

H O T H O U S E S

Climate change and London's housing



Jean Lambert MEP

Green Party Member of the European Parliament for London



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Green Party





JEAN LAMBERT MEP has been the Green Party Member of the European Parliament for London since 1999. She works on a range of social and environmental concerns, to build a more just and sustainable future. In particular Jean has focused on how these issues are connected and has published reports on environmental refugees, work-life balance, energy and waste, and social inclusion. In 2005 Jean won the award for MEP of the year for her work on justice and human rights.

FOREWORD

Climate change is a major challenge of our time. There is growing agreement that we need to make real and rapid reductions in our greenhouse gas emissions. This means reducing our demand for energy and using what we have as efficiently as possible.

We should be making strategic decisions as to where we put our efforts to get the fastest possible reductions, while taking steps to tackle the more difficult areas.

The recent Government announcement concerning zero-carbon new-build housing is welcome, but new-build is only a small proportion of our overall housing stock. We need to look at how we can improve our existing housing. For the UK, energy use in the domestic sector is an important source of emissions and particularly in London, where it outweighs transport. London also has a different makeup of housing stock compared to other regions and a different balance between owner-occupied and rented.

If we deal with energy-inefficient homes through extensive insulation programmes, we can also combat fuel poverty and meet a social need. Fuel poverty is predicted to increase as fuel prices rise, so action is essential. London has many households still living in poverty, despite the capital's overall prosperity.

This report makes the case for greater action on reducing domestic energy use. It looks at the existing schemes to make our homes more energy efficient and asks if they are 'fit-for-purpose'. It also argues for a stronger, more targeted regional approach to focus resources effectively and makes a number of recommendations, most of which could be easily put into practice. Individuals want to make a difference: *Hothouses* shows them how Government could do more to help.

Inside front cover
Foreword

1

Introduction

2

Improving performance
– the Energy
Performance of
Buildings Directive

4

Fuel poverty

6

An inefficient
commitment? - the
Energy Efficiency
Commitment

8

Filling in the gaps -
more action needed on
wall insulation

10

Decent Homes
Standard: does it make
the grade?

12

London's challenges

17

Recommendations

19

Conclusions

20

References and notes

INTRODUCTION

There is widespread scientific agreement that the threat posed by climate change is extremely serious and demands an urgent, far-reaching response. Significant reductions in carbon dioxide (CO₂) and other greenhouse gas emissions are essential if temperature rises of two degrees or more are to be averted. Such temperature changes would lead to unprecedented water level rises and transform the world's physical geography, threatening the lives and livelihoods of hundreds of millions of people. Low lying areas, including London, are at particular risk from rising water levels.¹

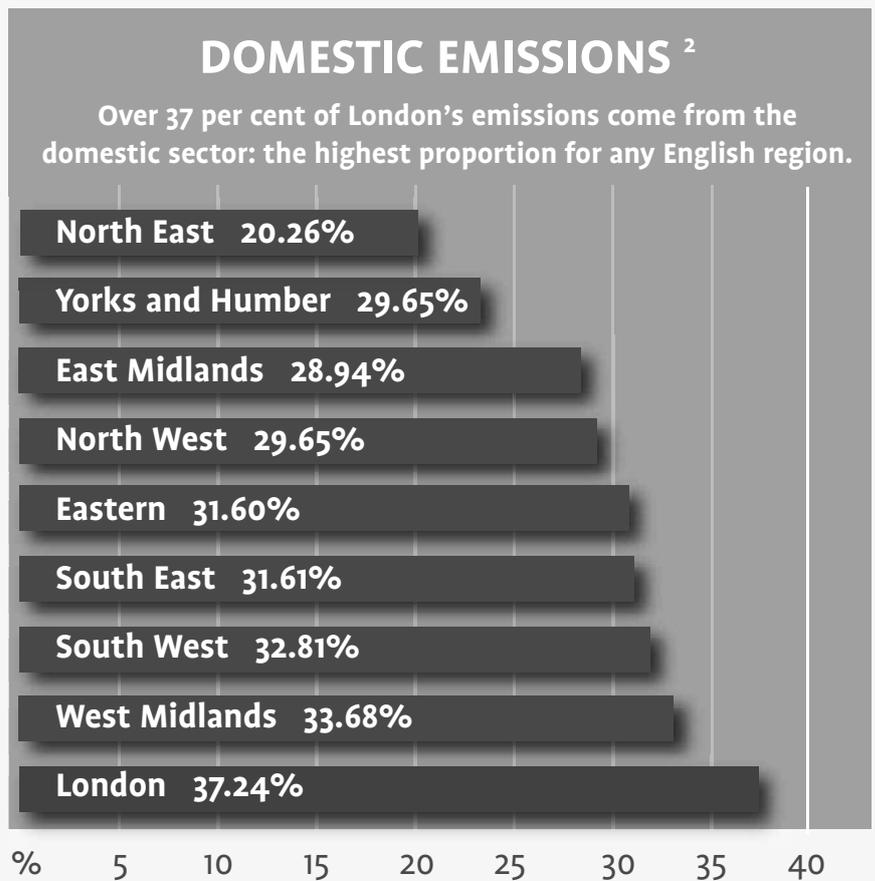
One of London's biggest contributors to climate change comes from the energy consumed in and by the capital's homes.

Of England's nine regions, London produces by far the highest proportion of its carbon dioxide emissions from domestic energy use. For England and the UK as a whole, around 30% of carbon emissions come from the domestic sector. In contrast, around 37% of London's emissions come from domestic energy consumption. For London, this amounts to 18.9 million tonnes of carbon dioxide (or 5.1MtC – mega-tonnes of carbon), compared with 10.1 million tonnes (2.7 MtC) which derive from transport.²

Action is clearly needed to reduce emissions from London's transport, as well as from industry & commerce. However, some of the greatest reductions in London's emissions could come from changes in the domestic energy sector. This sector includes energy used in and by the home.

Net carbon reduction from London's housing therefore has to be central for any viable strategy to reduce London's overall emissions and its contribution to climate change.

Given that London's population is forecast to increase by 10% over 15 years from 2001 – reaching 8.07 million in 2016³ – and with the largest new development in Europe planned for the Thames Gateway to meet population increase and demographic changes, it is understandable that a significant focus has been placed on the energy efficiency and carbon status of new-build in London. The importance of ensuring that new-build is highly energy



efficient cannot be overstated. However, even allowing for current rates of construction, London's overall housing stock will still be predominantly made up of older and much less efficient buildings. 97% of London's current housing was built before 1995.⁴

London's 3.1 million existing dwellings⁵, include a significant volume of high-impact, energy inefficient housing. If more were done to accelerate progress on policies to refurbish and improve the energy efficiency of the existing housing stock, London's CO₂ emissions and energy usage could be dramatically reduced.

Carbon emissions from UK housing could be reduced by 60% by 2050 if the right energy saving policies were applied to the housing stock.

Source: 40% House, Environmental Change Institute, 2005.

Domestic energy usage and emissions: heat and electricity consumption

Average domestic electricity consumption, primarily for lights and appliances, can be estimated at approximately 3,300 kWh per annum per household. This figure is quoted by the utility companies, and gas and electricity watchdog, Energywatch, and used by the London Mayor.

By contrast, the annual heat consumption per dwelling is approximately 14,171 kWh per annum.⁶ The heat energy consumption of London's dwellings is over four times the energy consumption from electric lighting and appliances.

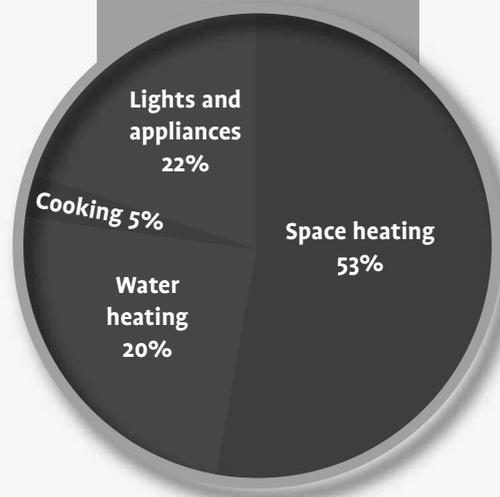
In terms of (national) carbon emissions from domestic energy use, 53% of those emissions arise from space heating, 20% from water heating, 5% from cooking and 22% from lights and appliances.⁷

Much focus has been placed on greening the electricity supply and reducing energy consumption from electrical appliances and lightbulbs. These are essential and welcome contributions, but given the high proportion of energy consumption and emissions from heating, a greater focus is needed on energy savings/emissions reductions from heat used in domestic dwellings.

The Energy Performance of Buildings Directive will require all homes to be 'energy rated', enabling people to consider the energy efficiency of every home they buy, sell or rent. A powerful driving force to push up energy efficiency standards of both new buildings and existing housing stock, the EPBD still needs to be fully transposed into law by the UK Government. It also needs linking to energy efficiency schemes to increase the take-up of such measures.



CARBON EMISSIONS FROM DOMESTIC SECTOR ⁷



The European Union's Energy Performance of Buildings Directive (EPBD), which the British Government is in the process of transposing into UK law, aims to 'promote the improvement of the energy performance of buildings'⁸ across the EU. The Directive applies to all buildings, including domestic buildings, and relates to their energy performance, including space heating, hot water heating, cooling, ventilation and lighting.⁹

Part of the Directive has been transposed into UK law, including some of the elements of Article 7, whereby a Home Condition Report will include an Energy Certificate giving an energy efficiency rating of the property, and will use a simple A-G energy rating similar to that used to rate fridges and other white electrical goods. The ratings will be based on UK's Standard Assessment Procedure (SAP) energy efficiency ratings system for buildings. SAP 2005 standard ratings run from 1-100, with higher numbers indicating a building with better energy efficiency.¹⁰

Other Articles of the Directive require large and public buildings to display their energy ratings on a visible public notice, and for energy efficiency savings to be made when renovations are undertaken.

In relation to domestic buildings, the provisions of Article 7 will lead to all homes eventually receiving an energy efficiency rating. This will mean that both buyers or renters will be able to make choices in relation to the energy efficiency of their property when moving home. As energy efficiency can be broadly correlated to energy consumption, homes with A, B or C ratings should indicate lower fuel bills than homes with D, E, F or G energy ratings, with A property indicating lowest fuel bills and G properties highest fuel bills. Obviously a small G property could have lower energy costs than a large A property, but the rating system will be indicative of differing fuel costs in otherwise similar properties. This may impact on the market value of such homes, and if so, will incentivise house sellers to take steps to increase their property's energy rating before putting it on the market. The system should certainly make it easier for people to measure, compare and ultimately put a monetary value on a property's energy efficiency.

Impacts on rents in the rental sector are harder to predict, and questions remain as to how the British Government will transpose this element of Article 7 to ensure full compliance.

What cannot be doubted, however, is that over time, this mechanism will lead to a systematic energy efficiency rating of the whole housing stock of London, and the rest of the UK. Such information will not, of course, by itself reduce housing emissions. But it will help to better understand where the greatest energy inefficiencies lie and to assess which policy measures and incentives lead to the greatest improvements to housing stock energy efficiency.

Recommendations

- **The UK Government needs to ensure early full compliance with Article 7 of Energy Performance of Buildings Directive, in particular the requirement for Energy Certificates for all rental properties.**
- **To ensure EPBD derived measures lead to energy efficiency improvements in existing housing stock: subsidies and fiscal incentives to increase take-up of measures need to be integrated with issuing of Energy Certificates – both in home ownership and rental sectors. Without this step the potential of EPBD will not be realised.**

UK PROGRESS REDUCING EMISSIONS?

42.4 MtC – UK carbon emissions from domestic sector in 1990.

41.7 MtC – UK carbon emissions from domestic sector in 2004.



LONDON IN NUMBERS

97% of London's current housing was built before 1995.

3.1 million – current number of London dwellings.

37% – proportion of London's carbon emissions from domestic (household) energy consumption.

53% – proportion of domestic emissions caused by space heating.

Warm Zones is a Government initiative to tackle fuel poverty and improve home energy efficiency in a local, geographically targeted area. Five zones were piloted in 2001, including Newham in East London. The initiative aims to deliver definite energy efficiency improvements in targeted areas, within a single framework.

Given the fragmentation arising from various schemes, this approach is to be broadly welcomed. However, the pilots largely failed to perform well: in Newham 4.5% of fuel-poor households (1,120) were removed from fuel poverty, whereas the target had been 50% (12,400). Since then, East London Warm Zone has been set up adding seven neighbouring London boroughs to Newham.²⁵

Big operational changes are needed if such initiatives are to make a real impact. The Chancellor's commitment of an additional £7.5 million to fund co-ordinated area-based projects, following the Warm Zones model, is a start, but it is insufficient to meet the scale of the problem.²⁶

FUEL POVERTY

The UK Government wants to eliminate fuel poverty – but with increasing fuel costs and schemes like Warm Front still failing to assist many people in need, fuel poverty is rising. More people need assistance to properly heat and insulate their homes, and assistance schemes need expanding and overhauling, with greater national and regional monitoring. Greater action on fuel poverty will help reduce household carbon emissions and combat poverty more generally.

Fuel poverty can be defined as follows:

‘A household is in fuel poverty if, in order to maintain a satisfactory heating regime it would be required to spend more than 10% of its income (including Housing Benefit or Income Support for Mortgage Interest) on all household fuel use.’¹¹

The UK Government has a Public Service Agreement target to ‘Eliminate fuel poverty in vulnerable households in England by 2010 in line with the Government’s Fuel Poverty Strategy Objectives.’¹²

Beyond the focus on vulnerable households, ‘Fuel poverty in other households in England will, as far as reasonably practicable, also be tackled as progress is made on these groups, with a target that by 22 November 2016 no person in England should have to live in fuel poverty.’¹³

Warm Front

The main mechanism for tackling fuel poverty in vulnerable households in England has been the ‘Warm Front’ programme, which focuses on fuel poverty in private sector households. Warm Front offers a grant to the eligible householder of up to £2,700 (or £4,000 if oil central heating is involved) for a range of energy saving and efficiency measures. Social sector households (ie. residents with local authority or registered social landlords) do not qualify for assistance from Warm Front. There is a marked difference in incidence of fuel poverty between private and social sector households, with over one million English households in the

private sector (83%) and only 216,000 households (17%) in the social sector.¹⁴

The Government’s Plan for Action to tackle fuel poverty in England makes the connection between fuel poverty and the rating of the energy efficiency of households. The plan sets out a key objective ‘to eliminate fuel poverty in the properties of Warm Front clients by increasing the energy efficiency Standard Assessment Procedure (SAP) rating of each property. Where practicable we will aim to achieve a SAP rating of 65 – a level where there is a minimal risk of any household being in fuel poverty.’¹⁵ Clearly, increased energy efficiency of a dwelling should reduce its heat loss and therefore reduce the household energy consumption needed to reach an adequate temperature.

In this way the objective of ending fuel poverty coincides with the aim of reducing CO₂ emissions from the domestic sector. Indeed, the Government claims that Warm Front and other fuel poverty programmes will reduce annual carbon emissions by 0.4 MtC by 2010.¹⁶

Unfortunately, progress on reducing fuel poverty in England is failing. Figures reveal that 2004 saw no reduction on the 2003 figure of 1.2 million fuel poor households in England, including no reduction in either the 1 million ‘vulnerable households’ or the 0.2 million ‘non-vulnerable’ households. Taken together, this represents a total of around 6% of all households in England.¹⁷ The Government’s Energy Review went further and conceded that, largely due to rising fuel prices, fuel poverty will in fact rise rather than fall in the short term.¹⁸ Energywatch estimates

that over three million UK households face fuel poverty and fuel poverty charity National Energy Action now gives a figure of four million, with fuel poverty in England having doubled since 2003.¹⁹ In these circumstances a step change is clearly needed if fuel poverty is to be tackled effectively and reduced.

Fuel Poverty in London

London has extremely high levels of poverty. In 2004/5, 53% of children in inner London were living in poverty. This is twice the national average. London as a whole has the highest incidence of child poverty of any English region, taking housing costs into account.²¹ Pensioner poverty in inner London is at 23%, which is the highest rate in Great Britain.²² London is also the region with the highest unemployment rate in Britain. The three highest levels of unemployment at local authority level are London boroughs, namely Tower Hamlets (11.3%), Hackney (10.5%), and Barking and Dagenham (9.2%).

A large proportion of these London residents will also be fuel poor. Like the figure for England as a whole, fuel poverty in London has doubled since 2003 – rising from 108,000 to 214,200 households in 2006.²⁴ These households are in the greatest need of energy efficiency improvements to reduce their fuel bills, and thereby their energy consumption and carbon emissions.

Given this failure, significantly improved mechanisms are needed if fuel poverty in London is to be tackled successfully. This requires a better understanding of the regional profile of fuel poverty households, as part of greater targeted action to improve London's energy inefficient housing.

Warm Front eligibility

Grants to private householders (homeowners and private tenants) under Warm Front are limited to those in receipt of particular benefits. This clearly means that some low income groups will not be eligible for Warm Front assistance with

energy efficiency measures.

Over-60s only qualify if they are also in receipt of one or more of Income Support, Council Tax Benefit, Income-based Jobseeker's Allowance, Housing Benefit or Pension Credit.²⁸

Age Concern has been critical of Warm Front's means testing eligibility for older people.²⁹ In particular they highlight the fact that many older people do not claim benefits they are entitled to, and that 'Britain has one of the worst records for cold-related deaths in Europe and over 31,000 pensioners died last winter as a result of the cold.'³⁰

In the last five years, more than 130,000 people over 65 have died from cold-related illnesses during the winter months in Britain.³¹

Given these concerns and the urgent imperative to increase energy efficiency of the housing stock, a policy which denies many older people financial assistance with energy efficiency measures is highly questionable.



Recommendations

- **All pensioners in private housing should be eligible for Warm Front and similar schemes tackling fuel poverty – including free insulation.**
- **As part of its reporting and monitoring of the Warm Front scheme, Defra should ensure there is a regular breakdown of figures by region and carbon emissions savings.**
- **Action to tackle fuel poverty at London-level should take account of National Energy Action recommendations on Regional Affordable Warmth Action Plans.**

Regional Affordable Warmth Action Plans

National Energy Action has drawn attention to the importance of Regional Affordable Warmth Action Plans. The regional plan should bring together a range of regional agencies, including those dealing with health, housing, energy and economic development, with commitment at senior level. A broad steering committee and monitoring/review procedures are also needed.²⁷

According to fuel poverty charity National Energy Action, 4 million UK households face fuel poverty. Fuel poverty in London, as in England as a whole, has doubled since 2003.

LONDON IN NUMBERS

214,200 – London households living in fuel poverty.

Nothing – amount of Warm Front assistance towards insulating a solid wall home for those living in fuel poverty.

The Energy Efficiency Commitment is a UK Government initiative requiring all major gas and electricity companies to make specific energy savings. Government targets (in units of TWh) are set for a particular EEC phase time period, and are apportioned between the companies by the industry regulator, Ofgem. Although effective to a degree, targets remain far too low. Much greater emissions savings could have been made if higher targets had been set earlier. EEC has so far failed to make a big enough difference.



The EEC is the Government's 'principal policy mechanism driving increases in the efficiency of existing homes'³² and is in effect across England, Scotland and Wales.

Under EEC gas and electricity companies are free to choose how to meet their energy efficiency commitment targets, albeit within the constraint that at least half the energy savings must be to 'Priority Group' households, which are households in receipt of income-related benefits or tax credits. EEC is administered by the energy regulator, Ofgem. Defra sets the overall energy saving target for each phase of EEC and Ofgem allocates specific targets to each energy company.

The first phase, EEC1, ran from April 2002 to March 2005, and required the energy companies to make energy savings of 62TWh by providing energy efficiency measures to household customers over that period. EEC2 runs from April 2005 to March 2008 and has an energy saving target of 130TWh over the period.³³ Defra states that EEC1 and 2 will deliver a combined carbon saving of 1MtC annually by 2010.³⁴ Compared with 1990 levels, this amounts to a 2.3% reduction of carbon emissions from the domestic sector, and a reduction of only 0.6% of total carbon emissions.³⁵ This will clearly make an extremely small contribution to the government's stated objective of a 20 per cent reduction in carbon emissions by 2010, compared with 1990 levels.

A more substantial contribution to emissions reduction from the EEC is possible in future phases, and there will be a public consultation in 2007 on the target

for EEC3, which will run from 2008-2011.

To give an indication of the likely outcome of this consultation, the government claims that EEC3 *could contribute up to* a further 1.2MtC emissions reduction per year by 2010³⁶, which amounts to an additional 2.8% reduction of carbon emissions from the domestic sector, and is only an additional 0.7% reduction on total UK carbon emissions.

It is significant that the energy companies were able to meet their targets under EEC1 ahead of schedule and were making significant progress in meeting their EEC2 targets after just over one year into the phase.

Total energy saved by the suppliers during the EEC1 period was 86.8 TWh, whereas the Government target was 62 TWh. Because they were ahead of target, six of the twelve suppliers carried over their surpluses into the EEC2 period. In fact the only companies not to carry over any surplus were new entrants in the final year (discounting two companies that went into administration and administrative receivership).³⁷

Although EEC2 runs for three years to 2008, the energy supplying companies had met 60% of the overall target in the first year, with EDF Energy meeting 84% of its target in the first year. This suggests that the energy supply companies have the capacity to meet much higher targets. Indeed, Defra's decision to allow suppliers to carry forward an unlimited amount of activity undertaken during EEC2 into EEC3 indicates a Government expectation that suppliers will meet targets early and have

EFFICIENCY COMMITMENT (EEC)

the capacity for activity commensurate with much higher targets. In response to Defra's decision, Ofgem noted that 'this will influence the volume of the suppliers' activity over the next two years.'⁴⁰

It is clear that a substantially higher target is needed for EEC3 if the mechanism is to demonstrate its potential to make a significant contribution to emissions reduction. Supplier behaviour indicates that they are in a position to meet much higher targets than the Government is setting. Indeed, the Association for the Conservation of Energy's call for the EEC2 target to be set at 162 TWh, a call supported by 75 local authorities, was ignored by the Government in favour of a lower target.⁴¹

The Government's own Sustainable Development Commission recommends that EEC3 should operate at four times the activity level of EEC1, and that emissions savings of 1.2-1.5MtC could be achieved.⁴²

Recommendation

- **The EEC3 target (for 2008-11) should be substantially higher than previous EEC targets: it should be more than 100% greater than the target for EEC2.**

Breakdown of EEC energy savings measures

Under EEC1, the TWh energy savings were composed in the following way: 38% insulation, 34% lighting, 16% appliances, 12% heating. In reality a greater proportion of the companies' energy saving activity came from insulation during this time period, though this was carried over to EEC2. Adding in this additional activity over the three years, and regardless of the attribution to EEC1 or 2, the breakdown is: 56% insulation, 24% lighting, 11% appliances, 9% heating.⁴³ These figures indicate that the industry is prioritising insulation measures as the most cost-effective means of making energy savings.

A more detailed breakdown shows that

just three measures account for 78% of all energy savings made. These are: cavity wall insulation, loft insulation and provision of energy efficient light-bulbs (compact fluorescent lamps).⁴⁴ Given that well over two-thirds of London's households with cavity walls – nearly one million homes – still need wall insulation, it is clear that the EEC is only scratching the surface at its current scale of operation.⁴⁵

The limits of EEC

One limitation of EEC is that there is an absence of regional reporting, monitoring and analysis. Given the scale of London's domestic emissions it is crucial that EEC's effectiveness is assessed at regional level. Without this assessment, the value of EEC for London remains something of an unknown quantity.

Recommendation

- **Within the EEC programme, there should be disclosure of regional energy and carbon saving figures, and monitoring of regional progress.**

The Sustainable Development Commission points to the limits of the EEC as a carbon reduction mechanism, making clear that 'the EEC will not necessarily result in overall decreases in carbon emissions from the household sector and it has no ability to limit consumers' appetite for energy-hungry appliances. It should therefore be seen as a short-term policy tool that will help bridge the gap to a more holistic approach to cutting carbon emissions, such as economy-wide carbon trading'.

Recommendations

- **EEC should primarily use carbon-saving, rather than energy-saving targets.**
- **Microgeneration measures should be included. Nuclear generation must explicitly be ruled out.**

CARBON EMISSIONS AND CARBON SAVING BY EEC AND OTHER SCHEMES

41.7 MtC – UK carbon emissions from domestic sector for 2004.

3.6 MtC – estimated total annual carbon saving in domestic sector by 2010 resulting from current government measures, including EEC 1, 2 and 3, Building Regulations, Warm Front and other fuel poverty programmes. According to Defra, this could rise to a possible 4.8 MtC.

BREAKDOWN OF CURRENT ESTIMATED CARBON SAVINGS

1 MtC – predicted annual carbon saving as a result of EEC1 and 2, by 2010.

0.6-1.1 MtC – predicted annual carbon saving as a result of EEC3, by 2010

0.4 MtC – predicted annual carbon saving as a result of fuel poverty initiatives, including Warm Front, by 2010.

0.02 MtC – estimated annual carbon saving from Decent Homes, not accounted for under EEC or Building Regulations.

Defra, 2006.

MtC = mega-tonnes of carbon

There is widespread consensus that insulating cavity walls is one of the most cost-effective and efficient ways to improve energy efficiency in housing. Quick, relatively easy to do and affordable, a blitz on cavity walls is one of the best and quickest 'wins' in tackling carbon emissions from heat loss in the home. Yet nearly one million London homes still need cavity wall insulation – and progress to correct this continues to be far too slow. Much better mechanisms and initiatives are needed to get London's cavity walls insulated.

Slow progress so far

With up to one third of all heat produced in the home lost through the walls, cavity wall insulation is one of the simplest and most cost effective ways to reduce domestic energy consumption. English homes with cavity wall insulation have an average SAP rating of 62, whereas homes with uninsulated cavity walls have a much lower average SAP rating of 51.⁴⁸ Insulation costs are estimated at about £260 per home, which would be recovered within two years through reduced fuel bills.⁴⁹ The Cavity Insulation Guarantee Agency can guarantee the insulation for 25 years and the British Board of Agrement claim it will be effective for the lifetime of the building.⁵⁰

Yet, despite its undeniable value in terms of improving energy efficiency, over 9.3 million dwellings with cavity walls in England remain uninsulated. These account for 43.6% of England's homes. Perhaps the most frustrating is the very slow rate at which these homes are becoming insulated.

Excluding those homes with solid walls, which cannot receive cavity wall insulation, approximately two thirds of homes in England with cavity walls remain uninsulated.

Data for 2001 revealed over 9.5 million homes in England to have uninsulated cavity walls, amounting to 45.1 per cent of all homes. The net reduction in uninsulated cavity wall homes in England between 2001 and 2003 is therefore a derisory 1.89%. At this rate it will take over

50 years to insulate the existing homes in England which have cavity walls. (It is assumed that all new built will be insulated and the all major refurbishments leading to an increase in dwellings numbers, as with house-to-flats conversions, will not significantly increase the number of uninsulated dwellings. Without these assumptions it could take much longer than 50 years.)

Given the consensus that wall insulation is one of the main ways to increase energy efficiency and reduce emissions associated with domestic energy consumption, there is a fundamental need for a huge acceleration in insulation rates.

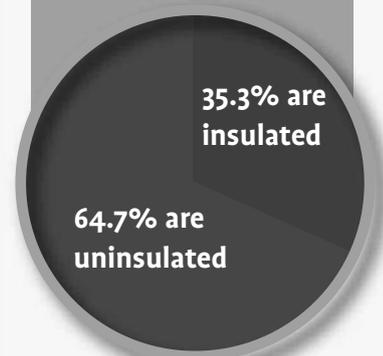
Cavity wall insulation in London

London has 940,000 dwellings which could have cavity wall insulation but do not. This amounts to 71.2% of London's cavity wall dwellings, and is significantly higher than the national average. Of the nine English regions, only the West Midlands has a higher proportion of its cavity wall dwellings uninsulated.⁵¹

London's carbon emissions profile shows that a much greater proportion of its emissions come from domestic energy consumption than that of any other English region or the national average.⁵² For this reason, the focus on domestic wall insulation needs to be even greater in London than in many other regions. In addition, London's poor record on wall insulation levels offers the potential for significant carbon emissions savings, given that there is such a high proportion

CAVITY WALL HOMES IN ENGLAND ⁵¹

Two thirds remain uninsulated



LONDON IN NUMBERS

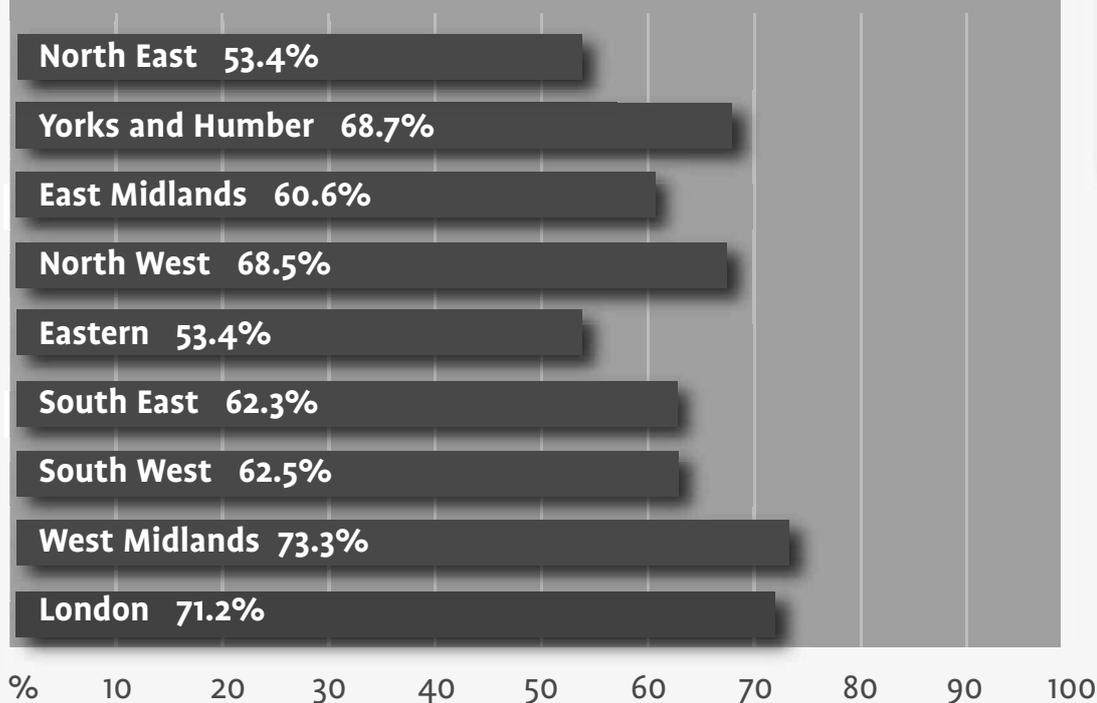
£260 – estimated cost of insulating a cavity wall home.

940,000 - number of London homes in need of cavity wall insulation.

one third – proportion of heat which can be lost through uninsulated walls.

UNINSULATED CAVITY WALLS ⁵¹

Percentage of each region's cavity wall housing stock



Over 10 million homes need cavity wall insulation in the UK. Over 9 million are in England.

of walls to be insulated. Increasing London's wall insulation levels must therefore play a central role in reducing London's carbon emissions.

Recommendations

- **Cavity wall insulation rates need to be massively increased. London's insulation levels need to go from below the national average to well above it.**
- **Targets need to be set for the number of homes to have cavity wall insulation. Insulation figures and rates need to be monitored yearly, and be reported to Parliament. Data by region and tenure should be produced.**
- **Policies need to be reviewed and assessed in terms of their success in accelerating insulation rates. Distinct strategies are needed for each housing tenure and for each region, within a national framework.**

Improving SAP energy efficiency?

There has been no noticeable improvement in the energy efficiency of England's housing stock over the last two years. The average SAP energy efficiency rating for homes in England remains just below 52. London's SAP rating is little better, at 52.6. ⁵³

According to the Environmental Change Institute, if we are to meet future carbon emission targets, the average energy efficiency of the housing stock needs to be brought up to SAP 80. ⁵⁴

Recommendation

- **SAP ratings needs to improve substantially, both nationally and regionally. Progress on SAP ratings needs monitoring and reporting annually, and should be set against a target timeline for reaching SAP 80.**



The Decent Homes Standard could provide the opportunity to improve housing stock across London and the rest of the UK. The right standards could make all social housing both comfortable and sustainable – tackling housing decay and climate change emissions at the same time. Unfortunately insulation standards are inadequate, and an opportunity to ensure high energy efficiency and to tackle fuel poverty most effectively is being missed. Lessons need to be learned from the higher standards adopted in Scotland and Wales.

One of the UK Government's stated objectives is 'to ensure that everyone has the opportunity of a decent home'.⁵⁵ To that end, the Decent Homes Programme was launched in 2000 to bring all social housing (council housing and RSL housing) in the UK up to Decent Homes standard by 2010.

Decent Homes was extended to also cover private sector accommodation in 2002, 'with the focus on reducing the proportion of vulnerable households living in non-decent homes'. Each local authority has a role to play in changing private sector housing, in that it needs to 'develop a private sector renewal strategy as part of its overall housing strategy'. In relation to this private sector aspect of Decent Homes, the government claims that Warm Front 'makes an important contribution to meeting the thermal comfort criterion of the Decent Homes standard'.⁵⁶

A decent home is defined by four criteria:⁵⁷

- 1 **It meets the current statutory minimum standard for housing (This is often referred to as the 'fitness' criteria.)**
- 2 **It is in a reasonable state of repair**
- 3 **It has reasonably modern facilities and services**
- 4 **It provides a reasonable degree of thermal comfort**

The thermal comfort criteria 'requires a dwelling to have both efficient heating and effective insulation'.⁵⁸ Of the four criteria, thermal comfort is the most common reason for housing failing the



decent homes standard. 4.9 million homes, which amounts to 73% of all non-decent homes in England fail to meet the thermal comfort criteria. 81% of those fail because of inadequate loft or wall insulation, and the vast majority of these (74%) as a result of inadequate insulation alone.⁵⁹

Clearly, a home can fail the decent homes standard on more than one criteria. In such cases addressing one criteria could still leave the home 'non-decent' when all criteria are taken into account. For local authorities and other social landlords assessing the relative costs of implementing their Decent Homes Programmes locally, these factors are extremely relevant. It is instructive that 59.9% of non-decent housing in the social sector can be made decent solely by improving thermal comfort.⁶⁰ The mean cost of making such homes decent has been calculated at £1,081 per home, whereas homes failing the decency standard because of any of the other criteria will incur a mean cost of £8,238 to make decent – nearly eight times as expensive.

Making all housing truly decent, both in the social and private sectors, is a crucial objective. However, it is clear that prioritising insulation measures, as part of thermal comfort, will yield the greatest return in accelerating progress towards decent homes targets – both in terms of cost and increasing the number of homes improved. This should also reduce domestic fuel bills for residents, thereby helping to end fuel poverty and radically cut carbon emissions.

Are the thermal comfort standards good enough?

National Energy Action is critical of the thermal comfort standard, claiming that 'Thermal Comfort criteria specified in the Decent Homes standard should be much more rigorous. 57% of fuel-poor households currently occupy a property that meets the Thermal Comfort specifications of the Decent Homes Standard.'⁶¹

Role of energy efficiency standards in Decent Homes

In contrast to the system adopted in England, Wales has established a Welsh Housing Quality Standard. This standard establishes 'a common target standard for the physical condition of all housing in Wales' and includes specific minimum standards of energy efficiency, in terms of SAP ratings. It adopts a series of minimum SAP ratings, depending on floor area and also specifies at least 200mm of loft insulation for all dwellings with lofts.⁶²

The Scottish Parliament has adopted the National Home Energy Rating programme to quantify the energy efficiency of Scottish homes. This provides a scale between 0 and 10, with 0 the least efficient. Unlike SAP, NHER takes into account all energy use in the home.

By contrast, the Decent Homes standard adopted by Westminster for English homes has specifically avoided defining 'thermal comfort' in terms of SAP ratings, despite calls for the standard to be linked to SAP rating from the National Consumer Council, the National Energy Action Group and the Chartered Institute of Environmental Health. The Select Committee on the ODPM also advocated the use of SAP in a future 'Decent Homes Plus' when defining the thermal comfort criterion.

A need for greater consistency

Given that the Government is basing its implementation of Article 7 ('The Energy Performance Certificate') of the Energy Performance of Buildings Directive on the SAP ratings system, it would provide much better policy integration and consistency if the Decent Homes Standard in England also made use of SAP when assessing energy efficiency. In reviewing Decent Homes, the Select Committee on the ODPM interpreted the Government's failure to make full use of SAP in a joined up way when trying to deal with energy efficiency matters, seeing 'it as vital that the measure chosen is used across all the targets and policies in the energy efficiency area, irrespective of the sponsoring Government Department'.⁶³

Giving evidence to the Select Committee on the ODPM, on Decent Homes, Ronald Campbell, of National Energy Action, described the Welsh and Scottish housing standards as 'infinitely superior' to those proposed for England.⁶⁵

Inadequate loft and wall insulation standards – it's different in Wales

On loft insulation, the English Decent Homes standards are significantly lower than those set by Wales.

" These standards are significantly higher than those set under England's Decent Homes target, which does not set minimum SAP ratings."

Bob Cherryman, Energy Savings Trust Welsh office, comparing Welsh and English standards. ⁶⁴



WALES

All dwellings – At least 200mm of loft insulation.

Sets minimum SAP energy efficiency ratings, depending on floor area.

ENGLAND

Dwellings with gas or oil programmable heating – 50mm of loft insulation (ie. to Building Regulation Standard 1975) OR cavity wall insulation.

Dwellings heated by electric storage heaters, LPG, or programmable solid fuel heating – 200mm of loft insulation.

No explicit minimum SAP energy efficiency rating.

Sources: Welsh Housing Quality Standard guidance, Wales Assembly 2002; A Decent Home, DCLG, 2006.



“Thermal Comfort criteria specified in the Decent Homes standard should be much more rigorous. 57% of fuel-poor households currently occupy a property that meets the Thermal Comfort specifications of the Decent Homes Standard.”

National Energy Action.

DECENT HOMES IN NUMBERS

1975 – the year Building Regulations required 50mm of loft insulation. This 1975 level is the current standard of wall insulation required for one category of dwellings in England to meet the Decent Homes standards.

0.02 MtC – estimated annual carbon saving from Decent Homes (not accounted for under EEC or Building Regulations). This amounts to

0.05% of annual domestic sector emissions, based on 2004 figures.

The Welsh standards require at least 200mm of loft insulation for all lofts.⁶⁶ The Decent Homes standard for English homes requires 200mm of loft insulation only for dwellings heated by electric storage heaters/LPG/programmable solid fuel central heating. For dwellings with gas/oil programmable heating the Decent Homes standard only requires either 50mm loft insulation or cavity wall insulation.⁶⁷ This means that an English home can reach Decent Home standard with no loft insulation or with cavity walls remaining uninsulated.

Setting up a choice between loft insulation and cavity wall insulation inevitably lessens the potential energy efficiency gains from Decent Homes. This is made worse by setting the extremely low 50mm loft insulation standard – a standard conforming to the Building Regulations Standards of 1975!⁶⁸

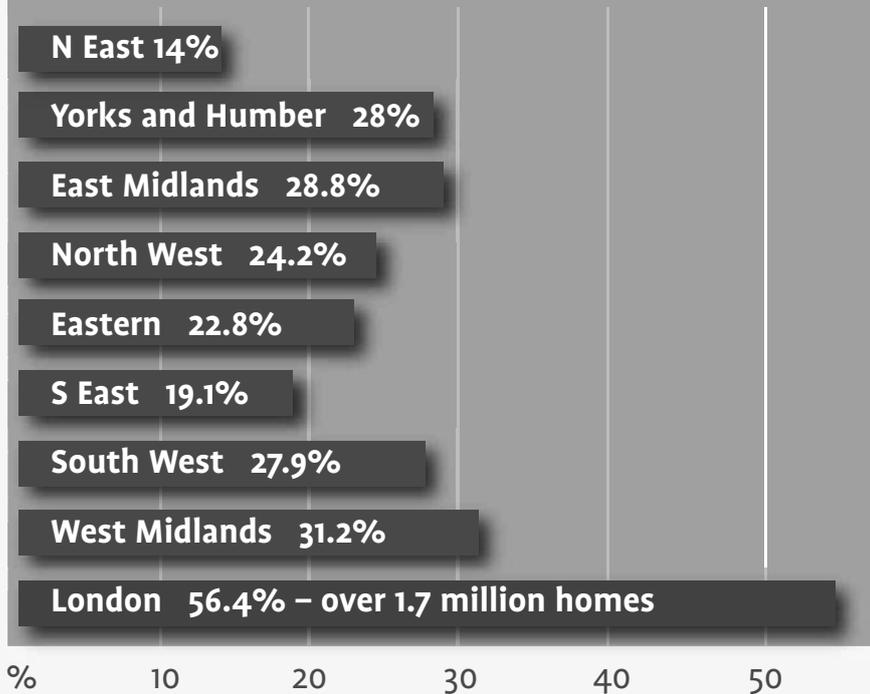
Recommendations

- **Decent Homes standard needs to include a minimum SAP energy efficiency rating (as is the case with the parallel standards in Scotland and Wales), higher standards for loft insulation and a firm requirement for cavity wall insulation.**
- **Insulation measures need to be made an explicit priority of the Decent Homes Programme. Local authorities, registered social landlords and all other agencies implementing Decent Homes need to make insulation improvements their priority area of action.**
- **In the absence of better Decent Homes standards, local authorities should exceed energy efficiency and insulation standards in these areas, as part of their efforts to reduce their carbon emissions.**
- **The London Mayor and GLA should encourage local authorities and other agencies to prioritise insulation measures and exceed Decent Homes standards.**

Action at national and EU level is vital to reduce greenhouse gas emissions from housing. However, geographical variations in housing stock mean that priorities and initiatives may need to differ between regions. London's housing stock is dissimilar to other UK regions in a number of ways. To best tackle housing emissions, distinct London-level priorities are needed. As well as initiatives to reduce London's fuel poverty and insulate its cavity walls, specific action is needed to identify and deal with London's 'highly inefficient' homes. A huge proportion of solid wall houses and a very high level of private rental homes present particular challenges for London. A greater role for the Greater London Authority over the capital's housing should help strengthen a regional strategy on housing stock and climate change.

HOUSING STOCK WITH SOLID WALLS ⁷¹

Percentage of each region's housing stock



London's solid walls

Dwellings either have cavity or solid walls. As already discussed, there is significant potential to improve energy efficiency and thereby reduce carbon emissions by insulating cavity walls. One reason for this is that cavity wall insulation is easy to do, quick, convenient and cheap. By contrast, insulating dwellings with solid walls is more problematic and expensive.

Around one third of homes in England have solid walls⁷⁰, so the problem at national level is not insignificant. However, London has a much higher proportion of solid wall homes. It has over 1.7 million solid wall homes, which amounts to 56% of all London homes. This is far higher than any other region, both in terms of percentages and absolute numbers. Indeed, London has more solid wall homes than the South-East, East Midlands and Eastern regions combined. London accounts for over 28% of all solid wall homes in England.⁷¹

Solid wall dwellings have an average energy efficiency SAP rating of 44, as opposed to the overall average of 51, or the average of an insulated cavity wall dwelling of 62. The predominance of solid wall homes in London goes a long way to explaining why such a high proportion of London's carbon emissions derive from the domestic sector.

Solid wall insulation is relatively expensive. The Energy Saving Trust estimate that marginal costs for external solid wall insulation starts at £1,800 for a semi-detached house and internal solid wall insulation will cost upwards from £40 per square metre.⁷³ However, the cost of internal solid wall insulation for a small flat in a terrace would be reasonably affordable, as only the internal areas of external walls, which would be a relatively small area, would need insulating in such properties.

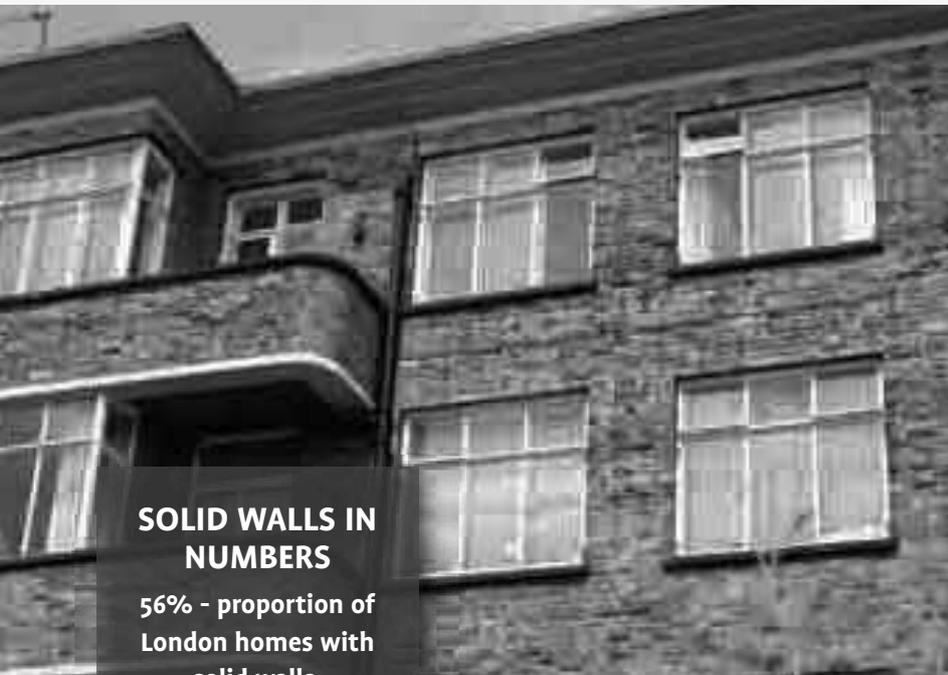
Although almost 45% of those in fuel poverty in England live in homes without cavity walls⁷⁴, Warm Front, the Government's self-professed 'key tool for



London's 183,000 'highly inefficient' homes

The least energy efficient housing in London can be defined as housing with a SAP rating of 30 or less. The English Housing Condition Survey acknowledges that such homes are 'very hard to heat effectively'. For London 140,000 private dwellings and 43,000 social housing dwellings fall into this 'highly inefficient' category – representing 6% of all London homes.⁶⁹

Targeting resources to significantly improve the energy efficiency of London's social housing should be a relatively straightforward matter, especially given the Government's Decent Home framework to quantify and, where necessary, improve the standards for every social dwelling in the UK by 2010. However, for systematic improvements to the energy efficiency of private sector homes – including a focus on those 140,000 highly inefficient private homes in London – other mechanisms are required.



SOLID WALLS IN NUMBERS

56% - proportion of London homes with solid walls.

99% – proportion of UK private sector solid wall homes without wall insulation.

One third – estimated proportion of solid wall homes to be insulated by 2050 if UK is to meet its emissions targets.

The predominance of solid wall homes in London goes a long way to explaining why such a high proportion of London's carbon emissions derive from the domestic sector.

tackling fuel poverty in the private sector in England⁷⁵, offers no financial assistance towards insulation of solid walls.

Support from energy companies under the EEC, however, is not restricted and the companies are free to choose how to meet their energy efficiency commitment targets, albeit within the constraint that at least half the energy savings must be in households in receipt of income-related benefits or tax credits. As a result, energy companies have provided some assistance with solid wall insulation. During the first phase of the EEC (EEC1), which ran 2002-5, 17,689 solid wall insulation measures were installed nationally as part of the scheme.⁷⁶ England has 6.79 million non-cavity wall homes.⁷⁷ Around 99% of solid wall homes in the private sector have no wall insulation. The figure is only slightly lower for the social sector, at 91.4%, and the overall average is 97.9%.⁷⁸ This means that the solid wall insulation measures undertaken under the full first phase of the EEC between 2002 and 2005 amount to the insulation of approximately ¼ % of England's solid wall housing stock – a negligible impact.

According to the Environmental Change Institute, it is necessary for at least 30% of all solid wall housing to have their walls insulated by 2050 if the UK is to meet its 2050 carbon reduction targets.⁷⁹ Current trends reveal that a massive step change is needed.

Recommendations

- Given the predomination of solid wall dwellings in London and in the housing of the fuel poor nationally, energy efficiency schemes, including EEC and Warm Front, must install subsidised solid wall insulation and related energy saving measures in solid wall homes.
- A strategy is needed to specifically improve the energy efficiency of solid wall homes in London. To this end, more comprehensive profiling of London's solid wall housing is needed.
- Targets should be set for the insulation of solid walls, to an extent that genuine inroads are made into this vast uninsulated housing stock, particularly in London but also nationally.

London's private rental sector

London's housing tenure profile differs significantly from the English average in a number of important respects. This means that London has a number of distinct challenges and opportunities not common with much of the rest of England.

Owner occupiers make up the largest proportion of households in every English region, including London. However London has the lowest proportion of owner occupier households of all the regions and is significantly below the national (English) average.

London also has the greatest proportion of private rented households of any English region, both in terms of the percentage of its total housing stock and in absolute numbers. Indeed, although London has 12% of England's owner-occupiers, it has 22% of its private rental households. This amounts to around 544,000 privately rented homes in London.⁸⁰ In terms of improving energy efficiency and making energy savings in the domestic sector, the private rental sector is arguably the most difficult to improve. This is largely because of the need to engage with both landlords and tenants in the take-up of many energy saving measures. Clearly, the interests of

private landlords and private tenants are not identical, and this needs to be taken into account when establishing and communicating incentives to encourage take-up.

One of the few measures set to directly affect the private rental sector, and therefore of particular significance for London, is the Energy Performance of Buildings Directive (EPBD). Article 7 of the Directive gives private landlords a duty to provide information on each rental property's energy rating to prospective tenants. Article 7 has not been fully transposed into UK law by the British Government, and at time of writing it has not given an indication of the mechanism that will be used to do so.

Increasing take-up

Measures which reduce household energy costs and associated carbon emissions are often not taken up because of up-front costs, a lack of awareness of grants and other financial incentives, and frequently because of the 'hassle factor'. Greater action is needed to increase access to financial incentives and remove obstacles to take-up. Without close attention to these issues, it will be extremely hard to substantially improve the energy performance and efficiency of London's housing stock.

– Kirklees: Extra help with insulation for over-60s

Kirklees Council has established its own Keep Warm Scheme. Over-60s who pay council tax, have a gross income below £20,000 and are either homeowners or private tenants can qualify for free loft and cavity wall insulation. As a result, thousands of homes in Kirklees have now been improved.

The scheme means that many more older people in Kirklees receive free insulation than under the national Warm Front scheme. Rolling out such a scheme in London and nationally would further increase take-up of insulation measures.



– Interest-free loans

Many householders currently don't qualify for assistance with insulation and other energy saving measures. With different schemes in operation in different local authorities, a more unified and universal system of support is needed. A simple interest-free loan scheme with broad eligibility could make a big difference in increasing take-up of insulation and energy saving measures.

– Council tax rebate

British Gas operates a council tax rebate programme, in partnership with at least 34 UK local authorities, including the London borough of Croydon. Under the scheme, private householders are entitled to a one-off council tax rebate of between £50 and £100 if they have subsidised cavity wall insulation via the company. British Gas reimburses the council £50 per installation. At least 8,000 householders have signed up, and British Gas wants to expand the scheme. The modest rebate and link to the council tax bill are designed to help trigger additional take-up.⁸¹

– 'One-stop shops' for energy savings and renewables

One key factor inhibiting greater take-up of home energy saving measures arises from the multiplicity of agencies, organisations and schemes involved in the sector. The London Assembly Environment Committee proposed a series of 'one-stop shops' to advise on installation of renewable energy in the home, and a Green Homes Advice Centre will soon be opening in London, as called for by the Green Assembly Members.⁸² Such one-stop shops could be expanded to also advise the public on home energy saving measures, including advice on financial assistance.

Recommendations

- **Take-up of energy savings measures needs closer monitoring and analysis. Mechanisms which increase take-up in the different sectors (home owners,**

Jobs and training

With the highest regional unemployment rate in Britain, London faces serious challenges providing employment and skills opportunities. The capital is therefore set to receive the largest European Social Fund (ESF) grant of any English region.

This fund aims to tackle social exclusion and unemployment, whilst paying attention to sustainable development, including environmental sustainability. In this context, London's ESF money should support employment and skills opportunities in the energy savings sector, thereby increasing the energy efficiency of London's housing.

A massive expansion in the home insulation industry would be an obvious starting point. The newly formed London Skills and Employment Board needs to play an important role in making this happen.

private rental, social) need close assessment – with the roll-out of successes to increase take-up.

- **Schemes such as that operating in Kirklees need rolling out to increase availability and take-up of free insulation and energy saving measures for older people.**
- **Eligibility and availability of grants and interest-free loans need to be extended significantly. More proactive initiatives are needed to increase take-up by those eligible.**
- **Local authority-level schemes offering council tax rebates to increase insulation take-up need monitoring and should, if successful, be rolled out and expanded to include other energy saving measures.**
- **One-stop shops should be established across London to advise the public on home energy saving measures, as well as renewable energy. This would include advice on financial assistance. Consistency of funding is needed for both advice and implementation.**

Building Regulations and consequential works

The current Building Regulations make no requirement to improve energy performance of properties when home extensions are made, yet such consequential works usually increase a home's carbon emissions and monetary value.

The Sustainable Development Commission estimate that carbon emissions of 0.5MtC per year could be saved by 2010 as result of such a measure. The measure would trigger certain energy saving requirements when an extension of internal floor area was undertaken (of perhaps greater than 2m²). Requirements proposed by the Commission include an energy audit, draught proofing and installation/upgrading of loft insulation to high minimum standards and the filling of cavity walls. The energy audit would

include information on financial assistance for such measures via EEC and Warm Front.⁸³

Recommendation

- **A requirement should be established, through the Building Regulations, to improve the energy performance of homes when they are extended. Requirements should include high minimum standards of insulation and an energy audit.**

VAT

17.5% VAT is charged on energy saving materials, other than on those used in Government-subsidised schemes. This artificially inflates the costs of energy efficiency, acting as an unnecessary and unhelpful barrier.

Recommendation

- **VAT on all energy saving measures, including DIY insulation materials, should be reduced, preferably to a zero-rating.**

RECOMMENDATIONS



- 1 The UK Government needs to ensure early full compliance with Article 7 of Energy Performance of Buildings Directive, in particular the requirement for Energy Certificates for all rental properties.**
- 2 To ensure EPBD derived measures lead to energy efficiency improvements in existing housing stock: subsidies and fiscal incentives to increase take-up of measures need to be integrated with issuing of Energy Certificates – both in home ownership and rental sectors. Without this step the potential of EPBD will not be realised.**
- 3 All pensioners in private housing should be eligible for Warm Front and similar schemes tackling fuel poverty – including free insulation.**
- 4 As part of its reporting and monitoring of the Warm Front scheme, Defra should ensure there is a regular breakdown of figures by region and carbon emissions savings.**
- 5 Action to tackle fuel poverty at London-level should take account of National Energy Action recommendations on Regional Affordable Warmth Action Plans.**
- 6 The EEC3 target (for 2008-11) should be substantially higher than previous EEC targets: it should be more than 100% greater than the target for EEC2.**
- 7 Within the EEC programme, there should be disclosure of regional energy and carbon saving figures, and monitoring of regional progress.**
- 8 EEC should primarily use carbon-saving, rather than energy-saving targets. Microgeneration measures should be included. Nuclear generation must explicitly be ruled out.**
- 9 Cavity wall insulation rates need to be massively increased. London's insulation levels need to go from below the national average to well above it.**
- 10 Targets need to be set for the number of homes to have cavity wall insulation. Insulation figures and rates need to be monitored yearly, and be reported to Parliament. Data by region and tenure should be produced.**
- 11 Policies need to be reviewed and assessed in terms of their success in accelerating insulation rates. Distinct strategies are needed for each housing tenure and for each region, within a national framework.**
- 12 SAP ratings needs to improve substantially, both nationally and regionally. Progress on SAP ratings needs monitoring and reporting annually, and should be set against a target timeline for reaching SAP 80.**
- 13 Decent Homes standard needs to include a minimum SAP energy efficiency rating (as is the case with the parallel standards in Scotland and Wales), higher standards for loft insulation and a firm requirement for cavity wall insulation.**

- 14 Insulation measures need to be made an explicit priority of the Decent Homes Programme. Local authorities, registered social landlords and all other agencies implementing Decent Homes need to make insulation improvements their priority area of action.
- 15 In the absence of better Decent Homes standards, local authorities should exceed energy efficiency and insulation standards in these areas, as part of their efforts to reduce their carbon emissions.
- 16 The London Mayor and GLA should encourage local authorities and other agencies to prioritise insulation measures and exceed Decent Homes standards.
- 17 Given the predomination of solid wall dwellings in London and in the housing of the fuel poor nationally, energy efficiency schemes, including EEC and Warm Front, must install subsidised solid wall insulation and related energy saving measures in solid wall homes.
- 18 A strategy is needed to specifically improve the energy efficiency of solid wall homes in London. To this end, more comprehensive profiling of London's solid wall housing is needed.
- 19 Targets should be set for the insulation of solid walls, to an extent that genuine inroads are made into this vast uninsulated housing stock, particularly in London but also nationally.
- 20 Take-up of energy savings measures needs closer monitoring and analysis. Mechanisms which increase take-up in the different sectors (home owners, private rental, social) need close assessment – with the roll-out of successes to increase take-up.
- 21 Schemes such as that operating in Kirklees need rolling out to increase availability and take-up of free insulation and energy saving measures for older people.
- 22 Eligibility and availability of grants and interest-free loans need to be extended significantly. More proactive initiatives are needed to increase take-up by those eligible.
- 23 Local authority-level schemes offering council tax rebates to increase insulation take-up need monitoring and should, if successful, be rolled out and expanded to include other energy saving measures.
- 24 One-stop shops should be established across London to advise the public on home energy saving measures, as well as renewable energy. This would include advice on financial assistance. Consistency of funding is needed for both advice and implementation.
- 25 A requirement should be established, through the Building Regulations, to improve the energy performance of homes when they are extended. Requirements should include high minimum standards of insulation and an energy audit.
- 26 VAT on all energy saving measures, including DIY insulation materials, should be reduced, preferably to a zero-rating.
- 27 A regional skills and training programme needs to match London's unemployed people with employment opportunities in these expanding sectors – with a view to reducing London's high unemployment and linking local/regional work with a local/regional workforce. The European Social Fund and the London Skills and Employment Board have an important role to play.



CONCLUSIONS

This report has focused on domestic energy use relating to current housing as a major contributor of carbon emissions, and therefore, to climate change. For London this is an even greater share of emissions than in the rest of the UK.

The UK Government is aware of these issues, and initiatives and policy mechanisms exist to reduce emissions in the domestic sector. However, these mechanisms are not robust enough, targets are not high enough, and the initiatives are failing to make an impact on the scale required.

Fuel poverty programmes, like Warm Front, aren't reaching enough people and are too meagre. Warm Front is failing to reduce fuel poverty, and many vulnerable people remain at risk. Given London's high poverty levels, fuel poverty adds another dimension of disadvantage for many of the capital's residents.

The Energy Efficiency Commitment has set energy saving targets that are far too low, and too easily met by the industry. Phase 3 needs much bolder targets if EEC is to reduce emissions significantly. With no regional breakdown, the positive impact of EEC for London remains in question.

The Decent Homes standard offers potential to improve housing in London and the rest of England, but its loft and wall insulation requirements are inadequate, with inferior standards to elsewhere in the UK. The failure of the Decent Homes standard in relation to fuel poverty is a particular concern, given that fuel poverty initiatives only target residents in private, not social, housing. Improved Decent Homes standards are therefore needed if fuel poverty is to be tackled in social housing.

The EU Energy Performance of Buildings Directive has the potential to reduce emissions from homes, but is still not fully transposed into UK law, and best practice from elsewhere in the EU still needs to be applied in the UK. In London, as across the UK, huge numbers of homes still need cavity wall insulation, but a step change is required to meet this need.

With a very high proportion of solid wall homes and private rental accommodation, London has a highly distinct housing profile. The London Mayor and the GLA are set to have greater powers in areas of housing and climate change, offering potential for a dynamic regional strategy to combat carbon emissions from London's housing. Improving housing standards and reducing fuel poverty should go hand in hand with action to tackle climate change in London. Initiatives and targets have to make a much bigger impact.

Perhaps of greatest concern is the pressing need for joined-up thinking. With different Government departments and other agencies delivering a range of schemes and working to different standards, there is a lack of co-ordination. The urgency demanded by the threat of climate change and the problem of fuel poverty requires a greater and more focused commitment to drive this agenda forward.



- 1 **Stern Review, October 2006.** See www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_index.cfm.
- 2 **Experimental Statistics on carbon dioxide emissions at Local Authority and Regional Level,** Department for Environment, Food and Rural Affairs (Defra) Statistics Summary, *October 2005*, p3, table 1. Whilst this data is 'experimental', and therefore indicative and comparative, rather than definitive, the report clarifies that the regional data has greater reliability than the data for local authorities. Earlier Greater London Authority (GLA) figures used in the London Mayor's Energy Strategy (p20) give 44% of London's emissions as coming from the domestic sector.
- 3 **London's Changing Population,** Data Management and Analysis Group, GLA, *November 2005*, p65.
- 4 Department for Communities and Local Government (DCLG), housing statistics live tables, table 110, *October 2006*.
- 5 **London Housing Strategy Evidence Base 2006,** GLA, Section 5, Housing Supply tables ii and iii, quoting Housing Strategy Statistical Appendix, *1 April 2005*, Section A.
- 6 Both figures drawn from **Powering London Into the 21st Century,** Mayor of London/Greenpeace, *March 2006*, p12.
- 7 **UK Climate Change Programme 2006,** Defra, *March 2006*, Chapter 6, below para 6.
- 8 Directive 2002/91/EC, **Energy Performance of Buildings Directive (EPBD),** Article 1.
- 9 **EPBD,** Article 2.
- 10 SAP ratings used prior to SAP 2005 were out of 120 rather than 100. This discrepancy may therefore affect some comparisons between SAP ratings established at different times.
- 11 **Fuel Poverty in England: The Government's Plan for Action,** Defra, 2004, p7. A related definition is also given which excludes 'Housing Benefit or Income Support for Mortgage Interest', but this is not used by the Government to assess progress towards targets.
- 12 *Ibid.*, p8.
- 13 *Ibid.*, p7.
- 14 **Detailed breakdowns of fuel poverty in England in 2004, version 1,** *April 2006*, BRE on behalf of Dept. of Trade and Industry (DTI) and Defra, p1, tables 1 and 2.
- 15 **Fuel Poverty in England: The Government's Plan for Action,** Defra, 2004, p4. The plan recognises that this may not always be possible, and therefore also commits to 'Extend Benefit Entitlement Checks to households in hard to heat homes where we are unable to take the energy efficiency rating above a SAP level of 65.'
- 16 **UK Climate Change Programme 2006,** Defra, *March 2006*, Chapter 6, para 56.
- 17 **UK Fuel Poverty Strategy 4th Annual Progress Report,** Defra/DTI, *June 2006*, p8.
- 18 **The Energy Challenge,** DTI, *July 2006*, p57, para 2.102.
- 19 **Evidence submission to Climate Change inquiry,** Energywatch, *September 2006*, p1; **Warm Homes Promotional Toolkit,** National Energy Action, *November 2006*, p15.
- 20 **Evidence submission to Climate Change inquiry,** Energywatch, *September 2006*, p1.
- 21 National average is for England. See www.london.gov.uk/child-poverty/facts/index.jsp, London Child Poverty Commission website, consulted 15.11.06. Figures quoted all take housing costs into account. Even without housing costs, Inner London figures are still approaching twice the national average.
- 22 **Valuing Older People,** the Mayor of London's Older People Strategy, *September 2006*, p36, para 8.11.
- 23 See Office of National Statistics, *July 2006*, www.statistics.gov.uk/cci/nugget.asp?id=1606.
- 24 **Warm Homes Promotional Toolkit,** National Energy Action, *November 2006*, p15; Operational Note, 14.11.06, Jenny Jones AM.
- 25 **Warm Zones External Evaluation, Executive Summary,** Energy

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- 26 **Pre-Budget Report**, HM Treasury, *December 2006*, p115.
- 27 **Developing a Regional Approach to Affordable Warmth: Regional Affordable Action Plans**, National Energy Action, *September 2006*.
- 28 See www.defra.gov.uk/ENVIRONMENT/energy/hees/03.htm#20. Consulted 18.10.06.
- 29 **Our response to government's warm homes action plan** (30.11.04), Age Concern.
- 30 **Our response to the announcement of extra help for pensioners** (18.01.06), Age Concern. Figure relates to the winter of 2004/5.
- 31 See www.ageconcern.org.uk/AgeConcern/ftf_winter_deaths.asp. Consulted 18.10.06.
- 32 **UK Climate Change Programme 2006**, Defra, *March 2006*, Chapter 6, para 8.
- 33 **EEC Update**, various issues, Ofgem. See www.ofgem.gov.uk.
- 34 **UK Climate Change Programme 2006**, Defra, *March 2006*, Chapter 6, para 9. 0.37 MtC from EEC1 and 0.62 MtC from EEC2.
- 35 Total 1990 carbon emissions were 161.5 MtC. 42.4 MtC of these were from the domestic sector. Source: Defra/DTI.
- 36 **UK Climate Change Programme 2006**, Defra, *March 2006*, Chapter 6, para 12.
- 37 **A review of the Energy Efficiency Commitment 2002-2005**: A report for the Secretary of State for Environment, Food and Rural Affairs, Ofgem, *August 2005*, Summary and p67, para 6.10.
- 38 **A review of the first year of the Energy Efficiency Commitment 2005-2008**, Ofgem, *August 2006*, p1.
- 39 **UK Climate Change Programme 2006**, Defra, *March 2006*, Chapter 6, para 15.
- 40 **EEC Update**, Issue 16, Ofgem, *May 2006*, p3.
- 41 **Response to Defra Consultation: The Energy Efficiency commitment from April 2005**, Association for the Conservation of Energy (ACE), *August 2004*, p4 and p9. As already referred to, the EEC2 target adopted was 130 Twh.
- 42 **Meeting the challenge**, Sustainable Development Commission submission to the DTI Energy Review, *April 2006*, p22.
- 43 **A review of the Energy Efficiency Commitment 2002-2005**: A report for the Secretary of State for Environment, Food and Rural Affairs, Ofgem, *August 2005*, p66 and p11.
- 44 *Ibid.*, p47. Based on this information, cavity wall insulation accounted for 28.89%, loft insulation (including DIY) 25.28% and compact fluorescent lamps 24.17%. Figures relate to EEC1 and a proportion of EEC2 measures undertaken during 2002-5 but carried forward.
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- 46 **Meeting the challenge**, Sustainable Development Commission submission to the DTI Energy Review, *April 2006*, p22.
- 47 Energy Savings Trust – www.est.org.uk/myhome/insulation/cwi, consulted 07.08.06.
- 48 **English House Condition Survey (EHCS) 2003 Annual Report**, ODPM (DCLG), 2006, p95.
- 49 Energy Savings Trust website, www.est.org.uk/myhome/insulation/cwi, consulted 07.08.06.
- 50 Cavity Insulation Guarantee Agency website, especially www.ciga.co.uk/faq.pdf, consulted 07.08.06.
- 51 **Energy Use In Homes**: A series of reports on domestic energy use in England: Thermal Insulation, BRE/Defra/Energy Savings Trust, 2005, table 2.5. Using 2001 regional figures, West Midlands has 73.3% uninsulated, and the English average is 64.7%.
- 52 **Experimental Statistics on carbon dioxide emissions at Local Authority and Regional Level**, Defra Statistics Summary, *October 2005*, p3, table 1.
- 53 According to figures given in the **English House Condition Survey Reports**, the average SAP was 51.4 for 2003, and 51.8 for 2004. London figure from **English House Condition Survey 2003 Regional Report**, p9.
- 54 **40% House**, Environmental Change Institute, 2005, p38.
- 55 **English House Condition Survey 2003 Annual Report**, ODPM (DCLG), 2006, p48.
- 56 **A Decent Home: Definition and guidance for implementation**, DCLG, *June 2006* – update, para 6.16 and 6.19, p23.
- 57 *Ibid.*, p11-12.
- 58 *Ibid.*, p18.
- 59 **English House Condition Survey 2003 Annual Report**, ODPM (DCLG), 2006, p51.
- 60 *Ibid.*, p52.
- 61 National Energy Action position paper on Energy Efficiency Commitment 3, *July 2006*. See www.nea.org.uk/downloads/NEAsViewON/Energy_Efficiency_Commitment_3.pdf.
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**JEAN LAMBERT IS THE GREEN PARTY MEMBER OF
THE EUROPEAN PARLIAMENT FOR LONDON**

Website: www.jeanlambertmep.org.uk
Email: jeanlambert@greenmeps.org.uk

Suite 58, The Hop Exchange,
24 Southwark Street, London SE1 1TY
Tel: 020 7407 6269



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