

Solving Fuel Poverty – opportunities from Green Deal and Localisation



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1.0. Acknowledgements and Foreword

Localise West Midlands could not have undertaken this work without the assistance of a number of individuals who have spent a large number of hours supplying data, providing their own views on achievements and difficulties and commenting on our findings, all extremely good naturedly.

We are also grateful to members of the named organisations who gave up their time to discuss the subjects of fuel poverty, its workings, pilot projects, fuel debt and Green Deal with us in an informative and open manner.

We are convinced that the interest and dedication of all of these individuals provides an excellent basis for the conclusions and recommendations of this report.

We are grateful to the Scottish Power Energy People Trust who provided the funding for this important brief and commissioned Localise West Midlands to undertake action research into the potential for Green Deal and other new approaches to tackle fuel poverty.

This report is the result of that action research. It demonstrates that the potential does exist for Green Deal to provide solutions to fuel poverty provided a more personalised and localised approach is adopted.

We hope you will find the report interesting.

Karen Leach
Coordinator
Localise West Midlands
September 2011

2.0. Executive Summary

Green Deal is an ambitious initiative to achieve a step change in the energy efficiency of our existing housing stock. Along with other mechanisms such as Feed-in Tariffs and the Renewable Heat Incentive, it aims to take low-carbon home makeovers into the mainstream. For the fifteen million people now estimated to be living in fuel poverty, Green Deal is more than a golden opportunity to achieve our carbon emissions reduction targets; it could make the difference between a cold, damp, unhealthy home and a warm, affordable home that enhances quality of life.

Yet there are serious doubts about whether Green Deal will work for the fuel-poor. There are fundamental problems that need to be addressed, otherwise there is a risk that Green Deal could in fact make fuel poverty worse. These problems are:

1. The need for accurate assessment of a home, its occupants and their behaviour in order to make the correct diagnosis of the measures to be installed and the economics of paying for them.
2. The need to recognise that different customers need different approaches and that the schemes need to take account of the variety of approaches needed to ensure that the fuel-poor benefit.
3. The need to build trust in Green Deal among the fuel-poor, and overcome the mistrust that many people on low incomes feel towards official initiatives.

From a purely economic standpoint, the Green Deal model is beautiful in its simplicity, and stunning in the way it turns wastage into its opposite. In theory Green Deal achieves this by removing risks for the householder. The Green Deal provider installs the measures at no upfront cost to the homeowner or landlord. The costs of the measures, plus overhead costs, are then added to the household electricity bill in the form of a charge to be paid over a period of up to 25 years. The Golden Rule (see section 5.3.ii, p23), which will shortly be enshrined in law, stipulates that the household must be better off as a result. The savings on fuel consumed must be greater than the cost of the repayments. We can already see in the early models of Green Deal being pioneered by local authorities that the scale of Green Deal is leading to economies of scale and driving down the cost of some measures, making the Golden Rule easier to achieve.

The experience of pilot retrofit projects has shown that the implementation of Green Deal is going to be far more complex than the pay-as-you-save economic model suggests. The funding for subsidy for the Green Deal and related programmes to promote renewable energy is to be from charges on energy bills. These charges will take a disproportionately large part of the income of the fuel-poor. If they do not benefit to an equivalent level from these schemes they will be worse off.

As Government and those promoting energy efficiency wrestle with these problems, this paper is intended to be a positive contribution to help identify and solve them.

2.1 The need for accurate assessment of a home

Currently, most initiatives to improve the energy efficiency of a home are based upon assumptions about energy saving based on models. There are three ways in which these assumptions are made.

1. In assessing the current energy performance of a building, assumptions are used. The Energy Performance Certificate that is issued every time a building is constructed, sold or let is based on modelled assumptions about how that building and its fixtures should perform. Similarly, SAP (Standard Assessment Procedure) ratings are based on a set of modelled assumptions.
2. Where energy saving measures such as insulation and low energy appliances are installed, the energy savings to be achieved from them are based on assumptions.
3. Assumptions are also made about the tariff that households will pay for their energy.

In both cases, the assumptions seem highly reasonable ones based on many years of testing by competent and respected organisations. We know that in practice, the actual energy performance of a building, or the actual energy savings achieved by the installation of a measure, will vary according to a number of factors. These include occupancy patterns, the weather, the micro-climate and others, but by far the most important of these for Green Deal is the behaviour of the building users, a subject to which we shall return. One of the pay-as-you-save pilot projects told us that in their experience, Energy Performance Certificates were accurate to a degree of plus or minus 500 per cent.

The fact that these assumptions may not be accurate poses little financial risk either to the scheme manager or to the building owner. For the scheme manager, it matters little if Mrs Jones doesn't get the full benefit of her new cavity wall insulation because she hardly ever turns the heating on, whereas Mr Singh, who needs to have the central heating on a high setting for most of the year, achieves greater carbon savings than Mrs Jones from the same measure because of the differences in their two lifestyles. The point is that the scheme manager receives their funding based on the modelled assumption that once they have installed a specific measure it will make a defined saving irrespective of its actual performance.¹

In the case of the householder under most of the existing schemes the works are heavily subsidised and in the case of the fuel-poor will usually be free. Thus there is little chance of Mr Singh or Mrs Jones making a financial loss especially if they are fuel-poor.

Not so with Green Deal. Here there is a much higher financial risk to a household. These risks are highest for fuel-poor households that are in homes that are considered hard-to-treat. Hard-to-treat homes need more expensive measures for example because they don't have access to mains gas or because they have solid walls. In some of the pay-as-

¹ Feed-in Tariffs used to promote solar electricity generation are based on actual performance.

you-save pilots, there was difficulty in making the Golden Rule work due to the high current cost of innovative measures such as heat pumps and solid wall insulation. These costs may come down as schemes unfold and are able to bulk buy measures, but they will still be more expensive than easier measures such as cavity wall insulation.

Current and past schemes have generally not addressed hard-to-treat homes but have concentrated on the tried and tested measures that are easier to install and require less specialist knowledge to specify and install. Treating these properties increases the need for technical expertise, makes detailed surveys of the home more important, makes predicted savings harder to accurately model and will often be more disruptive to the home occupier.

All of this means that it will be more difficult to meet the Golden Rule for a fuel-poor hard-to-treat household. For a low-income hard-to-treat household, failure to meet the Golden Rule would be a disaster – they would be plunged deeper into fuel poverty.

The good news is that low-income households will get additional help in the form of a new subsidy called the Energy Company Obligation – ECO. Government is currently consulting on the size and shape of ECO. Richard Baines of Black Country Housing Group has estimated that up to £10,000 worth of subsidy could be needed for a fuel-poor, hard-to-treat home to meet the Golden Rule. If the Government sets the level of ECO any lower than this, then there are likely to be real problems in meeting the Golden Rule.

So it is highly important for the Green Deal assessor to be able to give certainty to Mrs Jones or Mr Singh that the fuel savings from their cavity wall insulation are going to be greater than the Green Deal repayments that are going to be added to their electricity Direct Debit payment or their pre-payment meter.

2.2 Actual fuel usage

The difference between modelled consumption as predicted by an EPC or SAP rating and actual consumption is a particularly critical issue in fuel-poor homes. This is because of the tendency for fuel-poor homes to underheat their homes, as widely shown in the Retrofit for the Future pilots. This is usually due to inability to afford to heat the home adequately, or a tendency to heat and use only certain rooms. In addition, the Gentoo Housing Group pilot project (see section 10.2) found that fuel-poor households tended to consume more electricity than predicted by models, because they were more likely to be at home during the day. These factors mean that the official definition of a fuel-poor household as being one that needs to spend 10% of its income on fuel, may not always be adequate, and more flexible definitions of fuel poverty may be needed.

This means that there is an increased risk of fuel homes failing to meet the Golden Rule. In the case of homes that underheat, there is a risk that they will use the improved thermal performance of their post Green Deal home to increase their thermal comfort by heating additional rooms, rather than taking the benefit in fuel bill savings. This is a further argument in favour of Green Deal assessors adopting a personalised approach to

assessment, using actual consumption and enhanced energy saving measure performance data on fuel-poor homes.

The amounts households pay for their fuel varies dramatically. While there are social tariffs designed to help the fuel-poor, many of the fuel-poor are not on them and in many cases the fuel-poor pay higher tariffs.

In order to give certainty, the Green Deal assessor needs to have the following at their disposal:

1. Information about Mrs Jones' or Mr Singh's actual fuel consumption
2. Information about the performance of a particular measure in a property that is at least very similar to Mrs Jones' or Mr Singh's home
3. Information about Mrs Jones' or Mr Singh's habits of energy use, such as how many rooms in the house they heat, how often they use the washing machine, and so on, and whether that usage will change.
4. Information about the tariffs they pay or will be paying.

At the moment, the Green Deal assessor will typically not have these pieces of information at their disposal. The EPC will give them only modelled consumption (and may well be cloned from a similar property), and the manufacturer of the energy saving measure will give only generic information about its average performance.

We recommend that Green Deal assessments should be based on actual fuel consumption of the household as far as it is practical to do so. The most comprehensive way in which to do this is data sharing between fuel suppliers and Green Deal providers, with the householder simply giving their consent to their fuel supplier(s) to release their consumption history to their Green Deal provider.

We also recommend that the industry should share information on the real-world performance of measures in actual scenarios. The TSB Retrofit for the Future pilots are a good example of this. They have open-sourced what they have learned about the performance of measures by property archetype and by consumer profile. There is no reason why this practice of sharing learning should now cease.

2.3 Targeting the fuel-poor

The report identifies that there are a large number of different groups of householders and that many of them will require different approaches to involving them in schemes and overcoming barriers to their inclusion. Furthermore it is clear that some groups and measures are easier and cheaper to address than others.

There is clear evidence from all the recent experience that most delivery organisations will deliver those aspects that will give them the greatest return for their input, and that inflexibility in these targets and the surrounding rules and regulations gets in the way of delivering the most effective solutions particularly for the fuel-poor.

While the fuel-poor are not one homogenous group (see appendix 1) they will often require greater support, and thus be more expensive to deliver to, and will often be most effectively accessed by routes that differ from the traditional marketing approaches that tend to be adopted by national organisations. Thus if the approaches, regulations and targets do not effectively prioritise the fuel-poor they will receive less than a proportionate share of funding from schemes subsidised from energy bills while paying disproportionately more of their income to support these schemes.

2.4 Whom do the fuel-poor trust to deliver?

There is a great deal of evidence from past experience and recent pilots (discussed in the body of the report) that trust is key to engaging householders in undertaking work to improve the energy efficiency or other aspects of their homes. The essential message is that to engage many people there needs to be a trusted individual who is seen as being on their side and will help them to get the best from the process. This is likely to include helping them overcome what they perceive as barriers to being involved. These barriers can often be highly personalised. This trust can come with specific roles such as a GP, but more often it needs to be earned.

There is also an increasing body of evidence available about environmental behaviour. This is leading many practitioners to question the assumption that the provision of information about the benefits of energy efficient behaviour will lead to consumers making rational decisions. There are a number of recent concepts from behavioural psychology that are relevant to Green Deal. These include:

1. That people making decisions under conditions of uncertainty use mental shortcuts to help them make a decision, and these mental shortcuts do not always lead them to the correct decision.
2. A survey for Yougen.org.uk shows a low level of trust in large corporations to deliver Green Deal.² This is part of a decline in trust in people in hierarchical positions of formal authority.³ People are less likely to trust Governments and large corporations than was formerly the case.⁴ Trust has become democratised, and people are now more likely to trust someone with whom they share a demographic or emotional⁵ characteristic. This means that the issue of 'messenger' is at least as important as the content of the 'message' itself.
3. Innovative ideas and products are diffused through the population by a type of person known as a 'protagonist'. This gives additional depth to our understanding

² <http://www.yougen.co.uk/blog-entry/1528/Poll+reveals+Government+is+on+the+wrong+track+with+Green+Deal/>

³ Opinion Leader Research: The New Persuaders: the changing nature of influence <http://www.chime.plc.uk/downloads/persuadersvc.pdf>

⁴ Some people in positions of formal authority still do enjoy a level of trust e.g. doctors, police officers, head teachers.

⁵ Opinion Leader Research: Has Trust Gone Bust? <http://www.chime.plc.uk/downloads/has-trust-gone-bust-final.pdf>

of ‘messenger’ above. Protagonists operate through social networks that are highly specific to particular communities of place or of interest.

4. New ideas and products become mainstream in a community of place or interest when it becomes a social norm for people to follow the idea or use the product.

There is a low level of consumer confidence in the utilities. They are not trusted to deliver the Green Deal. People will need certainty that it will work for them, and they are more likely to believe it will if they see practical examples of success among people with whom they can identify. This means that a localised approach to the delivery of Green Deal is critical, and the ‘one size fits all’ approach that has characterised schemes such as CERT, CESP⁶ and Warm Front is unlikely to gain trust. There should be a prominent role for local organisations including SMEs and social enterprises, at all stages of the Green Deal process including marketing, advice and installation. Both the practical experience and the ideas from behavioural psychology emphasise the need for promoters of Green Deal and other energy efficiency programmes to embed themselves in both communities of interest and geographical communities that are relevant to the fuel-poor if they are to be effectively engaged.

2.5 A holistic, localised approach to delivering Green Deal

A primary cause of fuel poverty is poor energy efficiency of buildings. However there are other contributory factors such as consumer behaviour and financial exclusion issues that make fuel poverty a complex problem. The report shows that the most effective approaches to addressing fuel poverty involve holistic approaches; but the strict, inflexible national definitions, rules and approaches of CERT and CESP hamper the implementation of holistic and localised solutions.

The key to a holistic and localised solution is partnership working at local level, led by an organisation that is close enough to the ground to be able to respond to local need rather than rigidly following national models. The Green Deal and other energy efficiency initiatives could form a key element of these partnerships that, where relevant, help to bring together the range of partners in a cost effective way. To deliver the Green Deal and other energy efficiency measures in isolation from each other and from other highly relevant services will not only be a wasted opportunity but a very expensive waste of resources.

This is a tall order for any organisation to deliver. We do not believe that national Government or other large-scale national organisations can deliver this crucial aspect of the programme. They face too many pressures to standardise the products they deliver, and have chains of command that are too long to be sure that what is delivered on the ground achieves what is intended - unless there is a very simple measure, such as profitability. We recognise that these organisations can bring huge resources to the task and have run some very effective and informative pilots (e.g. E.ON’s Challenge 100). We doubt that the flexibility and learning of pilots can easily be translated into a mass

⁶ See glossary for definitions

programme by organisations whose underlying efficiency model is based on large-scale delivery.

Local Authorities are the most obvious organisation to lead this aspect of the programme and they are among the most trusted organisations to do so. The question remains as to whether all local authorities will, in this time of constrained resources, take on and deliver such complex work programmes and not similarly adopt the 'tick the easiest box' attitude to help minimise their costs and maximise their income.

Other potential lead partners include local voluntary organisations, social enterprises and community groups. In most cases they will lack the necessary scale to take the lead role. Some social housing providers do have the necessary size; and given the particular challenge facing improving the energy efficiency of rented homes, there is a clear case for them to take a lead role in relation to their stock.

In the body of the report, we also identify specific needs or different ways of effectively targeting different groupings of the fuel-poor. We argue that to reach the majority of the fuel-poor (or homes in need of energy efficiency improvements) will require a wide variety of methods and approaches.

Our fundamental conclusion is that to address both fuel poverty and domestic CO² reduction a variety of approaches is required. These approaches must in particular include locally targeted and tailored schemes rather than the inflexible 'one or two sizes fit all' national approaches that have dominated in the past and that may still underlie the new initiatives when they are implemented.

In essence, addressing fuel poverty and CO² reduction needs to be more about individual people and buildings and less about rules, regulations and targets. However, without the right rules, regulations and incentives in place that cannot happen.

There are many more issues to the complex world of resolving fuel poverty and far more new opportunities to help resolve those issues. In our Recommendations section we make a large number of smaller-scale recommendations about how to use existing resources and programmes more effectively to address fuel poverty and its causes.

3.0. Introduction

3.1 About Localise West Midlands

Localise West Midlands is a not-for-profit organisation which exists to promote the environmental, social and economic benefits of:

- Local trading, using local businesses, materials and supply chains
- Linking local needs to local resources
- Development of community and local capacity
- Decentralisation of appropriate democratic and economic power
- Provision of services tailored to meet local needs.

This localisation approach makes economic development and Government systems more sensitive to local autonomy, culture, wellbeing and the responsible use of finite resources, and is growing in popularity with people and organisations all over the world. Localisation helps build social capital, targets regeneration to meet local needs, maximises local job creation, and reduces transport and CO² emissions.

3.2 The Action Research brief

The aim of the project was to find out how the fuel-poor could benefit from Pay-As-You-Save (i.e. Green Deal) and Feed-in Tariff schemes. The objectives were to conduct action research and make recommendations to key players. The need for this work arose out of issues and problems identified by a stakeholder workshop held by the Birmingham Energy Savers project, in which we were a participant.

3.3 The evolving context

The duration of this project has been marked by a rapidly evolving policy landscape and external environment. Key issues have included:

- Emerging results from pay-as-you-save pilots which have highlighted further issues with the model
- The continuing rise in fuel prices, which have catastrophic impacts for low-income households
- Uncertainty over the primary legislation for the Green Deal
- Consultation over the secondary legislation needed to implement Green Deal
- The review of Feed-in Tariffs, which has been widely criticised.

We have tried to keep pace with these evolving issues, but the overall message is that there is still a need to understand what needs to happen for the fuel-poor to benefit fully from Green Deal.

3.4 Methodology

The methodology of the action research project was a mixture of desk research, interviews with key stakeholders, and an action research workshop. The ideas contained within this report are very much ‘crowd-sourced’ and we are extremely grateful to all those who have contributed their time and expertise to the project. The views expressed by stakeholders in the project have not been attributed except where the stakeholder has specifically requested us to do so.

The findings of our consultation with external stakeholders through interviews and the workshop have served to strengthen and amplify our original thesis that there are major problems with Green Deal, and have deepened our understanding of the potential solutions.

3.5 Structure of the Report

The report starts by outlining an understanding of what is fuel poverty is, in all its complexity. Early debate around Green Deal has been conducted among people whose interest is economics, housing management or environmental issues, and who do not necessarily understand fuel poverty. Our aim is to bring together the best of what we know about fuel poverty in order to help people who are new to the subject to better understand the problem.

Next we go through the new opportunities that exist to tackle fuel poverty – not just Green Deal and cash incentives for renewables but also Ofgem’s Retail Market Review and other utility obligations. This helps us to gain a wider appreciation of the causes of fuel poverty and how a joined-up approach can be achieved.

Section 4 on Changing Political Priorities gives us an understanding of what can be achieved in the current political climate.

Having looked at the broad options for tackling fuel poverty we revisit the causes of fuel poverty and examine what specific measures are needed to address particular characteristics of fuel poverty. Learning from past and current initiatives we then begin to explore ideas for making the new approaches more effective in tackling fuel poverty and in particular address the issue of methods of assessing properties and identifying fuel poverty.

Finally we reach a number of conclusions and make recommendations for policy makers and scheme managers.

There is a Glossary at the end to explain technical terms.

4.0. What is Fuel Poverty?

4.1 Introduction

This section of the report is concerned with defining fuel poverty and its principal causes. The scale of the issue in terms of the numbers and types of people affected nationally is described and discussed, along with the health and other problems that emanate from inadequate heating of homes. The chapter also explores the issue of defining and identifying fuel poverty, the distinction between it and the matter of fuel debt, along with the principal trigger points for the latter.

4.2 Definition of fuel poverty

The Government definition of fuel poverty is when a household must spend more than 10% of its income on all household fuel in order to maintain a satisfactory heating regime. The amount of fuel required to be used is based on a model which takes account of household size and the energy efficiency of the home based on a Standard Assessment Procedure (SAP rating) and defines what a satisfactory heating level is. The definition, therefore, takes no account of the impacts of behaviour differences, such as the temperature to which a house is heated, how much time the house is occupied or whether windows are left open. Similarly, it assumes that all households pay the same per unit of energy, despite there being wide differences in the amount paid per unit.⁷

4.3 Causes of fuel poverty

On the basis of the official definition there are three causes of fuel poverty: income levels, the cost of fuel and the energy efficiency of the home. While there are many other behavioural factors that determine whether someone actually does pay more than 10% of their income on fuel, they do not influence whether someone is officially defined as being in fuel poverty.

Different factors will impact on whether people consider themselves to be fuel-poor, get into fuel debt or actually spend more than 10% of their income on fuel. These include the specific fuel tariff they are on; the types of fuel available to them; other necessary expenditure (especially housing costs); health of household members; the amount of time household members spend at home, and their expectations and behaviour in relation to fuel usage.

4.4 Numbers of people in fuel poverty

More than 4 million households in England were in fuel poverty in 2010 according to Consumer Focus.⁸ Government figures confirm that there were 3.3 million households in

⁷ For more details on the components of the definition and how they have changed over time see Brenda Boardman, Fixing Fuel Poverty, 2010.

⁸ <http://www.consumerfocus.org.uk/news/fuel-poverty-figures-should-ring-alarm-bells-for-industry-and-government-warns-watchdog>

England in fuel poverty in 2008 (4.5 million in the UK) compared to 2.8 million in 2007.⁹ This is against a background of a prior fall in the number of fuel-poor households in England from 5 million in 1996 (UK – 6.5 million) to just over 1 million in 2003 (UK – 2 million). What this means is that the significant progress that was made in eradicating fuel poverty between 1997 and 2003, has been reversed.

Table 1: Gas and electricity price index 1990-2010 (2005=100)¹⁰

	Gas	Electricity	RPI all items
1990	69.9	80.2	65.7
1991	74.8	88.3	69.5
1992	74.6	92.8	72.1
1993	71.8	92.5	73.3
1994	76.1	95.6	75.1
1995	78.7	96.9	77.7
1996	78.7	96.5	79.5
1997	78	91.9	82
1998	75.3	87.7	84.8
1999	74.9	86.5	86.1
2000	73	84.8	88.7
2001	75	84	90.3
2002	79.7	84.4	91.8
2003	81.2	85.3	94.4
2004	87.1	90.4	97.2
2005	100	100	100
2006	131.9	121.7	103.2
2007	142.1	131.4	107.6
2008	170.1	151.9	111.9
2009	193.5	158.8	111.3
2010	182	154.9	116.5

This rise in the number of homes in fuel poverty is largely due to rising fuel prices, which have wiped out many of the improvements in energy efficiency of homes achieved between 1997 and 2003. The Fuel Poverty Advisory Group has noted that part of the price increase is because carbon abatement programmes such as CERT and FIT¹¹ are funded through a levy on fuel bills, and that these are regressive because fuel-poor households pay an undue share of these costs, whilst benefiting less than affluent households do.

⁹ DECC, Fuel Poverty Statistics 2010.

¹⁰ http://www.decc.gov.uk/en/content/cms/statistics/energy_stats/prices/prices.aspx#domestic

¹¹ Feed-in Tariffs (FITs) and Carbon Emissions Reduction Target (CERT) are schemes to support energy improvements in homes. They are discussed more fully below.

The Citizens Advice Bureaux have reported a huge upsurge in the number of people seeking advice about fuel debt – an 82% increase between 2006 and 2009. Most are of working age, with only 5% above 65 years old.¹² 70% of these people were single, and 25% disabled. These figures would suggest that fuel poverty is rising among non-vulnerable people as well as the vulnerable.¹³

4.5 Who is in fuel poverty?

Table I below identifies that fuel poverty is higher amongst the elderly, single adult households, those in hard-to-heat homes and those with a long-term illness or disability. It also shows that fuel poverty is lower than average for those with young children. This is related to the fact that a higher proportion of those with young children will be in social housing which has higher levels of energy efficiency.¹⁴ Table 2 below identifies the higher likelihood of those in private renting being in fuel poverty. This relates to the lower levels of energy efficiency in the private rented sector. While the numbers in fuel poverty in the owner occupied sector overall are proportional to its size, it is significantly higher amongst outright owners, who also tend to be older and have less energy efficient homes.

The Annual Report of Fuel Poverty Statistics in 2010 by the Department of Energy and Climate Change (DECC) also identifies that 40% of households in dwellings with a SAP rating below 35, 20% of households with a modelled fuel bill above the mean fuel bill (approximately £1,200 p.a.) and 60% of those with an income of £12,000 a year as being in fuel poverty.

Table 2: Characteristics of fuel-poor households England 2006

Characteristic	% of fuel-poor (full Income)	National average %
Household with lowest 30% incomes	90	30
Household on means tested benefit	58	31
One Adult household	54	26
Household containing at least one person over 60	50	31
Household in which one person has long term disability or illness	38	29
Household with at least one person over 75	24	13
Household with child under 16	16	30
Household needing to spend more than 20% income on fuel	15	2
Household living in 'hard to heat' home	56	39

¹² http://www.citizensadvice.org.uk/index/pressoffice/press_index/press_20091020.htm

¹³ Debt and Personal Finance APPG, Fuel Poverty Round Table:

http://www.citizensadvice.org.uk/pdf/appg_debt_and_personal_finance_fuel_poverty_meeting_report.pdf

¹⁴ Boardman op cit pp. 38 – 40. See also WMRA Low-carbon Housing; Developing a baseline for refurbishment in the West Midlands (p18)

http://www.wmra.gov.uk/documents/LowCarbonHousingReport_web.pdf

Derived from Boardman op cit table 2.9 and 6.11

Table 3: Tenure of households in fuel poverty England (2006/7)

Tenure	Percentage in fuel poverty	% of households in tenure
Owner Occupied	69	70
Private rented	16	13
All social rented	16	18

Derived from Boardman op cit table 2.12

4.6 Why is fuel poverty a problem?

The simple answer to this question is that fuel poverty is a health problem. Boardman¹⁵ discusses the substantial evidence linking underheating of homes and health. The strongest information relates to excess winter deaths. These studies show a strong correlation between excess winter deaths, age and low income, energy efficiency of homes, older homes, and poor heating systems.

While information on other warmth-related illnesses is harder to gather there are a number of more localised studies that confirm the strong link between fuel poverty and ill health in the elderly. In this country there are between twenty and fifty thousand premature deaths each winter.¹⁶ This figure is much higher than other countries with comparable climates.¹⁷

Studies also identify strong links between poor health in young children and fuel poverty, resulting in significantly higher levels of respiratory diseases (especially asthma) and malnutrition. The impact of such health problems in early life are likely to continue throughout the person's life, even if they move into a warm home later. There are also shown to be linkages to depression and other mental health problems. The inability to afford to heat the whole of a house can also mean that schoolchildren have nowhere private or quiet to do their homework which will impact on their school performance and their social development.¹⁸

A study by Professor Christine Liddell and Chris Morris of the School of Psychology at the University of Ulster finds that there is evidence of impacts of fuel poverty on the physical health of children and infants, and of impacts on the mental health of adults and adolescents. Infants living in fuel-poor households are more likely to be admitted to hospital; teenagers living in fuel poverty are more vulnerable to bullying and crime.¹⁹

¹⁵ Boardman op cit chapter 7

¹⁶ <http://www.decc.gov.uk/assets/decc/Statistics/fuelpoverty/612-fuel-poverty-monitoring-indicators-2010.pdf>

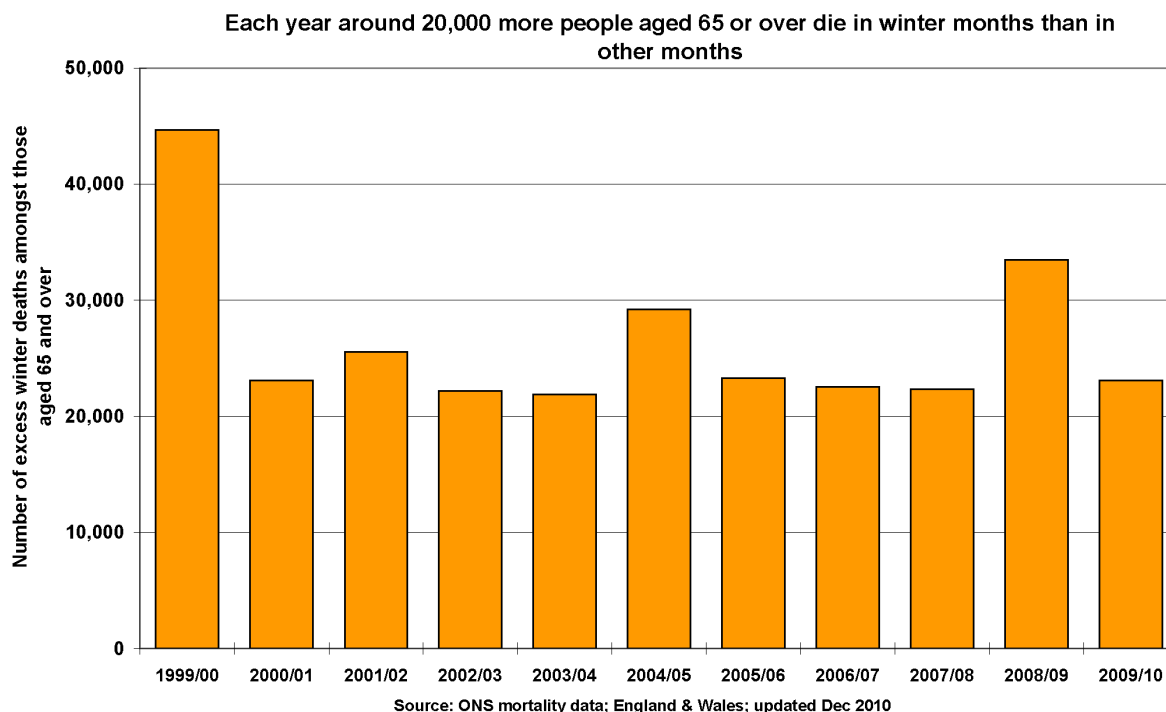
¹⁷ <http://www.nea.org.uk/excess-winter-mortality>

¹⁸ See Boardman op cit chapter 7

¹⁹ <http://www.nea.org.uk/assets/Presentations/KSPOTNE-CHRISTINE-LIDDELL.pdf>

There is as yet no systematic assessment of the impacts on the mental health of children.²⁰

Table 4: Excess winter mortality²¹



Money spent on combating fuel poverty is sound investment. For every £1 invested in tackling cold, damp homes, 42 pence is recouped through NHS savings. Some 41% of these savings related to physical conditions associated with excess cold, and 24% to mental health.²² This on top of the money saved in housing management, not to mention the financial value of CO² savings.

Another aspect of fuel poverty is the level of comfort that should be considered acceptable in a modern society. There are also concerns about the inefficient use of energy and thus the impact on CO² emissions and energy efficiency in the longer term.

4.7 Problems with defining and identifying fuel poverty

There is disagreement about whether this income and model-based definition for fuel poverty is adequate, but critics admit the difficulty in finding an alternative definition.²³ There are many other factors that influence whether a family struggles to pay its fuel bills. Some, such as specific health problems or lack of access to the gas grid would elicit

²⁰ Christine Liddell, Chris Morris, Fuel Poverty and Human Health: A Review of Recent Evidence, University of Ulster

²¹ <http://www.poverty.org.uk/67/index.shtml>

²² Christine Liddell, Estimating the impacts of Northern Ireland's warm homes scheme 2000-2008, University of Ulster, 2008

²³ Environment, Food and Rural Affairs Committee, Inquiry into energy efficiency and fuel poverty, 2008

widespread understanding, but others, such as heating the house to a high temperature, while keeping the windows open, would not.

Altering the definition of fuel poverty to base it on disposable income rather than whole income can significantly affect the extent to which different groups are disproportionately in fuel poverty. This is found to be particularly the case in relation to tenure and age. For instance, those who own their own home outright are more likely to be in fuel poverty and more likely to be elderly. However, they will also have the lowest housing costs and thus the smallest difference between whole and disposable income. The opposite is more likely to be true of families with young children.²⁴

There are numerous factors that impact on actual expenditure on fuel that are not taken into account in the Government definition. These include:

- The specific tariff through which the consumer pays for fuel - there are huge differences between companies and within companies;
- Whether the consumer is on a pre-payment meter – higher charges and disproportionately used by those in fuel debt;
- Access to fuels - those who are not on the gas grid will have to use more expensive electricity, oil or solid fuel for heating;
- Health – some illnesses require the home to be heated throughout the day, rather than the more limited time specified in the definition;
- Similarly, if the whole household is out during the day - in employment or education - there is less need to heat the home than if it is occupied throughout the day;
- Actual disposable income varies widely between households with similar total incomes, the biggest differences being due to housing costs that are unavoidable, whereas the Government's definition is based on total income without taking any account of disposable income;
- Culture – there are differences in cultural experiences in relation to heating which will be discussed later;
- External environment - different amounts of fuel will be required to heat homes with similar levels of energy efficiency, based on whether they are in warmer or colder parts of the country or if they are in a particularly exposed or sheltered location;
- Behaviour of occupiers in their home;
- Whether the effectiveness of energy efficiency measures installed is the same as their modelled efficiency.

A number of the pilot studies discussed later in this report have considered actual expenditure on fuel against modelled expenditure, alongside modelled and actual fuel savings due to energy efficiency improvements. These studies have consistently found large variations between actual energy usage and modelled energy usage, as well as actual as opposed to the modelled energy savings.

²⁴ Boardman op cit pp. 39 -42

Table 1 above indicates a relatively low correlation between fuel poverty and households with young children. However, this tends to mask the much higher impact of underheating and high fuel bills on the health and wellbeing of young children and adolescents.

The official definition has been used to monitor progress on the Government's policies of alleviating fuel poverty. Clearly a national definition is required for this, and despite all its shortcomings, the current definition probably has no more failings than any other definition would have; providing some account is taken of its limitations, particularly in relation to the impact of fuel poverty on young children. The potential for harmful distortion, due to the inadequacies of the definition, will be much greater where it is used to set detailed targets and remove flexibility for frontline interventions that seek to remove the harmful financial, health and energy wastage aspects linked to fuel poverty.

In our view it would be too difficult to develop a single national definition that is measurable and reflects all the different circumstances. Rather, for us the questions that should be considered are for what purposes a national definition should be used, and whether it is an adequate tool for those functions?

Accordingly, in view of the arguments advanced in the foregoing paragraphs, we will consider two principal areas relating to fuel poverty. These are the nature and scale of those groups of people who fall within the actual definition of fuel poverty and the additional factors that can affect the experience of those in or close to fuel poverty, including fuel debt.

4.8 Fuel debt and fuel poverty

Some households can be in fuel debt without meeting the official definition of being fuel-poor. It is also reasonable to expect that some people will consider they need to spend more than 10% of their available income on fuel, and yet by so doing they would not meet the official definition of fuel poverty.

We recognise that the Government's definition of fuel poverty is not the same thing as 'having a fuel debt', in that it takes no account of actual behaviour or differences in fuel costs. We consider all these aspects are crucial to an effective approach to enabling people to heat their homes to a satisfactory level. Thus, in this report we will not just be concerned with the problems of those who fall within the official definition of fuel poverty, but will also be concerned those with fuel debt and those who struggle to be able to afford their fuel bills, even if they do not meet the official definition.

4.9 Fuel debt: trigger points

The over-arching causes of fuel debt are the poor energy efficiency of buildings and appliances, low incomes, consumer behaviour and metering and payment methods. There are nevertheless specific occasions that can trigger a household moving into fuel debt.

Moving home can both be stressful and be one of the triggers for moving into fuel debt. Many consumers experience difficulties in setting up accounts with the existing or selected supplier when they move into a new home. Establishing an account is a major cause of enquiries and complaints to utility companies, to consumer advice agencies and to the Energy Ombudsman.²⁵ Where there is a credit meter, this can result in significant delays in producing a first bill. Until the bill is received, the effect is to place the consumer into a position of debt. In cases involving a pre-payment meter,²⁶ then this can mean the household is unable to access the electricity or gas supply until the account is set up properly. Another difficulty faced in these circumstances and frequent source of complaints is the inheritance of debt from a previous occupier.

Changing gas or electricity supplier is another potential fuel debt trigger. Delays in setting up an account can cause the consumer to build up a debt on a credit meter, or to be without supply on a pre-payment meter.

Both of these trigger points are relevant to the ability of the Green Deal to tackle fuel poverty. Green Deal could be used to mitigate these trigger points, or could potentially make the situation worse.

While the overall upward trend in fuel poverty numbers is clear, what the figures conceal is the fact that fuel poverty is a moving target, impacting on the affected groups differently. For example, according to the New Local Government Network, the number of households living in property owned by registered social landlords that are in fuel poverty is rising disproportionately.²⁷ In this instance, the increase is specifically due to changes to housing benefit rules as well as to generic factors such as the rise in fuel prices that affect all households at risk of fuel poverty. This is an important consideration on the grounds that while poor energy performance of buildings and major appliances is a primary cause of fuel poverty, there are other secondary causes such as income, behaviour, demographics, that can trigger a household moving in or out of fuel debt or fuel poverty.

While fuel poverty is often discussed in terms of social policy, the benefits of addressing it are much wider. Reducing fuel poverty also has health benefits and, depending on how it is tackled, it can also reduce carbon emissions, improve energy security and create employment. Furthermore, policies that help alleviate fuel poverty are also often targeted at other policy objectives, such as reducing CO² or improving the overall quality of social housing.

²⁵ <http://www.ombudsman-services.org/attachments/download/248/2010%20annual%20reportEnergy.pdf>

²⁶ Pre-payment meters require the consumer to pay for their fuel in advance. The utilities also usually require those in fuel debt to use a pre-payment meter. Moreover, households with low incomes often prefer pre-payment meters on the grounds that it is easier for them to manage their energy expenditure and avoid going into debt. However, the tariff for pre-payment meters is usually higher. This is justified on the basis that payment through these meters cost the utility company more to install and administer.

²⁷ New Local Government Network: Painting the Town Green, Meeting the Energy Efficiency Challenge at Community Level

This chapter has been concerned with matters of the national definition of fuel poverty and its appropriateness as a measure. The numbers of and principal groupings of people affected by fuel poverty and its causes are identified; along with the disproportionate and wider impacts on particular groups, such as the young, before looking at the causes of fuel debt and the issues emanating from it. An argument is advanced for the need to have tailored and localised approaches to best deal with fuel poverty and its underlying issues. The next chapter looks at the variety of new opportunities that exist to begin to tackle fuel poverty.

5.0. New Opportunities to Tackle Fuel Poverty

5.1 Introduction

The previous chapter was principally concerned with defining and describing fuel poverty and fuel debt, together with identifying and commenting on the sections of the community that are most affected. It also commented on the crudeness of the national definition of fuel poverty as a measure and the need for tailored customer-focused approaches. This section of the report concentrates on looking at the overall policy context, the Green Deal mechanism and on describing the operation of the 'Golden Rule', in terms of its operation. Finally, opportunities that arise from the use of renewable sources of energy are considered, along with possible implications of the various energy sector reviews that have been and are being carried out.

5.2 The Changing Policy Context

We are currently in a time of rapid change in relation to policies that have the potential to impact on fuel poverty. But most if not all of these new policies are primarily aimed at addressing not fuel poverty but other issues: in particular, at reducing CO² emissions. Accordingly, given their present emphasis on increasing the energy efficiency of homes and on developing alternative energy sources, these policies have the consequential potential to have a huge impact on fuel poverty.

These policy changes started under the former Labour Government, with the introduction of Feed-in Tariffs and a review of the way in which the energy providers were obliged to promote energy efficiency and renewable energy. At the time of the change of Government in 2010 much of the detail of these policy changes was yet to be decided. Whilst the Coalition Government has continued to develop policies with similar aims, it is certain that some of the details, in terms of their presentational emphasis and operation, will be different. At the time of writing, policy proposal details are still being developed and this makes it timely to consider how best these new approaches can be developed to help alleviate fuel poverty.

The flagship policy for the present Government is the Green Deal, but it is also reviewing the obligations placed on energy providers, support for renewables, in particular, the Feed-in Tariffs and Renewable Heat Incentive, as well as the definition of fuel poverty. The state of flux resulting from all of these changes present considerable opportunities to tackle fuel poverty; and the next section looks at these in more detail.

5.3 Green Deal opportunities

5.3.i What is Green Deal?

Green Deal is an innovative financial mechanism to improve the energy efficiency of homes, and businesses. Although variants will evolve, the operation of the model is essentially as follows:

- A Green Deal provider makes an offer to a householder (homeowner, landlord or tenant) to install energy saving measures into the home. The value of these measures will vary; with a limit for Green Deal funding of £10,500 being proposed.²⁸ (Although in many cases the cost of the measures needed to substantially reduce fuel poverty for that householder will be much higher).
- A Green Deal finance provider, which may be a separate company to the main Green Deal provider, arranges finance for the Green Deal package, through some sort of borrowing arrangement.
- The householder agrees to repay the cost of the measures over an agreed period, for example 25 years. The payments are added to the household energy bills and appear as a debit on the bill. The supplier of electricity to the household or business, irrespective of whether or not they are the Green Deal provider, collects the payments in this way through the bills or through a pre-payment meter and forwards the payment to the Green Deal finance provider.
- The Green Deal charge stays with the property, not with the householder or the electricity supplier. If there is a change of occupancy, the Green Deal charge is paid by the new occupier. If the householder changes electricity supplier, then their new electricity supplier must continue to collect the Green Deal charge.
- Green Deal providers could be a range of organisations, including utility companies, supermarkets, DIY chains and other high street retailers, local authorities, social housing providers or social enterprises.

5.3.ii What is the 'Golden Rule'?

The Green Deal 'Golden Rule' says that in all cases, the financial value of fuel bill savings due to the energy saving measures installed should be greater than the cost to the householder of installing them. It is recognised that not all installations will meet the 'Golden Rule' without subsidy. Similarly, not all householders will be able to afford the repayments, particularly if they are presently under-heating their home.

The Government is currently proposing that the utilities, under revised obligations, will be required to subsidise schemes that would not otherwise meet the 'Golden Rule'. This proposed new subsidy will be known as the Energy Company Obligation, or ECO.

5.3.iii Models of Green Deal that address fuel poverty

We think that Green Deal could beneficially subdivide into five delivery models, each aimed at and valid for a correspondingly distinct market:

1. A brand-driven, able-to-pay market, that has access to mainstream credit, owns their own home or is buying with a mortgage and, as a regular customer, trusts one or more major high street retailers or utility companies from whom they will buy a Green Deal package as a home improvement measure. As the 'Golden Rule' is most likely to be met, there will be little or no need for the ECO subsidy.
2. The social housing market.

²⁸ Statement by Chris Huhne Energy Secretary 16 June 2011

3. The fuel-poor market, consisting largely of low-income owner-occupiers, as well as low-income private renters. A high level of ECO subsidy will be needed here; up to 100% in some cases will be needed to lift a household out of fuel poverty.
4. A bottom-up, community-led and location-specific approach, where housing associations, low-carbon community groups or Transition groups are able to form the type of partnerships needed to deliver a 'Community Green Deal'. This model also has the potential to engage with private landlords locally.
5. A local authority-led or -sponsored, comprehensive approach that seeks to ensure that the right level of support is targeted to the variety of different groups. This is likely to involve a range of partners.

5.4 Opportunities from incentives for renewables: the Feed-in Tariff and the Renewable Heat Incentive (FIT & RHI)

The incentive opportunities relate to the Feed-in Tariff (FIT) and the Renewable Heat Incentive (RHI). The principal characteristics of these two initiatives are outlined below.

5.4.i What is the Feed-in Tariff?

The Feed-in Tariff is an amount of money payable by the energy suppliers to small and medium generators of renewable electricity. There are two types of payment available under the Feed-in Tariff. These are the Generator tariff, which is a guaranteed minimum payment for the next 25 years for all electricity generated by the system installed, and the Export tariff, which is a separate payment for the surplus electricity exported to the grid; and this is paid at a much lower rate.

The following technologies are eligible for the tariff, up to an installed capacity of five Mega Watts:

- Solar electricity (photovoltaics)
- Wind turbines
- Hydroelectricity
- Anaerobic Digestion
- Micro Combined Heat and Power (CHP) – pilot only.

The amount of the tariff varies according to the technology and when it was installed.²⁹ The revenue for Feed-in Tariffs is raised through a levy on fuel bills.

5.4.ii What is the Renewable Heat Incentive?

The Renewable Heat Incentive is be an amount of money payable to generators of renewable heat. It is be the first scheme of its type in the world. It supports a range of technologies including biomass, solar thermal, ground and water-source heat pumps, deep geothermal, and energy from waste.

²⁹ <http://www.energysavingtrust.org.uk/Generate-your-own-energy/Sell-your-own-energy/Feed-in-Tariff-scheme>

5.5 Opportunities from Ofgem’s Retail Market Review and how this relates to Green Deal

Ofgem announced in March 2011 that consumers were at risk from a number of features in the market which reduce the effectiveness of competition. This means that further action is needed to make energy retail markets work more effectively in the interests of consumers.³⁰ While there are many welcome proposals for reform, they do not specifically take into account the relationship between the energy retail market and Green Deal.

Ofgem has proposed to reform the way in which price information is compared. One key area of this is the confusion caused to consumers by the use of two-tier tariffs. Until approximately a decade ago, all domestic gas and electricity pricing was based on the following method:

- A fixed standard charge per annum (popularly known as a ‘standing charge’) to include transmission and distribution costs and other costs (e.g. carbon abatement programmes);
- A volumetric rate for each kWh of gas or electricity consumed.

However, around ten years ago, suppliers started to introduce two-tier tariffs, which pass on the costs in a different way:

- No fixed standard charge;
- A first-tier rate for the first tranche of electricity or gas used a year; up to a certain threshold of kWh;
- Above this threshold, the second-tier rate is charged for each kWh of electricity or gas.

Ofgem is proposing to reform ‘evergreen’ tariffs³¹ so that the standard charge/volumetric charge system is used for all evergreen tariffs. This is in order to facilitate price comparison and competition for consumers who are on evergreen tariffs. These consumers are usually found to be the most averse to switching between tariffs and suppliers, meaning that evergreen tariffs are currently the least competitive section of the market. Suppliers will still be allowed to charge two-tier tariffs for fixed-term, non-evergreen tariffs. Suppliers will be required to present price comparison information to consumers in a format where they are able to compare two-tier tariffs with evergreen tariffs, using a standard charge/volumetric metric; thus consumers will be enabled to compare like with like. Whilst this reform is to be welcomed from a price comparison point of view, it does not address the underlying serious problem with the existence of two-tier tariffs.

³⁰ http://www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/RMR_FINAL.pdf

³¹ A fuel tariff that does not have a fixed term and renews itself automatically from year to year

The two-tier tariff is a 'double whammy' for energy efficiency and fuel poverty, because it penalises low users (i.e. those who are thrifty or energy efficient and the under-consuming fuel-poor) and, in turn, disincentivises energy efficiency (see p80).

5.6 Opportunities from Review of Utility Obligations

The former Labour Government undertook a review of utilities' obligations; in particular, the CERT and CESP schemes. Under these schemes, UK energy suppliers are required to achieve a range of targets for reducing carbon emissions through funding renewable energy or energy efficiency measures. The achievement of the reduction is based on modelled savings rather than measured actual savings. The method of delivery and the type of product funded has been largely left to the utilities to decide in the context of savings targets and modelled savings for each type of measure. This has led to some distortions; for example, through the free distribution of low energy light bulbs. Following concerns about the number of such bulbs being provided and the doubts about whether they were actually installed and producing the energy savings claimed, this particular method of spending CERT was disallowed from 2010. A new programme, CESP, was also introduced which required the utilities to target support to low-income areas, to maximise the impact on fuel poverty. Additionally the utilities are required to fund Feed-in Tariffs.

It is worth noting that in countries such as Germany, the utilities are also required to fund energy efficiency programmes, but there it operates through taxes and licence fees for schemes that are then delivered by central and local Government.

The new ECO obligation is expected to be linked to the Green Deal to subsidise those aspects that would not otherwise comply with the 'Golden Rule'. As a result there will be a tendency to support energy efficiency measures particularly for those on low incomes with low current fuel bills and those in hard-to-treat homes. This emphasis should disproportionately benefit those in fuel poverty. Funding such works through energy obligations rather than general taxes is regressive, since it is paid by all fuel users through increased fuel prices. Those with the highest fuel bills in relation to their income will pay more than they would if the money were collected through income tax.³²

5.7 Opportunities from other DECC reviews

DECC is undertaking a number of other reviews. These reviews include the way in which utilities are allowed to use social tariffs to support those in fuel debt and fuel poverty, together with information sharing between Government Departments and possible Green Deal providers, in order to improve the targeting of actions to help those most in need. The Department is also reviewing the definition of Fuel Poverty.

³² See, for example, Parliamentary question from Caroline Lucas MP
<http://www.publications.parliament.uk/pa/cm/cmtoday/cmstand/output/pbc167/pb110616a-03.htm>

5.8 The Green Investment Bank

The Government has recently announced the setting up of a Green Investment Bank. The details of its remit are not yet available. The original proposals put forward by the Wigley Commission³³ included responsibility for investment in domestic energy efficiency, with the high street banks taking a leading role in its delivery at a local level; but it appears from details emerging to date that this requirement is not included in the Bank's remit. Notwithstanding this omission, if the Green Investment Bank and the high street banks were to take on a leading role in the domestic energy efficiency market, it is very hard to envisage that their business model would enable the delivery of the complex services required to address fuel poverty in a sufficiently targeted way.³⁴

5.9 Reform of the NHS and GP budget holding

Any realignment of health budgets that makes the impact of different types of health intervention clearer raises the opportunity of greater involvement by GPs in addressing fuel poverty.

There have been a number of schemes that have involved GPs and other health sector workers in providing referrals or prescriptions for home improvements.³⁵ The potential savings to GP-held budgets from less costly interventions in addressing fuel poverty opens up the potential for the health sector to take on a greater role in this area with the prospect of overall savings to their budgets. To achieve this will require them to be involved in partnerships that provide health sector workers with the knowledge and networks they need to be able to prescribe Green Deal and other energy efficiency improvements to the lives of their patients who most need them for health reasons.

The next section of this report examines in greater detail how the changing political priorities in a number of different areas have impacted on the fuel poverty agenda.

³³ <http://bit.ly/nCfZcb> Despite this report being commissioned by the Chancellor of the Exchequer, we have been unable to find a copy of it on the Treasury website

³⁴ Environmental Audit Committee - Second Report 2011 The Green Investment Bank: and UK Government's Response to the Environmental Audit Committee's Second Report of Session 2010-12

³⁵ For instance the Health through Warmth scheme

6.0. Changing Political Priorities – context and implications

6.1 Introduction

Currently, a number of changing political priorities have significant implications for the fuel poverty agenda. These changing priorities include the policy and legislation on and definitions of fuel poverty itself, climate change, energy security, the changing role of the state, centralism and localism. The context and implications of each of these changes are outlined below.

6.2 Understanding fuel poverty - Policy and legislation

During the 1990s, fuel poverty rose rapidly up the political agenda. A detailed fuel poverty strategy was developed with a target to remove fuel poverty by 2016. The Warm Homes and Energy Conservation Act 2000 resulted in the publication of the Fuel Poverty Strategy in 2001. The strategy aimed to end fuel poverty in vulnerable homes by 2010 and in all households by 2016. The first aim, with regard to vulnerable homes, has not been achieved.³⁶ Progress was made up to 2005, but since then the number of households in fuel poverty has risen.

Ofgem was given a statutory regulatory responsibility to protect vulnerable consumers. The mechanism for delivering on this responsibility is Ofgem's Social Action Strategy (formerly Social Action Plan). Ofgem believes that the promotion of competitive energy markets is the best way to serve the interests of consumers as a whole, along with specific measures for vulnerable consumers. Ofgem administers energy efficiency schemes such as CERT (Carbon Emissions Reduction Target) which includes specific measures for vulnerable consumers, and CESP (Community Energy Saving Programme) which is aimed at the fuel-poor. Ofgem also has regulatory responsibility for the Priority Services Register (PSR). The PSR imposes a statutory obligation on suppliers to keep a list of vulnerable consumers and offer special services to them. In addition, Ofgem audits companies' CSR (Corporate Social Responsibility) initiatives.

Rapid progress towards addressing fuel poverty was initially made up to 2005. This progress was largely due to falling fuel prices and improvements in the energy efficiency of homes. Since 2006 the situation worsened rapidly, as a direct result of the subsequently large increase in fuel prices. This upward trend in fuel prices is expected to continue. An unsuccessful legal challenge was made to the Government about its failure to meet its targets. It has also become increasingly clear that any Government would have serious difficulties in meeting the Fuel Poverty Strategy 2001 target to end fuel poverty by 2016.³⁷

Concurrently, issues of climate change and energy security have been rising rapidly up the political agenda. It is these aspects rather than fuel poverty that have become the driving policy forces for Government in relation to energy matters.

³⁶ http://www.timesonline.co.uk/tol/money/consumer_affairs/article3722492.ece

³⁷ Boardman, op cit

The Coalition Government appears to be continuing with the same priorities in relation to energy as the previous Government, but is placing a greater emphasis on reducing the budget deficit and, to some extent, rolling back the role of the state. The Conservatives in particular are promoting the idea of the 'Big Society' in which the state does less, with more being done by communities themselves on a voluntary basis or by the voluntary sector using volunteers. We are not aware of any specific proposals for this 'Big Society' approach being taken in relation to fuel poverty.

The Coalition is also proposing a greater degree of decentralisation, with more power being given to the local level. If this does happen in relation to recent initiatives, such as the Green Deal, it would give a potentially greater role for the sort of community initiatives we discuss below; and for local authorities³⁸ in delivering programmes that could be highly relevant to fuel poverty.

Over the past decade the utilities have been increasingly required to help address climate change by supporting programmes to reduce the carbon impacts of energy usage. They have also been expected to help address fuel poverty. In 2008, the Government implemented the Carbon Emissions Reduction Target (CERT) scheme. They undertook a review of these schemes, but no actions were implemented by the time of the election. The current administration has undertaken its own review, which has not yet been published.

Importantly, the specific activities of the utilities are voluntary schemes to address other aspects of fuel poverty, such as social tariffs. The approach favoured by Ofgem and DECC is to encourage rather than demand specific actions by the utilities.

On the basis of our interviews, we have some indications that the current administration may rely less on voluntary agreements and more on regulation of the utilities, in relation to what the Government considers to be key aspects of support to those in fuel poverty. It also seems likely that there will be greater regulation of how the utilities deliver their carbon reduction obligations.

The Energy Bill of 2011 is not the first piece of legislation to be relevant to fuel poverty. Given the expectation of rising energy costs, the emphasis on reducing public spending, the changing role of the state and the problems with the existing definition we would not be surprised if the review of the definition of fuel poverty led to smaller numbers being defined as in fuel poverty. While this would make it easier for the Government to meet its target it may also lead to a better targeting of measures to those in the most serious fuel poverty.

³⁸ See memorandum of understanding between the Local Government Group and the Secretary of State for Energy and Climate Change.

6.3 The politics of fuel poverty

Historically, the political importance of fuel poverty has fluctuated. Throughout the 1980s, charities such as NEA and the National Right to Fuel Campaign lobbied to make fuel poverty a political priority and they achieved a breakthrough in 2000 with the enactment of the Home Energy Conservation Act. As the target in the Fuel Poverty Strategy has faded into the distance, fuel poverty has slipped down the political agenda, as witnessed by the relatively small number of local authorities choosing NI185³⁹ as a priority indicator in their LAA compared to the more popular NI186. Politically, fuel poverty has come to be seen as a sub-set of climate change or health policy, rather than a policy issue in its own right. The current Government is pressing ahead with its Fuel Poverty Review and it is to be hoped that this will lead to fuel poverty climbing up the political agenda and being a major factor in the design of Green Deal.

6.4 A fuel poverty obligation for Green Deal

There should be an obligation on Green Deal providers to assist fuel-poor homes. If we assume that one-fifth of the population are in fuel poverty, then the obligation should be that one-fifth of households assisted through the Green Deal should be in fuel poverty. Utility companies are used to this kind of obligation from the CERT priority group and from CESP, as are local authorities.

As there will be diverse providers of Green Deal with differing customer bases and geographical implantation, there needs to be a trading system for the fuel poverty obligation. A local authority in an area of Scotland with high levels of poverty and an old housing stock, for example, will face a much greater burden of fuel-poor homes to treat than a high street retailer targeting affluent new towns in south-east England. To ensure that our local authority in Scotland isn't put off becoming a Green Deal provider, Green Deal providers of all types should be able to trade their fuel poverty obligation with each other so that Green Deal schemes aimed at the fuel-poor are delivered by those in the best position to do so, and in a way that shares the risks involved. Utility companies are also used to this, with some of the smaller ones (including generators) trading parts of their CERT and CESP allowances with those who are better placed to deliver.

In order to reward Green Deal providers for successfully delivering Green Deal among the fuel-poor, a system of uplift could be introduced, where providers receive additional credits for doing so. The utilities are no stranger to this type of system already, since CERT has a system of uplift for innovative carbon saving measures.

Such an approach could be piloted before being fully unleashed. A pilot might take place in several different local authority areas, with a mixture of incidences of fuel poverty, and with a variety of housing stock and a mixture of urban and rural situations. A pilot need not have a large amount of revenue funding attached to it. What would be necessary would be for the regulations governing Green Deal to be amended for the pilot areas, including an obligation on any registered Green Deal providers with a customer base in

³⁹ <http://www.localpriorities.communities.gov.uk/>

that area, including utilities, high street retailers and of course, local authorities and housing associations, to ensure that their customers or residents were included.

As the market for renewable heat is still developing, then there should also be an obligation on Renewable Heat Incentive providers to assist fuel-poor households as well. This would most likely be targeted at areas which do not currently have access to the mains gas network, to align with the pricing structure of the Renewable Heat Incentive. Consideration should also be given to a differential rate of Renewable Heat Incentive for fuel-poor households.

There are already many schemes aimed at installing photovoltaics into fuel-poor homes, as solar power has become quickly established as an effective and predictable way of generating free energy for the fuel-poor. This means that a fuel poverty obligation on FIT providers is less of a necessity. However, most of the free photovoltaic schemes are aimed at social housing, so there could be a more limited fuel poverty obligation to assist owner-occupied and private rented fuel homes. There could also be obligations on less established renewable electricity technologies, such as micro-CHP.

7.0. Addressing fuel poverty - broad options

7.1 Introduction

This section considers the broad approaches that can be adopted to address fuel poverty, and which are most likely to be effective in the current climate.

Given the official definition of fuel poverty there are logically a limited number of aspects on which action could be targeted. These are:

a) Increase income levels

One solution would be to increase the income levels of those in fuel poverty. To have a significant impact this would require a major increase in the level of the lowest incomes. Given the political priority of reducing the deficit and the costs involved we see little likelihood of this being politically acceptable through the use of benefit payments. There may be some limited scope for a better targeting of winter fuel payments (see below). While the Government would argue that getting more people into work will reduce income inequality, we have seen rising income inequality over recent decades in this country and many of those in fuel poverty are unable to work for reasons of health and age.

b) Reduce energy costs

The global trends for fuel prices are recent sharp increases and these sharp price rises are expected to continue. It is therefore unrealistic to expect falling fuel prices to help reduce fuel poverty. Indeed it is likely that further changes will lead to sharp increases in the numbers in fuel poverty if no other action is taken. The social tariffs that utilities currently offer are not necessarily the lowest that could be available to the customer if they shop around. Such tariffs are now being replaced by the Warm Homes Discount which is being phased in over the next four years.⁴⁰ While these changes may help they are unlikely to outweigh the impact of rising fuel prices.

c) Reduce energy need

An alternative is to increase the energy efficiency of homes (including use of property-based renewable energy), and this is what the majority of the new opportunities described above are aimed at achieving. This provides the biggest opportunity to address fuel poverty. If these proposed changes are to help alleviate fuel poverty then they need to be designed not just to reduce CO² emissions but also to be targeted to help those in fuel poverty. It is, however, the political priority given to CO² reduction that makes this such a potentially important approach to addressing fuel poverty.

There are health, financial and equity arguments to support this. As discussed above, warmer, more energy efficient homes save money for the health service. It is also the

⁴⁰ <http://www.consumerfocus.org.uk/get-advice/energy/households/energy-tariffs-explained/social-tariffs>

case that many of the initiatives such as CERP, CESP and FITS have been and will continue to be funded by the utilities. This requires fuel bills to be higher than they would otherwise be. Since those in fuel poverty spend a higher proportion of their income on fuel, proportionally they will be paying more of their income for the funding of the utilities' obligations. Targeting interventions at reducing the energy needs of the fuel-poor makes this more equitable.

Other approaches that reduce the harmful impact of fuel poverty but not the numbers officially defined as in fuel poverty.

d) Energy advice and behavioural change

For many households relatively simple behaviour change such as turning off appliances and more effective use of heating controls can reduce fuel bills significantly. Major savings can also be made for some households by changing the energy tariff they are paying. Relatively cheap advice-based interventions can help achieve these savings, although there is a need to target tariff advice more effectively at the fuel-poor who are least likely to actively shop around for the right tariff.

e) Financial advice

Financial advice is most effective in relation to addressing fuel debt but can also be effective in helping reduce the harmful consequences of fuel poverty. Combining energy and money advice will be increasingly important in relation to the Green Deal if households are to take up the measures. Households will need to be shown the actual costs and energy savings of the investments that they are being asked to make. They will also need in many cases to be shown how they can meet the costs of borrowing and how future energy bills will be no more expensive than those on which the modelled savings are predicted.

7.2 A Factor Four approach

If we take a wider view of fuel poverty, taking into account both fuel debt and actual as opposed to modelled expenditure on fuel, there is a wide range of other initiatives that have been proved to be effective in tackling these forms of fuel poverty. The most effective of these can be described as adopting a Factor Four approach.

In 2002 a high-profile report was launched by NEF, Ofgem, NEA, PFRC, npower that called for a Factor Four service model to ending fuel poverty and social exclusion.⁴¹ A Factor Four approach would integrate four key areas:

- Energy advice
- Budgeting and money advice
- Take-up of energy efficiency measures

⁴¹ <http://www.ofgem.gov.uk/SUSTAINABILITY/SOCACTION/PUBLICATIONS/Documents1/276-5march02c.pdf>

- Bill payment.

Unfortunately most actual delivery of fuel poverty schemes fails to integrate these four key areas and delivers a piecemeal approach instead. Often energy efficiency measures are offered without energy advice, or vice-versa. It is even less common for budgeting and money advice to be offered with energy advice or measures, and practically unknown for the issue of payment method to be addressed.⁴²

While there are undoubted benefits to offering energy efficiency measures alone or energy advice alone, there is increasing evidence that offering both together has additional benefits. Common sense alone would suggest that this should be the case, but it is interesting to note from the evaluation of Phase 1 of Birmingham Energy Savers that this combination seems to create a virtuous circle: an element of ‘hand-holding’ via the Birmingham Green Doctor project raises consumer awareness, and most importantly, understanding of the links between behaviour, appliance use, fuel spend and thermal comfort. This is particularly the case where renewables are involved, as micro-generation literally empowers the consumer to be in control of their fuel spend, as opposed to a centralised energy distribution system which seems alien and remote to consumers, particularly those with pre-payment meters.

Other projects that we have highlighted, such as Retrofit Reality and Challenge 100, also demonstrate the value of behaviour change in tackling fuel poverty and the need for an advice package, with hand-holding if necessary, to achieve this.

The link between money advice and energy saving is another that seems like a no-brainer on paper but can be difficult to realise in practice. The Chartered Institute of Housing (CIH) reports that 60% of all financially excluded people live in social housing, and therefore the housing sector is in a unique position to help financially excluded people. The key issues are access to banking services and access to affordable credit.⁴³ Since low income and inability to manage money are often related to fuel poverty, with many of the fuel-poor facing multiple debt, it makes sense to give advice and practical help to the fuel-poor on maximising income, preventing debt, and managing money and debt.

7.3 Summary

This section has identified that on the basis of the official definition there are three approaches to tackling fuel poverty (reduce energy bills, increase income for people on the lowest incomes and improve energy efficiency for those in fuel poverty), and that only the last is realistic in the present climate. It also identifies that various forms of advice can also be very cost effective methods of reducing the harmful effects of fuel poverty.

⁴² <http://www.nea.org.uk/assets/Publications/NEA-MAT-Payment-Method-Full-Report-FINAL-for-publication.pdf>

⁴³ CIH/Gentoo, Financial Inclusion and Housing: Baseline Survey

8.0 Causes and characteristics of fuel poverty that need specific measures to address them

8.1 Introduction

This section identifies the variety of characteristics that affect those in fuel poverty and the challenges and opportunities these create for the proposed energy efficiency schemes if they are to fully benefit the fuel-poor.

As identified in section 2 above there are a number of characteristics that distinguish the fuel-poor from other sectors of society. They are for instance more likely to be elderly, in poor health, on benefits or in low status employment, live in hard-to-heat homes and homes with poor energy ratings, to be tenants or outright owners, and to have difficulty in raising finance because of low incomes. They are also more likely to use pre-payment meters and to be in fuel debt. The fuel-poor are less likely to be experienced in organising large-scale improvements to their homes. All these factors are of significant importance for the design and delivery of programmes such as Green Deal if the fuel-poor are to gain proportional benefits from them.

8.2 Groups spending longer at home than modelled predictions

The elderly, those in poor health, unemployed, or families with young children are likely to spend more time at home, and thus need to spend more on heating their homes than in a household that is out for most of the day. Specific health issues may add further to the costs. These factors will make the calculation of energy saving more complex for many of the fuel-poor and thus have implications for the Green Deal and its Golden Rule.

8.3 Attitudes to energy use

During our interviews we were given a wide range of anecdotal evidence to suggest that there are substantial differences in the attitudes of fuel-poor households toward the use of fuel, toward the level to which they heat their homes, and toward their energy usage behaviour. Some of the patterns relate to age and cultural background. Those seeking to engage need to understand these differences in culture, attitude and behaviour.

8.4 Living in hard-to-treat homes

Previous energy efficiency programmes have tended to concentrate on the easier to treat properties with an emphasis on loft insulation and cavity walls. These are the most cost-effective ways of reducing energy bills and saving CO² emissions. As the programmes move to harder-to-treat properties, the most cost-effective measures are less clear-cut, the technologies and materials newer and more complex, and their costs and benefits more difficult to predict. The skills needed to specify and install these measures are greater and in shorter supply, and the work is more intrusive. Such properties are definitely more difficult to treat and require a much greater understanding of the behaviour and wishes of the occupiers, and of multiple aspects of the property, as well as

new skills for installers. It will also require greater supervision and quality control of installers' work. The costs of works on hard-to-treat dwellings are also likely to be higher in real terms and in relation to the resulting energy savings. All of this has implications for the delivery of the Green Deal and other similar programmes if they are to be effective in dealing with hard-to-treat properties in which the fuel-poor are disproportionately likely to live.

8.5 Fuel poverty and health inequalities

Fuel poverty can be a major cause of ill health. As we have seen, reducing it saves money for the NHS. Those in ill health are likely to spend more time at home and thus have higher fuel costs than models predict. They may have higher demand for electricity for washing and for health-related appliances such as oxygen machines.

The link between fuel poverty and health inequalities is also one of the reasons why fuel poverty is a moving target, but the opposite sign of the coin is that this link is a possible gateway to a potential intervention. In Walsall, the Primary Care Trust identified that the borough had an issue not only with a high teenage pregnancy rate but also with the number of babies born below average birth weight. Consequently, Walsall's Health Through Warmth scheme now includes households with a below average birth weight child under 5 as a priority group for energy efficiency measures. Only the health sector can pick up this type of local characteristic of fuel poverty, and partnership working with a local authority can act upon it. Currently there is no specific incentive for private sector Green Deal providers to address health inequalities in this way. If there is to be a fuel poverty obligation within Green Deal, then it should be partially based on health inequalities as well as on income or property condition.

There is also a strong argument for involving health professionals in the delivery of the Green Deal.

8.6 The landlord/tenant issue

The financial benefit of improving the energy efficiency of homes goes to the person who pays the fuel bill. This is usually the tenant, while it is usually the landlord who pays for substantive improvements to the home. One way of overcoming this conflict of interest is to require the landlord to carry out improvements and/or to provide them with subsidies to do so, as has been done with the Decent Homes programme for social landlords. This has resulted in significant improvements to the energy efficiency of social housing over the last few years.

One of the ideas behind the Green Deal is to provide an incentive to the tenant to undertake energy efficiency improvements by using the 'Golden Rule' to ensure that the cost of the work does not exceed the savings to the energy bill payer. For this incentive to work tenants will need to be persuaded that the savings will be worthwhile. This is likely to be particularly challenging for those who only expect to be in the property for a short period of time. Many tenancies, particularly in the private sector, tend to be for a relatively short period. Although the debt on the Green Deal work stays with the occupier

of the property, the disruption and risk may prove to be a strong disincentive to short-term tenants. If the landlord could raise the rents to reflect the cost of energy saving measures this would also overcome the conflict of interest. At present the private market would not support such rent rises and the vast majority of social landlords would be unable to raise their rents because of the rules around rent convergence and service charges.

The FITS and RHI schemes do in fact provide an incentive to landlords as well as benefits to tenants. These schemes appear to be effective in encouraging take-up by social landlords and some larger, more professional private landlords. There is the potential to use this incentive more widely with private landlords through local authorities offering them advice, support and access to better prices in return for them fitting more energy efficiency measures.

8.7 Outright owners

People who own their property outright tend to spend a higher proportion of their total income on fuel.⁴⁴ Outright owners are also more likely to be elderly and have lived in their home for a long time. They are more likely to be used to the state of their home, and less likely to carry out or have others carry out improvements to their home such as energy efficiency works. They are more resistant to disruptive work, and less likely to be interested in long-term financial benefits. This group provides another set of challenges to the Green Deal.

8.8 Managing the works

For people who are not used to managing building works on their property or who have had previous bad experiences, the prospect of finding a builder and ensuring that they do the right job at the right price and to a good standard can be daunting. This group of people, which is likely to include a higher proportion of people in fuel poverty, will need more support to help them through the process. This will make them less attractive to a Green Deal supplier who is looking at the programme purely or mainly from a profit motive.

Alternatively, if users of the Green Deal find that they are having work done to a poor standard, paying over the odds and not making the predicted savings, and these experiences are publicised, it will damage the whole programme.

8.9 Urban and rural fuel poverty

Fuel poverty is not uniform but manifests itself in different fashions according to geography among other factors. There are a number of factors that aggravate rural fuel poverty. These include:

⁴⁴ Boardman op cit Table 2.12 and pp. 39 -40

- non-availability of mains gas as an efficient, reliable and affordable heating fuel, leading to reliance on solid fuels and oil for heating, which are vulnerable to logistical difficulties and where consumers do not have the same range of payment methods nor regulatory protection as mains gas consumers;
- distance from payment outlets, particularly affecting those who pay quarterly, monthly, weekly or by pre-payment as opposed to direct debit – that is, consumers on low incomes at greatest risk of fuel poverty;
- a higher concentration of homes that are considered hard-to-treat due to their age, including features such as solid walls and generally poor air tightness;
- Ineligibility for CESP measures.

Some of these factors such as the non-availability of gas, or ineligibility for CESP measures, will not affect whether someone is officially defined as in fuel poverty because the definition takes no account of the actual cost of fuel used. It will however impact on the household's ability to afford to heat their home to the required standard.

All of this highlights that the reality on the ground is a more complex picture than the official definition can cope with. The implication of this and of other local and individual variations will be discussed below.

8.10 Energy consumption characteristics in fuel-poor households and implications for the Golden Rule

The Government recognises that where households consume less energy than is modelled by SAP ratings, this is a challenge for the Golden Rule. Such households will not make the predicted energy savings, and this is a particular issue for the fuel-poor. While the Government proposes to use ECO funding from the utilities to subsidise such cases, stakeholders interviewed by us repeatedly said that they considered that the Government had underestimated the level of subsidy that will be needed. This uncertainty is further compounded by criticisms of the property survey methods promoted by the Government for estimating energy savings. One PAYS pilot (see below for more on the PAYS schemes) told us that the system was only accurate in terms of predicting energy saving to plus or minus 500%. While such inaccuracies will impact on all Green Deal recipients it will be particularly difficult for those in fuel poverty.

There is significant evidence that those in the most difficult-to-heat homes tend to underheat them. However, when their homes are made more energy efficient they will then tend to heat them to a higher level. In some cases they will spend more on energy than previously.⁴⁵ In these cases the individuals will not make the savings on their energy bills predicted by the models and it will be difficult to make the 'Golden Rule' work in these circumstances.

⁴⁵ Boardman op cit 2010 pp 178 -179

8.11 Credit ratings

Green Deal is based on credit. The fuel-poor have most need to benefit from Green Deal but are the least likely to access it for two reasons: firstly, because they are more risk-averse, and do not plan ahead financially, and secondly, because they are least likely to be able to access mainstream affordable credit as they are considered a high risk. While the Green Deal structure may or may not resolve the issue in relation to Green Deal borrowing, the currently proposed upper maximum of Green Deal spending will not always fund all the effective energy reduction methods, and those in fuel poverty will be unable to borrow to fund such work. Under the current Feed-in Tariff incentives property owners can make very good returns from renewable energy such as fitting photovoltaic panels to their homes. However the capital costs of such works are expensive and most of those in fuel poverty are unlikely to be able to raise the funding. At present there is uncertainty over whether the fuel-poor will be denied access to Green Deal due to their poor credit rating, with Green Deal providers cherry-picking people with higher credit ratings.

8.12 Identifying the fuel-poor

Those on low income and in hard-to-treat homes tend to be concentrated in specific areas. These areas are relatively easy to identify using census data and local knowledge of property archetypes. Many schemes such as Warm Zones and CESP have taken the approach of targeting such areas. It is an effective way of concentrating effort, but not all hard-to-treat homes or people in fuel poverty live in such areas. If the fuel-poor in other areas are to be effectively targeted, it will also need what Ofgem's Social Action Plan describes as a 'find and fix' approach. A very simple version of this is the targeting of properties without loft and cavity wall insulation through cold telephone calls telling people that they can get a grant for the work. Approaches that are likely to be more effective in targeting the fuel-poor would involve using professionals such as health workers, or community workers to identify those in need, house-by-house calls within target areas, or the use of shared data across agencies. There are data protection issues with this but we understand from our interviews that central Government will be making some data available to Green Deal providers to help them target the elderly and those on benefits.

8.13 Pre-Payment Meters, Tariffs and Fuel Debts

The fuel-poor and particularly those in fuel debt are more likely to use pre-payment meters (PPMs)⁴⁶. Many of those on low incomes prefer to use PPMs, as they consider it gives them greater ability to control their energy bills and avoid getting into debt. PPMs are more expensive than the cheapest available billing methods. Where someone has a fuel debt they are often obliged to go onto a PPM as part of their repayment plan. There are wide variations in the tariffs charged by fuel companies for energy. Even though most companies have lower social tariffs for those at risk of fuel poverty and fuel debt they are

⁴⁶ Boardman op cit p85 shows that those in fuel poverty are only slightly more likely to use PPMs but we consider the number will be significantly higher for those in fuel debt.

often not the lowest tariff that the person could access if they changed supplier. PPMs also tend to be widely used by landlords who don't want to find themselves with outstanding fuel debts from former tenants.

8.14 Implications of these characteristics

There are a number of features of those in fuel poverty that will make them harder and therefore more expensive to effectively engage with the Green Deal and other approaches to improving the energy efficiency of homes. In order to effectively engage them we need to consider the specific range of issues they face. Doing so identifies new opportunities and approaches to engaging them. It also identifies the need for taking wider approaches to tackling fuel poverty including the provision of a range of advice and support as well as reforms to energy tariffs.

Many of the issues raised above will not just affect those in fuel poverty but will impact across the board on people who share certain characteristics but are not in fuel poverty. The combination of these issues will have a disproportionately large impact on those in fuel poverty and with fuel debts. They create a picture of the need for a complex and tailored approach that reflects the particular circumstances of individual occupiers of buildings, the specific building and its surroundings as well as the finances of the bill payer and the tariff they pay. It requires a sensitive, targeted and multifaceted delivery at the local level.

This picture is also one in which current initiatives such as the Green Deal, RHI, and smart meters can, depending on the details, help to significantly reduce fuel poverty or alternatively, exclude many of those in fuel poverty from their benefits.

9.0 What can be learned from past and current approaches?

9.1 Introduction

This section examines the lessons to be taken from current and recent approaches. The major lessons are:

- the need to use the right targets for installers and the difficulty in achieving this at a high level
- the need for flexibility in implementation
- the additional support needed for loan-based as opposed to grant-based approaches
- the benefits of a multi-stranded approach, and
- benefits of long time horizons for approaches such as district heating.

9.2 Current approaches

Fuel poverty mitigation schemes have up to now been predominantly based on either cash handouts or free energy efficiency measures. Winter Fuel Payments are by far the largest expenditure. In 2006 they accounted for £2.7bn, with only 19% of the expenditure benefiting the fuel-poor.⁴⁷ Social tariffs cost the utilities £57m in 2007/8⁴⁸ while Warm Front, CERT, CESP and Decent Homes amounted to £1bn in 2008/9.⁴⁹

Green Deal, even with an ECO subsidy for the fuel-poor, represents a sea change in the way fuel poverty mitigation is financed, since the household is expected to make some kind of financial contribution, subject to the Golden Rule. This may well come into conflict with the expectation among low-income households of free measures, and similar expectations among a layer of politicians who have long campaigned on fuel poverty.

9.3 Winter Fuel Payments

The Winter Fuel Payment (WFP) is made to anyone over pensionable age. With its costs of over £2.7bn a year, it is an example of a poorly-targeted cash handout in relation to the fuel-poor. Policy Exchange, among others, have argued that WFP is not a credible policy for tackling fuel poverty.⁵⁰ Some charities have sought to encourage affluent WFP recipients to donate their cash allowance to charity.⁵¹

9.4 Warm Front

Warm Front has been the main energy efficiency programme for the fuel-poor. The programme provides energy efficiency benefits to means tested households who mainly

⁴⁷ Boardman op cit Table 3-6

⁴⁸ Boardman op cit p87

⁴⁹ Boardman op cit table 6.13

⁵⁰ http://www.policyexchange.org.uk/images/publications/pdfs/Cold_Comfort_PDF.pdf

⁵¹ <http://www.bbc.co.uk/news/health-11981522>

self-refer. Warm Front has been criticised for not targeting funding sufficiently at households with the greatest need or the most energy-inefficient homes.⁵² It has tended to be a centralised, 'one size fits all' approach. While it has improved the average SAP ratings of homes treated (e.g. during 2007/8 by 23 points), this still leaves the average improved home below the target level set five years earlier.⁵³ There has also been much criticism of the targets set for the scheme, which were based on measures installed rather than the number of households lifted out of fuel poverty. Of the 2 million households helped by the scheme since its inception, many have only received minimal help. Between 2005 and 2008, 24% of all homes treated by Warm Front only received two low energy light bulbs.⁵⁴

Warm Front has formed many local partnerships that have been successful in promoting Warm Front in a way that is responsive to local circumstances and need. Warm Front has also supported local supply chains. While Warm Front has innovated, for example in trialling renewable energy heating systems in non-gas areas, nevertheless it has been criticised for not being flexible enough, both in financial terms and in the range of measures it offers.⁵⁵

Warm Front has also tended to concentrate on simpler measures such as loft and cavity wall insulation, low energy light bulbs and heating systems. In doing this it has failed both to achieve sufficient improvements to homes to create the energy savings needed to move people out of fuel poverty, and to create the CO² savings needed for the country to meet its carbon reduction targets.

The lessons from Warm Front include the importance of setting the right targets for installers; of avoiding cherry-picking the easiest measures; and of flexibility and local partnership working.

9.5 The Carbon Emissions Reduction Scheme (CERT)

CERT started in 2008 and requires energy suppliers to undertake measures to achieve specified levels of energy reductions. A specified proportion has to be achieved through priority groups. These are the most likely to be in fuel poverty. According to DEFRA, CERT and its predecessor scheme has only removed about 100,000 households from fuel poverty over a 9 year period.⁵⁶ There is an overlap between the people targeted and the help offered between CERT and Warm Front. CERT performance is also credited on measures installed rather than actual savings made. In some cases measures such as cavity wall insulation are more expensive in some parts of the country than others (e.g.

⁵² <http://www.audit-commission.gov.uk/SiteCollectionDocuments/AuditCommissionReports/NationalStudies/20091021loftyambitions.pdf>

⁵³ Boardman op cit p147 - 148

⁵⁴ Boardman op cit p147

⁵⁵ Council officers have for instance indicated to us that the boilers specified by Warm Front are not compatible with solar panels and that in some cases new Warm Front funded boilers have had to be replaced for solar panels to be fitted.

⁵⁶ Quoted in Boardman op cit p152

Scotland) and so the utilities are less likely to undertake such work in these areas than in ones where they can achieve the same target numbers for installing measures for less money.⁵⁷ There has also been concern about how far some measures have actually achieved the savings claimed. The most controversial of these has been the provision of low energy light bulbs which are no longer allowed as part of the scheme.⁵⁸

The lessons of CERT are similar to those of Warm Front; the need to ensure the right targets and to better target to fuel poverty; and the need for local flexibility to address particular local circumstances. Like Warm Front, CERT has tended to target the measures that are easier to achieve. While most of these measures were valid, we are moving towards a point where there is saturation of these measures, and they are by themselves insufficient to move households out of fuel poverty. In future, it will be necessary to install more complex measures that will require greater tailoring to the specific circumstances of a property, location and its occupier. The 'one- or two- sizes fit all' approach will need to be replaced by a more flexible and multi-faceted approach.

9.6 The Community Energy Saving Programme (CESP)

CESP runs from 2009 – 2012. It is an area-based programme aimed at deprived areas and is intended to tackle hard-to-heat homes.

CESP is limited by geography, which means that there are super-output areas that are largely affluent but which contain pockets of people with poor house condition.⁵⁹ CESP helps target those in concentrations of poverty but can also help achieve economy of scale as well as taking more innovative approaches. Our discussions with local authority and housing association staff suggest that after a slow start the CESP programme has developed rapidly. There has been particular interest in the external cladding of tower blocks, due to this being the most cost-effective measure for utilities to achieve their modelled CO² savings. Our interviews also identified some concerns about the lack of transparency in the costs associated with CERT and CESP contracts especially where the installers were employed by the utilities and in some cases owned by them. This was also linked to concerns about the possibility of a small number of utility companies being able to dominate the CERT- and CESP- funded retrofit works and through that to be able to unduly influence the overall market and costs for such works.

The Challenge 100 programme (see below) identified the lack of flexibility as a major barrier to successfully using the programme to tackle fuel poverty as well as the benefits of linking it to a more comprehensive approach.

9.7 Decent Homes

⁵⁷ Boardman op cit p153

⁵⁸ See comments by Andrew Warren <http://www.clickgreen.org.uk/opinion/opinion/12100-as-much-heat-as-light.html>

⁵⁹ In one borough that we are aware of, residents just outside the CESP area started a petition because they thought it was unfair that they didn't qualify for free measures just because they lived on the wrong side of the street.

This is a very high expenditure programme designed to bring all social housing up to a defined minimum standard. Part of that standard has been to achieve improvements to thermal comfort. The evidence suggests that it has brought about very substantial improvements to energy efficiency in social housing and that this is likely to have further reduced the percentage of social tenants in fuel poverty.⁶⁰ The New Local Government Network⁶¹ suggests that fuel poverty has risen again in the sector due to rising energy prices and reduced benefits.

The approach shows that by incentivising landlords to undertake energy improvements and linking fuel poverty to other priorities, big changes can be made to fuel poverty. The historic level of Decent Homes spending is unlikely to be repeated and benefit payments are likely to be further reduced.

9.8 Urban Renewal

During the 1980s and 1990s many local authorities had large-scale programmes to improve substandard owner-occupied homes through grant aid. While the level of subsidy required for such programmes became unsustainable and concerns grew about creating expectations amongst owner-occupiers that the local authority would take responsibility for the state of their home, many lessons were learnt about how to engage communities and householders to achieve cost-effective programmes of home improvement. As concerns about the cost of the programmes grew, a number of authorities started to develop effective programmes to encourage and enable owners to fund and undertake more work on their own homes through education, advice and support. This helped them to identify problems, to choose the right builder and to gain access to loan finance.⁶² Since then, the grants have largely disappeared but systems of supporting owners to maintain and repair their homes using loan finance have expanded. In the West Midlands, local authorities have worked together to provide such services jointly through the Kick Start Initiative. This negotiates regional deals where appropriate (e.g. loan availability) and also enables individual local authorities to have approaches that suit them.⁶³

While energy efficiency has not featured heavily in these programmes they have developed the sort of infrastructure that is needed to deliver the Green Deal in ways that are effective and sensitive to individual and local circumstances. A number of the initiatives described below have taken on lessons from these approaches and applied them to housing and area-based retrofit programmes. Persuading people to improve their homes through taking out loans rather than having part funding (or more) from grants has proved more challenging, with less properties improved overall, and more officer time needing to be invested for each property that is improved. If the Golden Rule does work and is explained effectively, then the bill payers will, in effect, be receiving a

⁶⁰ Social Housing Action Partnership. 2009 Low Carbon Housing: developing a baseline for refurbishment in the West Midlands

⁶¹ New Local Government Network, op cit

⁶² R. Groves, J. Morris, A. Murie, and B. Paddock (1999) Local Maintenance Initiatives for Home Owners, Joseph Rowntree Foundation.

⁶³ <http://www.wmkickstart.co.uk>

free loan – a better financial deal than the urban renewal grants which still required part funding from the property owner.

Another important lesson of the urban renewal approach was that by concentrating on areas of a few thousand homes (of limited range of types) then a number of models could be produced that reflected the limited range of house types and could realistically reflect their differences. Trust could be built with and within the local community, and communication lines from on-the-ground construction work to programme management could be short and effective. Cost-effective approaches to surveying properties, engaging people and managing contractors could be developed by standardising surveys, engagement and supervision, in a manner that still reflected local circumstances and had short enough control lines to be able to manage the flexibility for specific circumstances.

9.9 District Heating

District heating systems provide local distribution of energy locally. They are often able to provide energy more cheaply (as well as emitting less carbon dioxide) and can therefore contribute to reducing fuel poverty. In Copenhagen over 90% of properties are covered by district heating. This level of coverage has taken almost a hundred years to achieve. District heating systems in the UK are far more limited. They tend to be linked to plants that burn waste to produce heat and power or take advantage of the waste heat from more traditional power plants. More recent developments in Combined Heat and Power suggest that this can become a very cost-effective method particularly if it can provide a mixture of users, some of which have peak demand during the working week (e.g. offices and schools as well as homes). Although this approach does not appear to feature within Green Deal thinking it has the potential to help with reducing fuel poverty along with carbon saving.

9.10 ESCOs

Energy Service Companies buy energy on behalf of a number of customers. Through bulk buying and effective research they can agree cheaper energy prices. A number of housing providers have developed such companies to give their tenants access to cheaper energy. This is another communal method of helping to reduce fuel poverty.

9.11 Energy and money advice for the fuel-poor

Those providing energy and money advice are at the front line of fuel poverty. They see the implications of policies for individuals; they become aware of the complex interactions that impact on those in fuel poverty; and so can provide insights into the way future policies might impact.

During our interviews one of the issues raised was the experience of recently-arrived migrants who may have particular vulnerabilities to fuel poverty. People unaccustomed to our winter climate will take time to adapt to heating a home in winter and to get used to the economics of doing so. There is anecdotal evidence that this is a cause of fuel debt.

Migrants from some parts of Eastern Europe may be unused to the way heat and power are distributed and charged in the UK. In many Eastern European countries there is a legacy of district heating systems, the costs of which are included in the rent. Migrants from these countries may struggle to adapt to individual responsibility for a heating or electricity infrastructure, and to the fact that they are charged separately to the rent. This can lead to a nasty surprise in the form of a bill and again there is anecdotal evidence that this is a cause of fuel debt.

In one CESP scheme, it was reported that Bangladeshi families turned down energy efficiency improvements because they come from a background where people are considered privileged if they have running water, and don't feel that they need the latest gadgets.

Questions were also raised about the length of time that people would need to keep paying back and the view expressed that the long-term, pay-as-you-save approach of Green Deal represents a significant challenge to the psychology of how low-income households plan their finances, particularly those with experience of fuel debt. Behavioural psychology shows us that our response to incentives is shaped by predictable mental shortcuts such as strongly avoiding losses. Losses, including non-financial ones, loom larger in our mind than gains, and fear of loss is often stronger than possible gain. Most people would choose an incentive of £10 today over an incentive of £12 tomorrow. This is particularly true for low-income households who struggle to plan financially in the short-term and are unused to thinking 25 years ahead. Behavioural Psychologists call this 'hyperbolic discounting'. This type of thought is a challenge to Green Deal and we need to think of marketing solutions to overcome it, perhaps borrowing from other fields.

9.12 Payment methods and financial advice

Little progress has been made on fuel payment methods for the fuel-poor. Some utility suppliers have introduced ways for PPM users to buy credit over the internet, which is to be welcomed, although many PPM users will not have internet access nor a bank account. In 2009, NEA recommended the establishment of a new payment model to reduce the risk of fuel poverty. The new model blends the best elements of existing payment types and services, namely:

- A simple and accessible cash account
- Direct debit payments, and the preferential tariffs these open up to consumers
- Fuel Direct – widening the customer base from just those in debt to those at risk of debt.⁶⁴

⁶⁴ NEA: What Scope is there for the Development of a New Fuel Payment Method in the UK?

9.13 Call centres

Call centres have become an increasingly popular way of providing advice and support to customers. There seems to be a high level of dissatisfaction with them from customers, particularly of utility companies' call centres. The Citizens Advice Bureau⁶⁵ has produced a report showing very high levels of dissatisfaction with responses and great difficulty of call operators in dealing with anything but the most simple questions relating to people in fuel debt and fuel poverty. This may help explain the low level of trust in utilities to deliver energy efficiency schemes.⁶⁶ It also supports the needs for face-to-face advice by well-trained and widely knowledgeable staff in delivering something as complex as the Green Deal.

9.14 Summary of lessons

Most current and past approaches have focussed on the easiest-to-deliver energy efficiency measures on the basis of a high level of grant subsidy. Despite this the approach has had quite limited success in significantly reducing fuel poverty. The one or two national approaches and the national model of energy efficiency has proved to be not fit for this purpose under the most gentle of testing.

More specific lessons include:

- Targets based on modelled fuel savings can produce perverse and damaging incentives.
- Effective use of funding requires targeting the right people with the right measures to get the best results.
- Too many programmes have been based on 'one or two sizes fits all' approaches; more tailored approaches will be needed.
- Even with grant funding households need considerable support to improve their own homes. Greater support and persuasion is needed when grants are replaced by loans.
- Area-based approaches bring benefits in terms of targeting the most needy, creating economies of scale and community buy-in. There are many past success with this approach, the lessons of which should be adopted.
- Overlapping schemes can duplicate and get in the way of each other rather than complementing.
- Energy and money advice can have a real impact on fuel poverty. Some of the most effective approaches such as district heating require a long-term perspective and cannot be delivered on a day by day approach.

⁶⁵ http://www.citizensadvice.org.uk/pdf_are_you_being_served.pdf

⁶⁶ See http://www.shap.uk.com/assets/userfiles/Community_Green_Deal_Part_1.pdf p8

10.0 Pilots, studies and more recent initiatives

10.1 Introduction

This section reviews a number of recent pilot projects and studies which provide lessons that will help to test new approaches to housing retrofit. Many of these have direct relevance to the new agenda of moving to loans paid for by energy savings and the paying of guaranteed tariffs for domestic renewable energy technology.

10.2 PAYS

In 2009 the Government funded five pilot schemes to test the approach of funding the repayment of loans for energy efficiency measures based on savings on the energy bills. Collectively these were known as pay-as-you-save (PAYS) schemes. The pilots involved a range of partners including local authorities (Birmingham, Stroud) a registered social landlord (Gentoo), a DIY chain (B&Q) and British Gas.⁶⁷ This meant that a range of approaches and different delivery agents could be tested.

While the principle worked, there were a huge range of challenges and lessons around the details. In all cases, subsidy was required to meet the Golden Rule and to make the proposal attractive to residents. All the projects appear to have been more time-consuming than originally assumed. This is partly due to the difficulties of getting participants, partly due to difficulties in identifying fuel expenditure, partly due to the need to provide additional support and partly due to the need to undertake more thorough surveys than had been recommended by the Government. B&Q for instance considered that the recommended survey was only accurate to about plus or minus 500% and that they needed to undertake far more detailed and time-consuming surveys.⁶⁸

Gentoo, in their *Retrofit Reality* project, found that their tenants were using more electricity than their models suggested, and less gas, but spending more on fuel overall.⁶⁹ This meant that there was no actual increase in disposable income. If Gentoo's measures had been delivered on a PAYS basis instead of a grant-funded programme, then the tenants would not have been able to afford the repayments and would be worse off. Stroud District Council told us that they found that fuel-poor homes tended to use less heating fuel than modelled, particularly in off-gas areas, leading to them underheating their homes. In addition the costs of undertaking the works have been falling as the market grows. This also has implications for accurately predicting future costs.

If householders are to be able to pay back the costs of the works through energy savings – if the scheme is not to be over-subsidised - it is crucial that the value of energy savings that will be made is accurate. While some aspects are teething troubles that inevitably

⁶⁷ We were unable to make contact with a relevant person to interview in British Gas.

⁶⁸ Interview with James Walker of B&Q

⁶⁹ Gentoo: *Retrofit Reality*,

http://assets.gentoo.com/assets/Downloads/Docs/retrofit_reality%20report%20part%201%20FINAL.pdf and <http://assets.gentoo.com/assets/Downloads/Docs/retrofit%20final.pdf>

happen in pilots, they will need to be resolved. More fundamentally, they demonstrate the need for thorough, 'on the ground' work tailored to individual owners and their properties, rather than using a 'one size fits all' model of energy efficiency and energy savings. This will make delivery more complex and time-consuming and therefore more expensive. While there seems to be some recognition of this from the Government there was concern amongst our interviewees that they had not recognised the full cost of this.

10.3 Stroud Pay-As-You-Save pilot

Stroud District Council⁷⁰ took part in the Energy Saving Trust Pay-As-You-Save pilot between 2009 and 2011. This idyllic setting, immortalised in Laurie Lee's famous memoir *Cider With Rosie*, is a microcosm of many of the problems facing local authorities in rural areas – a large variety of property archetypes, hard-to-treat homes, and lack of access to mains gas.

Forty-nine homes received a variety of measures including both energy efficiency measures and renewable energy measures that qualified for Feed-in Tariff. This meant that it was possible to achieve a whole-house approach. The PAYS pilot was a follow-up to Stroud's Target 2050 project, which carried out NHER (National Home Energy Rating) surveys on 183 homes. Measures were funded through a loan provided by Stroud District Council, secured against a charge on the property. The repayments are made directly to the Council, as the facility to do so through energy bills (as they would be in a full Green Deal scheme) was not available. No capital subsidy was available. In common with the other PAYS pilots, the repayment periods are mostly in the 21-25 year bracket, since a shorter repayment period would render the repayments unaffordable.

Stroud DC has a partnership with Severn Wye Energy Agency (SWEA) who manage the project on the ground including householder engagement, energy advice and hand-holding through the PAYS process. Elements of this were funded directly by Stroud DC separately to the PAYS pilot funding. Stroud DC carry out the administration on the loan package in-house. There is a network of recommended installers that the householder can choose from.

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⁷⁰ EST Stroud Case Study <http://bit.ly/dEsa0>; Presentation by Tom Chapman, EST, to Carbon Action Network <http://bit.ly/i3uqnD>

The average value of a PAYS package in the Stroud project was just over £9,000. It is important to note that this did not include any basic energy efficiency measures, as only those homes that had already received these were eligible.

The value of the partnership with SWEA was that SWEA were able to remind and assist householders about issues such as planning and building consent, land registry issues, and loan paperwork.

10.4 Birmingham PAYS pilot

The Birmingham PAYS pilot was part of a wider Birmingham Energy Savers Scheme (see below). It was also to an extent tied into wider support and advice through the existing Green Doctor scheme. This approach highlighted the value of undertaking retrofit work alongside advice on energy usage, finance and behavioural change.

One approach to enabling low-income owner-occupiers to gain access to finance was pioneered by Birmingham. They supported credit unions and Community Development Finance Institutions (CDFIs) to provide loans include equity share and low interest loans to support owners in undertaking repairs to their homes. The approach has since spread across the West Midlands through the regional Kick Start initiative. A number of the CDFIs have experience of energy saving schemes and are keen to be further involved, as part of a partnership approach. The Birmingham PAYS project initially wanted to use credit unions as the main funders. However the complexity of Treasury requirements for the pilots and FSA regulations made it impossible to involve them given the short timescale of the pilot. If such bodies are to be involved in future these issues need to be sorted in advance.

10.5 Community Development Financial Institutions

Community Development Financial Institutions (CDFIs) are financial institutions which provide credit and financial services to underserved markets and populations. CDFIs originated in the USA but have spread to the UK with more than 50 organisations forming the membership of the Community Development Finance Association. Where CDFIs differ from credit unions is in their ability to provide loans that are secured against property.

The Home Improvement Task Force is currently researching good practice among community finance providers and related organisations such as Care and Repair schemes. CDFIs have invested more than £110m with little or no bad debt, through central Government making capital available to CDFIs to loan to private sector housing renewal at low interest rates. This loan finance replaces money that would previously have been given away in the form of grants. CDFIs are willing and able to provide affordable credit to low-income homes and have a track record at doing so.

This means that CDFIs could be finance providers for low-income private sector households that would be unattractive to conventional lenders, to enable them to benefit from Green Deal, FIT and RHI schemes. CDFIs are trusted partners of a number of local

authorities in private sector housing renewal schemes. Potential Green Deal providers including high street retailers, local authorities and utilities should be incentivised to form partnerships with CDFIs in order to offer Green Deal packages to low-income households.

10.6 Money advice and fuel poverty

There are a number of ways of linking income maximisation or money advice into a fuel poverty project. The scheme provider itself can have staff who are trained to do this, as was the case with E.ON's Challenge 100 project or Birmingham City Council who have their own benefit take-up advisors. The advantage of this is that there is a fairly direct route into the provision of advice. The disadvantage of this model is that people may not think it is appropriate for a utility company or local authority to provide this type of service. A second way is for a formal partnership to exist between a fuel poverty scheme manager and an independent provider of income maximisation or money advice such as a CAB or local third sector specialist agency. Here a client could be more confident that the advice provided was disinterested, impartial and independent; the disadvantage would be that it would not be a one-stop shop as two separate interventions from two different agencies would be required. A third way is for the fuel poverty scheme manager to signpost people to providers of income maximisation or money advice. This would also have the advantage of impartiality but the disadvantages would be that people would be less likely to take up the offer if only signposting were provided, and that it would be more difficult to monitor the take-up and the impacts. The Fuel Poverty Advisory Group has said that Benefit Entitlement Checks should form an integral part of all energy efficiency schemes and should be funded by diverting a small percentage of unclaimed benefits⁷¹ to fund them.

In June 2010, Citizens Advice issued a briefing to MPs on poverty. They welcomed the Coalition Government's focus on energy efficiency through pay-as-you-save but warned that this may involve additional short-term costs which may be unaffordable to low-income households, and only offer savings in the long-term, by which time tenants will probably have moved on with no direct benefit to them.⁷² This situation could be made worse by the increased churn in rented housing caused by recent housing benefit changes.

While it is undoubtedly the case that many of the fuel-poor will struggle to adapt to a pay-as-you-save approach, there is also evidence that some of the fuel-poor do not want handouts. The Home Heat Helpline reported that some people don't believe in asking for help or are too embarrassed to do so. These people may be more comfortable with a pay-as-you-save approach than a cash handout, including people who have declined to apply for help under CERT or Warm Front, despite being eligible to do so.⁷³

⁷¹ Citizens Advice say that there are approximately £10.5 billion of unclaimed benefits, with approximately 32% of families eligible for free school meals not claiming them.

⁷² http://www.citizensadvice.org.uk/poverty_debate_10_06_10_parliamentary_briefing.pdf

⁷³ <http://www.homeheathelpline.org.uk/media/2010/54->

10.7 Gentoo's Retrofit Challenge

Gentoo Housing Group retrofitted 139 of their properties in North-East England.⁷⁴ One of the issues they had was assessing the current energy use of the residents. Many did not keep copies of fuel bills, while those with pre-payment meters found that the meters didn't tell them their consumption history. With signed consent from the residents, Gentoo wrote to utility companies for consumption history but were disappointed not to receive many replies. We think that since utility companies have statutory duties to reduce emissions, they should collaborate with others to do so including sharing data. We are sure that the Freedom of Information Act would extend to this public duty. Although it was time-consuming to do so, Gentoo found that there was no substitute for taking meter readings themselves to measure actual consumption, as early as possible.

Gentoo found that residents were using less fuel than anticipated in a desktop exercise based on the physical characteristics of their home and appliances – about 40% less in energy terms. Gentoo think this is due to rationing of heating and under-occupancy. People were also emitting less CO² than anticipated – but only 20% less. The discrepancy between 40% fuel under-consumption and 20% less CO² emissions is because the residents were using more electricity and less gas than anticipated, and electricity is more carbon-intensive on average than gas.

A further discrepancy between modelled and actual consumption of fuel arose when comparing modelled versus actual fuel bills. Although the residents were using less fuel than anticipated, their actual fuel bills were higher than the model suggested. How could this be? The answer is because the SAP model they used underestimated the costs of electricity and gas compared to actual market prices. We would also anticipate that those many residents who were low users of fuel, particularly gas, would be penalised by tariff structures; and that the sample would include a large percentage of people who seldom or never change fuel supplier or tariff, who are likely to end up paying a higher tariff than necessary.

This more people-centred understanding of energy use in a home meant that Gentoo were able to design retrofit interventions that achieved meaningful carbon savings but also fuel savings that were able to reduce the incidence of fuel poverty. Gentoo has called this the 'Retrofit Reality Standard'.

The University of Northumbria has worked with Gentoo to undertake research into energy behaviours and solar thermal performance, which is improving understanding of the influence householders have on energy demand. The Green Deal Golden Rule is not a suitable performance measure for Retrofit Reality because it was a demonstration project using technologies whose costs have subsequently fallen. However, understanding this issue of real versus modelled consumption, particularly in fuel-poor homes where under-consumption and self-rationing are prevalent, is critical for Green Deal in correctly diagnosing measures that can ensure the Golden Rule is actually met.

⁷⁴ <http://www.gentoo-underland.com/?article=8873&track=/355/356/&resizer>

10.8 Challenge 100

E.ON UK's Challenge 100 project aimed to tackle fuel poverty for 100 families, in 100 homes, in 100 days. It chose areas in County Durham, Luton, Manchester, South Staffordshire and Birmingham. One of their findings was the mismatch between eligibility for fuel poverty assistance and actual need for assistance. They used subjective, i.e. self-reported, fuel poverty definitions as well as formal definitions. They found that older people tend to under-report fuel poverty and younger people tend to over-report. E.ON also found that as many as one-third of people in CESP areas were not actually fuel-poor although they qualified for CESP measures free of charge simply by means of postcode, whereas rural fuel-poor households missed out on these for the same reason. Also CERT and CESP weren't flexible enough to meet all the costs associated with energy efficiency improvements, e.g. flues that needed replacing or extending when installing a new boiler.

E.ON's approach was to work in partnership with the local authority in the five areas. They targeted whole streets in each area and had a holistic approach involving energy advice, money advice and Priority Services Register referrals as well as measures including solid wall insulation. Although 29% of residents declined benefit checks, E.ON concluded that income maximisation, on top of energy efficiency measures, can tip the balance in individual circumstances in lifting a household out of fuel poverty. Community volunteers were used as advisors in the scheme and it was found that they, along with the local authority, were more spontaneously trusted than the utility company, although the latter clearly gained increased trust from residents during the course of the project.

E.ON's *Challenge 100* fuel poverty project offered income maximisation advice to people receiving measures through the project. Although many residents declined the offer of benefit take-up checks, it was found that for some families who did, this additional help on top of physical measures tipped the balance in lifting them out of fuel poverty. E.ON set themselves a performance indicator on this project for the number of people receiving money advice. This is a good idea, otherwise the danger is that money advice is offered but nothing is done to maximise take-up of it and it remains a token gesture. Another good example of this way of working is Southern Water's compulsory water metering scheme, where households are referred to a money advisor in addition to receiving advice from an advisor on reducing energy and water use, and tariff optimisation.⁷⁵ 49% of fuel-poor homes do not claim means-tested benefits.⁷⁶ This means there is significant potential for income maximisation as part of a strategy for ending fuel poverty.

Once again the E.ON pilot highlights the value of using the opportunity of fitting energy efficiency measures to provide both money and behavioural advice. It also again clearly highlights the need for flexibility and tailoring responses to specific circumstances, rather than using a 'one or two size fits all' national approach. It also highlights the importance of trusted individuals if residents are to be persuaded to take up the scheme.

⁷⁵ <http://www.southeast.groundwork.org.uk/what-we-do/major-initiatives/southern-water-ump.aspx>

⁷⁶ Presentation by William Baker, Consumer Focus, at EEPH Fuel Poverty Conference, 21 January 2010

10.9 Birmingham Green Doctor

Birmingham Green Doctor is an innovative programme which seeks to reduce fuel poverty in low-income households using an integrated approach that includes behaviour change as well as physical energy efficiency measures. It is delivered by Groundwork West Midlands, Family Housing Association and Moseley Community Development Trust.

The external evaluation of the project found that the Green Doctors were able to provide a useful and effective service in most cases.⁷⁷ In some instances the effectiveness of the Green Doctor was limited by factors beyond their control, e.g. the unwillingness of a landlord to carry out repairs. The Green Doctors were particularly effective at giving behavioural change advice, which was followed by clients in a high percentage of cases. The project achieved average carbon dioxide savings per household of 0.395 tonnes, mostly through behavioural changes.

10.10 Birmingham Energy Savers

Birmingham Energy Savers is an ambitious programme as part of Birmingham City Council's commitment to reduce CO² emissions by 60% before 2026. Phase 1 of the programme fitted photovoltaics on 80 low-income homes, and in some cases wider retrofit measures as part of the PAYS pilot. The homes were social rented or low-income owner occupiers that already met the Decent Homes Standard. The photovoltaic systems were funded by Birmingham City Council, and the income from Feed-in Tariffs is assigned to the City Council to repay the costs of the scheme. The residents benefit from the free electricity. The residents also receive a visit from a Green Doctor. The evaluation of Phase 1 has demonstrated a significant impact on fuel poverty and also, importantly, on environmental attitudes and behaviour.⁷⁸

"If you're wondering whether to join Birmingham Energy Savers, I'd say go for it! I was really impressed with the way my (photovoltaic) panels were fitted without any disturbance or mess. The installers were really nice, they left the place clean and were really pleasant to have around. I'm doing my washing during the day, to get the best savings. It's really important for me to save money and I'd never be able to do anything like this otherwise. It's great that we can get our energy from a natural source – I never used to do anything for the environment before."

Marsha, Birmingham Energy Savers phase 1 customer

10.11 Community Schemes

There have also been a significant number of community-led schemes to encourage residents to undertake energy efficiency measures in their homes. They tend to highlight the value of community groups in spreading the word and getting acceptance and

⁷⁷ Alison Millward Associates: *An Evaluation of Green Doctor*, February 2011

⁷⁸ <http://www.birminghamenergysavers.org.uk>
<http://localisewestmidlands.org.uk/activities/WMGND/>

engagement. There is increasing understanding of the potentially valuable role of community groups in helping deliver the Green Deal by undertaking these roles.

They also tend to highlight the importance of partnership to such schemes if they are to have a major impact. Most community groups will not have the access to finance, technical knowledge or large-scale project management skills. This is likely to be even more the case for areas where there is a large preponderance of the fuel-poor.

10.11.i SusMo (Sustainable Moseley)

SusMo was a regional winner in the British Gas Green Streets competition. The prize was up to £140,000 worth of energy efficiency and renewable energy measures from British Gas (this expenditure was additional to British Gas' statutory duties under CERT).

SusMo campaigns to make Moseley, in South Birmingham, more sustainable by reducing carbon emissions. Twenty households and four community buildings were chosen to take part. The households were recruited through a local mosque and church and through Moseley and District Churches Housing Association. None of the participating households were SusMo activists. The households all received varying levels of energy efficiency or microgeneration measures. The four community buildings – a school, a mosque, a church and an allotment pavilion – are all due to have PV installed. In the case of the church, planning permission was denied initially as the church is a listed building in a conservation area. St Mary's Church and SusMo successfully campaigned to get this decision overturned, arguing not only that the panels would not spoil the appearance of the church but that the Christian beliefs of the Congregation meant that they had a duty to preserve Creation through reducing carbon dioxide emissions.⁷⁹

10.11.ii Transition Streets

Transition Totnes' *Transition Streets* project promotes energy saving measures on a street-by-street approach. There are 28 Transition Streets groups across Totnes and Dartington in Devon, with 290 households participating. Households have saved on average 1.2 tonnes of carbon dioxide each and up to £600 in fuel bills.

The street by street approach means that early adopters are able to convince neighbours who weren't previously inclined to reduce their household energy use. Participant Liz Waterson said that because of Transition Streets she had become "green aware by accident". Sonje Hibbert said that before Transition Streets she had "a tendency to be in denial about things" and that she wouldn't have done it on her own. Transition Streets also helped bring people together, as Laurel Ellis observed, "We've all started to get to know each other".

⁷⁹ <http://www.moseleyforum.org.uk/?q=susmo>

Measures were funded by a mixture of one-off grants and Feed-in Tariffs. This means that the exact funding model may not be replicable in the future, but the approach of Transition Streets can be emulated by Green Deal.⁸⁰

10.11.iii Whittington and Fisherwick Environment Group

Residents of Whittington and Fisherwick, two neighbouring villages near Lichfield in Staffordshire, established Whittington and Fisherwick Environment Group (WEFG) in 2007 to reduce carbon dioxide emissions from households and businesses in the area.

WEFG were one of the first low-carbon community groups to realise that they needed to work in partnership with mainstream energy efficiency providers in order to maximise the uptake of measures in their locality. So they quickly moved to establish an affinity deal with an insulation installer based in the region. It was a big step for a small voluntary organisation to endorse the services of a private sector company in this way but WEFG ensured that the company they chose were reliable and competitive so residents could be confident that they were making the right choice.

Now WEFG have formed an affinity deal with a micro-generation installer too: New World Solar Installations from nearby Birmingham. Both of these affinity deals mean that WEFG gets a small income stream from each referral.⁸¹

10.11.iv Dorset Landlord Insulation projects

Since 2004, Dorset Energy Advice Centre (DEAC) has worked with more than 1,200 private landlords in Bournemouth, Poole and Southampton to achieve energy efficiency improvements in more than 12,000 homes.

The project came about because local private landlords, local authorities and DEAC all felt that existing grant schemes such as CERT and Warm Front weren't flexible. In particular, houses in multiple occupation (HMOs) caused difficulty because if just one tenant in the property didn't qualify for the grant, then it would prove difficult to proceed with the measures. Tenants weren't willing to pay and landlords were often preoccupied with issues such as fire safety.

The solution was for local authorities to create a fund for paying for the costs of insulation that could not be met by Warm Front or CERT. This meant that it was possible to insulate thousands of homes that would otherwise have lost out due to the inflexibility of existing schemes.

While the precise way of funding this particular project may not be replicable in the future, the important lesson is the need to be flexible in the way private landlord properties, particularly HMOs, are approached. This should be replicated in Green Deal,

⁸⁰ <http://www.transitionstreets.org.uk>

⁸¹ <http://www.wefg.org.uk>

and Green Deal suppliers could be offered uplift as an incentive to target the private rented sector with its additional barriers.⁸²

10.11.v Balsall Heath Housing Co-op – Inspiration Birmingham 2020

This project aimed to demonstrate a replicable model of reducing the emissions of a typical inner-city Birmingham terrace by up to 80%. The vulnerable family occupying the home chosen were at risk of fuel poverty. The low-carbon consulting engineering company, Encraft, were appointed and designed a strategy based on the following elements:

- Solid wall insulation, based on a mix of internal and external in order to deal with the intricacies of the property and the need to preserve the building's attractive façade.
- Replacing the roof using a breathable roofing membrane to enable maximum depths of insulation.
- Insulating the suspended timber floor and the cellar.
- Argon-filled triple glazed FSC timber glazing units, with an optimum balance of heat loss and solar gain. The windows had to be hand-made due to the preponderance of unsustainable uPVC windows in the housing sector.
- Minimising cold bridging through insulating window and door reveals; insulating through floor voids both internally and externally.
- Replacing the back boiler with an A rated gas condensing boiler with passive flue gas recovery unit.
- A flat-plate solar thermal system with panels located on the south-west facing roof.
- Removing both gas fires and replacing one of them with a wood-burning stove.
- An innovative heating controller called a Wattbox. The Wattbox learns the behaviour patterns and temperature preferences of household occupants and uses this to control household heating.
- Using the necessity of re-wiring the property as an opportunity to fit dedicated energy efficient light fittings.
- Replacing all white goods with A++ rated appliances.

All contractors and materials were procured as locally as possible. Two of the contractors, Logmoor Ltd and the award-winning social enterprise Jericho Foundation, were located within walking distance of the house.

One of the outcomes of the project is that the family are now able to maximise the use of all rooms in the three-storey, four-bedroom property, whereas previously they had under-used parts of the house due to under-heating.⁸³

⁸² <http://www.deac.co.uk/projects-dorset-energy/landlords.asp>

⁸³ <http://inspirationbirmingham2020.com/>

10.12 Feed-in Tariffs

Feed-in Tariffs have been in operation in this country for just over a year. They have succeeded in dramatically increasing the number of photovoltaic panels fitted in this country, from a very small base. The annual rate of installation is still far behind Germany where the approach was first developed.

There have been criticisms of Feed-in Tariffs as being regressive because they are funded from a levy on fuel bills rather than through general taxation, which means that proportionally those with lowest income pay most. Furthermore, those on the lowest incomes are least likely to be able to afford or able to borrow the upfront costs of installing them.

Criticisms about how Feed-in Tariffs are funded appear to have been taken on board by the Coalition Government, since the Renewable Heat Incentive is being funded through general taxation. The second issue, the inability of people on low incomes to afford the upfront capital costs, is more difficult to overcome. There are a number of private sector rent-a-roof schemes that put panels on owners' roofs, giving the owner access to free electricity, while the installer enjoys the greatest financial benefit through keeping the Feed-in Tariff. This could be partially addressed by allowing a larger role for CDFIs to support those who have difficulty in borrowing from mainstream financial institutions.

There have also been criticisms that renewables are not the most cost-effective way of reducing energy consumption. While this is generally true, they can be effective in encouraging take-up of other measures, and as part of a whole-house retrofit package.

The separateness of RHI/FITs from Green Deal also mean that there is no guarantee that joined-up offers will be made to householders linking micro-generation to energy efficiency measures. The differing economics of FITs/RHI and Green Deal mean that these may continue to be separate markets with no guarantee that consumers will ever be exposed to a joined-up offer.

While the expansion of the PV market has led to substantial reduction in costs, there are also issues about the availability of sufficient number of skilled and accredited installers if the market continues to expand.

In response to this challenge, Birmingham Energy Savers is seeking to provide a whole-house approach, in which owners gain some benefit from the ability of the local authority to negotiate cheaper rates for building works and interest and their technical expertise. The approach will be linked to the provision of energy and financial advice as well as training schemes for PV fitters. If the local authority can link its own programmes to its role as a Green Deal delivery agent and to ECO funding, then it will be in a good position to provide a whole-house approach.

10.13 Community Green Deal

Social housing providers in the West Midlands have also supported this sort of comprehensive approach and have commissioned a study providing guidance on how to deliver a Community Green Deal.

Community Green Deal has been developed by the Sustainable Housing Action Partnership (SHAP).⁸⁴ It aims to:

- achieve greater CO² emissions reductions than conventional Green Deal, up to 80% per household;
- be locally accountable and controlled, through a partnership of local organisations, on a 'community gateway'¹ model;
- build partnerships to achieve economies of scale, unlocking opportunities for local economic and community development;
- establish re-investment funds;
- build the local supply chain.

The Homes and Communities Agency, which supported the development of the Community Green Deal model, is keen to see pilot Community Green Deal projects.

10.14 Accuracy of measurement

In January 2011 the Energy Efficiency Partnership for Homes held a Green Deal Advisor Development Workshop that identified the following key themes:

- There is a potential conflict between impartial advice and the necessary sales activity to ensure the take-up of energy efficiency measures;
- Green Deal Advisors will need to be competent to assess a wide range of construction and energy efficiency measures and be able to understand and confidently discuss the finance;
- Accreditation and certification schemes need to be carefully considered to ensure that they are robust but not prohibitive to commercial organisations;
- A regulated approach to measurement and performance in order to ensure the Green Deal is effectively monitored and demonstrably effective.

Research for the Energy Efficiency Partnership for Homes in 2006 found that there were a number of indicators for measuring fuel poverty, including the NHER Affordable Warmth Index, the CSE Fuel Poverty Indicator⁸⁵ and SAP based indicators. Since then we might add Energy Performance Certificates (EPCs).

The problem with EPCs or SAP ratings as a mechanism for assessment and prescription is that they are essentially building-focused and do not take into account the behaviour, lifestyles and aspirations of the occupants. Furthermore they are based on a modelled approach that does not take enough account of the details of a specific home or the

⁸⁴ Sustainable Housing Action Partnership (2010): *Community Green Deal*

⁸⁵ <http://www.fuelpovertyindicator.org.uk>

specific payments made by occupiers for their fuel, and are seen by those who have used them during the PAYS pilots as being too superficial.

The Association for the Conservation of Energy⁸⁶ have suggested that if the Green Deal is to lift households out of fuel poverty it would require a SAP rating of 81 or an EPC rating of B to be achieved. This is a higher standard than the Home Energy Management Strategy. It is not clear at this point in time whether the Green Deal will be expected to raise the energy efficiency to that extent, or even whether it will have any targets for how energy efficient the home should be after the works are completed.

10.15 Lessons

1) The need for greater accuracy of measurement

The recent pilots identify the challenge of accurately measuring the change in fuel bills that will result from installing energy efficiency measures. The people we interviewed who had been involved with these pilots and other similar work stressed the inaccuracy of the existing models, and of the approaches to survey work even more emphatically than they did in the pilots' reports. The impression they gave us was that the limited existing physical surveys and the use of estimated energy savings alone were so inaccurate as to be unusable.

The world into which we are moving makes accuracy of measurement far more important than it has been previously. Being able to predict energy savings is absolutely central to the working of the Green Deal. Get it wrong and the individual will either pay back more than the cost of energy savings (when they have been promised this will not be the case) or they will pay back too little making the scheme more expensive to the public purse or the utilities' obligations at a time of severe resource constraint.

The Fuel Poverty Advisory Group advised Government in its most recent report that under-consumption by the fuel-poor meant that Green Deal would not be suitable for fuel-poor homes.⁸⁷

2) More complex measures require more detailed assessments and better project management

If the Government is to meet its carbon reduction targets, then the Green Deal will have to start providing further measures such as external and internal wall or floor insulation, improved heating systems and triple glazed windows or high insulating glass. The pilots show that these areas are more complex and require a more detailed understanding of the specific home and its use. In addition new and improved materials are being constantly developed, of which there is less practical understanding of the cost savings. Some of the measures are more affected by local circumstances such as how exposed the

⁸⁶ <http://www.ukace.org/publications/ACE%20Research%20%282010-11%29%20A%20Fair%20Green%20Deal>

⁸⁷ <http://bit.ly/rbKzE> p4

dwelling is. They also tend to be more effective when installed in combination with other measures. They are more difficult to install and far more dependent on high quality workmanship if they are to be fully effective.

3) Higher costs for surveys, engagement and management

Assessment of properties and measures required is likely to take longer and therefore cost more than is the case under Warm Front, CERT or CESP. This amount needs to be factored in to the cost of the overall Green Deal package. If the fuel-poor are to be engaged and to get the wider help and support needed to help take them out of fuel poverty, there will be upward pressure on administrative costs. Detailed understanding of the particular dwelling and household circumstances and behaviour are required to make the most effective interventions.

4) Trust

Creating and keeping trust is crucial. For most people this is greatest with their local authority and local community. Partnership working is one way in which delivery groups with lower levels of trust can access those who would not otherwise trust them.

5) Whole House Approach

The most cost-effective method of reducing CO² and of heavily cutting fuel poverty is a whole-house approach. This is extremely expensive (at least for the pilots) and is likely to be beyond works carried out by Green Deal. The separateness of Green Deal from other schemes such as FITs and RHI will also undermine the most effective approach unless they can be brought together in local schemes.

6) Loans

Using a loan-based system will be more complex than a grant-based system even with the Golden Rule. It will require more selling and support.

7) Flexibility

National systems were too inflexible and at times stopped the pilots from taking the most effective approach. Having local discretion to top up funds could help overcome otherwise insurmountable problems, as happened in the Dorset case study. Costs frequently overran and there were often unforeseen costs concerned with making good after works.

8) Combining energy efficiency measures and advice

Providing energy and financial advice alongside retrofitting properties was more effective than providing it separately, and created substantial savings and reductions in fuel poverty.

9) Partnership working

Partnership working was at the heart of the most successful schemes. This involved the provision of support to specifying and supervising works, energy and financial advice. Different partners bring different skills and resources.

10) Using the Market

FITs have been very effective in increasing take-up of renewables - but without additional support to market and make renewable energy measures available to those in fuel poverty, their overall financial impact will be regressive. Large-scale interventions as created by Birmingham Energy Savers can dramatically reduce costs. However, the same level of savings may not be available for all measures.

11.0. Ideas for making the new approaches more effective in addressing fuel poverty

This section considers how the new systems will need to operate if they are to reduce fuel poverty. Many of the items we raise will impact on all intended beneficiaries of the programme, but will tend to have an even greater impact on those in fuel poverty. We consider how the new systems would need to operate under the following headings:

- a wide approach to engaging and marketing
- the need for accurate information
- the psychology of energy efficiency
- the building
- management approaches
- costs and funding
- extra support for the fuel-poor
- regulation
- additional measures
- localisation.

At the core of the new approaches is a programme of housing retrofit. This includes improvements to energy efficiency through the Green Deal, subsidies for renewable energy through FITs and RHI and wider measures through ECO. The reductions in domestic energy bills that will result from these measures have the potential to make a major impact on fuel poverty. If this is to be achieved then the systems put in place will need to be effective in targeting the fuel-poor. As at least some of these measures will be funded from charges on fuel bills, if the fuel-poor do not achieve at least a proportional benefit, then the overall result will be to worsen fuel poverty.

11.1 A Wide Approach to Engaging and Marketing

Engaging the fuel-poor in particular will be more difficult under the new approaches than under the existing and previous ones. Thus the approach will have to be far more effective.

At the core of the new approach is that households will have to pay now in return for future savings. This contrasts with previous grant based schemes. Under these, many households were offered free measures, while for others they were very heavily subsidised. Furthermore, they were predominantly about fitting loft insulation, low energy light bulbs, draught proofing and insulating cavity walls. These are by far the easiest and least disruptive measures to fit and to market.

In the vast majority of cases of those at risk of fuel poverty, the offer has been that the work would be done for free. Yet despite the more generous previous offers, there still remain many millions of properties without loft and cavity wall insulation.

If CO² targets are to be met, the new schemes will increasingly have to achieve improvements to the more difficult to treat homes, which imply more disruptive work, greater need for expertise and greater costs. In order to work, the new approaches will require far more effective marketing to different groups. Given past efforts to target those at risk of fuel poverty, if the marketing is aimed at the non-fuel-poor, then it will mean that the fuel-poor will not be the major beneficiaries of the schemes.

Many of the pilots and past experiences discussed above highlight the importance of contact from trusted people if householders are to be persuaded to invest in energy efficiency. The surveys also highlight the much higher levels of trust of local authority staff, than of most other potential delivery agents. They also highlight the potential for neighbourhood-based approaches with visible show houses and long-term involvement from community groups, and third sector organisations.

The private sector uses the concept of trigger points that are specific times in people's lives when they will be particularly interested in a product. B & Q for instance regard moving home and deciding to have children as such trigger points that interests people in their products and will also encourage them to be interested in the Green Deal. These specific trigger points are likely to be less relevant to the fuel-poor than seeking financial help or advice because of difficulty with fuel bills or seeking medical help for illnesses that relate to cold and damp living conditions. This highlights the importance of involving debt advisors and medical professions in engaging the fuel-poor with the Green Deal and other ways of improving the energy efficiency of their homes.

The fuel-poor are not one homogenous group, and different groups raise different challenges and opportunities for engagement. Appendix 1 describes 12 different groups and discusses the different approaches needed to engage them.

The current approaches of national telephone cold calls, leaflets and advertising has not worked and will be even less likely to work in helping the fuel-poor under the new programmes. However, as such approaches are cheap per contact and suit the organisational structures of large organisations (including central Government), we fear they will continue to be used.

What is required is a far wider, more imaginative and customer targeted approach. For the fuel-poor in particular, this needs to include area approaches targeted at areas with high levels of fuel poverty, and engagement through health and advice workers.

The vast majority of the people we interviewed raised the need for a comprehensive approach to engagement, but considered that while the Government had recognised the need for such an approach, it did not appear to recognise how expensive it would be.

11.2 Green Deal packages to be offered at trigger points

In addition to the usual marketing channels that providers will use to make Green Deal offers, providers should be incentivised to offer packages to the fuel-poor at those times when they are at heightened risk of falling into fuel poverty – when changing supplier or

when moving home. Both should attract an amount of uplift in the fuel poverty obligation, with the latter attracting more uplift as it is a greater risk. In the case of changing supplier, utility companies should be required to offer a Green Deal package to all acquired customers as a matter of routine, along with all consumers who move house, and should be eligible for the uplift if the consumer takes up the offer. This would also align with, and hopefully assist, the attempts being made by Ofgem and by utility companies to improve the experience of consumers changing supplier or moving home, in particular to ensure that they receive accurate and timely bills when doing so.

Offering Green Deal packages, or for that matter Renewable Heat Incentive or Feed-in Tariff measures, at a time of moving house is a great opportunity to align the works with any home improvement or void works that are being carried out, minimising disruption. Since mortgage lenders and estate agents are likely to be the first outside agencies to become aware of a proposed house move, possibly some time before utility suppliers become aware, then mortgage lenders and estate agents might see this as an opportunity to develop their Green Deal offer, and as they would qualify for our proposed uplift for doing so, it could be in their interests to do so.

We anticipate that social housing providers will certainly want to use the occasion of tenants moving out as an opportunity to carry out Green Deal works during the void period. This means that an obligation on them to do so will be unnecessary. While the regulation of housing associations has become more proportionate in recent years, there could be a requirement on them to report on their performance in this respect through the Regulatory and Statistical Return, to demonstrate the number of void properties suitable for Green Deal works that have actually received such works during the period in question.

11.3 The need for accurate information

The approach of the Green Deal requires that projections of energy savings and amounts paid need to be accurate. Yet the evidence from all the pilots is that the level of survey supported by the Government is insufficient to accurately project fuel savings from the measures undertaken. Furthermore the use of modelled energy use in homes versus actual use show the modelled use to be highly inaccurate in the majority of cases. This is further compounded by the variety of cost that individuals pay for their energy bills.

If the Green Deal is to retain credibility it will require more detailed surveys of both the properties and individuals' habits and finances.

The Retrofit for the Future projects have also demonstrated that whole-house retrofit projects will run into unforeseen and unbudgeted costs, e.g. asbestos treatment, other minor repairs, or repositioning of gas and electricity meters. If these will not qualify to be part of the Green Deal package, or if they would push the Green Deal package above the maximum, then the householder or landlord will have to meet the additional cost, and this will prove difficult or unattractive for fuel-poor owner-occupiers or some landlords. If the costs exceed any Green Deal maximum, this will require many householders to

borrow additional money. This raises further questions about how those with the lowest incomes will be enabled to access such funding at reasonable costs.

11.3.i Understanding the Green Deal intervention required, its cost, and its outcome

We have seen how understanding the actual consumption of a household and the behaviour of its occupants is key to getting the measures right, and that a new method of appraising the property is under development, led by UKAS.⁸⁸ In order to ensure that a Green Deal provider has access to adequate data, then they should be able to access the household's fuel consumption history, even if they are not the fuel supplier. The Retrofit for the Future pilots show that it is good practice to have a contingency budget to cover unforeseen expenses e.g. extending flues, dealing with asbestos, and so we recommend that in all cases the Green Deal offer should include a contingency fund of 10%. This will benefit all recipients of Green Deal, but especially the fuel-poor, who will have less chance of coming up with the cash for such unforeseen expenses from within their own immediate finances.

In addition to publishing financial savings on the fuel bill to demonstrate that the Golden Rule has been met, the fuel bill should ideally also show SAP and EPC ratings from before and after the Green Deal intervention, to have a 'belt and braces' approach to proving that the intended outcome of the Green Deal intervention – to turn a high-carbon, high fuel-bill household into a low-carbon, affordable fuel-bill household – has been achieved.

11.3.ii FITS and RHI

Not all aspects of the new approach are based on taking out Green Deal finance packages. FITs and RHI are based on a guaranteed income from the tariffs plus savings on energy bills. FITs have produced good returns on investment and have seen large increase in take up in the early years. This has also been associated with dramatic falls in the prices of PV panels in this country. The fuel-poor do not generally have the capital or access to reasonably priced loans that enable them to take advantage of these benefits. While there is a range of rent-a-roof schemes (including local authority led schemes such as Birmingham Energy Savers), these provide the main financial benefits to the organisation renting the roof, rather than the person living in the house.

Given that these are paid for from energy company obligations, the fuel-poor will be paying disproportionately towards the funding of these schemes, and if they are to gain no other benefits then the system is inequitable. Furthermore, individual owners acting on their own will have difficulty in getting the best prices and may also have difficulty in accessing quality support to specify the best measures for their particular circumstances and those of their dwelling. So there is a further set of challenges in fairly engaging low-income groups and those without access to capital or affordable loans. Birmingham Energy Savers provides one model for engagement in this area. While the local authority still retains the Feed-in Tariff, it is used to provide further benefits in terms of energy

⁸⁸ <http://bit.ly/p5byrL>

improvements and support to individuals in managing the work, specifying and getting the best price as well as engaging households in the programme.

11.4 The building and its occupiers

11.4.i Whole-house approaches

The current schemes for improving energy efficiency and increasing domestic renewables are based on promoting individual elements such as loft insulation, cavity wall insulation or photovoltaics. In order to achieve the higher levels of energy savings needed, a whole-house integrated approach is required. While it is possible to undertake the work to a property over a number of separate occasions, this significantly increases the disruption to the occupier, increases the overall cost and will at times lead to incompatibility between elements. It can also lead to the wrong choice being made such as fitting PVs now, at the expense of being able to fit solar thermal in the future.

While the structuring into separate measures may suit the way policy has developed nationally, and the way organisations are structured to deliver the separate strands, it does not suit the needs of property occupiers or of maximising the impact of spend on reducing CO².

This further highlights the need for an approach that can be integrated at the local level around the individual dwelling and the householder.

11.4.ii Hard-to-treat homes

There are more than 10 million homes in the UK that are considered 'hard-to-treat' (HTT). Most of these are in the private sector, although 39% of registered social landlord stock is hard-to-treat.⁸⁹ These homes are mostly of solid wall or non-traditional wall construction. Many are also off the mains gas network. Past funding programmes such as CERT and LCBP have been criticised for failing to address HTT issues.

Hard-to-treat is not necessarily fuel-poor. Approximately half of fuel-poor households – which are around 2 million homes at current levels of fuel poverty – are hard-to-treat. The remaining 8 million hard-to-treat homes are not fuel-poor. They are fuel rich households, often socially and environmentally more aware, in older urban neighbourhoods such as Islington in North London, Harborne in Birmingham, or Cheetham Hill in Manchester. Hard-to-treat fuel rich homes may need special consideration under Green Deal, but fuel-poor households in hard-to-treat homes are indeed an extra-special case. Low-income households in hard-to-treat homes are paying £47 annually to EU ETS; £41 to CERT; £10 to FIT; and £5 to the Renewables Obligation – that's £103 in total to carbon abatement schemes that they need most but from which they are less likely to benefit.⁹⁰

⁸⁹ New Local Government Network op cit

⁹⁰ Presentation by Louise Sunderland, ACE, at EEPH Fuel Poverty Conference, 21 January 2010

11.4.iii Engaging Households and the psychology of energy efficiency

Economics alone is not sufficient to explain why people continue to waste energy despite there being sound economic and environmental arguments for not doing so. To understand why this is the case, we need to borrow from the field of behavioural psychology and to learn from its applications in other fields such as public health. There are a number of theories that can be applied to energy efficiency to help us understand what goes on in people's heads to stop them from changing their behaviour.

The first is an understanding the way in which people make decisions under conditions of uncertainty. The way the human brain operates under such circumstances is to make intuitive decisions based on mental shortcuts rather than deliberative decisions made on knowledge.⁹¹ These mental shortcuts, called 'judgement heuristics' by behavioural psychologists, present a major problem for Green Deal. Intuition is not an adequate strategy for making a decision about opting into Green Deal. A deliberative decision is required, rather than merely a 'nudge'.⁹² This presents two problems for Green Deal:

- a. Consumers are not used to making deliberative decisions about energy efficiency measures
- b. The opportunity costs where a deliberative decision is made are quite high.

This places extra emphasis on the need for the Green Deal Assessor to gain and keep the trust of the householder.

Green Deal providers must not be allowed to exploit this tendency to make intuitive decisions based on mental shortcuts in order to get quick sales. The opportunity costs involved in deliberative decisions are potentially a hidden cost that does not appear in previous energy efficiency schemes and this represents a significant financial risk to scheme managers and to Green Deal recipients, since the cost will ultimately be passed on to them.

The decline in public trust in authorities such as Governments and large corporations has been accompanied by a tendency for people to look towards people with whom they share a demographic characteristic (e.g. a shared place of work, community or faith group, neighbourhood, or other social group where people come into close proximity). This means that the issue of 'messenger' is at least as important as the content of the 'message' itself.⁹³

Yougen.co.uk, a website that promotes renewable energy, recently carried out a poll that found that only 15% of people trusted High Street retailers such as Marks and Spencer or Tesco to deliver the Green Deal. This sample may be self-selecting but it would be early

⁹¹ see Darnton (2008): *Practical Guide: An overview of behaviour change models and their uses.*

http://www.civilservice.gov.uk/Assets/Behaviour_change_reference_report_tcm6-9697.pdf

⁹² For a discussion of the strengths and weaknesses of the 'nudge economics' approach, see *Nudge Nudge, Think Think: Two Strategies for Changing Civic Behaviour*, Peter John, Graham Smith and Gerry Stoker, http://www.civicbehaviour.org.uk/documents/nudge_nudge_think_think_PJ5May2009_001.pdf

⁹³ Cabinet Office/Institute for Government, *MINDSPACE: Influencing behaviour through public policy*, <http://www.instituteforgovernment.org.uk/images/files/MINDSPACE-full.pdf>

adopters, such as visitors to yougen.co.uk, do not find these retailers appealing as Green Deal delivery agents, then there is clearly a significant trust issue to be addressed, since it is the action of early adopters that helps new concepts or products to become mainstream. 84% of respondents said that they would trust locally based specialist suppliers.

The Cabinet Office/Institute for Government discussion paper, *MINDSPACE – Influencing Behaviour Through Public Policy*, said that people are greatly influenced by the perceived authority of the messenger. There is a difference between someone who has authority by virtue of their position or status, such as a politician or business leader, and someone who has authority by virtue of their experience or skills but is not necessarily a person of high status. We are more likely to trust someone whom we believe to be an expert, and we also trust people who have similar behavioural and demographic characteristics to ourselves, i.e. our peers. This has profound implications for the delivery of Green Deal and the choices that are made about how work is delivered and by whom. The Community Green Deal report provides from surveys a similar message about who is trusted, with local Government coming out highest.

The final concept from behavioural psychology that is relevant to Green Deal is the process by which new ideas and products move from a small number of keen early adopters to a broader spectrum of people. In this instance, the early adopters tend to be people with a high level of interest in environmental issues and the understanding and ability to turn this willingness into action. Defra's environmental segmentation model⁹⁴ gives us a helpful guide to understanding how consumers vary in their willingness and ability to take action.

There is a particular type of person who diffuses innovative ideas and products through the population. They can be described as 'protagonists'.⁹⁵ They are more than simply early adopters. In energy efficiency terms, they are the type of person who not only are the first to adopt innovative measures at their own personal expense, but invite people to their home for a 'seeing is believing' tour, possibly even complete strangers, perhaps as members of the Old Home, Superhome network⁹⁶. In this way, protagonists are equivalent to 'carriers' of contagious diseases, their role is to (deliberately or otherwise) spread the contagion in their social network and for their social network to pass it on to others.⁹⁷ In this way, new ideas and products become mainstream in a community of place or interest when it becomes a social norm for people to follow the idea or use the product, because they can see others using it and it seems salient to them rather than novel.

The communications expert Chris Rose has argued that it is people's deepest values rather than their economic status that determines their environmental behaviour.⁹⁸ Rose uses a

⁹⁴ DEFRA, A Framework for Pro-Environmental Behaviour, 2008

⁹⁵ Opinion Leader Research, The New Persuaders – the changing nature of influence,

<http://www.chime.plc.uk/downloads/persuadersvc.pdf>

⁹⁶ <http://www.superhomes.org.uk/>

⁹⁷ Nicholas Christakis and James Fowler, Connected, 2011

⁹⁸ http://campaignstrategy.org/articles/behaviourchange_climate.pdf

Maslowian segmentation model that divides the population into three segments – pioneers, prospectors and settlers. He argues that environmental marketing strategies need to appeal to the values of each segment in turn rather than a ‘one size fits all’ marketing strategy, as has characterised the energy efficiency industry in this country to date. Rose memorably uses the example of a successful campaign to market hybrid cars. The campaign appealed to pioneers on the basis of reducing CO² emissions; to prospectors on the grounds that celebrities such as Cameron Diaz owned one; and to settlers on the grounds that it tackled the issue of energy security. The campaign succeeded in increasing sales of the vehicle among all three segments. Part of its success was understanding that what appealed to pioneers, did not appeal to prospectors or settlers, and vice-versa.

The implications of these theories and their application is that those involved in marketing Green Deal do need to have a grasp of relevant parts of behavioural psychology. This represents a significant change, not least to the working culture of the environmental lobby, which tends to focus on ‘getting the message across’, and on the energy efficiency industry, which tends to see energy saving as a technical or building issue rather than a people issue. There is increasing understanding of the importance of environmental behaviour, and these theories are important in helping us develop strategies to change it.

The behavioural psychology insights fit in with the practical experience discussed in the above chapters. There are many different groups that need different approaches to engage them. Engagement approaches need to relate to the interests of the different individuals. The most effective people to engage households are people who are embedded in their communities of place or interest and who have authority. For the fuel-poor this may involve community representatives or local authority staff engaging with their community of place, as well as health workers and advice workers who are positively involved in their community of interest in engaging the fuel-poor, e.g. health workers, energy advisors and benefits advisors.

11.5 Management Approaches

11.5.i Getting the Right Targets

There are numerous examples of how targets have led to perverse incentives. The most widely publicised example is the provision of free low energy light bulbs. Here the problem was that the target was based on assumed, rather than actual CO² savings, and it was assumed that all the energy light bulbs provided would be used and used to replace an existing high energy light bulb. There are other examples where the modelling favours or disfavors particular interventions. The example of higher costs of cavity walls in Scotland has led to less work being undertaken in Scotland, where temperatures are generally lower and therefore benefits are likely to be higher.

Most of the PAYS pilots and also E.ON’s Challenge 100 have called for more flexibility in the application of targets, to enable the most effective measure for particular circumstances to be used.

One clear message from the marketing and delivery of pilot schemes, as well as past unintended consequences of targets, is that a simple ‘one size fits all’ approach will not work.

11.5.ii Coordinating Delivery

It’s not all plain sailing in the move towards a whole-house approach to energy efficiency. Fuel poverty schemes tend to be either area-based, e.g. Warm Zones and CESP, or ‘find and fix’. Ofgem’s Social Action Plan favours a ‘find and fix’ approach to target help for the fuel-poor where it is most needed. Many CESP schemes take a postcode or estate-based approach, which means that some investment goes to those who are not most in need. There are some effective examples of ‘find and fix’ in practice, for example npower’s Health Through Warmth, where health professionals and community workers identify those most in need, and E.ON’s Challenge 100 project, which worked on a street-by-street approach. British Gas worked with the community group SusMo to identify fuel-poor homes in Birmingham as part of their Green Streets project. Birmingham Energy Savers uses high-level customer profiling data to predict where there is greatest need. In these examples, the involvement of local authorities and other public and voluntary agencies is critical to ‘find and fix’. The utility companies have little experience of ‘find and fix’ themselves; they need to work in partnership with others to do this. High Street retailers have no experience of either area-based or ‘find and fix’ approach, and it is difficult to see how they could attempt to do this without a partnership approach.

Many utility companies have set up charitable trust funds that support consumers in debt.⁹⁹ We discussed with consultees the possibility of using that funding for Green Deal measures, but it was felt that this would compromise the charitable objectives of those organisations. However, the trust funds could be a good recruiting ground for Green Deal, and those charities should consider whether their beneficiaries should be routinely recommended for a Green Deal intervention.

Many others have written about the need for accreditation of Green Deal/RHI/FIT schemes and warranty of measures. We need add no further to this, except to highlight that the fuel-poor may often be most vulnerable to inappropriate selling and would benefit most from this type of protection. Green Deal providers need to have a one-stop complaints service and there should be an independent arbiter of complaints that cannot be resolved by the provider itself. The fuel-poor, who may be less articulate than their fuel-rich counterparts, stand most to gain from having an independent complaints body that they can turn to if they are unhappy with a provider’s attempts to resolve their complaint.

11.5.iii Data sharing

Ofgem has piloted the use of DWP data to target specific consumer groups. A specific exemption is needed from the data protection legislation. This has been sought to enable data sharing on pensioners receiving pension credit between the DWP and the utilities.

⁹⁹ Ofgem: *Review of Suppliers’ Voluntary Initiatives to Help Vulnerable Customers*

This pilot should test the effectiveness of using this to target support to this group. If successful, it could be extended to enable easier targeting of groups for the Green Deal. The private sector already use enumeration district based profiles such as CACI, that link consumer data to census information and postcodes, to help them market goods and to inform location decisions for stores. Local authorities also make use of some such data sources. Some local authorities have carried out heat loss mapping which identifies the properties that lose the most energy through poor insulation and air tightness. The marriage of these data sets could help with targeting of properties that would produce the greatest CO² savings from a Green Deal intervention. While the fuel-poor would not necessarily occupy such properties, linking the information to other data sources from the census could help target large numbers of the fuel-poor with great potential to benefit from the Green Deal.

11.5.iv Encouraging innovation

Where Green Deal overlaps with the localisation agenda, there are opportunities for innovative delivery, both in terms of the energy saving technologies used and also in terms of the way Green Deal is marketed to the local population.

Among the measures that have been eligible for uplift under CERT, is fuel switching to lower-carbon fuels, and district heating. Such measures should also attract uplift under Green Deal, especially where emissions and fuel savings can be aggregated together on a neighbourhood level, as is the case with a gas network extension, a district heating or combined heat and power scheme.

There should be pilot schemes to test innovative approaches to delivery, such as Community Green Deal and Neighbourhood Planning Green Deal. Existing or planned funding programmes, such as the successors to Low Carbon Communities Challenge, Greener Living Fund or the eagerly awaited Big Lottery Fund low carbon community programme, could prioritise projects that pilot innovative neighbourhood-based approaches to delivering Green Deal.

11.5.v A whole-house, Factor Four approach to fuel poverty

The case for a whole-house approach to energy efficiency has been made many times and there are now many successful examples of this approach. It is appropriate that there are separate funding mechanisms for energy efficiency, renewable heat and renewable electricity, as each has its own market conditions. There is a need to join them up if a whole-house, rather than piecemeal, approach is to be achieved. Renewable Heat Incentive and Feed-in Tariff scheme operators could be offered a preferential rate of tariff, where measures are integrated with a Green Deal package.

Green Deal providers should be obliged to offer an energy advice package to all households receiving the Green Deal, with the cost being built into the repayments. The experience of Birmingham Energy Savers phase 1 suggests that take-up of this will be high. Models such as the Green Doctor, highlighted above and delivered by Groundwork nationally, are in a good position to do this because the Green Doctors' personalised

approach seems to have found the knack of easily and spontaneously gaining the confidence of people to whom the service is offered. The Green Doctor is a personalised approach that looks at occupants, as well as buildings, and introduces environmental behaviour in a language that most people can understand.

As there is such a strong link between financial exclusion and fuel poverty, then financial inclusion should be part of any Green Deal package aimed at the fuel-poor. Where a fuel-poor household is offered such a financial inclusion package, then the provider should qualify for uplift. If this does not happen there is little incentive for them to do it, as can be seen from the failure of most existing fuel poverty abatement schemes to do this or to provide anything more than a benefit take-up check. The household should be offered a full money advice package, to include casework where necessary. Money advice could be delivered by a range of third sector organisations, but also by local authorities where they have the experience and skills to do so.

As it is mainly the fuel-poor and those in fuel debt to whom money advice will be offered, then it would be unfair to recover the cost through the Green Deal package. If 6,000,000 fuel-poor homes were offered the money advice package, at an average cost of £100, then the cost would be £600,000,000 over the lifetime of Green Deal – assumed to be 38 years. In practice, no more than a quarter of homes would take up the money advice package, which means the annual cost of providing it would be approximately £4,000,000. A tiny fraction of a percentage point of the amount of benefits unclaimed annually - £10.5 billion¹⁰⁰ – would be sufficient to fund this. We think it is entirely fair that this money should be ringfenced for those for whom it is intended. This would be sound investment, since money advice isn't just about claiming additional benefits – it is concerned with getting people to manage their finances better so they are more likely to be able to sustain jobs, homes and families.

A further feature of a Factor Four approach to fuel poverty is finding payment methods that are suitable for the fuel-poor. Ensuring that the tariff that the recipient is being paid is no higher than that assumed in the savings calculation should be a minimum requirement on Green Deal suppliers. Ofgem should widen the scope of its pricing review process to include whether or not tariffs encourage energy efficiency. The price review should also include Green Deal tariffs, to ensure that it is the consumer who is the main beneficiary of the Golden Rule.

11.6 Costs and Funding

11.6.i Adequacy of funding

Most of our interviewees, supported by the evidence of the various pilot studies, questioned whether the likely Green Deal maximum will be sufficient to achieve the CO² targets or to address fuel poverty. Issues have been raised about both the revenue

¹⁰⁰ Citizens Advice say that there are approximately £10.5 billion of unclaimed benefits, with approximately 32% of families eligible for free school meals not claiming them.

funding to support a Factor Four approach, and the amount of capital allowed per property and in total.

Initial indication from the Government was that the maximum per property limit for Green Deal would be £6,500. Recently, Chris Huhne announced a figure of £10,000 and the top limit may be removed altogether.¹⁰¹

Some experts questioned whether the proposed amount of £6,500 was adequate to meet stringent CO² emissions targets when this amount will only cover basic energy efficiency measures, such as condensing gas boiler, loft and cavity wall insulation. Citizens' Advice has also questioned whether this amount is sufficient.¹⁰² This amount may well be inadequate for hard-to-treat homes, e.g. those with solid walls, difficult to insulate cavity walls, or other non-standard construction, or those off the mains gas network. It may also be inadequate for solving fuel poverty, even in easier-to-treat homes, such as those with cavity walls and access to mains gas, but particularly hard-to-treat homes. Figures of £12,000-£18,000 have been suggested as a minimum requirement, assuming that prices of measures fall with mass-market penetration.

Recent pilot projects for Retrofit for the Future have succeeded in achieving CO² emissions reductions of up to 80% through a whole-house approach, while lifting the household out of fuel poverty, in hard-to-treat homes. This has been achieved at a refurbishment cost in the region of £150,000, including project management and evaluation and dissemination costs. When such exemplars are scaled up, then the level of project management will decrease; evaluation and dissemination will be less necessary as they become mainstream, and the refurbishment costs will fall significantly, although they are unlikely to fall as low as £10,000. A further source of hidden cost is the level of paperwork involved in a retrofit package, which may include legal, planning, building control, supervisions and design fees.

11.6.ii Financing improvements to create better delivery

In the current financial climate, it is unlikely that the Government will find large sums of additional funding to make the Green Deal work more effectively. It is therefore important that existing funds are used to greater effect.

Winter Fuel Payments (WFP) are one of the largest elements of Government expenditure on helping vulnerable people meet their fuel bills. They are very poorly targeted.

It would be very difficult politically to sell the idea of abandoning the WFP, or means-testing it more rigorously. There are possible alternative uses for this cash. If a WFP recipient can expect to receive the payment for a period of 10-20 years, then the total value of the payment during that period is in the order of between £2,500 and £5,000. This is a significant amount that might pay for measures, such as a gas condensing boiler, a 1kW PV system, or a solar hot water system.

¹⁰¹ www.greenwisebusiness.co.uk/10000-upfront-capital-under-green-deal-sa

¹⁰² Citizens Advice, Evidence Journal, Summer 2010

WFP recipients could be given the option of trading their allowance off against the installation costs of such measures, instead of receiving an annual cash handout. This could be triggered by an approved RHI/FIT/Green Deal provider who, having identified that the household is entitled to the WFP, would be authorised to get the householder's consent to assign the WFP in this way. The scheme provider would then be authorised to contact the Benefits Agency to arrange for the WFP to be paid each year to the FIT/RHI/Green Deal provider. WFP should only be traded off in this way where the Green Deal package meets the Golden Rule.

Another poorly targeted area is the FIT and RHI. These are difficult to access for those without access to capital (which will include the majority of the fuel-poor), yet provide good rates of return on investment for those who can borrow cheaply. However, the lowest income groups pay more towards the costs of FITs than other groups. Options for better targeting these funds would be:

- Greater regulation of rent-a-roof schemes so that those whose roofs are rented get a minimum share of the returns
- Surpluses from rent-a-roof schemes being targeted back into support for the fuel-poor (e.g. advice, help with further energy efficiency works).
- Allowing those who are deemed to be in fuel poverty to use their Green Deal allocation to access FITs and RHI schemes.

11.6.iii Differential rates of FIT and RHI

FIT and RHI create another possibility of moving away from upfront capital subsidy for the fuel-poor, whether in the form of Warm Front or ECO. There could be a premium rate of cash back for the fuel-poor. For example, a FIT generator tariff of 50p per kWh instead of 41.3p per kWh, or an RHI tariff of 10p per kWh for solar hot water (instead of 8.5p) or 5p for ground source heat pumps (instead of 4.3p). This would build on the existing tiered approach of RHI but would simply adapt the tiered approach for social reasons rather than purely for environmental purposes. This would incentivise suppliers to seek fuel-poor homes and to work in partnership with local authorities, the health service and the third sector to identify them. An impact assessment should be made as to whether this approach would be more effective in targeting the fuel-poor than the traditional CERT priority group approach. This would also help to mitigate the potential for FIT/RHI to benefit the more affluent, by ensuring that more of the tariffs are claimed by the fuel-poor. In this way, it would help to make FIT more equitable and move it closer to a progressive and redistributive system weighted towards need, helping to balance the fact that the collection of FIT in particular is not related to ability to pay. Eligibility for the premium rate of FIT/RHI could be based on any of the following criteria: income (a means test based on passport benefits or an income test); vulnerability by means of eligibility for the Priority Services Register; social housing tenure; discretionary medical grounds based on referral from a health professional; or actual chronic fuel debt, for example of more than £100 for more than one year.

11.6.iv Paying for carbon abatement

The Fuel Poverty Advisory Group has called for a differential charging regime for carbon abatement measures, such as CERT, ECO and RHI. Better-off consumers would pay a higher rate, and the fuel-poor would pay a lower rate. This could be administered through smart metering. The effect of this would be to reduce the financial burden of these schemes on those who are least able to pay. This would have some impact on fuel poverty, even before we consider how the fuel-poor should benefit directly from these schemes. Ofgem, in the 2009 review of their Social Action Plan, observed that the most equitable way of funding carbon saving programmes was through taxation, rather than energy bills.

11.6.v Valuing the wider benefits

Another approach to identifying funding is to look at the wider benefits that are achieved by the improvements to homes. The most obvious of these benefits are those that are achieved in savings on health budgets. There is a potential role here for health fund holders to support some of the costs of advice and supervision of Green Deal works for those with health problems related to poor heating and insulation. For this to happen, it would require health practitioners to be brought into local partnerships targeting specific areas. To adopt this approach in the most cost-effective way would involve making the most effective use of relevant voluntary, third sector and public sector projects that are already funded to provide financial, debt and energy advice, as well as improvements to private sector homes.

Further financial benefits could also be gained by local schemes taking on a market making role. The costs of most high quality renewable energy and energy efficiency measures are considerably higher in this country than they are in Germany. This is in part due to the greater scale of demand that there has been in Germany, but also due to a more integrated approach that has grown demand for and supply of skilled labour and materials in a more coordinated way. They have also avoided having a relatively small number of companies having a major influence on how the market operates. In Germany, local Government has taken a lead role in the delivery of their energy efficiency programmes. If a similarly effective approach can be achieved in the UK, this would help reduce the costs of works and reduce unemployment, leading to savings on benefit bills.

11.6.vi What can be done with FIT, RHI and Green Deal referral fees?

One of the advantages of an area-based approach to fuel poverty is the economies of scale that can be achieved compared with a piecemeal approach. Under CERT, the economics have been such that local authorities have been able to procure measures that are not only free of charge, but also the utility company has paid a commission or referral fee to the local authority for finding the properties. The local authority will often use this income for discretionary purposes e.g. to help households with excess Warm Front payments where the level of work required is greater than the Warm Front maximum grant allowance.

There is already evidence that the Feed-in Tariff is leading to housing providers being offered referral fees by utilities and other companies of up to several hundreds of pounds to find homes suitable to have PV installed. In this instance, the social housing provider offers roofs, while the utility funds the upfront capital cost of the work, and keeps the Feed-in Tariff. The social housing provider is then offered a one-off bullet payment or an annual rental fee. This is clearly less than the income that would be gained if the housing provider paid for the PV installation themselves and kept the FIT, but worthwhile nonetheless.

We can expect similar ‘finders fees’ to be offered for Green Deal as a legitimate part of the transaction costs, and indeed for RHI measures. This could create a significant and unrestricted source of income for local authorities and social housing providers. There are a number of obvious possible uses of this income for housing providers:

- Servicing of debt repayments to mortgage lenders;
- Planned repairs and maintenance;
- Additional energy efficiency works.

A further possible use of this income is to create a discretionary fund to help householders with chronic and enduring problems of utility debt. There is already a precedent for this, in that most of the energy and water utility companies have helped found charitable trust funds where the trustees have the discretion to give grants to people with insoluble debt problems, where there is no other solution. Some of the unrestricted income from FIT/RHI generator tariffs or from FIT/RHI/Green Deal referral fees could be used in a similar way. It could either be gifted to a utility trust fund, possibly to be ringfenced for applicants from a particular locality or tenants of a particular housing provider; or gifted to a local provider of money advice e.g. a CAB or a Settlement; or those housing providers with charitable purposes could distribute it themselves. While cash handouts are generally the least sustainable way of tackling fuel poverty, in some instances there is no other way to clear a debt and start with a clean slate. Such handouts should be linked to independent advice on debt and financial literacy. Many housing providers have existing partnerships with money advice agencies that could make such an arrangement work.

11.6.vii Zero Carbon Homes offsetting

The zero carbon homes standard is due to come into effect from 2016. The details are under consideration, but it is certain that for the majority of new build, the meeting of the zero carbon home standards will involve paying for low-carbon works offsite to offset the carbon footprint of the new building. This provides a potential future source of funding that could be targeted to addressing fuel poverty.

11.7 Rules and Regulations

11.7.i Payback period

Those of our interviewees who were most involved in dealing directly with people in fuel poverty and fuel debt, considered that the proposed payback time of about 10 years for the Green Deal measures, was too long for those with serious problems in paying for their fuel. They consider that such people's time horizons for managing their finances are much shorter and that they would want to avoid getting into debt for such a lengthy period.

11.7.ii Who pays the Green Deal Charge when properties are vacant?

The Energy Efficiency Partnership for Homes paper on Green Deal in the private rented sector raises the question of who pays for Green Deal charges during a void period. Normally, a landlord will be billed by the supplier for any gas or electricity used during the void period as the landlord is the beneficial user. While the Green Deal repayment is legally a charge on the beneficial user, including a landlord, the benefits of Green Deal during a void period are difficult to quantify. Landlords will argue it is a burden on them to pay a Green Deal charge for a period of however many weeks, when they won't benefit from it. One solution could be a limited Green Deal repayment holiday during void periods. Such a period could be based on average void turnaround times as recorded by the Homes and Communities Agency, and average void rates over a period of time such as 25 years. If a property were void for longer than this period, or became repeatedly void, and the agreed Green Deal repayment holiday allocation were exceeded, then the landlord would be responsible for Green Deal repayments from that point onwards. The same issue will also affect owner-occupied and social housing homes when they are vacant, as well as holiday lets and second homes.

There is also the question of how estate agents and conveyancers will respond to the charges on properties and the allocation of Green Deal charges, and whether it will lead to increase sale and purchase charges.

11.7.iii Protection from disconnection for Green Deal charges

The current regulatory position is that utility companies are only allowed to disconnect a consumer for actual fuel debt. In the past, utilities have been specifically instructed by Ofgem not to disconnect a consumer's gas or electricity supply where there is non-fuel debt on a utility bill or pre-payment meter, e.g. for energy efficiency appliances or measures. This raises the question of where Green Deal charges will fit in the hierarchy of charging, and whether a utility will be allowed to disconnect for non-payment of Green Deal charges.

Ofgem should advise suppliers that they can pursue all other reasonable methods to pursue Green Deal debt with the exception of disconnection of the supply. In the case of pre-payment meters, they should be programmed to collect Green Deal repayments last, i.e. after fuel, standing charges and any fuel debt attached to the meter. Where the consumer is unable to keep a sufficient level of credit on the meter for it to collect the Green Deal repayment, then the meter should be programmed to allow 'trickle' payments of Green Deal instead of full payments so the consumer will not continually self-disconnect. Any home with a PPM receiving a Green Deal package should automatically

have a smart meter installed to allow this kind of flexibility. It would be quite wrong for a Green Deal package to lead to a PPM user facing additional barriers to turning the heating on imposed by the tyranny of a PPM. A supplier should not be able to block a consumer from changing supplier because of Green Deal, i.e. non-fuel, debt.

11.7.iv Other measures

It is not only the Green Deal and renewables that can help alleviate fuel poverty. There are a whole range of other activities, many of which are currently under review, or need to be reviewed to ensure effective working of the Green Deal and the alleviation of fuel poverty. These include tariff reform, the introduction of smart meters, extensions to the gas grid, and district heating.

11.7.v Tariff reform

While the Ofgem Review of the Energy Retail Market contains many welcome proposals for reform, it does not specifically take into account the relationship between the energy retail market and Green Deal. We think there are two issues that need to be examined arising from the Ofgem Retail Market Review:

- The fact that two-tier tariffs can make it more difficult to meet the Golden Rule and therefore disincentives consumers from taking up the Green Deal;
- The continuing lack of transparency over energy pricing makes it possible for suppliers to take advantage of the Golden Rule to raise prices. This means that instead of Green Deal benefits accruing to the consumer in the form of cash savings or additional comfort, the fuel supplier could accrue some of the benefits to itself in the form of increased prices, while still meeting the Golden Rule.

Decisions associated with energy supply purchase could be opportunities to offer consumers a Green Deal package. This is an opportunity for the energy suppliers to devise new tariffs that include a Green Deal package. We suspect that at least some energy suppliers, including potential new market entrants, are already working on this in anticipation of the launch of Green Deal in 2012. This would open Green Deal packages to a wider layer of consumers, since more people are interested in seeking a new energy tariff than are interested in seeking energy efficiency measures. These new Green Deal tariffs could give suppliers a market advantage, since it should be possible to invent a Green Deal tariff that benefits the consumer through the Golden Rule and will therefore appear attractive to consumers shopping for a new tariff through a comparison website. The increasing number of consumers who have fixed-term, as opposed to evergreen, contracts could be offered a tariff that includes a Green Deal package at renewal time. We expect that Ofgem's proposal to limit the numbers of evergreen tariffs that suppliers may offer, will lead to more people being on a fixed-term tariff, which would create a greater number of consumer pricing decisions, which would lead to a greater number of opportunities for consumers to change tariff. Decisions associated with energy supply purchase could be opportunities to offer consumers a Green Deal package.

Consumers proactively choosing to change supplier, for example those who visit a price comparison website, could be offered tariffs that include a Green Deal package. Accreditation for price comparison websites should include a new criterion to require the sites to include Green Deal tariffs and explain to consumers the benefits of such tariffs and their differences from ordinary tariffs. Since the fuel-poor and vulnerable are least likely to proactively consider the benefits of changing tariff, and more likely to be 'sticky' consumers as Ofgem has memorably labelled them, then consideration needs to be given to which channels would enable fuel-poor consumers to use Green Deal availability as an opportunity to switch to a more beneficial Green Deal tariff.

Organisations such as Citizens' Advice Bureaux are unable to recommend a particular supplier; however they are in a position to signpost a consumer in the direction of a price comparison website, possibly on the occasion of a consumer visit to their office. In view of Ofgem's proposals to make price comparison more transparent, the addition of a new variety of Green Deal tariff should not cause any undue additional complexity for consumers choosing a tariff or supplier.

When a consumer in debt elects to change to a tariff or supplier offering a Green Deal tariff, then the debt should not be allowed to be a barrier to such a choice. Such consumers should be allowed to change supplier without their current supplier objecting. The new supplier should be obliged to take on the existing debt and to add it to the Green Deal package.

As outlined earlier in this report, a two-tier tariff of the type currently preferred by most fuel suppliers, works against energy efficiency and fuel poverty by penalising those whose fuel use is low for reasons of thrift, energy efficient or poverty. Two-tier tariffs make it more difficult to meet the Golden Rule. It is slightly easier for higher users to meet the Golden Rule, but more difficult for lower users. The Rising Block tariffs that are predicted to become more common with smart metering would be more likely to encourage energy efficiency and therefore to meet the Golden Rule than the current two-tier tariffs.

As the fuel-poor are more likely to remain on an evergreen tariff, then they will benefit from Ofgem's proposed move to standard charge/volumetric charging rather than two-tier charging in evergreen tariffs. This will also create more of an incentive for people on evergreen tariffs to save energy than if evergreen tariffs remained two-tier.

However, all consumers on a two-tier non-evergreen tariff, especially but not exclusively the fuel-poor, will be disincentivised from energy efficiency and will find it more difficult to meet the Golden Rule than they would if they were on a standard charge/volumetric tariff. Where consumers are billed through a two-tier tariff and opt for a Green Deal package, then measures need to be taken to ensure that the consumer does not lose out financially, especially when it is marginal as to whether or not they meet the Golden Rule. This could take the form of an allowance to compensate for the difference between the energy savings achieved on their actual two-tier tariff and what they would achieve if they were on a standard charge/volumetric tariff.

11.7.vi Pre-payment meters (PPMs)

A pre-payment meter expects to collect debt every week without fail, which is sometimes impractical if the consumer is away from home, e.g. at hospital, on holiday, working away from home, not using gas. In theory a pre-payment meter is supposed to help people to budget because a user can 'store' credit during periods of low fuel use to use later when needed, a bit like stockpiling coal for the winter. In practice, it doesn't work this way, due to the reality of scrimping and saving and because it is more difficult to manage money on a low income. This presents budgeting and cash flow problems for the household when the period of low fuel use ends, because the meter builds up a debt of unpaid fuel debit and standing charges while no fuel is being used. When the household starts using fuel again, the meter says, 'hang on a minute, you owe me three weeks' worth of debt – that's £15 please before I allow you to turn the heating on'. Suppliers are understandably reluctant to allow consumers debt holidays.

The reliable and secure income stream guaranteed by a FIT or RHI installation, irrespective of whether the consumer is at home or not, means that this risk need no longer be borne solely by the consumer. The income from the FITS/RHI could be ascribed to pay standing charges. During a period when the house is empty, the electricity sold back to the grid will be at its highest. Similarly this secure income stream could also be used to extend the level of emergency credit on a meter.

This raises further challenges for the Green Deal approach. At which tariff should the energy savings be calculated: the one the household currently pays, an average one, or the best the household could get? If it is to be the latter, will they be provided with advice to help them get onto the best tariff? Will fuel debt still prevent them from shopping around for the best tariff?

The Green Deal repayments are expected to be based on a steady repayment. However, there will be times when no energy is being used on a property, because it is void or the occupiers are away in hospital, prison, or for work reasons. During these periods, will the Green Deal bill continue to grow, even if the standing charge for energy payments has been cancelled? For PPM users, this could leave them with substantial back debts to be paid before they can access energy. The already programmed introduction of smart meters provides an opportunity to resolve these issues in relation to PPMs, but the opportunity needs to be taken.

The same principle could apply to debt recovery. Debt can be collected by a supplier through spreading the debt into a regular payment plan, where payments to cover averaged consumption and debt are paid weekly or monthly by direct debit or often cash; through a pre-payment meter that is calibrated to recover debt at a certain amount per week, irrespective of how much fuel is used; or more rarely, by Fuel Direct, where arrears are deducted at source from social security benefits. Recovery rates vary, from very low via Fuel Direct, which is not favoured by suppliers, to £10 per week and more via other methods. This can be crippling for a fuel-poor household and as always, it is particularly difficult for PPM users as the meter will recover debt as a priority before it allows the consumption of fuel. If a household has RHI/FIT income of several hundred pounds a

year, then this could be used to offset debt collection of up to £10 per week. This is not simply a question of offsetting credits versus debits on an account statement, which is how the supplier will see it. It is about removing the stress of the struggle to make payments and the constant risk of PPM self-disconnection that blights the daily existence of the fuel-poor, and in a way that actually reduces risk for the supplier as well as for the consumer.

11.7.vii Smart meters

Smart metering will change the way we use fuel, and some of the implications are particularly relevant to the fuel-poor. These include:

- the ability of suppliers to remotely disconnect the supply
- the ability to switch from credit to pre-payment modes
- new charging methods, e.g. block tariffs, and differential tariffs according to the time of day
- the possibility of limiting credit, or trickle credit, as an alternative to full disconnection or self-disconnection.

Differential time tariffs are likely to incentivise off-peak consumption where demand for gas and electricity is lower, and where the carbon intensity of electricity is lower. This could penalise the fuel-poor, whose demand for fuel may be less flexible due to occupation patterns or personal circumstances such as age, illness or disability. The Fuel Poverty Advisory Group has called for Ofgem to modify supplier licence conditions and codes of practice to protect the fuel-poor from remote switching between credit and pre-payment tariffs, and to monitor self-disconnection, which is currently below the radar of any monitoring system.

In the same way that smart electricity distribution grids will give greater certainty to consumers in an electricity generation system increasingly characterised by intermittent sources of electricity, smart meters can give greater certainty to the fuel-poor at risk of self-disconnection. A household generating its own electricity, for example, through photovoltaics or micro-CHP, could store up electricity credit during periods of peak electricity generation (i.e. when the sun shines or when the micro-CHP generates large amounts of heat) for use when the household is low on cash but high on need for fuel. Trickle credit, where a limited amount of credit is allowed to keep appliances ticking over as an alternative to full self-disconnection, could be used during periods of non-electricity generation. Smart metering could take into account seasonal factors around supply of self-generated electricity or heat, and demand for electricity and heat. So it could be programmed to ringfence credit built up in peak periods and ration its use for periods of expected high demand. This is a slightly 'big brother' approach, but it would help the fuel-poor to budget more effectively.

The introduction of smart meters also creates the potential to more readily access and monitor data about actual fuel use and savings. There could however, be data protection issues to be resolved if it is to be used to help improve the accuracy of fuel usage measurement as part of the Green Deal.

In line with the Factor Four approach outlined above, there should be a holistic approach to smart meter rollout, with smart meters being considered as a carbon mitigation measure, rather than simply a billing measure, and offered as part of a carbon mitigation or fuel poverty reduction package that includes energy advice.

11.7.viii Interoperability

DECC and Ofgem need to ensure that Green Deal packages are interoperable. At the time of writing, energy suppliers are installing smart meters that are not interoperable and will revert to being a 'dumb' meter if the consumer changes supplier. This is anti-competitive, since it puts an additional and unnecessary barrier in the way of a consumer choosing to change supplier. We note that Ofgem are consulting on smart meters and we anticipate that they will soon require all smart meters to be interoperable, which is to be welcomed in the interests of consumer choice.

What this demonstrates is that as the way we consume energy changes, the potential exists for suppliers to use this as an opportunity to introduce new systems that suppress interoperability and competition before regulation catches up with them. Sometimes this can be accidental, for example in the early days of the competitive market in electricity supply, where the multitude of pre-payment metering systems made it difficult for new entrants to the market to take on consumers with anachronistic PPMs, or calculated and deliberate in order to bind a consumer to a supplier. We fear that suppliers will develop Green Deal charging and billing systems that are unique to them, and so a consumer finds that if they want to change supplier, they are unable to do so since they cannot take their Green Deal payment system along with them to their new supplier. Since the Green Deal charge is attached to a utility bill, this is critical for interoperability of the Green Deal.

Currently, standard electricity and gas supply and billing systems are governed by uniform network codes, overseen by Ofgem, that are common to all suppliers across a distribution or transportation network. DECC and Ofgem need to develop an open source network code for Green Deal charging and billing systems that is common and interoperable across all suppliers and all distribution and transportation networks. Unless they do so, then suppliers could develop Green Deal charging and billing systems that are unique to them. No consumer should be prevented from changing supplier because of incompatible data handling systems between new and old supplier.

This issue affects all consumers, not just the fuel-poor. The fuel-poor, however, face particular barriers in freely choosing a utility supplier; they can be prevented by debt, tricked by unscrupulous doorstep sellers, or less aware of the options because they cannot access impartial comparison websites. Any further barriers to free consumer choice are most likely to affect the fuel-poor as they have the weakest position in the competitive supply market.

There may be particular interoperability issues facing consumers who have an Independent Gas Transporter (IGT). We already know that consumers on an IGT are unable to have gas PPMs because the Quantum meter is incompatible with the IGT's

systems, and Ofgem has unfortunately declined to require IGTs to address this issue. This takes away the option of a PPM which many fuel-poor consumers choose as they feel it will help them to manage their energy use better. This raises a number of issues for the future, around RHI and Green Deal, for example, will consumers having RHI measures installed be able to have smart gas meters that can record the generation of heat and pass this data to a supplier?

When competition in gas and electricity supplies was phased in during the late 1990s, a network code was introduced so that there was a uniform system to facilitate a level playing field, so consumers could choose a supplier and be confident that the process would be seamless because there were common systems. These network codes were largely successful, although there were some problems with some archaic and legacy payment methods, and also with IGTs as we saw above.

There now needs to be a new network code to ensure that there is a level playing field between Green Deal providers, and so consumers can be confident that their Green Deal package will continue to function, irrespective of who their gas and electricity suppliers may be in the future. We have seen from the impending implementation of smart meters that there is a potential 'Betamax/VHS' scenario emerging. DECC needs to gain an understanding of what will be necessary to implement an open source Green Deal network code fit for the 21st Century, with the potential for many market entrants, and of any hidden costs that this may entail.

11.8 Extra support for the fuel-poor

11.8.i Asset transfer versus handouts

As previously observed, fuel poverty policy has until now been based on handouts to the fuel-poor, either in the form of free measures or financial handouts. The Green Deal, along with FIT and RHI, present a historic opportunity to lift the fuel-poor out of dependency on handouts, through giving them energy efficiency and renewable energy assets that will provide long-term solutions to fuel poverty.

The environmental journalist George Monbiot has argued convincingly that FITs in particular are an opportunity for affluent people to acquire assets for themselves, funded by all energy consumers including the poorest, which will give them a secure income stream for decades. Meanwhile the poorest people, with least access to financial capital, are least likely to benefit from these assets. This is unfair as it risks exacerbating the gap between rich and poor not only in terms of fuel bill affordability, but in terms of ownership of what will become an increasingly important housing asset.

We need to make a leap of faith and of imagination, from seeing energy efficiency and renewable energy measures just in carbon or fuel saving terms, and to see them as an asset for low-income households. FIT and RHI schemes where the income is assigned to a local authority or housing provider, will certainly tackle fuel poverty, carbon emissions and create jobs, but will still leave low-income householders, specifically owner-occupiers,

short-changed, compared to those who can afford the capital investment themselves. In order for low-income households at risk of fuel poverty to fully benefit from RHI and FIT, we need to find a way where the household can be enabled to own the asset themselves and realise the full financial benefit of it, as well as the affordable warmth benefit. Critical to this, is finding a way of financing the acquisition of micro-generation assets for the fuel-poor, through affordable credit. Community Financial Development Institutions could be a solution to this problem.

11.8.ii Transferring assets to the fuel-poor

Successive Governments have sought to enable people on low incomes to own housing assets, from the right-to-buy schemes started in the 1980s, to the various low-cost home ownership schemes of the present century. The Renewable Heat Incentive and Feed-in Tariff should be seen as opportunities to extend this approach to renewable energy assets so that it isn't just the wealthy who can own them. Community Development Financial Institutions should be supported to set up revolving loan schemes for people who don't qualify for normal credit to install micro-generation measures. Unlike right-to-buy, this is not draining the public purse by handing over assets at less than the market rate, since the Renewable Heat Incentive or Feed-in Tariff guarantees that the loan will be repaid.

A pilot scheme should be implemented to offer Winter Fuel Payment recipients the opportunity to use the WFP to offset the upfront installation costs of Green Deal, Renewable Heat Incentive or Feed-in Tariff measures. Instead of a cash handout of several thousand pounds a decade, why not give people a new condensing gas boiler or solar hot water system of similar value and longer life-span instead? This would be consistent with an asset transfer approach.

11.9 Additional approaches

11.9.i Gas grid extension

One of the most effective ways to lift a household out of fuel poverty and reduce CO² emissions in the process is to switch from an expensive and often carbon-intensive fuel such as coal, oil, or electric storage heaters, to a more affordable and generally lower-carbon fuel such as mains gas. This is particularly important in tackling rural fuel poverty. Fuel-switching has been seen as a priority measure for Warm Front, CERT and CESP, usually on an individual household level, but sometimes on a wider level as has been the case in some CESP schemes, where there has been fuel-switching from electric storage heaters to biomass in dense social housing schemes. There are also organisations brokering gas infill schemes, where the gas network is extended to a village previously reliant on more expensive and carbon-intensive fuels, and using CERT eligibility to part-fund the infill. Utilities have been able to claim an attractive level of CERT credits as fuel-switching is regarded by Ofgem as an innovative measure.

This approach should be encouraged under Green Deal. This entails moving from viewing Green Deal as a solution for the individual household to a solution for the whole

neighbourhood. In order to encourage this, Green Deal should have a list of innovative measures attracting additional uplift in the same way as CERT has. This incentive would make it attractive for a Green Deal provider to finance a gas infill scheme to a village, and householders who signed up to the Green Deal scheme would contribute towards the cost through their Green Deal repayments. Clearly, there is a risk involved for the Green Deal provider in that they need an optimum number of households to sign up for the Green Deal in order to make the gas infill scheme work. In order to minimise this risk, Green Deal providers could try one of two approaches:

1. To work with local authorities or energy agencies who have a track record on tackling rural fuel poverty;
2. To target some of the villages where there have been public campaigns to lobby National Grid to extend the gas network.

Making main gas available to homes that previously didn't have access to it would provide additional fuel and carbon savings in rural areas which would be additional to those that would be achieved through insulation and micro-generation alone.

11.9.ii Combined heat and power/district heating

Green Deal is also an opportunity to bring the benefits of Combined Heat and Power and District Heating schemes to fuel-poor households. Until now, CHP schemes have been largely confined to larger public and commercial buildings such as hospitals, universities and supermarkets. It has proved difficult and costly to retrofit CHP to housing, although there are some highly successful examples of doing so in high-density housing, such as in Aberdeen.¹⁰³ This is because CHP developers are looking for fairly short payback periods on their investment, hence large buildings with high demand for heat and cooling, and attractive rates for export of electricity, are their preferred option. As Green Deal accepts a payback period of 25 years, then this opens up the possibility of new CHP schemes involving homes and businesses, or extending existing CHP schemes from commercial buildings to nearby housing. Densely populated urban areas will work best for this, as will social housing.

11.9.iii Green Deal, Neighbourhood Planning and community regeneration

Seventeen communities are spearheading a trial of Neighbourhood Planning, ahead of the Localism Bill which proposes to give all communities this right. This will give communities, through a referendum, the right to decide on such things as the location of shops, schools and offices, and design standards for housing. This means that communities are able to influence how money is spent locally.

We believe that this is an opportunity to test the idea of extending the Neighbourhood Planning approach to localising the way in which energy efficiency is tackled in the local community. Local people should be able to decide how Green Deal funding is spent locally, with the role of the utilities being to provide the Green Deal finance. In practice,

¹⁰³ <http://www.chpa.co.uk/medialibrary/2011/04/07/aca68579/Aberdeen.pdf>

we would favour a partnership approach between local community, local authority and utility supplier, perhaps along the lines of the E.ON UK Challenge 100 project.

Balsall Heath in Birmingham is one of the communities in the Neighbourhood Planning pilot. It is an area that we are familiar with, since one of the authors is a long-standing resident and active citizen within this area. A Neighbourhood Planning Green Deal pilot in Balsall Heath might look something like this:

- Balsall Heath Is Our Planet,¹⁰⁴ which has a track record on engaging local people in environmental activities, would head a consultation on priorities for energy efficiency investment in the area, involving residents, businesses, etc., as part of a wider Neighbourhood Planning consultation, and supported by partner organisations such as Balsall Heath Forum and St Paul's Community Development Trust.
- Green Deal providers in the area would then align their delivery with the agreed priorities. These Green Deal providers may well include Birmingham City Council (i.e. Birmingham Energy Savers); one or more utility companies with an active interest in Birmingham; one or more high street retailers, e.g. a DIY chain located a short bus ride from Balsall Heath.

The specific costs of the Neighbourhood Planning consultation around Green Deal would be built into the overall Green Deal Budget for the neighbourhood, and recovered from this as a legitimate transaction cost.

If such a consultation took place, then we as a stakeholder in the area might advocate the following:

- Local exemplars of demand reduction from hard-to-treat solid wall properties (including in a fuel-poor home) should be used as 'seeing is believing' models for household interventions across tenures¹⁰⁵
- Local organisations e.g. youth, community and faith groups should be trained and paid to market Green Deal locally to build skills, employability, community cohesion and social capital.
- Local installers, such as Logmoor and the social enterprise Jericho Foundation, who are establishing a track record in this area, could be employed as prime contractors for Green Deal locally.
- Where FIT or RHI cashback is paid to a household, then part of the payment could be in the form of vouchers to spend with local businesses to support the local economy. Where FIT or RHI is assigned to the local authority or housing association, then part of this cash-back could be in the form of a voucher to be spent on procuring services from suppliers in the area, e.g. printers, repairs contractors, neighbourhood wardens, caterers, etc. Where there is a Green Deal

¹⁰⁴ <http://balsallheathisourplanet.wordpress.com/>

¹⁰⁵ <http://www.sustainable-energyacademy.org.uk/superhomes/alder-road-birmingham;>
[http://zerocarbonhousebirmingham.org.uk/;](http://zerocarbonhousebirmingham.org.uk/) <http://inspirationbirmingham2020.com/>

package, on the assumption that the Golden Rule is met, then part of the financial benefit to the household could be a local voucher rather than purely a credit on the fuel bill.

In this way, a truly localised approach to the delivery of Green Deal would help to regenerate the local community and economy, as well as effectively tackling fuel poverty and lowering CO² emissions from the area.

11.10 How is localisation relevant to Green Deal?

To date, carbon abatement schemes in this country have been delivered on a largely centralised, 'one size fits all' basis. This approach has enjoyed considerable success. Centralised schemes led by the Big Six have succeeded in getting energy efficiency measures such as loft insulation, cavity wall insulation, low energy light bulbs and an increasing range of devices such as energy monitors and powerdowns into many millions of homes. There are two reasons why this centralised approach has worked:

- Since there is market failure in carbon abatement, a regulation-based approach has been necessary - and this has worked well because the Big Six have the financial muscle to absorb the risks associated with getting these products to a market that doesn't always even know it needs them.
- There is a high degree of standardisation in the energy efficiency products involved; the popular insulation and lighting products that many of us now have in our homes do the job well enough. Ofgem allows and encourages innovation, so for example there are more environmentally friendly alternatives such as sheep's wool available, but mineral wool does the job well enough for most people.

However, the solutions that are needed are becoming increasingly more complicated, and more in need of approaches that are targeted to resolve difficulties, to engage groups living in harder-to-treat properties, dealing with properties that require individualised solutions and owners who need to be persuaded to pay.

Furthermore, not everything in the past has been successful. Inappropriate targets, particularly those linked to modelled rather than actual energy savings, have created perverse incentives that have led to money being wasted. Detailed studies have shown that national models around energy efficiency and energy usage have been dramatically inaccurate when compared to actual usage and energy savings. The approach has tended to lead to a separating out of advice, marketing and different measures, while pilot studies that have integrated these have shown integration to be more effective. Reports and interviews relating to all of these studies have complained about the inflexible national reward targets undermining the ability to deliver the most effective approaches.

Dealing with a large variety of 'on the ground' situations, and coordinating the delivery of a range of services at the level of a particular house and household can be far more effectively done at the local, rather than the national level. Such schemes need the

flexibility to deal with barriers as they arise. If they have to abide by detailed national rules, then the distances, time and effort involved in getting rule changes is just too excessive to be able to respond to specific local conditions.

Furthermore, if the central body is to be involved in creating and amending rules to suit every situation, it will be swamped and become incapable of action. The overly centralised approach not only requires huge investment in paperwork, monitoring and research, but also destroys local enthusiasm and innovation.

There are now hundreds of low-carbon community initiatives¹⁰⁶ and Transition Town¹⁰⁷ groups in existence in all areas of the country and in all types of neighbourhood, rich and poor. Their self-determined and diverse remits are very broad, including local food, sustainable transport and pro-environmental behaviour as well as reducing fossil fuel consumption. Many of them have succeeded in delivering carbon abatement projects on a localised basis. They have succeeded not only in reducing carbon dioxide emissions, but in relocalising the economy by using local supply chains, linking local needs to local resources and capacity, and decentralising decision-making. In this way they are able to complement the undoubted advantages of a centralised, 'one size fits all' regulated scheme.

Local authorities play a leading role in fuel poverty abatement schemes; many have favoured a localised approach to tackling fuel poverty and have delivered successful area-based affordable warmth schemes which also strengthen local supply chains, markets, skills development and decision-making. These started as a way of fulfilling their statutory responsibilities and powers under the Home Energy Conservation Act, and have been enhanced by the more recent wellbeing powers of local Government.

So there is a spectrum of centralisation versus localisation, along which carbon abatement and fuel poverty programmes can be delivered. CERT and Warm Front tend to be at the centralised end of the spectrum, with Warm Zones, local authority affordable warmth programmes, Green Doctor, and Transition/low-carbon groups at the decentralised end.

This centralisation versus localisation choice is exceptionally relevant to Green Deal. We anticipate that there will be centralised Green Deal programmes delivered by utilities and high street retailers, and also localised programmes delivered by local authorities and the third sector. Both centralised and localised approaches will be able to make a case for being effective at carbon abatement; but we consider that the localised approaches, if allowed sufficient flexibility and funding, will be the far more effective in tackling fuel poverty. It will be complex to compare directly the cost-effectiveness of the two approaches. Comparison will need to consider, not just the immediate cost, but also how far they save money from other budgets (e.g. health), and the extent to which the national approaches would reach beyond the easy-to-engage groups or achieve the wider benefits of whole house approaches, behaviour change and benefits to the wider economy.

¹⁰⁶ <http://lowcarboncommunities.net/>

¹⁰⁷ <http://www.transitionnetwork.org>

11.11 Taking the drudgery out of fuel poverty

We have seen how fuel poverty isn't just about whether the fuel bills add up to more than ten per cent of household income. It is a constant struggle to keep warm and to cope with the draconian measures by which utility payment systems transfer risk, stress and discomfort to the fuel-poor consumer.

As we have outlined, there is no longer any need for utilities to see their fuel-poor customers as a risk to be managed. Ofgem should modify the supplier license so that they cannot charge a security deposit to a consumer who has a Green Deal, Feed-in Tariff or Renewable Heat Incentive package and who has not been disconnected for non-payment. The offering of a Green Deal package (assuming the household has not already had one) should be a standard part of debt and disconnection procedures and no disconnection should be allowed unless a package has been offered and refused. Consumers repaying a debt through a payment plan or a PPM and who have Green Deal, Renewable Heat Incentive or Feed-in Tariff packages, should be allowed appropriate debt holidays to enable them to manage their household finances during periods of personal difficulty or acute cash-flow problems. Fuel debt should take priority over Green Deal debt at all times and the current licence condition, where disconnection is not-allowed for non-fuel debt, should be maintained. Any utility supplier proposing to take action for alleged meter tampering should check for micro-generation measures before proceeding, and suppliers should share data for this purpose.

11.12 A flexible definition of fuel poverty

Existing indicators of fuel poverty based on eligibility for passport benefits or social housing tenure could be retained, but should be complemented by additional and more flexible definitions of fuel poverty to make sure that nobody who is fuel-poor falls through the cracks because existing definitions are too inflexible.

A flexible definition of fuel poverty takes into account the fact that there is a difference between the causes of fuel poverty, such as poor energy efficiency, which can be rigidly measured by SAP or EPC ratings, and the consequences of fuel poverty, which are 'softer' and more difficult to measure. A flexible approach to defining who can benefit from schemes targeting the fuel-poor will ensure that those who are suffering from the consequences of fuel poverty, can also be helped by schemes and not excluded because they don't meet the official definition.

People suffering from chronic cold and damp related medical conditions are the most important group who would benefit from such flexibility. Patients referred by health or social care professionals should be eligible for a Green Deal fuel poverty obligation including the highest rates of ECO subsidy. As much health and social care provision is now delivered by the private and voluntary sectors, then they should be part of the referral process. Other suitable organisations should have the ability to nominate clients at risk of fuel poverty for the obligation, including utility trust funds, and advice providers registered with Advice UK.

This type of community partnership would also help with the type of ‘find and fix’ approach to identifying the fuel-poor advocated by Ofgem as being necessary to successfully identify the fuel-poor.

12.0. Conclusions and Recommendations

On the face of it, the Green Deal seems like a simple and fair idea. The savings that households will make on their fuel bills should be used to finance or part-finance energy improvements to their homes. However, examination of recent practice and a number of pilots show that it is not that straightforward. There are likely to be major challenges in getting people to buy into the schemes; in accurately measuring and predicting savings; and in the total costs of providing effective schemes that will overcome the barriers. These challenges will tend to be at their greatest in relation to the fuel-poor. A simplistic approach will mean that the fuel-poor in general will gain proportionately the least benefit, despite the fact that for many of the measures they will pay the most, in relation to their income, due to higher fuel bills.

There are deep-seated and fundamental problems with Green Deal, which means that it will struggle to meet the needs of the fuel-poor. In the worst instances, Green Deal could plunge a household deeper into fuel poverty; in many cases, the Green Deal will make little or no difference to a household from a Golden Rule point of view. In some cases, the Green Deal will be positive for a fuel-poor household, but if the intervention isn't holistic enough then it could be a missed opportunity.

Feed-in Tariffs present a seemingly easier intervention into a fuel-poor household, especially where someone else takes the risk, e.g. through a roof-rental approach to photovoltaics. The Renewable Heat Incentive is an opportunity for many fuel-poor households, particularly those in off-gas areas, although there are drawbacks with RHI, as the wrong technology in the wrong place could make fuel poverty worse. The evidence so far suggests without effective efforts to target the fuel-poor, they will benefit the least from such schemes.

There are many ways in which Green Deal could be designed to take account of the specific needs of the fuel-poor. We would have liked to be able to conclude by saying that Green Deal definitely will solve fuel poverty, but unfortunately by examining the lessons of previous fuel poverty mitigation schemes and bringing those together with what we know about how Green Deal will operate in the real world, we can see that unfortunately this will not necessarily be the case. There are a number of recommendations that we have to make about specific measures that can be taken to make Green Deal more attractive to the fuel-poor.

If the Green Deal FITs and RHI are not to worsen the financial position of those in fuel poverty, then it is necessary to ensure that those in fuel poverty receive a greater than average benefit from those elements that are funded from the additional charges on fuel bills through the obligations on the utilities.

We fear that if greater attention is not given to the needs and circumstances of those in fuel poverty this will not happen.

- The fuel-poor already miss out on the most financially beneficial schemes (FITs and RHI) because of their lack of access to capital.

- In general those in fuel poverty will need more support to benefit from schemes such as the Green Deal. There is little sign that the scale of funding needed for this has been recognised.
- Different approaches are needed to target many of the fuel-poor. It needs to be more personalised and in many cases face to face. Trust needs to be built. It is a more expensive approach and requires different skill sets and approaches from those adopted by many large private sector companies.
- Many of the fuel-poor live in properties that lack basic insulation and will have already have been heavily targeted by traditional methods, without success.
- These approaches would have usually involved an offer of the work being done for free. Under the new systems they will be required to take out a loan and go into debt.
- We have identified that there are many effective routes into targeting the fuel-poor. These are mainly based on working through people who have direct contact with them and who will have built up trust. It would include health workers, debt advisors, some local authority staff, social landlords, and in some cases neighbours and community groups. Evidence suggests that it would not include the utility companies. It is not an approach that the major high street chains (which the Government is keen to have as suppliers) are used to adopting.
- The utilities have been required to deliver to areas with high levels of fuel poverty through the CESP programme. Where they have had success, it has been through local authorities, social landlords or community groups taking the leading role.
- The scale of success has been significantly limited by the lack of flexibility in the “reward” targets set the utilities. This means that if they fund what they have identified as some of the most cost-effective ways of reducing energy consumption and fuel bills, it does not count towards achieving their CO² reduction obligations.
- Even if there is a requirement on delivery agents to reduce fuel poverty, it will need to be the right target with the right incentives. We consider that creating such a target that is readily measurable and does not create perverse incentives will be a major challenge - if it is indeed possible.
- One crucial aspect of targets is that they need to be related to actual fuel savings, rather than modelled fuel savings.
- Increasingly, to deal with harder-to-treat properties and to achieve the higher levels of CO² savings, specific packages of measures will need to be tailored to the very specific circumstances of individual occupiers and properties. This will impact on the whole programme, but the fuel-poor have a higher propensity to live in hard-to-treat homes. This will require a move from a national menu of separate measures, to a more integrated and flexible local approach. We see little indication that the implications of this have been fully recognised.
- The use of the Golden Rule requires that estimates of future energy savings are reasonably accurate, and that they are compared to past actual costs. This will be even more crucial for the fuel-poor. Again, while we see signs of the issue being recognised, we see little indication that it has been fully addressed.

- The accuracy of surveys and the differences between modelled and actual fuel usage, costs and savings, have proved to be major issues in all the pilots that have tested them. The scale of inaccuracies are such that it must be considered impossible to use the current model for implementation of the Green Deal, instead actual energy figure and more detailed surveys need to be used.
- The complexity of current energy tariffs not only cause major problems for individuals in trying to access the best deal for them, but massive problems in deciding which tariff should be used for the Golden Rule calculations.
- There needs to be flexibility in the delivery of projects, not only to ensure that the right package is provided, but also to take account of unexpected costs associated with works.
- While the high street chains may be cost effective in targeting their customer base, they do not have the networks, experience or business models appropriate for targeting the harder-to-reach households that need to be engaged.
- While most of the fuel-poor will be hard to engage, the same will be true of many other groups.
- A multiplicity of approaches need to be adopted, some of which will be far more expensive to deliver than others.
- The fuel-poor will require a multi-faceted approach of energy works and advice, along with in many cases financial and behavioural advice.
- Health impacts are at the heart of concerns with fuel poverty and there is a powerful opportunity to engage many of the most needy fuel-poor through health workers. Yet this does not seem to be part of the Green Deal thinking or of mainstream health thinking.
- The introduction of FITS has seen major falls in the prices of photovoltaics. They have also exposed skill shortages. Many other aspects of retrofit works are more highly priced in this country than in Germany and Scandinavia. There is a need for a market-making approach to get the best deal for the UK economy.
- A whole-house approach is recognised as the most cost-effective approach to reducing energy usage and thus both fuel poverty and CO² emissions. To deliver this requires a co-ordinated delivery at the level of the individual household. Most of the existing and proposed systems separate out different measures (e.g. renewable from Green Deal) in a manner that fits the approaches of Government and many delivery agents, but will undermine the aims of the programme and the interest of individual householders. The proposed limits on Green Deal will mean that most households are unable to undertake a whole house approach under Green Deal funding, and will be pushed to adopt a piecemeal approach. Having delivery agents who will put together the whole house package and help find affordable funding is the most realistic way of tackling this problem.

Overall, we see that as energy prices continue to rise and awareness grows of the benefits of retrofitting homes, new customers will come forward to take advantage of the Green Deal and the renewables packages that are on offer. The 'sell' to some of these groups will

be relatively straightforward and will sit easily with the existing marketing practices of high street chains. Our concern is that this approach will not work for many of those in fuel poverty or for the hard-to-treat homes. While we recognise that there has been significant movement on this by the Government over recent months, we are still concerned that the details of the Green Deal and renewable packages will be too influenced by the approaches that work for the high street chains and national agencies, rather than the more flexible and localised approaches that work for people and communities.

We believe that the new approaches *can* be used to help alleviate fuel poverty, but that such an approach needs to be based around local delivery partnerships that include agents able to identify and support the fuel-poor at key times of change in their lives such as when seeking health or debt advice.¹⁰⁸

The evidence from case studies and interviews supports the view that the most cost-effective way of tackling fuel poverty is through the Factor Four type of approach targeted both through area-based schemes and by use of key trusted individuals who can identify and refer those in fuel poverty who would benefit from the Green Deal. In addition, it is clear that for the majority of properties, a detailed survey and set of recommendations is required. We consider that sooner or later, if it is to be effective, a locally targeted and directed approach will be needed to be at the heart of the energy efficiency and renewables programme. There are too many variables, too much need for flexibility and too much interconnectedness for one set of national policies to be able to create the right approach for the majority of cases. Furthermore, the information chain is too long for those in the centre to keep up to date with issues as they arise on the ground. While there are aspects, customer groups and property types that can be standardised and dealt with through a national standard and national marketing, the systems should not be designed just to meet the needs of the organisations that are best placed to meet this easier section of the market.

12.1 The respective roles of private sector, public sector, and voluntary sector

The private sector will have a key role in Green Deal as a provider of finance, a customer interface and an installer of measures. The main strengths of the private sector as a customer interface are:

- High street retailers will be able to develop specific offers that appeal to different market segments and therefore reach a wider range of households; they will be able to align Green Deal marketing with the marketing of their other products. We agree with the CBI's view that private sector providers should promote Green Deal through targeted communications at appropriate trigger points, for example when people are buying their first home or installing a new boiler.¹⁰⁹

¹⁰⁸ In effect this is similar to the B&Q approach of targeting home movers to become their customers.

¹⁰⁹ CBI: *A Real Deal? Making the Green Deal Work*, <http://bit.ly/ns35Hu>

- The utility companies have the infrastructure to market and bill for energy efficiency products; they have experience at working with local authorities and social housing providers, which puts them in a good position to deliver to fuel-poor households.

The disadvantages of the private sector as a customer interface are as follows:

- Neither the utilities nor high street retailers are currently trusted by the public to deliver Green Deal, although there are opportunities for them to build that relationship.
- Some high street retailers have experience of marketing energy efficiency products e.g. insulation affiliate details, but this is not their core business and they lack expertise in whole-house solutions. They could learn about this from those who have delivered Retrofit for the Future projects.
- The utilities need assistance in identifying the fuel-poor, often from local authorities or the third sector.
- High street retailers have little means of identifying and locating the fuel-poor apart from general demographic information, and have little time in which to learn how to do so. They will not know if someone is vulnerable unless the vulnerable consumer themselves, their utility company (assuming the utility knows themselves) or a third party such as a charity informs them so. They will have little understanding of the complexities of fuel poverty or its link to health inequalities.
- They do not have the experience of targeted area-based working and ensuring that the approach is cost-effective.

The advantages of the public sector, i.e. local authorities, are as follows:

- They are more trusted than high street retailers or utilities to market Green Deal; where not delivering directly, their endorsement is highly valuable.
- They have a direct interest in their locality and in disadvantaged neighbourhoods.
- They have a strategic role to play, increasingly so because of the Decentralisation and Localisation Bill.
- Most local authorities have direct experience of delivering to the fuel-poor, either in their own right or through partnerships e.g. with Warm Zones.
- Bulk procurement and economies of scale in an area-based approach does bring down, and effectively subsidise, installation costs, making the Golden Rule more attainable.
- Many local authorities have experience of area-based home improvement work and being able to make the approach cost-effective.
- They have wide range of connections with health advice and other relevant workers.

The disadvantages of the public sector are as follows:

- They are limited in not being able to link the marketing of Green Deal with other lifestyle or consumer products that may be of interest to consumers.
- Procurement protocols may add to the complexity and cost of establishing a scheme.
- They are faced with spending restrictions.

The advantages of the voluntary sector as a customer interface are as follows:

- The third sector is able to spot opportunities that the other sectors are unable to.¹¹⁰
- Parts of the third sector have greater connections with localities and know the area better, so people are less likely to ‘fall through the cracks’ of a large and complex initiative such as Green Deal.
- There is greater public trust in the third sector as a messenger than the private sector.
- The Big Society agenda is helping to fuel an interest in the sector.

The disadvantages of the third sector are as follows:

- The sector is diffuse with no uniform coverage; the private sector has a preference for universal reach and branding.
- There are substantial cultural and value differences between the voluntary sector and the private sector that would need to be overcome.

12.2 Recommendations

12.2.i For Central Government

- 1) Recognise the need for a variety of approaches to the delivery of Green Deal.
- 2) Recognise the strengths and weakness of different types of potential delivery agents.
- 3) Recognise the importance of the whole house, Factor Four, localised approaches to reducing fuel poverty and maximising CO² reduction.
- 4) Link funding and targets through the reformed ECU programme to allow funding for the more expensive whole house and Factor Four approaches. This could provide extra “points” for helping those in fuel poverty and other hard-to-reach groups.
- 5) Enable local authorities to deliver multi-stranded integrated whole house approaches, where such an approach is supported by an approved low carbon plan.
- 6) Allow the flexibility for such plans to set local rules, targets and criteria for spending of utilities’ obligations.
- 7) Recognise the need for using actual energy usage figures and costs (rather than modelled ones) in any programme delivery.
- 8) Recognise the need for more substantial property surveys and the need to fund them.
- 9) Recognise the added difficulty of selling loans, where previously grants have been available and allow for the additional costs of engaging people.
- 10) Recognise the implications of the complex sets of existing tariffs for the delivery of the Green Deal and either require simplification or require that Green Deal providers provide the advice and support necessary to ensure that the household

¹¹⁰ <http://www.nesta.org.uk/library/documents/BGC-Evaluation-Exec-Summary-FINAL.pdf>

tariff is at least as good as the assumed tariff in their Golden Rule calculations and that it will continue to be so for at least five years.

- 11) Review the targeting of relevant funds (including winter fuel payments) to improve their targeting to alleviate fuel poverty and to maximise CO² savings.
- 12) Encourage greater involvement of health workers in tackling fuel poverty and the delivery of the Green Deal.

There are a large number of more detailed recommendations for central Government throughout the text.

12.2.ii For Delivery Agents

- 1) Be clear whom you are targeting and design your approach accordingly.
- 2) Be clear as to the need for accuracy in surveys and energy usage and how you will achieve it.
- 3) Where you are partnering with other agencies to deliver aspects of the services, be clear what they will bring, how they will fund it and how they will be able to maintain that service. Trust in particular is hard to win and far easier to lose.
- 4) Green Deal delivery agents should share information about the real-world performance of energy saving measures to make it easier for Green Deal assessors to accurately prescribe measures.

12.2.iii For local authorities

- 1) Identify the needs for different types of delivery within your area, and develop appropriate and fundable proposals for their delivery.
- 2) Recognise your strengths and lobby for a key role in local delivery.
- 3) Seek to attract the appropriate partners including delivery agents.
- 4) Develop whole house integrated delivery and Factor Four approaches for appropriate areas.
- 5) Involve health professionals, community groups, and advice workers in engaging people with the Green Deal.
- 6) Facilitate the delivery of the programme to those most in need of support.

12.2.iv For fuel poverty action groups

- 1) Recognise that with rising fuel prices and the existing definition, Government cannot remove fuel poverty within the foreseeable future.
- 2) Recognise the importance of linked agendas such as CO² reduction, energy security and health. Seek to ensure that actions on these fronts help reduce fuel poverty, rather than worsen it.
- 3) Hold central and local Government, utilities and regulators to account for what they could achieve.

12.2.v For health workers

- 1) Engage in this agenda.
- 2) Identify the health cost savings associated with alleviating fuel poverty.
- 3) Use your health expertise to support partnership working and to refer those in need to the appropriate providers.

12.2.vi For voluntary and community groups

- 1) Be clear what you have to offer.
- 2) Understand the agenda and its implication for your organisation.
- 3) If you are considering entering into a partnership with a delivery agent, be clear how they will deliver; and in particular how they will manage the discrepancy between modelled and actual energy usage and savings.
- 4) Ensure you are clear as to whether you will be able to fully cover your costs
- 5) Be clear on the skills and resources you will need and how you will acquire and maintain them.
- 6) Remember trust is hard to win and easy to lose.

13.0 Glossary

anaerobic digestion	Anaerobic Digestion (AD) is a method of generating clean electricity and heat from recently deceased organic matter such as agricultural waste and food waste, without the environmental damage caused by energy-from-waste systems based on incineration.
biomass	Biomass is recently deceased organic matter that absorbed carbon dioxide by photosynthesis or by eating plants while it was alive. This means that any carbon dioxide released by burning it does not add any new greenhouse gases. This is unlike fossil fuels, which absorbed carbon dioxide tens of millions of years ago over a long period of time, but are now responsible for releasing large amounts of 'new' greenhouse gases into the atmosphere in a very short space of time.
carbon dioxide (measured in tonnes)	Carbon dioxide is the main greenhouse gas emitted in the generation and consumption of heat and power and therefore the main cause of climate change. Carbon dioxide is usually measured in kilogrammes or tonnes. A typical home might emit 6 tonnes of CO ² a year, for example. Insulating the walls of a typical home might save 600 kilogrammes or 0.6 tonnes of CO ² a year.
cavity wall insulation (cwi)	A type of wall where there is a small gap or cavity between 2 layers of bricks, common in homes built since around 1930. It is usually possible to insulate the cavity.
CERT	A statutory obligation on fuel suppliers to deliver carbon saving measures in homes, such as insulation, energy efficient lighting, display energy monitors.
CESP	A statutory obligation on fuel suppliers to deliver fuel and carbon saving measures in the homes of people in super output areas that are at risk of fuel poverty.
CIH	Chartered Institute of Housing
combined heat and power (including district heating)	A localised energy generation plant located in areas of high demand for heat and electricity that generates electricity and reuses the heat to provide heating to homes and businesses. Heat is distributed through a neighbourhood heating network. Electricity may be distributed locally through a private wire electricity grid or exported to the national grid. Often found in hospitals, universities, etc and sometimes in areas of high-density housing. Also district heating, which provides heating only but not electricity.
Decentralisation and Localism Bill	Bill currently going through Parliament whose proposers say that it will decentralise decision-making to local communities.
DECC	Department of Energy and Climate Change
ECO	Energy Company Obligation - a statutory obligation on fuel suppliers to deliver carbon and fuel saving measures in homes - will replace CERT in 2012
energy efficiency	Efficient use of energy through better energy management, more efficient appliances, and measures to reduce waste of heat and power.
energy from waste	Generating electricity and/or heat from domestic and commercial organic and non-organic waste streams
energy monitor (aka display energy monitor)	A device that links to a conventional electricity meter that enables the user to view real-time information on electricity consumption by kWh and price at their convenience

Energy Performance Certificate	A certificate giving information about the energy rating of a building fabric and its fixed appliances, that must be produced each time a home is built, sold or let.
EU ETS	European Union Emissions Trading Scheme, whereby large energy users are allowed to trade their carbon dioxide emissions with others with the intention of reducing emissions overall, but which has been strongly criticised for failing to achieve significant emissions reductions.
Evergreen tariff	A fuel tariff that does not have a fixed term and renews itself automatically from year to year.
fuel poverty	Officially defined as where a household needs to spend 10% or more of its income on fuel in order to provide adequate heat and power to their home.
Fuel Poverty Advisory Group (FPAG)	Advisory group set up by Government to monitor the implementation of the Fuel Poverty Strategy.
generator	Anyone who generates electricity, such as a nuclear, coal or gas power station; a wind farm; a home with a solar electricity panel.
geothermal	Geothermal energy comes from the heat generated by geological processes beneath the earth's surface.
Green Doctor	Green Doctor is a project developed by Groundwork that gives home based advice on energy saving and other environmental issues.
Hard-to-treat	Hard-to-treat homes are homes that cannot have the most cost-effective energy saving measures such as cavity wall insulation or gas condensing boilers, because they are not suitable e.g. because they have solid walls or do not have access to mains gas.
heat pumps	Heat pumps operate like a fridge or air conditioning unit in reverse - through a heat exchanger they transfer heat from one place to another. An Air Source Heat Pump removes heat from the atmosphere outside a building and brings it inside. A Ground Source Heat Pump absorbs heat from the earth's surface and brings it inside. This is not geothermal energy since the energy comes from the sun warming up the earth's surface.
micro combined heat and power	Micro combined heat and power has similarities to a district CHP but is designed for one building or house only. It is designed to generate heat and produces electricity as a by-product.
micro-generation	Micro-generation is where renewable electricity or heat is generated on a small scale e.g. in a home, school or village hall, rather than on a large scale like a wind or solar farm.
NEA	NEA is the national charity campaigning for warm homes and an end to fuel poverty.
NHER	National Home Energy Rating scale launched in 1990
NI185, NI186	NI185 and 186 are national indicators on fuel poverty and carbon emissions that have recently been abandoned by the Government.
NRTFC	National Right to Fuel Campaign
Ofgem	The Gas and Electricity Marketing Authority, known as Ofgem, is the regulator of mains gas and electricity generation, shipping, transmission, distribution and supply in the UK. Its responsibilities include regulating CERT and CESP.
Pay-As-You-Save	Pay-As-You-Save is where energy efficiency measures are supplied to a household at no upfront cost, the cost being spread over an agreed period and added to the electricity bill monthly or quarterly to be repaid.
photovoltaic	see solar electricity

powerdown	A powerdown is a device that enables the user to turn off multiple related electrical appliances from one switch e.g. TV or computer equipment.
Priority Services Register	A list upon which fuel suppliers must register vulnerable consumers on request, and offer them special services to address vulnerability issues.
renewable energy	Energy from sources that occur naturally and repeatedly in the environment, e.g. organic waste, wind, solar, tidal, wave, geothermal.
Retrofit	Where energy saving or renewable energy measures are installed in an existing building.
SAP rating	SAP (Standard Assessment Procedure) is a measure of the energy efficiency of a building and its fixed appliances, on a scale of 0-120.
smart meter	A meter that is able to communicate remotely with the fuel supplier, as opposed to a traditional 'dumb' meter that needs to be manually read. A smart meter will also have additional functionality depending on the design. Display Energy Monitors are not smart meters because they are not able to communicate remotely with the fuel supplier.
solar electricity	Electricity that is generated from the sun's radiation using a photovoltaic panel, to be used within a building or exported to the national grid.
solar hot water	A solar thermal or solar hot water system uses the sun's heat to directly provide hot water to a building.
solid walls	Solid walls is where there is no gap or cavity between the two layers of brick.
uplift	Uplift is where a regulated statutory carbon saving scheme such as CERT or CESP attributes additional value or credit to a measure because it needs to be encouraged, e.g. because it is innovative.
u-values	U-value is a measure of the heat-retaining properties of glazing or walls, with lower U-values representing less heat loss.
Transition Town	Transition Towns or Transition Initiatives are local community organisations that seek to reduce dependence on fossil fuels to respond to climate change and peak oil. They are part of a growing world-wide movement. There are also low carbon community initiatives who don't call themselves Transition Towns but have a similar approach.
Warm Front	Warm Front is a central Government funded fuel poverty programme that installs measures such as efficient heating systems and sometimes insulation in the homes of people in receipt of qualifying benefits.
Warm Zone	A Warm Zone is an area-based model of implementing fuel poverty mitigation programmes. It is a social enterprise subsidiary of NEA.
Winter Fuel Payment	Winter Fuel Payment is an annual sum paid to all pensioner households to help them with the costs of winter fuel.

Appendix 1: The multiplicity of customer types

If the new Green Deal Plus approach is to work, it is important to recognise that there is a wide range of different customer types, and that they will need a wide variety of different approaches to engage them in the proposed energy efficiency and domestic renewables programmes.

Below are 12 examples of different groups with particular characteristics in relation to the challenges of engaging them.

1) Those who are actively seeking to undertake major improvements to their homes (often associated with moving home and preparing for children), should be relatively easy to target and engage. They are unlikely to be particularly concerned about disruption to their home undertaking work themselves or employing a builder. DIY chains, builders and estate agents are obvious links to targeting these groups.

2) There will also be another group for whom cost is the key issue. Some of these will have the capital to invest and the only support they might need is to ensure that they are getting a good deal in a new and confusing market. For those without access to capital, there is the added issue of being able to borrow at reasonable rates of interest. Linking marketing to billing is a good approach for the cost conscious. Cost comparison websites provide another opportunity, especially if attractive tariffs can be linked to the Green Deal.

3) The group of people living in easy-to-treat homes that have not yet had work done are likely to be a significant challenge. Most will have already received numerous leaflets and cold calls offering free or very heavily discounted offers for cavity wall and loft insulation. Getting these properties improved will either require targeting them at a time of changed occupancy or far more effective engagement with the occupiers. Area based schemes such as those described above, which work with local communities and build trust, provide one example of how to spread engagement. Schemes such as Birmingham Energy Savers and Summerfield Eco Neighbourhood also show that using high profile and visible technologies such as solar panels helps to engage both residents and their neighbours in undertaking wider actions to reduce their fuel bills and carbon footprints. At the heart of such approaches is the creation of discussion, interest and trust. People need to believe that the advice they are being given is well informed and honest.

4) Hard-to-treat homes provide additional challenges. The required work will be more expensive, more disruptive, using some measures for which the market in this country is not mature, and will require a more skilled level of specification and installation if they are to work properly. For most people, all these factors will add to their resistance to undertake the works. Showing a model of long-term financial savings will not be enough (unless the savings are huge) to persuade people to adopt. To persuade them to adopt, they will be far more likely to need advice and support from people they trust to specify the works, to select the installer and to check the quality of the work.

5) For some people, the key concern will be avoiding disruption to their property or lives. If they are to be engaged, they will need good quality advice on the measures that can be undertaken that will minimise disruption. This may include organising and managing the work for them and even arranging for them to be decanted while the work is undertaken. It may also involve accessing funding to ensure that damaged decoration etc is put right.

6) Those suffering from poor health will provide challenges that may include higher than normal fuel bills due to spending more time at home. There are also new opportunities for engaging them. Surveys show that GPs elicit very high levels of trust. If health workers can be persuaded to act as referral agents, then they can provide a very effective means of engagement and also make savings on their health budgets.

7) Those with fuel debts are usually unable to change their suppliers and may not be on the lowest available tariff. This will, in some cases, cause problems in making the Golden Rule work for them. It will also make them reluctant to take on the further debts required for them to participate in the Green Deal. However, when they are seeking advice and support to help them manage their fuel, debt provides a good opportunity to engage them in improving the energy efficiency of their home. Thus, there is potentially important role for debt advisory agencies in engaging this group in the Green Deal.

8) There can be a whole range of reasons why people have abnormal levels of fuel use. They include having access to free fuel such as wood; under heating; profligacy; being on the wrong tariff; being at home full-time; or the SAP rating not accurately reflecting the energy efficiency of the home. If the Golden Rule is to work in practice for these groups, then these issues need to be identified and addressed. This may involve the provision of energy and behavioural advice, or it might involve using actual, rather than, modelled fuel bills. If these issues are not addressed, then the projected savings will be inaccurate and if lower than predicted, they will quickly undermine trust in the scheme.

9) Another challenge comes from those who only anticipate being in their home for a short period. They are less likely to be willing to put up with the disruption of works and more concerned about the long payback period under the Green Deal. For those thinking of selling their home, they may be concerned that estate agents and lawyers may charge higher fees because of the assigned debt to the property and that, rather than encouraging buyers to pay more, it may reduce the price.

10) For those in rented property, they will be used to the landlord being responsible for major works to the dwelling and will be likely to question why they, rather than the landlord, should take on the added debt and the hassle of organising the works. The same attitudinal issue will arise with the tenants of private and social landlords. For landlords, the Green Deal provides no real incentives. Landlords do not usually pay the fuel bills (except in common areas) and thus cannot benefit from the fuel savings made from Green Deal investments. Overcoming tenant views that such work is the landlord's responsibility will be hard to overcome. Where landlords have good relations with their tenants, they can provide a good agency for engaging tenants in the scheme. It would be more straightforward, from the landlord's and tenant's points of view, if the landlord could

undertake the work and attach the same level of repayment to the rent rather than the fuel bill.

A briefing prepared by the Energy Efficiency Partnership for Homes says that a basic set of Green Deal measures (i.e. cavity wall and loft insulation) will not be relevant to many homes in the private rented sector. This is because of a) a lack of homes needing or suitable for cavity wall insulation, either because they are too old or too new, or b) a lack of homes needing loft insulation, because they are flats, or modern homes with pre-installed insulation. In addition, the private rented sector has a higher number of electrically heated homes and singled glazed properties. Fuel switching and glazing measures need to be eligible for Green Deal if the sector is to fully benefit.

11) There are a whole range of cultural factors that will impact of how best to engage people. Language is an obvious issue. There are also issues about how far Muslims will see the Green Deal as an interest-bearing loan that is not compliant with Sharia law. On the other hand, many faith groups are actively engaged in seeking to combat climate change and could therefore be effective engagement partners. Some new migrants will be used to living in much higher temperatures or paying rents that include energy bills. All of these factors can impact on attitudes to energy efficiency and how best to engage people.

12) There will also be a group of households who want to be seen to be green. High visibility products such as PVs will be easy to sell to them, but less visible things such as insulation, may require a different approach.

Appendix 2: Fuel poverty and the transfer of risk from supplier to consumer

Fuel poverty is usually defined in terms of the economics of not being able to afford adequate heat and power, or sometimes in terms of a measurement of the energy performance of a building and its fittings. There is another way to look at fuel poverty, which is the *transfer of risk from the supplier to the fuel-poor consumer*. This risk transfer happens in a number of ways, for example:

- The consumer takes on additional financial risk by paying more for their fuel by non-direct debit payments such as pre-payment or quarterly credit;
- Non-direct debit payments also incur additional inconvenience and risk in locating and travelling to payment outlets, in the case of the rural fuel-poor these risks can be significant;
- Britain's 8.8 pre-payment meter (PPM) consumers take on an additional risk of self-disconnection due to cashflow or non-availability of payment outlets; they also bear an additional risk of ownership of an electronic payment card, which results in loss of supply if faulty, lost or stolen; Around 16% of PPM users self-disconnect at least once a year¹¹¹ – that's nearly 1.5million households going without heat or light, sometimes for days at a time;
- The fuel-poor are often forced to shoulder an extra financial and cash flow risk through a security deposit;
- PPM users bear additional risks associated with the complexity of programming of meters, particularly at trigger points such as moving home or changing supplier where there is an additional layer of risk for pre-payment meters over credit meters;
- Debt repayment through a pre-payment meter poses additional risk for the fuel-poor because the meter expects to collect debt as a priority over fuel use, irrespective of seasonal factors which might mean no fuel is being used, e.g. hospitalisation, holidays, or other periods away from home, or non-heating periods;
- Organised criminals prey on unsuspecting fuel-poor households by selling fake pre-payment tokens door to door and in pubs.¹¹²

For some fuel-poor households in the most energy inefficient properties, fuel poverty can also be seen as the transfer of risk from the landlord to the tenant. Inefficient electric heating, such as storage heaters, poorly insulated or glazed housing, are all ways for landlords to transfer risks associated with upfront capital expenditure on energy saving measures, or with annual gas safety checks, to the tenant.

Piecemeal energy efficiency interventions have mitigated some of these risks, as have cash handouts. However, a fuel-poor household will typically face not one, but many of the risks outlined above. This is another argument in favour of a lasting whole house intervention to lift a household out of fuel poverty.

¹¹¹ Consumer Focus: *Cutting back, cutting down, cutting off*

¹¹² http://www.utilityweek.co.uk/news/news_story.asp?id=195146&title=Police+raid+London+shops+in+action+against+pre-payment+meter+fraud

Integrating FIT or RHI measures into a Green Deal package also makes sense for the supplier from the point of view of recovering Green Deal charges. One of the major fears of private sector suppliers in offering Green Deal packages to the fuel-poor is the perceived, and real, risk of the household defaulting on the Green Deal payments. The economics of this would vary from household to household, according to the measures to be installed, but the profitable nature of RHI/FIT packages means that the guaranteed and regular FIT/RHI income could offset cashflow risks associated with Green Deal repayments to save suppliers the hassle of chasing up Green Deal repayments and save the fuel-poor household the heartache of struggling to make repayments or even self-disconnection.

These solutions presuppose that, where the Green Deal provider is different from the fuel supplier, e.g. a high street retailer, local authority or housing provider, there are adequate billing systems to reconcile funds between Green Deal provider, FIT/RHI provider and fuel supplier. This will need to be the case for any standard Green Deal package anyway, and as the different actors will need to share data, it should present no additional problems to build in these additional protections for the fuel-poor.

Security deposits are one of the harshest forms of discrimination that the fuel-poor face in the competitive market. Fuel suppliers have always had the right to charge a security deposit yet seemed to manage without them until the last decade where their use has become more and more widespread, with suppliers charging fuel-poor households a security deposit despite not being in debt, simply for having a poor credit rating. An upfront security deposit of several hundred pounds is completely out of the question for most fuel-poor homes. Where a household does not pay the security deposit, then the supplier will force them to have a PPM, again irrespective of whether or not there is any actual debt. This unfair practice need have no place in a home with a Green Deal package or FIT/RHI installation, especially the latter where the guaranteed income should mean there is no need for a security deposit. Suppliers should not be allowed to charge a security deposit where there is a FIT or RHI installation.

A further form of discrimination against the fuel-poor is the widespread misuse of meter tampering allegations by utilities as a backdoor debt recovery method. Ofgem have recently warned suppliers of the statutory framework in which they must operate, following a referral of a supplier to Ofgem by Consumer Focus for failing to operate within that statutory framework.¹¹³ Despite this, there is evidence of consumers with micro-generation measures being falsely accused of meter tampering, a criminal offence that carries a prison sentence, by utilities.¹¹⁴ Although in this instance, the innocent victim appears to be relatively affluent and has successfully argued his way out of an illegal disconnection by his electricity supplier, we know that it is disadvantaged areas that are more likely to be targeted for accusations of meter tampering. Vulnerable people and those with lower levels of education are less likely to be able to argue their way out, since Ofgem's intervention shows that vulnerability is no barrier to an illegal disconnection for alleged meter tampering.

¹¹³ <http://www.ofgem.gov.uk/Markets/RetMkts/Compl/Theft/Documents1/Open%20Letter%20on%20Theft%20Disconnections%20%28Final%29.pdf>

¹¹⁴ <http://www.guardian.co.uk/news/2010/nov/08/weatherwatch-solar-electricity>

Appendix 3: People interviewed and attendees at the workshop

Interviewees	
Birmingham Settlement	Cheryl Daniels
Northfield Eco Centre	Luke Olly
Consumer Focus	Liz Lainé
Government Office for the West Midlands	Paul Cobbing
Credit Unions	Bob Patterson, Pat Conaty
Encraft	Matthew Rhodes
B&Q	James Walker
Stroud District Council	Sally Daley
	Neil Hopkins, Martin Hammond, Neil Morton
Birmingham City Council	Morton
Energy Saving Trust	Christophe Harwood
HCA	Anne-Marie Simpson
SHAP	John Sharpe
Black Country Housing Association	Richard Baines
DECC	Chris Leigh
Solihull MBC	Robin Dunlevy
Walsall MBC	Mandy Findlay
Luton Borough Council	Dylan Katuwawala
Durham District Council	Cliff Duff
Consumer Focus	Hannah Mummery
Citizens Advice	Tony Herbert

Attendance at stakeholder workshop, 27 January 2011	
Solihull MBC	Robin Dunlevy
EnergyExtra	Anne-Marie Neenan
Birmingham Settlement	Cheryl Daniels
Birmingham City Council	Neil Morton, Bill Goodfellow Jenny Howarth, John Burns
Black Country Housing Group	Richard Baines
New World Solar Installations	Mark Clemson
NEA	Saleem Sheikh
Localise West Midlands	Sam Leuty-Miller, Karen Leach Jon Morris, Phil Beardmore
EST	Lynn Melling



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