

UK HOUSING FUELLING CLIMATE CHANGE

Britain's homes are responsible for 28% of our CO₂ emissions. The average UK home emits more than a car in a year. The government is embarking on a massive new house building programme over the coming years which presents a prime opportunity to reverse this trend. Homes that could be standing for a hundred years to come should be built to the highest possible environmental standards and not be left as a polluting legacy to future generations. If the government is serious about tackling climate change, it needs to adopt tough new standards to make sure the nation's new homes part of the solution, not adding to the problem.

Greenpeace is calling on the government to:

- **Set tough environmental standards for all new buildings**

Regulations should ensure that all new buildings are built to zero-emission standards. Buildings should incorporate renewable power such as solar water heating and photovoltaics, along with state-of-the-art energy efficiency measures.

- **End fuel poverty and encourage energy efficiency**

High energy-efficiency standards should be set for social housing, and financial incentives and grants provided to encourage energy efficiency improvements in existing buildings. Energy-efficient housing should be eligible for reductions in council tax and stamp duty. In addition, there should be zero VAT on energy-efficient building products.

- **Support expansion of combined heat and power (CHP) generation.**

All new housing developments and public and commercial buildings should be required to include CHP plants for heating, hot water and electricity. The Government should fund changes to local electricity networks to encourage uptake of CHP and domestic renewable energy generation.

How Government is failing to meet its climate targets

The promises:

20% reduction in CO₂ by 2010 (off 1990 levels),
60% reduction in CO₂ by 2050
10% renewables by 2010 (plus an "aspiration" to reach 20% by 2020)
10GW of Combined Heat and Power (CHP) by 2010
20% improvement in energy efficiency in households by 2010 (or 5 mtC reduction)

The reality:

20% reduction in CO₂ by 2010, raising to 60% by 2050

Blair himself has admitted that the UK is currently not on course for 20% CO₂ reductions by 2010. In fact, emissions have actually risen since Labour came to power in 1997¹. The Sustainable Development Commission concluded in its policy audit of the UK Climate Change Programme in 2003 that "the Government's projections do not yet show the radical shift needed to a low carbon path, nor are there policies in place to achieve more sustainable patterns of energy generation and consumption."

10% renewables by 2010

This target is also in danger of being missed. While the renewables obligation has worked quite well to promote wind power, the government has dragged its feet on promoting small scale, embedded generation such as solar photovoltaics on buildings. The current

¹ <http://www.defra.gov.uk/news/2005/050331a.htm>

government support programme for solar is to be wound down 8 years earlier than promised, after spending just £31million of £150million that they had committed to in 2002.

10GW of Combined Heat and Power (CHP) by 2010

CHP is currently stalled at under half this figure, and the way electricity is traded favours the “cheapest” forms of energy, making it unlikely that this target will be met.

20% improvement in energy efficiency in households by 2010 (or annual saving of 5 mtC, compared with 2000 levels)

The Government’s Energy Efficiency Commitment (which requires domestic energy suppliers to promote improvements in energy efficiency) is expected to deliver just 0.7mtC of savings per year by 2010. The Government recently decided to delay announcing how it plans to implement the EU Energy Performance of Buildings directive, requiring energy rating certificates whenever buildings are sold or rented out.

What is the government doing (or not doing) on sustainable housing?

John Prescott has overall responsibility for housing and “sustainable communities” in the UK. The stated aim of the Office of the Deputy Prime Minister is “to create prosperous, inclusive and sustainable communities for the 21st century” requiring “a step change in the way our housing and communities are planned, designed and built”.

To this end, he has announced that from April 2006, all publicly funded new homes will subscribe to the new Code for Sustainable Buildings, which will bring new buildings up to “world class environmental standards”.

But what does this really mean? At the moment, there is no agreed Code for Sustainable Buildings, which makes this commitment meaningless. When the Code is introduced, it will only apply to the public sector, which is already committed to comply with tighter (though far from “world class”) environmental standards. The only mandatory regulations governing construction of new houses, including private developments, are the Building Regulations and a third of new homes fail to meet even these requirements (see below). The energy part of the regulations are under review this year, which means Prescott has a golden opportunity to ensure that they are radically improved to pave the way to making zero emissions developments the norm, and to ensure they are much more strictly enforced in the future.

Are zero emissions developments possible?

Yes – with locally and renewably generated heat and power, along with highly efficient electricity and heat generation and delivery infrastructure. Calculations by Bill Dunster, the architect of BedZED (the largest zero emission community in the UK, comprising 100 homes in South London) show that, through economies of scale and supply chain efficiencies, the cost of Zero Emission Developments can be equal to standard houses when 5000 units are built. This is a very small proportion of anticipated build capacity over the coming year. Furthermore it is critical to understand buildings as future energy providers. When the cost benefits of embedded generation are factored in compared to centralised electricity generation the case for compulsory incorporation of Low or Zero Carbon technologies becomes very strong.

A private developer in Portugal is currently planning to build 6000 homes in a zero emissions community². The Vice Mayor of Shanghai is keen to develop similar communities, while the cities of Canberra and Johannesburg are looking into zero emissions developments. If Britain claims to be a world leader on climate change, why isn’t it doing the same?

² Mata de Sesimbra, just south of Lisbon (see www.bioregional.com)

Tough standards needed for New Build

One way of delivering zero emission homes is to ensure that the revised building regulations make small scale renewables, such as solar PV, obligatory on all new buildings. This would not only reduce CO2 emissions, but would stimulate the market for PV, giving a boost to Britain's fledgling solar industry, which has been left behind while competitors in Germany and Japan benefit from their governments support.

Prescott should also ensure the compulsory incorporation of other Low or Zero Carbon technologies, which can include district Combined Heat and Power installations (ideally using biomass as fuel). Planning permission should be refused by local authorities (and supported by ODPM) if adequate reasons cannot be demonstrated why such systems are not installed as part of the new or refurbished development.

The opportunity at stake on new housing

The anticipated scale of housing developments in the UK provides an exceptional opportunity to develop alternative models of energy supply and to drive the small scale renewable energy market. Prescott announced this year that 1.1million new homes will be built in the South East alone by 2016. A recent government commissioned review of housing concluded that 210,000 houses will need to be built each year throughout England to meet the demand for affordable homes.

Yet the recent announcement about the regeneration plans for the Thames Gateway failed to guarantee that the communities to be built (including some 120,000 homes) will meet the highest achievable standards in terms of carbon emissions. A Zero Carbon Thames Gateway is technically feasible right now, bringing with it environmental, social and economic benefits. Technical cost studies have demonstrated that it is economically viable for government and the construction industry, and that residents could save money in the long term through lower bills.³

This kind of commitment for the Government's flagship housing growth area would ensure that hundreds of thousands of citizens are not locked into high carbon emissions and unsustainable choices for generations to come.

What about existing housing?

Britain's primarily Victorian housing stock is notoriously energy inefficient. But there are a range of measures that government should be taking to improve the efficiency of the nation's existing homes. These are primarily demand side incentives - a reduction in VAT on all energy efficiency goods to 5%; Local Authorities (and all public bodies) to be given Best Value Performance Indicators related to energy efficiency; the adoption of a reduction in stamp duty linked to a buildings performance at the time of sale; council tax rebates directly linked to a property's performance (as is being piloted in Braintree, Essex); and support for the development of attractive mortgages linked to energy performance.

How Government is failing across the board on Climate Change Policy

Climate change is no longer just an environmental problem, it is also a global social and economic problem. The Government needs a co-ordinated cross departmental response. It is no good DEFRA making the right noises when the ODPM refuses to adopt world class building standards, DTI policy makes life difficult for microrenewables and gives subsidies to coal, the DfT promotes road-building and aviation, and the Treasury caves in on fuel tax (and seems to have very little appreciation that a tax on petrol might be an environmental tax rather than a money-making levy). Likewise there is little substance behind championing local leadership on climate change when local government is assessed against completely different criteria. If the Prime Minister believes climate change is one of the greatest threats to

³ *Z-Squared: Enabling One Planet Living in the Thames Gateway* www.bioregional.com

civilisation then all departments in Government, and all public bodies in the UK, need to respond (or be motivated to respond) to the issue as a priority.

Housing and Energy Facts

Housing is responsible for over a quarter of the UK's CO2 emissions⁴

The average UK home is responsible for more CO2 emissions in a year than the average car⁵

Each new home is currently responsible for on average 3.057 tonnes of CO2 per year (from energy use in the home)⁶, while existing homes are responsible for around twice this figure.

The Govt plans to build 1.1 million new homes in the South East alone by 2016⁷

A recent government report suggested that 210,000 new homes will need to be built each year in England to meet rising demand for affordable housing⁸

If we build 210,000 homes a year to current standards, we will be pumping out an extra 28.9 million tonnes of CO2 each year by 2050. This represents a 19% increase on the UK's current total CO2 emissions. Yet the government hopes to have cut emissions by 60% by 2050.

One third of new homes fail to meet even current building regulations on energy efficiency⁹

A recent survey of 30 new homes across the UK found only 10% displaying an energy rating certificate which is supposed to be legally required under existing building regulations.¹⁰

People living in new zero emission homes could each save £94 a year on their energy bills compared with those living in new homes built to current standards (2002 building regs). This represents a nearly 50% saving.¹¹

A new home built to current UK building regulations will use on average 65% more energy than a home built in Sweden to Swedish building regulations.¹² Denmark also has tighter building regulations than the UK, and is set to improve them by 30% this year.¹³

Germany installed 100 times more solar PV capacity on buildings than the UK in 2004.

⁴ In 2002 the figure was 28%, or 40.4 million tonnes of carbon. Source: DEFRA

<http://www.defra.gov.uk/environment/statistics/globalatmos/kf/gakf07.htm>

⁵ Energy Saving Trust <http://www.est.co.uk/uploads/documents/homegetawaywithit.pdf>

⁶ *One Planet Living in the Thames Gateway*, WWF and Bioregional, 2003 (p47)

⁷ ODPM News Release, 24 January 2005

⁸ The Barker Review of Housing Supply, 2004

http://www.hm-treasury.gov.uk/consultations_and_legislation/barker/consult_barker_index.cfm

⁹ *Assessment of energy efficiency impact on Building Regulations Compliance*, Building Research Establishment, 2004

http://www.est.org.uk/partnership/uploads/documents/Houses_ airtightness_report_Oct_04.pdf

¹⁰ Greenpeace SAP rating survey, November 2004, unpublished.

¹¹ *One Planet Living in the Thames Gateway*, WWF and Bioregional, 2003 (p20)

¹² comparison of elemental U-values requirements for new build, Appendix 2 of *Putting Climate Change at the Heart of Energy Policy*, EST, 2002 (Sweden averages 0.19 and England and Wales 0.31)

¹³ http://www.ens.dk/graphics/Energi_i_tal_og_kort/statistik/indikatorer/DanishReport2004.pdf

