NORTHERN Housing Consortium
THE VOICE OF HOUSING IN THE NORTH

Briefing on Domestic Microgeneration

Purpose of this Paper

The purpose of this briefing paper is to provide an introduction to domestic microgeneration and to consider the contribution it can make in helping to tackle climate change and ensure an affordable secure energy supply. This paper sets out the main messages in the Government's current consultation paper in this area. It also considers the possible implications of the Governments proposals to increase the take-up of domestic microgeneration for residents and social housing providers in the North.

Introduction

It is widely recognised that climate change, caused by a build up in greenhouse gases and maintaining a stable and affordable energy supply in an increasingly unstable world, is the greatest environmental challenge we face today. Scientific evidence indicates that greenhouse gases in the atmosphere are rising as a result of human activity and, left unchecked, no one will remain immune to the consequences of climate change. In the UK, the energy we use in our homes and for personal transport is responsible for almost half of the country's carbon dioxide (CO_2) emissions. The UK is becoming increasingly dependent on fossil fuels.

The Government recognises tackling these two key challenges requires urgent action within the UK and beyond and that neither has a single solution. Domestic microgeneration is one of the Government's solutions to these challenges. Domestic microgeneration, the small-scale production of heat and/or electricity from low carbon sources such as wind, solar and gas devices will help tackle climate change by reducing carbon dioxide emissions and at the same time ensure that we have secure, clean and affordable energy.

Background

Climate change is top of the political agenda. The Government's increasing commitment to the environment and sustainability agenda is well documented in a wealth of recent Government publications including reviews, policies and new legislation in this area. The Government recognises that to avoid climate disaster, a global effort is needed. It has set out a long-term framework for action to address the challenges of climate change and maintaining a stable and affordable energy supply at home and abroad. In particular, the Government has made a legally binding international commitment, under the 'Kyoto Agreement' (1997) to reduce emissions of the six main greenhouse gases by 12.5% under 1990 levels by the period 2008-2012. In addition, the Government has encouraged international commitment to reducing the effects

of climate change by putting climate change on the agenda at the G8 summit two years ago. The success of this important global measure is demonstrated by US President George Bush's announcement on climate change on the 31st May 2007 which committed America for the first time to setting targets to cut its own greenhouse gas emissions and the President called for a global warming summit later this year to seek a new international consensus.

The Government strategy, 'A Better Quality of Life: a strategy for sustainable development' (1999), provides a national focus of bringing together the environment, social progress and the economy and placing them at the heart of all its activities. Two of the four main principles of the strategy for sustainable development relate directly to the environment: effective protection of the Environment; and prudent use of natural resources. Furthermore, the principal elements of the UK Government's strategy to meet its obligations to reduce greenhouse gases were also outlined in the 2003 Energy White Paper, 'Our energy future – Creating a low carbon economy'. The Energy White Paper includes a commitment "to put ourselves on a path to cut the UK's carbon dioxide emissions – the main contributor to global warming – by some 60 per cent by about 2050 with real progress by 2020.

Other key domestic measures implemented by the Government to address the climate change challenge include: a progressive tightening of Building Regulations; the Decent Homes standard which is helping to tackle energy wastage through improved home insulation and heating; Government commitment to building more new affordable homes to low and zero carbon standards on a large scale to ensure all new developments are carbon neutral by 2016; its manifesto target to reduce Carbon Dioxide (CO2) emissions by 20% by 2010, the launching of a new Code for Sustainable Homes to increase the environmental sustainability of homes and give homeowners better information about the running costs of their homes; planning's role in shaping places with lower carbon emissions and resilient to climate change - the Government has introduced a new Planning Policy Statement; the introduction of a time-limited stamp duty exemption in 2007 for most new zero carbon homes; the proposed five eco-towns of up to 20,000 homes; and the promotion of technologies and innovation to help drive down emissions from existing stock too.

The UK's Climate Change Bill, the first legislation of its kind in the world, will establish a long-term legal framework to underpin the UK's contribution to tackling climate change, and put in place a clear and credible emissions reduction pathway to a statutory goal of a 60% reduction in carbon dioxide emissions by 2050.

The Stern Review on 'The Economics of Climate Change' (October 2006) saw the first major piece of work into the actual 'costs' of climate change. Stern shows that carbon emissions have already pushed up global temperatures by 0.5 degrees Celsius providing overwhelming scientific evidence, that climate change is a serious and urgent issue. The environmental and economic impact of any further temperature increase would be disastrous. As a result of

Stern, a new target for the European Emissions Trading Scheme is to reduce carbon emissions by 30% by 2020 and by 60% by 2050.

The impact of climate change and the measures needed to tackle global warming have risen markedly up everyone's agenda. The public's contribution to the detrimental effects of carbon emissions on the environment need to be reduced dramatically. The Government recognises that active participation of the public in solutions is critical to reducing the country's overall contribution to climate change. It is therefore delivering a strong message that we all have a responsibility to reduce the impact of global warming and we must all play a part.

The challenge for the Government is how to stimulate climate-friendly behaviour amongst residents in the UK. The Government has introduced a range of measures and policies to encourage individuals to choose to behave differently and use energy more efficiently and be less reliant on fossil fuels to help tackle climate change and to meet its other energy policy objectives of increasing energy security and reducing fuel poverty. Furthermore, the Government recognises it must deploy effective communications that connect with mass audiences if it is to succeed. Moreover, the Government acknowledges that no one solution will meet the challenges of climate change and energy security. A range of solutions are needed. Domestic microgeneration is increasingly recognised by the government as having an important role to play in helping to tackle the challenges of climate change and energy security.

Government Policy and Domestic Microgeneration

Domestic microgeneration is gaining in momentum. The government recognises that microgeneration technologies can make an important contribution to their energy policy goals. They can play a significant role in moving towards the Government's objective of sustainable, reliable and affordable energy for all, delivered through competitive markets and tackling climate change.

Domestic microgeneration and renewable technologies are becoming more prominent in government policies, strategies and legislation. The Government's Microgeneration Strategy, published last year intends that microgeneration should become a realistic alternative or supplementary energy generation source for the householder, the community and for small businesses. The Government is already providing £50 million for the installation of microgeneration technologies for social housing and other buildings to improve the sustainability of development.

The consultation on the draft of a new Planning Policy Statement (PPS) on Planning and Climate Change sets out how planning should help shape places with lower carbon emissions and make them resilient to climate change. It also includes proposals with the aim of promoting further take up of microgeneration technology by removing the need to apply for planning permission for certain types of installation.

The Householder Development Consents Review (HDCR) launched in January 2005, examined ways of reducing bureaucracy for householders seeking to improve their homes while protecting the interests of neighbours, the wider community and the environment. The Government also contracted Entec to review the provisions of the General Permitted Development Order (GPDO) in relation to the installation of microgeneration technology and the operation of those provisions and make recommendations as to how the GPDO could be amended in a way which is consistent with the protection of residential amenity whilst facilitating the installation of microgeneration equipment by householders.

The Town and Country Planning (General Permitted Development Order (GPDO) 1995 grants rights (known as permitted development rights) to carry out specified forms of development without the need to make an application for planning permission. Inclusion of appropriate categories of microgeneration technologies within the GPDO can directly eliminate these costs. The Government's objective is to promote the take-up of domestic microgeneration by classifying categories of microgeneration equipment as permitted development under the GPDO. Equipment falling into the category of permitted development may be installed without first requiring a planning application. The Government is therefore currently consulting on proposals to scrap planning permission for micro-renewables by the end of the year.

The Government's recent Energy White Paper sets out their international and domestic energy strategy, addressing the long-term energy challenges with an aim to delivering four key policy goals: cutting CO2 emissions by 60 per cent by about 2050; maintaining the reliability of energy supplies; promoting competitive markets in the UK and beyond; ensuring that every home is adequately and affordably heated. Moreover, the Energy White Paper acknowledges the contribution microgeneration could make towards the UK Government's vision of the energy system in 2020 by suggesting that there will be "much more local generation" and more specifically, "much more microgeneration". The Energy White Paper provides new incentives to increase the number of households that produce energy as well as consuming it.

The Microgeneration Strategy identifies that the application of the regime governing planning permission for microgeneration equipment acts as a barrier to the wider take-up of newly emerging technologies. Furthermore, there is a lack of clarity about whether specific planning permission is required for some technologies and as a result individual local authorities interpret the regulations differently. In addition, the often complex, costly, time consuming and uncertain process of seeking planning permission for microgeneration equipment is also perceived to be a barrier to take-up. The Government therefore intends to make it easier for householders to install micro-renewable equipment in their homes by relaxing planning restrictions.

The Government's proposals to relax planning restrictions and reduce the number of non-controversial applications that clog up the planning system are outlined in its "Changes to Permitted Development" Consultation Paper 1 –

Permitted Development Rights for Householder Microgeneration which is currently out for consultation. The changes to the planning system are designed to encourage the take-up of domestic microgeneration by allowing householders to put up solar panels and wind turbines without applying for planning permission. The ultimate aim is to make it easier for people to generate their own energy supplies and cut carbon emissions.

What is domestic microgeneration?

Microgeneration is the small-scale production of heat and/or electricity from low carbon sources such as wind, solar and gas devices (Source: http://www.dti.gov.uk/energy/sources/sustainable/microgeneration/strategy/page27594.html). Micropower technologies emit low amounts of carbon dioxide (CO_2), or in some cases, no carbon dioxide at all, whilst allowing consumers to generate their own heat and/or electricity. Various technologies can be used for microgeneration – air source heat pumps, ground source heat pumps, fuel cells, micro-Combined Heat and Power, micro-hydro, micro-wind, bio-energy and solar (thermal and PV (photovoltaic)). Some microgeneration technologies produce energy using renewable resources like solar, wind or biomass (e.g. wood) and others, like combined heat and power (CHP), may use fossil fuels but are much more efficient than conventional systems.

Emerging technologies include:

- Heat generation: solar water heating, ground source heat pumps, air source heat pumps, biomass stoves and boilers (e.g. wood and energy crops e.g. willow)
- Electricity generation: Solar photovoltaic (PV) systems, micro-wind turbines, micro-hydro systems (in hilly areas or river valleys)
- Combined Heat and Power: MicroCHP (provides heat and electricity together; many technologies can be used including gas, Stirling engines, internal and external combustion engines, and fuel cells).

The benefits of domestic microgeneration

Domestic microgeneration provides quantifiable benefits both to the nation and to residents. The benefits of microgeneration technologies on all four of the UK Government's energy policy goals are as follows:

Firstly, microgeneration helps reduce carbon emissions by providing low carbon sources of electricity and heat to houses and small commercial premises throughout the country. The Building Research Establishment (BRE) have estimated that, taking housing growth into account, it is possible to get close to the 60% target, but it would require a significant take-up in emerging renewable technologies e.g. photovoltaic electricity and solar heating. In their model this was illustrated by a scenario that reach the 60% target, using heat pumps in 50% of dwellings that have central heating by 2050 and biomass boilers in the other 50%, and a range of simpler efficiency measures for the remainder.

Secondly, as well as countering the adverse effects of climate change, it helps ensure reliable energy supplies. It is imperative we take steps to make sure that the UK continues to have the energy that is vital to its economy because within a few years, the UK will no longer be self-sufficient in energy. Using indigenous renewable sources of energy will reduce our dependence on imported fossil fuels and will bring diversity and security of supply to the UK's energy infrastructure (national energy security) and energy poverty (the need for reduced carbon emissions) by reducing the level of carbon in the gas and electricity supply.

Thirdly, promoting competitive markets – microgeneration introduces an additional aspect to the energy markets giving people a wider choice of products from which to gain their electricity and heat.

Fourthly, providing affordable heating for all – microgeneration is currently a more costly contributor to reducing fuel poverty than energy efficiency measures. However, if the fairly substantial upfront costs of microgeneration technologies can be defrayed, the lower energy bills associated with such technologies could potentially contribute to reducing fuel poverty.

One of the perceived advantages to individual householders is fuel cost savings through greater energy efficiency. Furthermore, for some turning your house into a power-creating hub by adding solar panels and a small wind turbine can be a liberating idea. Moreover by providing a more environmentally sustainable form of energy production than non-renewable sources, such technologies reduce residents' own carbon 'footprint' on the environment.

Take up of domestic microgeneration

In-spite of these important benefits, the current take-up of domestic microgeneration and renewable energy across individual households nationwide is very low. Investment in micro-renewables is still a niche market. There were just 82,000 installations across the UK by the end of 2004 (Reference, EST, Potential for Microgeneration Study and Analysis Final Report. Nov 2005). There are currently only around 100,000 microgeneration devices installed in the UK, representing under 0.4 per cent of UK households. Furthermore, there is a very low take-up of these technologies in the North, illustrated in table 1 overleaf which shows the recently recorded figures in the North East. The current low take-up of technologies poses difficulties for the Government in trying to meet its challenging climate targets.

Table 1

North East applications for LCBP stream/grant @ Jan 2007	North East payments for LCBP stream/grant @ Jan 2007
GSHP 12 Photo voltaic 19 Solar thermal 24 Wind turbine 39 Total committed £117,247	GSHP 0 Photo voltaic 1 Solar thermal 5 Wind turbine 1 Total committed £10,600

Barriers to the current take-up of domestic microgeneration

There are a number of key barriers to the current take-up of such technologies. These include:

- Consumer behaviour;
- A lack of awareness of the potential benefits of these technologies including suitable information;
- The current cost of installation; Renewable technology is not yet widely commercially available to households and so there are currently no economies of scale.
- Problems of finding suitable installers;
- The fact that they cannot be applied to all properties;
- A lack of independent, verifiable evidence to support the performance claims of some of the technologies such as turbines;
- Concerns about the impact they will have on the immediate surroundings; and,
- The current planning process – often complex, costly, time consuming.

The Government's drive is to stimulate demand for and facilitate the supply of microgeneration to make the market become self-sustaining. The Government's consultation paper sets out a number of key barriers to the current national up-take of domestic microgeneration and its proposals to tackle them. Each of these key challenges and solutions will be examined in turn.

Consumer's behaviour

Attitudes to climate change are changing. Public opinion is discussing what we can do about climate change. For instance, a recent poll on public perceptions of what will threaten their well-being included climate risks higher among their concerns. Customers are starting to demand higher standards for new housing. Moreover, attitudes to innovative technologies are changing. Demand for micro-generation units, is slowly increasing. The Energy Savings Trust said that 37% of UK households are seriously considering installing some form of renewable energy technology to reduce carbon emissions. Moreover, the total number of micro-generation appliances installed across the UK is expected to rise from 100,000 to more than 1.3m by 2020 *(Reference: Tania Branigan, political correspondent, Wednesday April 4' 2007, The Guardian).* The idea of generating your own electricity is becoming more popular as a result of rising fuel bills, security of supply concerns, and general climate awareness.

Nevertheless, a study commissioned by the DTI in 2005 from the Energy Savings Trust suggested that if, by 2050, micro-generation provides 30% - 40% of the UK's electricity needs and help reduce annual household carbon emissions by 15%, "Units must be installed by consumers in their millions. Furthermore, the Government accepts that to deal effectively with climate change, demands dramatic changes to patterns of human behaviour and economic activity today for no immediate benefit. Consequently, changing attitudes do not always translate into action. This poses a real challenge to the success or otherwise, of the Government's proposals. How the Government influences consumers' behaviour on green issues generally and domestic microgeneration, is of crucial importance.

For people to change the way they think about how we will power our homes in the future, and for the Government to effectively influence householders' behaviour, the Consortium feels that it is essential that the Government continues to treat climate change as beyond argument, behaving as if climate change exists and is real, and that individual actions are effective. Moreover, research suggests that communications that emanate from authority sources and that continue to instruct, or even cajole, are likely to be less successful than those that work with this emerging dynamic.

The real challenge for the Government is to develop the most effective approaches for promoting behaviour change and make climate-friendly behaviours feel normal, natural, right and 'ours' to large numbers of people who are currently disengaged, and on whose emotional radar the issue does not figure. Domestic microgeneration needs to be made to feel attractive and compelling in terms that make sense to people today. We live in a culture where top-down authority is being systematically replaced by bottom-up or horizontal authority, that is, where people increasingly trust other people more than Governments and businesses.

This has huge implications for the way the Government delivers the message that climate change needs to be tackled by us all and the important role that domestic microgeneration can play. Micro-generation needs to be sold as a brand that empowers people and communities to actively generate and manage their own energy in a cleaner, smarter and more efficient way. This idea broadly fits with the current Government drive to increase community ownership.

Lack of awareness of domestic microgeneration

There remain significant gaps in the provision of practical information to the public on climate-friendly behaviour. The main government vehicle for communicating such information (the Energy Saving Trust) is contacted by only 3 per cent of the public in any one year. The Government recognises in their consultation paper how the lack of reliable information on such technologies can impinge take-up. Microgeneration technologies suffer from being seen as unfamiliar and eccentric. There are common misconceptions about their effectiveness, and it can be time-consuming to find out about relevant products and install them.

Nevertheless, we are aware that the Government is seeking to raise awareness about what individuals can do to help tackle climate change. The Government is committed to providing households with better information and advice on energy use to help consumers know where and how to make energy savings through its new Energy White Paper. The Government's message is that there are big potential savings not just in terms of money; turning off the TV off standby, unplugging the mobile phone charge and switching off lights in rooms they are not using by making basic changes but savings to the environment. The Government has thus adopted a new multi-media campaign branded "Action on CO2". Moreover, through on-line press and TV advertising the Government is showing people how they can make simple changes to their lifestyles to reduce their carbon footprint.

Moreover, we are aware that some organisations such as the British Wind Energy Association are making useful and high quality information readily available to the public. Their new guidance on installing small wind turbines sets out to help people better understand the potential of wind turbines to secure energy supplies and combat climate change and promote successful installations.

The Consortium is aware by pulling together a number of case study examples for its new publication, "Accommodating a greener future Making a difference to housing's carbon footprint" that a number of social housing providers in England are making a positive contribution to the green agenda and promoting the climate change message with their staff and tenants and also with residents and the wider community. A number of housing associations and local authorities have put in place effective information policies that foster a shared understanding of the nature of climate change across their local area and their region and are providing ideas and inspiration on environmentally friendly practices to help everyone play their part in reducing carbon emissions. The Consortium feels that the social housing sector is therefore in an ideal position to increase awareness amongst householders of the potential benefits of microgeneration technologies.

Your views

To help us with our overall response to the Government's consultation paper on domestic microgeneration, we would welcome member's views on the following:

- **Barriers** – What barriers, if any, exist in your area/region to the take-up of domestic microgeneration? How can they best be tackled?
- **Awareness of domestic microgeneration in your area** – Do you have any evidence on the level of awareness and take-up of domestic microgeneration from householders in your region?
- **Encouraging up-take of domestic microgeneration** – What role, if any, do you feel that social housing providers should play in increasing awareness of domestic microgeneration? Does your organisation actively encourage the take-up of domestic microgeneration in your local area? If so, how do you encourage the up-take of this technology?

Costs

The Government also acknowledges in its consultation paper, that the cost of domestic microgeneration currently acts as a key barrier to its take-up. There are both planning and installation costs for householders. The current cost of applying for planning permissions for domestic scale microgeneration equipment is £135. However, there are additional costs in terms of producing scaled drawings, the time and effort in filling in the application form and the potential 8 week waiting period cost before a decision is made.

Furthermore, installing domestic microgeneration, poses an additional cost for householders. There are high capital costs. Microgeneration technologies such as solar water heating, ground source heat pumps, solar photovoltaic (PV) systems and MicroCHP are currently expensive. For instance, the typical installation cost of solar photovoltaic cells is £12,000. These cells have remained expensive because of a worldwide shortage of silicon, from which they are made. In addition, installed Micro-CHP units cost around £2,000.

Estimates based on experience of low and zero carbon technologies indicate that costs would be reduced significantly for each doubling of installed capacity. Industry analysts have predicted that if there were 12m installed, the additional might fall from around £2,000 to £400. We agree in principle that by stimulating demand and development it should be possible to bring costs down because this will bring about economies of scale to drive down the price of low-carbon alternatives which in turn, will increase the take-up of such technologies and further reduce costs.

Nevertheless, we have doubts about how effective this will be in reality especially in the case of solar photovoltaic cells. Currently, the grant is worth 50% of the typical installation cost of £12,000. For many vulnerable and low to moderate income households, installing this sort of technology, even with a grant incentive is out of reach. Therefore the increased take-up level is likely to remain small and thus undermining the potential for economies of scale. We feel it may take a long time for these technologies to become more widely commercially available to households. For many vulnerable and strapped for cash families in the North, struggling to meet their mortgage payments and heating their homes due to the sharp rise in fuel bills since 2003, £400 is still an expensive amount.

The Consortium therefore believes that a more realistic option to installing a mini-turbine or other renewable technologies for many vulnerable and low to moderate income households in the North is to get their house in order first with insulation and energy reduction targets. In addition for those households in the North, keen to embrace domestic microgeneration renewables, changing their electricity supplier to Good Energy or Ecotricity will speed change more quickly in the region.

We are pleased to see that the Government recognises in their paper that domestic microgeneration is not for everyone and encourages homeowners to also consider making basic energy saving before seeking to generate their

own energy like low-energy bulbs, draught-proofing and roof insulation. The Consortium supports this view and believes that encouraging households to take both small and cost free changes is a more realistic option for many home owners in the North. The Consortium is therefore encouraging its members to further promote the adoption of such measures with both their tenants and their residents through its new publication, *"Accommodating a Greener Future Making a difference to housing's carbon footprint".* Members will soon be able to download this publication from the Consortium's website.

The Consortium also believes that going green and installing microgeneration technologies should no longer be the preserve of those who can afford to. The Government has offered some financial incentives for home owners on low incomes wanting to go green. In the spring, the Government launched a pot of £6.5m to support household renewables over the next three years. It was split as follows: £3.5m this year, £2m next and £1m in 2008/09 providing a 50% increase in funding for householders to install small-scale renewables. However, the increasingly popularity of renewables has meant that this year's £3.5m was used up in just six months.

Although the Government decided to top up its system of grants after running out of money for ordinary people to install energy-saving technology in their homes, by recently shifting another £6.2m from other parts of the Low Carbon Building Programme into the household renewables pot, we feel that the Government's revised provision is still insufficient to act as a real solution for many households in the North wishing to install microgeneration technologies.

However, we feel that the grants have been too small to stimulate real investment in technology and research, leading to high costs and slow market development. Furthermore, we feel that everyone needs a simple, guaranteed flow of funds from Government if they are to take the sort of long-term decisions that technologies involve. In the recent past, this has clearly not been the case. The viability of the fledging microgeneration technologies industry has been undermined by the Government's lack of long-term investment in this area. The Government's decision to make severe cuts in grant for domestic microgeneration conflicted with its own microgeneration strategy and the rising public interest in mass-market renewable technologies.

Given that the Government has declared climate change to be the biggest challenge we face identified by the Stern Review the Consortium feels that greater financial support is needed from the Government. Moreover, the Consortium feels that it is imperative that the Government moves away from a stop-go cycle and guarantees long-term government support for household microgeneration technologies and renewable energy. For firms offering solar, wind and ground source heat pumps and for home owners wishing to install such technologies, the constant disruption to grant flows is unhelpful at best.

Alongside high capital costs, there are also unacceptably long payback periods for solar power and ground source heat pumps as documented in the "positive energy" report. In urban areas, micro-wind payback periods are of the order of 10-15 years, while for solar photovoltaics (PV) they can be longer

than 30 years. The DTI's Low Carbon Energy Programme grants are insufficient to meet current demand and so payback times for some will be even longer.

We accept that funds are finite. Therefore, to realistically substantially increase the up-take of domestic microgeneration across the UK, we feel that a grants system may not necessarily be the most appropriate way for the Government to go. It is widely acknowledged that they are expensive to administer, difficult for people to understand, can distort market signals and has recently been seen, they can run out of money. We feel, like Dr Jim Watson, of Sussex University's energy group, that it may be better to support such technologies through the tax system, such as through tax returns and that the Government should create a more coherent system for people with micro-generation to sell any surplus electricity they generate back to the grid because at present, this is difficult and consumers often get paid much less for what they exported than they pay when importing it. We also favour council tax discounts be given, according to how much energy consumption is reduced. Giving home owners a tax break has the added advantage of enabling people to decide how best to save energy.

Installation problems

The current supply of installers of technologies is limited. This poses problems not only in terms of choice and cost but also for maintenance of such equipment. However, domestic microgeneration is slowly becoming more mainstream: For instance, Curry's recently began selling solar panel systems at £9,000 and from last October, when B&Q started selling micro wind turbines, at Christmas the stores sold 1,500 units.

Domestic Microgeneration is not suitable for all properties

The Government also acknowledges the fact that because renewable technologies cannot be applied to all properties, this also currently acts as a constraint. We feel that there could be physical difficulties in dense urban areas of installing ground source heat pumps. Also the lack of a suitable roof in flats can reduce the effectiveness of solar heating and PVs. The increase in the number of new apartments currently being built in the North could affect the take-up of solar heating and PVs in the region.

Impact on the environment

The Government acknowledges in its consultation paper that concerns about the impact domestic microgeneration will have on the immediate surroundings is also currently a barrier to up-take. Whilst the Government wants to encourage the widest possible take-up of microgeneration equipment by removing unnecessary regulatory barriers, we are pleased to see that the Government is also concerned to ensure that the right levels of control are retained to protect the reasonable interests of neighbours, the environment and the wider community and that the rules would apply only where it was clear that there was little or no impact on neighbouring properties. We also

welcome the fact that the Government acknowledges that it is important to ensure safeguards on noise, siting and size and that the unique features of conservation areas are protected.

The North is known for its areas of outstanding natural beauty. The Northern Way and the three northern regional housing strategies acknowledge that growth in the North is highly dependent upon its areas of outstanding natural beauty as they help attract new businesses to the North. We therefore feel that it is imperative that the approach taken to ensure permitted development rights are exercised in a way that minimises its effect on the amenity of the area and its effect on the external appearance of the building. We also wish to see strong measures put in place to ensure that northern councils have the authority to refuse planning permission in conservation and protected areas where installation of such technologies would have a negative impact on the environment.

There have been increases in housing density put through by the Blair government. With this push to build more dense homes, we have concerns about the implications of any potential nuisance such as noise and vibration. Whilst we are pleased to see that the Government proposes to place limits on the levels of noise generated by wind turbines and air source heat pumps so that the installation is unlikely to cause annoyance or sleep disturbance to an averagely sensitive neighbour, we have concerns as to how realistic safeguards on noise will be if there is a dramatic increase in the take-up of domestic microgeneration across the UK.

James Woudhuysen recently stated that millions of homes in the UK today have paper-thin walls and England is lacking a housing regulation of minimum space standards. In floor space and room size, both the existing UK stock and new-build is the lowest in Europe. Furthermore, since the mid-1990s, nearly three-quarters of all complaints about noise received by environmental health officers (EHOs) in England and Wales identified a nearby home as the source of annoyance (ONS Social Trends 37, 2007, p152). A potential dramatic increase in the take-up of domestic microgeneration including noisy windmills does not fit well with millions of homes with paper-thin walls. We feel that the likely impact of noise should be dealt with both by specific noise restrictions based on decibel levels at/in neighbouring dwellings and using other approaches to safeguard residents.

The current planning process

The Government's key drive in its consultation paper, is to ensure that the planning system supports efforts to tackle climate change rather than acting as a key barrier. The Government recognises that the planning system is currently a barrier to change, and frequently results in a failure to realise the potential of domestic microgeneration as a cost-effective energy efficiency

measure. The Government's view is that the planning system should not be there to regulate development that has no impact beyond the host property.

The Government's consultation paper outlines their proposals for changes to the planning system in relation to the installation of microgeneration equipment for domestic properties. The Government proposes that microgeneration devices will no longer require planning permission in cases where there is 'little or no impact on neighbouring properties'. The Government proposes the principle of an impact approach for permitted development. The revised system would deliver a more permissive regime than exists at present and remove the need for a planning application for many householders and set out clearly what is and is not permitted. Changes will be delivered through the amendments to the Town and Country Planning GPDO 1995.

Generally we support the Government's proposals for reforming the system governing what householders can do to their own property without the need to apply for planning permission so as to allow the easier installation of microgeneration technologies. We agree in principal that the proposals have the potential to increase the use of microgeneration and contribute to meeting our future energy needs in a sustainable way.

We also feel that the Government's proposal that equipment falling into the category of permitted development may be installed without first requiring a planning application will reduce the cost to the householder of obtaining planning consent. We agree that there will be savings to householders via both planning fee and transaction costs such as professional fees and production of scaled drawings. We also fee that the proposals have wider direct and indirect benefits including a reduction on the burden to local planning authorities. Currently, there is a lack of clarity about whether specific planning permission is required for some technologies and as a result individual local authorities interpret the regulations differently.

Summary

This paper has outlined the potential benefits and current barriers to domestic microgeneration and the Government's proposals in their current consultation paper to address some of these barriers and encourage the up-take of such technologies as part of its commitment to tackling climate change and ensuring energy security. The Consortium supports the Government's commitment to tackling climate change. We agree that domestic microgeneration has a useful part to play in meeting this challenge because our existing stock is more of a contributor to CO2 emissions compared to new stock.

Whilst we generally support the Government's proposals for changes to the planning system to increase the uptake of domestic microgeneration we feel that the Government does not prioritise climate change at the expense of a growing affordability crisis especially in parts of the North such as the Yorkshire and Humber Region. We feel that it is imperative that the

Government now also shows a real commitment to addressing the acute shortage of affordable housing both in the North and other key parts of the UK.

This paper is intended to provide a basic understanding of the key issues surrounding domestic microgeneration in order to help our members as they consider their response to the Government's proposals for changes to the planning system to increase the take-up of domestic microgeneration.

The NHC intends to submit a response based on members' opinions and comments on the proposals. In order to provide a representative response we ask that as many of you as possible send us your comments, supported by evidence wherever possible, and these will be collated into a formal NHC response. The NHC is keen to hear ideas and comments from members in each of the three northern regions about how up-take in domestic microgeneration can best be increased in their region and the value these technologies can play in the north in helping to tackle climate change.

Your views

To help us with our overall response to the Government's consultation paper on domestic microgeneration, we would also welcome member's views on the following:

- **Government Proposals** – How realistic, in your view, are the government's proposals to encourage the up-take of domestic microgeneration? How can we ensure that the promised benefits of domestic microgeneration are effectively realised in the North? What key issues, if any, has the Government missed in their consultation paper?
- **Restrictions** – What are the implications, if any of a large increase in the up-take of domestic microgeneration in the North? What conditions, if any, would you like to see placed upon householders wishing to take-up domestic microgeneration?
- **Best practice examples** – Do you have, or know of any examples for good practice in domestic microgeneration in either the private or the social rented sector that would help inform our response to the government's proposals?

The Government consultation paper can be found at http://www.communities.gov.uk/index.asp?id=1508888.

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