



# One Million Sustainable Homes

Moving best practice from the fringes to the mainstream of UK housing

## Goal

At the World Summit on Sustainable Development in Johannesburg in August 2002, WWF launched its groundbreaking campaign to bring sustainable homes from the fringes of the housing sector to the mainstream. WWF is working with government, industry and consumers to ensure that One Million Sustainable Homes are developed across the UK by 2012, including refurbished as well as new homes.

## Why are sustainable homes so important to WWF?

Every two years WWF produces the *Living Planet Report*<sup>1</sup>, which measures the 'health' of the planet. With each update, the *Living Planet Report* has indicated a continuing dramatic decline in the number of species on the planet and a dramatic rise in the rate of the consumption of natural resources and levels of pollution. The *Living Planet Report* also measures the 'ecological footprint' of individual countries and, shockingly, it tells us that if everyone around the world consumed natural resources and generated carbon dioxide (CO<sub>2</sub>) at the rate that we currently do in the UK, we would need three planets to support us – in other words we're currently leading a 'three planet lifestyle'!



This is a truly sobering account of the state of Planet Earth – but what has that got to do with our homes? Well, more than half of all resources consumed globally are used in construction, and 45 per cent of energy generated across the world is used to heat, light and ventilate our buildings, with a further 5 per cent arising from constructing them.<sup>2</sup> Most homes in the UK have a particularly significant impact on the environment, with direct effects on some of WWF's main priorities including climate change, forests, freshwater and reducing the use of toxic chemicals.

## Impacts of our homes

### Environmental

In environmental terms, housing in the UK contributes around 27 per cent of the total CO<sub>2</sub> emissions associated with energy use – and domestic energy use is projected to rise by 6 per cent by 2010. It is therefore essential to reduce emissions from new and existing homes if we are to mitigate some of the worst effects of climate change.

Furthermore, the construction industry in the UK currently uses around 40 million cubic metres of timber

every year, and a high proportion of this is for housing. Meanwhile, natural forest is being lost at a rate of 30 hectares every minute<sup>3</sup>, so it is vital that the house-building industry demands timber from well-managed, independently certified sources if we are to halt and reverse the threats to forests around the world.

Other impacts related to the construction of new homes include quarrying to provide aggregates, the wasteful use of water, and the widespread use of toxic chemicals in materials, which can pose significant health risks to the occupants as well as affecting wildlife.

In addition, the way homes and communities are developed determines our lifestyle decisions and our overall 'ecological footprint' – the impact we make on the natural world and its resources<sup>4</sup>. For example, by providing easy access to local amenities, public transport, local food links and recycling facilities, residents are easily able to choose the more sustainable option, reduce their 'ecological footprint', and in many cases also improve their quality of life.

### Social

In social terms, poor housing has major adverse impacts on the physical and mental health of residents. It is estimated that around 2.7 million households in England alone currently live in poor housing conditions, with the most vulnerable living in the worst housing.<sup>5</sup> Around 2.5 million homes are cold enough to cause ill health during the winter in England.<sup>6</sup> According to the Joseph Rowntree Foundation:

“Britain has around 40,000 more deaths during December and March... which is a larger 'winter excess' than in most other European countries, including Scandinavia. This is in spite of the fact that Britain has comparatively mild winters... part of the explanation may lie with Britain's ageing housing stock, which... may provide less protection against the cold.”

In contrast, sustainable homes and communities offer significant health benefits such as warm, well-ventilated and healthier indoor environments, with fewer toxic substances and less air pollution from traffic. Well-designed communities, incorporating safe pedestrian and cycling facilities and access to local shops and amenities, may also encourage residents to leave their cars at home and get more exercise!

1 The Living Planet Report, [www.panda.org/downloads/general/LPR\\_2002.pdf](http://www.panda.org/downloads/general/LPR_2002.pdf)

2 Brian Edwards (2001), 'Rough Guide to Sustainability', RIBA Publications, London

3 WWF Forests for Life, working to protect, manage and restore the world's forests, August 2002.

4 Ecological footprinting analysis accounts for the environmental impacts of a process or person's lifestyle in terms of an area required to produce particular natural resources or to absorb waste from consumption.

5 [www.shelter.org.uk/housing/factsheets/health.asp#link](http://www.shelter.org.uk/housing/factsheets/health.asp#link)

6 Department of Health, 1999



S. ROCAF

## Developing best practice: One planet living

A very good example of a development that offers sustainable homes and lifestyles is the Beddington Zero (fossil) Energy Development (BedZED – see box) in the London Borough of Sutton. This is a Peabody development in partnership with BioRegional, designed by Bill Dunster Architects.<sup>7</sup>

WWF is working with BioRegional to build on the success of BedZED and develop ‘One Planet Living’<sup>TM</sup> communities in the UK and internationally. One Planet Living will seek to demonstrate that people can enjoy a high-quality lifestyle within their fair share of the Earth’s resources.

### Economic

In economic terms, on the ground experience has shown that developing more sustainable homes does not have to be more expensive than building to current minimum requirements. For example, Gallions EcoPark in Thamesmead achieved EcoHomes ‘Excellent’ standard at close to cost parity compared with their traditional new-build schemes.

WWF’s report, *One Planet Living in the Thames Gateway*, demonstrates that in terms of capital costs and personal expenditure related to the purchase and running of a home, the cost of developing to EcoHomes ‘Very Good’ or zero energy and zero waste (Z<sup>2</sup>) standard, would be comparable to, or even cheaper than, the cost of developing to current building regulations. This is because any additional build cost (estimated at around 2 per cent for EcoHomes ‘Very Good’ and 10 per cent for Z<sup>2</sup>), could be offset partly by planning gain (a mechanism whereby developers can increase development in exchange for meeting environmental targets), and partly by residents paying slightly more for their homes. Savings on residents’ energy and water bills would offset any increase in mortgage repayments. In fact, the report’s findings suggest that if all household expenditure were considered, living in sustainable homes would be cheaper for residents as well as offering significant environmental benefits. To download the full report, visit [www.wwf.org.uk/filelibrary/pdf/thamesgateway.pdf](http://www.wwf.org.uk/filelibrary/pdf/thamesgateway.pdf)

BedZED homes and offices are highly energy- and water-efficient (reducing space heating needs by 90 per cent and water use by around 56 per cent) and they use energy from a renewable source. The houses are a mix of social, shared ownership and reasonably priced homes for sale and most materials used to build BedZED properties were from local, recycled or certified well-managed sources.

Residents have access to a car pool and local organic food deliveries, and although it is a high-density housing development, all residents have access to private gardens and conservatories.



J. SWARBRICK, WWF-UK

## Barriers to sustainable homes

WWF recognises that developments such as BedZED are still the exception rather than the rule in the UK. So as well as promoting examples of best practice, WWF is also working with government, industry and consumers to bring sustainability into the mainstream of the UK house-building sector. We want to ensure that one million sustainable homes are developed in the UK by 2012. WWF has a strong track record of bringing together businesses and governments to seek solutions which bring social, environmental and economic benefits. Our success in this area has been shown not least through our work on sustainable forestry, fisheries and rural development.

Over a period of nine months, WWF conducted an independently-facilitated stakeholder consultation to identify the barriers to sustainable homes and ways to overcome them. A consultation questionnaire was sent to more than 350 stakeholders, which was followed by a workshop with key organisations. We also held meetings with representatives from government<sup>8</sup>, the house-building industry, the investment sector and a range of other business interests. The feedback from the questionnaire and meetings revealed an overwhelming consensus on the need for action.

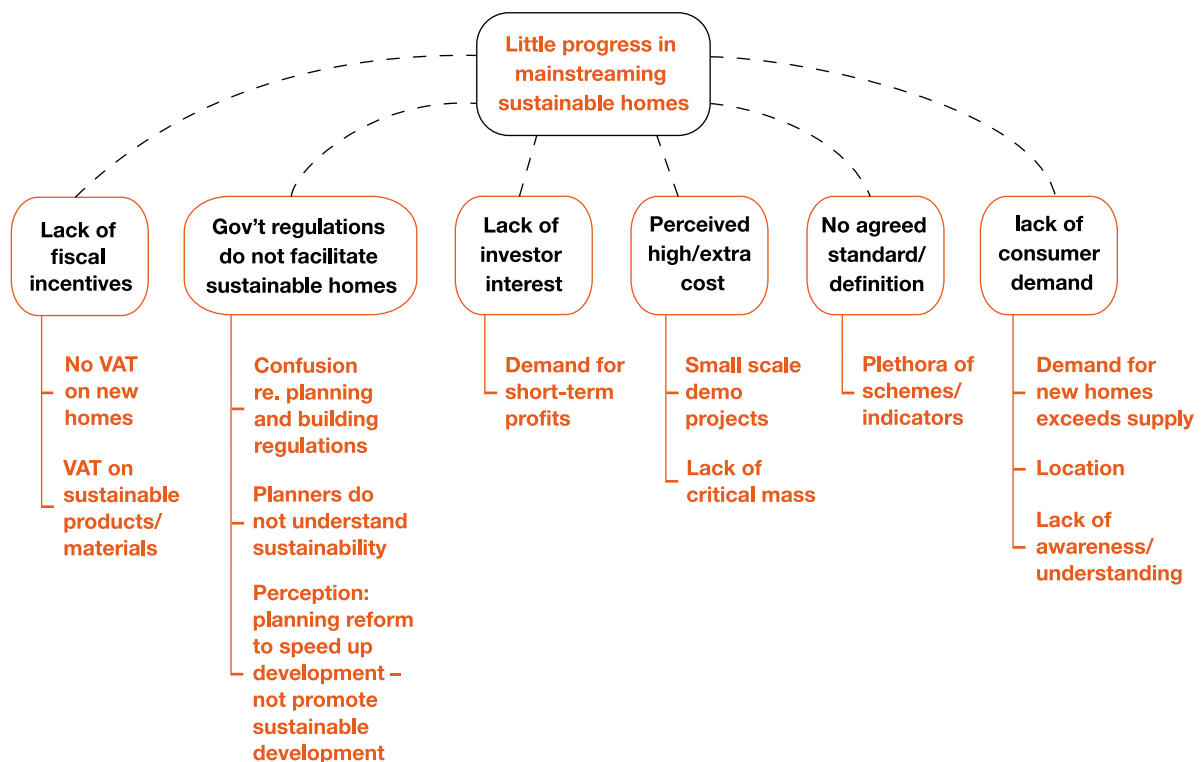
As a result of the consultation, WWF identified six key barriers to the development of sustainable homes – our findings are summarised in the diagram below:



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### The barriers to sustainable homes include:

- a lack of fiscal incentives;
- current planning and building regulations not facilitating sustainable homes;
- a perceived lack of investor support;
- a perception of extra cost;
- a lack of consensus around the definition of a sustainable home; and
- a perceived lack of consumer demand.



<sup>8</sup> Meetings were held with No.10, DTLR & Millennium Communities, Defra, DTI, Scottish Executive, ACCPE (Advisory Committee on Consumer Products in the Environment), and Rethinking Construction (Housing Forum and Sir John Egan)

## A definition for sustainable homes

One of the principal barriers to progress in this area was the definition of a 'sustainable home'. WWF found a general consensus that the Building Research Establishment's (BRE) EcoHomes<sup>9</sup> standard was a good starting point. While EcoHomes is not perfect, it does begin to address the fundamental impact of housing on the environment, and BRE is committed to developing and improving the standard over time. The assessment covers areas of energy, transport, pollution, materials, water, ecology and land use, health and well-being, and the EcoHomes standard enables stakeholders to climb the ladder towards sustainability. WWF supports EcoHomes 'Very Good' and 'Excellent' standards as a good measure of new and refurbished homes which have significantly less impact on the environment. WWF is now a member of the steering group overseeing the development of EcoHomes for existing homes and minor refurbishment.

In addition, BRE has developed a *Sustainability Checklist for Developments*, which complements EcoHomes and considers the wider impacts of development such as the provision of local employment and facilities, the impact of infrastructure, and community engagement. The checklist provides a tool for local authorities and developers to use when planning or building large developments, from new estates to regeneration projects. In partnership with the South East England Development Agency (SEEDA), BRE has also developed a region-specific sustainability checklist for the South-east. WWF is working with BRE, SEEDA and other Regional Development Agencies to develop further regional checklists, which take into account local circumstances and case studies. To download the South-east Checklist, visit [www.sustainability-checklist.org.uk](http://www.sustainability-checklist.org.uk)



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## Six strategies to mainstream sustainable homes

WWF is working with a range of key partners to implement six strategies to overcome the barriers listed above. Our partners include BioRegional, BRE, Countryside Properties, the Environment Agency, Halifax Bank of Scotland (HBOS), the House Builders Federation (HBF), the Housing Corporation, Rethinking Construction, SEEDA and Sustainable Homes.

### 1 Ensuring that a range of fiscal incentives are introduced

The WWF/ERM report, *Fiscal Incentives for Sustainable Homes*, investigates how changes to the fiscal system could facilitate the development of more sustainable homes. WWF believes the UK government should introduce the following fiscal incentives:

- stamp duty relief for homes meeting EcoHomes 'Very Good' standard;
- reduced rate of VAT on new homes meeting EcoHomes 'Very Good' standard (others to be taxed at 17.5 per cent);
- reduced VAT rate of 5 per cent on accredited supplies; and
- capital allowances for expenditure on conversion of premises into 'sustainable' residential dwellings for the rental market.

The full report can be downloaded at [www.wwf.org.uk/filelibrary/pdf/sustainablehomes.pdf](http://www.wwf.org.uk/filelibrary/pdf/sustainablehomes.pdf)

WWF has also responded to ongoing Treasury consultations including the *Kate Barker Review* and *Economic instruments to improve household energy efficiency*. To download WWF's responses, visit [www.wwf.org.uk/sustainablehomes/reports.asp](http://www.wwf.org.uk/sustainablehomes/reports.asp)

### 2 Ensuring that Planning and Building Regulations facilitate the development of sustainable homes

WWF believes the UK government must set environmental targets for all new homes and major refurbishment. Following the publication of the WWF report *One Planet Living in the Thames Gateway* and associated lobbying, WWF has been invited to sit on the government's new Sustainable Buildings Task Group, the creation of which was announced at the Better Building Summit in October 2003. The Task Group will 'pinpoint ways in which industry and government can work together to promote sustainable development through better environmental performance in the built environment'.<sup>10</sup> WWF will work to ensure that tough

but realistic standards are set for all new homes and major refurbishment.

WWF is calling for reforms to the planning system and the Building Regulations, the regulatory frameworks that govern how and where homes are developed. In partnership with the Town & Country Planning Association's Sustainable Housing Forum, WWF produced the report *Building Sustainably, how to plan and construct new housing for the 21st century*. This assesses the current regulatory framework and makes recommendations for change. WWF is calling for a fundamental review of the Building Regulations in the context of sustainable development, and reform of the planning system to ensure that sustainability lies at the heart of all planning decisions. To download this report, visit

[www.wwf.org.uk/filelibrary/pdf/buildingsustainably.pdf](http://www.wwf.org.uk/filelibrary/pdf/buildingsustainably.pdf)

WWF also believes that where the *Sustainability Checklist for Developments* has been utilised, developments should be given priority and 'fast-tracked' through the planning process.

WWF is also on the Industry Advisory Group for the review of Part L of the Building Regulations and the steering group for a DTI-funded Faber Maunsell project, which aims to develop practical guidance for planners and developers concerning sustainable development. WWF is also represented on Sir John Egan's *Review of Skills Task Force*, which is due to report later this year.

### **3 Demonstrating strong investor support for sustainable homes**

In partnership with Insight Investment, the asset management arm of HBOS plc, WWF has been benchmarking the sustainability performance of house-builders. The report, *Building Towards Sustainability: performance and progress among the UK's leading house-builders*, is available at

[www.wwf.org.uk/sustainablehomes/reports.asp](http://www.wwf.org.uk/sustainablehomes/reports.asp)

WWF and HBOS are also discussing opportunities to create market-based incentives for the development of sustainable homes.

### **4 Ensuring the cost of sustainable homes is competitive**

WWF, the Housing Corporation and SEEDA have commissioned the BioRegional Development Group to undertake a scoping study for a Sustainable Homes Buyers Club. This will offer developers practical means of reducing the cost of key products and materials required for sustainable homes. WWF and BioRegional are also running a series of 'One Planet Living' continued professional development courses aimed at construction professionals. For further information, visit [www.bioregional.com](http://www.bioregional.com).

WWF is working with the House Builders Federation (HBF) and the Department for Trade and Industry on proposals to develop a house-building sector 'Sustainability Strategy'. This would share best practice and lessons learned, and provide guidance on sustainability issues.

### **5 Developing the EcoHomes standard**

WWF is a member of BRE's EcoHomes steering group, which oversees the continuing development and improvement of the standard. WWF believes that building consensus around the definition of sustainable homes is crucial, and is pleased that, in addition to the other WWF OMSH Task Force members listed above, the following organisations now support the standard: ECOSE, Egan Task Force, English Partnerships, the Environment Agency, the Housing Corporation and SEEDA.

### **6 Building consumer awareness and demand for sustainable homes**

In partnership with the HBF, WWF has launched a Sustainable New Homes Award, which recognises and rewards examples of best practice in the new homes market. The award ceremony will take place in May 2004. For further details, visit

[www.wwf.org.uk/sustainablehomes/index.asp](http://www.wwf.org.uk/sustainablehomes/index.asp)



The mission of WWF – the global environment network – is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable resources is sustainable
- promoting the reduction of pollution and wasteful consumption

**Taking action for a living planet**

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