon negative.”

“If you have got any money these days, not addressing your carbon footprint is becoming socially unacceptable.”

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■ For more on ecological housing, visit timesonline.co.uk/greenhouse

forgiven a little self-satisfaction. Not only are mainstream developers starting to follow his lead – albeit slowly – but his own business is developing in unexpected directions.

Most significant in a global sense, perhaps, was a visit to BedZed two years ago by a Chinese delegation that wanted Dunster's help in building a similar development back home. As a result, Zedfactory is involved in several housing schemes, among them a 5,000-strong community in Changsha, the capital of Hunan province.

The wind turbines, photovoltaic cells and other kit are all made in China;

in an added bonus for Zedfactory, it can import this equipment into Britain, where it sells much more cheaply than European-made projects.

Other pioneering British developers are working on ambitious projects that will help meet the government's aim of making all new homes carbon neutral by 2016. ZEDHomes – which, despite the name, is not related – last month won planning permission to build 12 zero-carbon two-bed flats in Harrow, Middlesex.

The project, which is likely to be completed next year, features super-insulation, solar panels and a wood-pellet-burning boiler. The

company, based in the town, will build an “energy centre” nearby to showcase its green features to residents and the public. In a separate development in nearby Hillingdon, ZEDHomes is converting Packet Boat House, a former office block, into 32 studio, one- and two-bed flats.

Even more ambitious is Greenhouse, in Leeds, a development of 172 flats being launched this month in the south of the city, 10 minutes from the main railway station. The developer, Citu, claims it will be Britain's first carbon-negative development.

Equipped with a 250ft borehole for ground-source heat and cooling,