April 2012

Green Deal
Opportunities For Industry

Energy Efficiency Partnership for Homes

construction products association

Foreword

I am very pleased, as the Minister with responsibility for the Green Deal, to be able to introduce the wide range of Green Deal Opportunities for Industry.

The Green Deal is a radically new, market driven approach to energy efficiency. Helping companies understand their place in the Green Deal and the many opportunities available will be key to its success.

This document, produced by industry and aimed at industry, is in itself an example of how collaborative working can help companies prepare for the Green Deal. It highlights how many firms are already gearing up to enter this new market, as well as showcasing previous examples of the installation of energy efficiency measures.

I welcome this approach, by the Construction Products Association and Energy Efficiency Partnership for Homes working with partners from across industry. I hope that industry finds it a valuable tool in the run up to the launch of the Green Deal.

Gregory Barker
Minister of State for Climate Change

acknowledgements

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disclaimer

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1. Introduction

1.1 Background

'Green Deal Opportunities for Industry' has been published by the Construction Products Association Green Deal Project Team working with the Energy Efficiency Partnership for Homes (EEPH). It is aimed at manufacturers, distributors, main contractors and installers, from individuals to SMEs to large organisations, wanting to work within the Green Deal.

It is only a Guide and should not be used for legal compliance purposes. DECC's official documents and procedures should always be referred to for compliance under the Green Deal and ECO. It is early days within the Green Deal, which is still under consultation. The framework will remain, but some of the **working details may change!** Please monitor the DECC website for confirmation on the final policy details and resulting changes in requirements.

Section 1 gives a brief introduction to the Green Deal and Energy Company Obligation (ECO).

Section 2 highlights some of the opportunities arising from the Green Deal and ECO to industry. It aims to provide ideas and show examples of what is possible.

Section 3 sets out the requirements for the Green Deal, explaining what companies must do in order to supply into the Green Deal. It includes simple checklists of actions required for the approval of products and systems, installers, Green Deal Providers and assessors.

Section 4 has been contributed by the Energy Efficiency Partnership for Homes (EEPH) and showcases examples of how area based schemes can be run and how companies are already managing installations of multiple measures within a property.

The appendices contain detailed examples of what companies are already doing in preparation for the Green Deal, case studies of area based approaches and installing multiple measures and a glossary of Green Deal terms and abbreviations.

1.2 The Green Deal

The Green Deal is a government sponsored framework designed to enable organisations, known as Green Deal Providers, to offer consumers energy efficiency improvements to their homes and businesses at no up-front cost. Consumers will pay back the cost of such improvements through the resulting savings in their energy bills.

Improvements can include energy efficiency measures, such as loft and cavity wall insulation, energy efficient glazing, innovative hot water systems, condensing boilers and controls, solid wall insulation, as well as microgeneration measures. A full list of eligible measures will be available on the DECC website.

Charges are attached to the electricity bill at the property and unlike conventional loans the charge is transferred to the new occupant should the original occupant move from the property. The period of the loan will vary dependent on the cost of the measure and the rate of saving, but could be up to 25 years.

At the heart of the Green Deal Policy is the 'Golden Rule', which determines how much finance can be borrowed. The Golden Rule is the principle which limits the amount of Green Deal finance that a Provider

can attach to the electricity bill to the estimated energy bill savings that are likely to result from the installation of measures under the Green Deal plan. The Golden Rule will not be a guarantee however it aims to provide customers with a reasonable expectation that they will not face increased costs as a result of the Green Deal charge being added to their bills.

If the package of measures which a customer wants to install does not create enough fuel bill savings to fully off-set their costs, they can choose to part-pay the difference.

The Green Deal represents a significant opportunity for industry. Retailers, tradespeople, energy companies and investors will have access to a huge and growing market, with implications for jobs and skills across the supply chain and across the country. It is predicted that employment in the sector could more than double by 2015.

The central rationale of the Green Deal is to reduce carbon emissions in the most cost effective way. By making our homes and businesses more energy efficient we can cut our carbon emissions and make real progress reducing greenhouse gas emissions and preventing climate change.

The Green Deal is scheduled to be launched in autumn 2012 in England, Scotland and Wales. You can find more information on the DECC website at the following link: www.decc.gov.uk/en/content/cms/tackling/green_deal/green_deal.aspx. For up-to-date news on the progress of the Green Deal and ECO direct from DECC, you can subscribe to their Green Deal Bulletin at the same link.

1.3 Energy Company Obligation (ECO)

The Energy Company Obligation (ECO) has been developed in parallel with the Green Deal and is a key part of the overall Green Deal framework.

ECO will replace the Community Energy Saving Programme (CESP) and the Carbon Emissions Reduction Target (CERT), which end in December 2012. It is a legal obligation placed on energy companies requiring them to promote certain measures which improve domestic energy efficiency, reduce emissions and reduce the cost to households of heating their homes. ECO, like CERT and its predecessors, requires the energy companies to spend money and it is commonly assumed that this money is raised through increases in energy bills. ECO will be structured so that it can sit alongside the Green Deal, focusing on households that need support over and above the Green Deal, either to install more expensive measures (e.g. solid wall insulation), or enabling them to heat their homes properly.

ECO will focus energy companies on improving the ability of the vulnerable and those on lower incomes to heat their homes affordably, through the Affordable Warmth target and on hard to treat properties such as solid wall properties, through the Carbon Saving target.

The first phase of ECO, extending to March 2015, is likely to deliver around £1.3bn per year of energy company investment. The Government have shown a strong commitment that ECO will be in place for the long term - 10 years – and that targets will be set at consistently ambitious levels over this period. This will be split into two targets, as defined below.

- **Carbon Saving Target** – Approximately 60% of ECO funding will be available for hard to treat properties, including hard to treat cavity walls. Where solid wall or hard to treat cavity insulation is being installed this can be accompanied by other measures which reduce heat loss from a property, such as glazing and draught proofing.

  A certain proportion of this target will need to be delivered through a 'brokerage model' to allow open and transparent access to ECO funding for third parties. This is likely to take the form of an online trading system where Providers sell carbon saving points and energy companies buy them.

Affordable Warmth Target (also known as the home heating cost reduction target) – At least £540 million per year will fund energy saving improvements in the worst off homes; £350m a year to deliver heating and insulation measures to around 270,000 low income and vulnerable households by 2015, helping them to heat their homes. This will focus assistance where fuel poverty rates are highest and ensure help is available for those most in need.

DECC is also considering ways to provide more targeted support for the lowest income homes. This could mean that for those living in the poorest areas, including in social housing, specific support worth around £190m a year will be available from the energy companies to upgrade homes and flats with loft and cavity wall insulation, as well as other insulation measures, to make them warmer and cheaper to run.

This target will be measured on reductions in fuel bills.

Requirements for supplying and installing products under ECO funding will be exactly the same as for Green Deal funding, however ECO will only cover domestic properties and not commercial.

1.4 The Green Deal Process

Step 1: Information and Consumer Awareness

Authorised Green Deal Providers are expected to market the Green Deal 'offer' to energy consumers. (See section 2.9 for marketing opportunities and 3.17 for further details on marketing requirements). In addition to this, the government will support a remote advice service consisting of a telephone line and web pages that went live on the 2 April 2012. The phone line will be run by the Energy Saving Trust and Careline Services. When the Green Deal launches in the Autumn it will provide information to customers. (See press release: www.decc.gov.uk/en/content/cms/news/pn12_037/pn12_037.aspx). This 'Energy Saving Advice Service' (ESAS) will provide basic information about the obligations and protections that are part of the Green Deal, as set out in Green Deal Code of Practice, and then refer customers on to the appropriate body should they need to pursue the matter in more detail. They will also offer a source of impartial information, referral to assessors, installers and Providers, and help with customer complaints. There will be separate advice lines one for England and Wales and another for Scotland. Note the advice line is not aimed at providing advice for industry.

Step 2: Assessment

A Green Deal assessment (referred to as a 'qualifying assessment' in the regulations) will act as the gateway to the Green Deal.

Consumers may approach an advisor directly or contact a Green Deal Provider who will arrange the assessment for them.

An approved Green Deal advisor (also known as an assessor) will visit and carry out a fabric assessment of the consumer's property and provide additional more personal advice based on how they use energy in their home/business. The advisor will then make a recommendation on which measures are suitable for the particular building. Only measures which are listed on this recommendation will be eligible to access Green Deal Finance.

The assessment in both domestic and non-domestic properties will take into account the physical characteristics of the property and the way occupants are using energy. In the domestic sector the assessment will comprise an improved Energy Performance Certificate (EPC) assessment based on standard occupancy using RdSAP. The Green Deal advisor will also carry out an occupancy assessment of energy used by the current occupier. The EPC and occupancy assessment will then be put into a Green Deal Advice Report. In the non-domestic sector the assessment will build upon the EPC assessment using SBEM and will include additional functionality to capture actual use. The information is then put into a Green Deal Advice Report (GDAR).

The customer is then free to take the assessment to any Green Deal Provider they wish to receive a quotation from. (See section 3.10 for requirements for assessors and 3.3 for details of eligible measures).

Step 3: Shopping Around for the Best Quote

Following the assessment, a Green Deal Provider will then offer the customer a quote for the installation of some or all of the measures and assuming that this is accepted, a Green Deal Plan will be created. Customers may also shop around following the quote and indeed if the measures to be installed are likely to cost over £10,000, the customer will be obliged to obtain three different quotes. (See section 3.8 for requirements for Providers).

Step 4: Installation

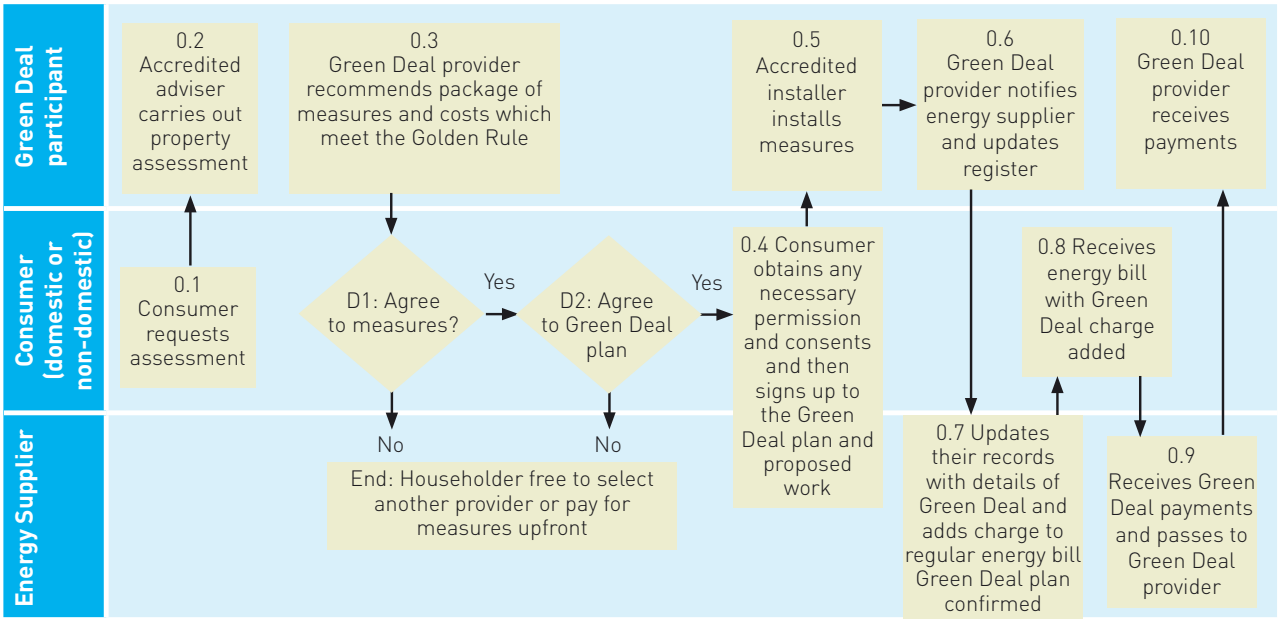
Once a Green Deal plan has been agreed between the customer and a Green Deal Provider and the necessary consents have been obtained, the Green Deal Provider will arrange for the installation of the measures by an authorised installer and once completed repayments can begin via the energy bill. The Provider will then arrange for the EPC certificate to be updated to reflect the installed measures and lodged on the EPC register with details of the work carried out. (See section 3.11 for requirements for Installers).

Step 5: Repayment

The costs will be paid back via the electricity bill for the property. (See section 3.13 for more information on costs). If the customer defaults from the beginning of the Green Deal and so the supplier doesn't collect any of the charge, then they are not liable to pass anything on to the Provider. If the customer part pays, it is split proportionately between the Green Deal Provider and energy supplier. It will be for the energy supplier to recover the payment in the long term through their normal procedures.

Process Map

A simplified process flow of the customer journey can be seen below. A more detailed process map can be found on the DECC website
www.decc.gov.uk/en/content/cms/tackling/green_deal/gd_customer/gd_customer.aspx



2. Opportunities

2.1 Market Potential

The Green Deal will open up a new market, with a wide range of business models that suits any company, large or small. DECC has estimated that there will be billions of pounds of investment in the sector and that employment could double by 2015.

Around 6 million cavities remain unfilled[2].

Around 6 million households have not had their lofts insulted to the recommended level.

Around 7 million solid wall properties have not been insulated, with a further 1 million timber clad solid wall buildings that could also benefit from insulation.

Around 6 million households do not have double glazing in all their windows.

Around 70% of English homes do not have a full set of heating controls[1].

Around 12 million homes have non-condensing boilers[2].

The statistics above have been taken from DECC reports and is not an exhaustive list of every market within the Green Deal. For more information on market potential in your sector it is advisable to speak with trade bodies and other relevant organisations.

Greg Barker, the Minister of State for Climate Change, reported that 5% of profits from companies within the UK are lost due to inefficient buildings. There are savings of £23 billion available to business if companies take up the Green Deal and make their own premises more energy efficient.

To be in a position to realise this opportunity it is important that companies within the supply chain train their personnel to be knowledgeable in the Green Deal and help customers through the Green Deal process to ensure it is successful.

Government has announced new proposals to change part L of the building regulations to help drive uptake of the Green Deal. In summary, this includes new requirements for additional 'consequential' energy efficiency improvements where work (such as an extension or the replacement of windows or boilers) is already planned to an existing building and Green Deal funding is available as an option to meet the up-front costs. DCLG estimate there are 200,000 extensions per year, 1.4 million boilers replacements and 1 million window replacements. Therefore this could be a significant demand driver for the Green Deal. The impact assessment accompanying the consultation estimates that the potential number of properties to which the Green Deal could support would be 120,000 in 2013, 910,000 in 2014 and 970,000 in 2015. Details on the consultation can be found at http://communities.gov.uk/news/corporate/2077965.

26% of all dwellings with the lowest Energy Performance Certificate rating (G) are in the private rented sector[3]. The Energy Act 2011 established powers that prevent private residential landlords from refusing a tenants' reasonable request for energy efficiency improvements to be undertaken in their properties from April 2016. From April 2018, all private rented properties must be brought up to a minimum energy efficiency rating of 'E'. This provision will make it unlawful to rent out a house or business premise that does not reach this minimum standard. Landlords and tenants will therefore be a significant target market for industry.

1 Green Deal and Energy Company Obligation Consultation Document, DECC, Nov 2011
2 Figures supplied by DECC
3 Energy Bill – Green Deal Impact Assessment, DECC, Dec 2010

2.2 Energy Company Obligation (ECO)

The ECO targets will have to be delivered by the Energy Supply companies. This will mean they are obliged to carry out a certain number of energy saving projects or face hefty financial penalties. The actual targets are still under consultation, but similar targets have lead to the success of earlier schemes, such as CERT and CESP. ECO funding will be approximately £1.3 billion per year and creates one of the most certain opportunities alongside the Green Deal.

DECC has made a commitment that the ECO will be in place for the long term - 10 years - and that ECO will be set at a consistently ambitious level over this period.

The carbon saving target is based around hard to treat properties, such as those with solid walls. The potential solid wall insulation market is large. Between 7 and 8 million properties could benefit from this measure over the long term[4].

The current installation rate for solid wall insulation is around 20,000 per year. The Green Deal will require a ten fold increase in installation rates with an annual rate of 150,000 to 200,000 by 2015[4].

The current market split is in favour of External Wall Insulation (EWI) as this is a more established market and from a supply chain perspective we can assume a greater proportion of EWI than Internal Wall Insulation (IWI) in the short term. However, with time the split is expected to become more even as EWI is generally a more expensive option and many properties are likely to require a hybrid of the two.

The Affordable Warmth target will be set to help those in fuel poverty. At least £540 million per year will fund energy saving improvements in the worst off homes. £350m a year to deliver heating and insulation measures to around 270,000 low income and vulnerable households by 2015. Also, around £190m a year will be available to upgrade homes and flats with loft and cavity wall insulation for those living in the poorest areas, including in social housing. Upgrading 180, 000 homes per year in total[5].

It is anticipated that the ECO will drive area based installations involving energy supply companies, local councils, landlords of social housing, etc. These groups will require assistance in providing products, installation and planning. (See section 4 for more details on area based installations and appendix 2 for examples of such schemes).

2.3 Supply Chain Opportunities

It's important to emphasise that Green Deal is not a new way of delivering energy efficiency improvements: it's a new way of paying for them. The old, tried and tested schemes, projects and measures can still be applied, but now you can use Green Deal as the financing mechanism.

We expect there will be many different approaches to energy efficiency improvements using Green Deal.

Some companies will position themselves as one-stop-shops, covering all aspects of promotion, assessment, financing and installation. We expect this to apply to larger companies – for example, energy companies such as British Gas (see example 3 in appendix 1 for details) and some retailers, but also to locally-driven and community led schemes.

Organisations with a strong brand – again including retailers and perhaps consumer facing or environmental charities – may choose to apply their brand to a Green Deal service that is then delivered by subcontractors.

In many cases, more ground-up approaches will prevail. Local installers, working in partnerships, will identify opportunities on a house-by-house or street-by-street basis and introduce customers to authorised assessors.

4 These figures were agreed following a series of supply chain workshops involving DECC, INCA, SWIGA, the NIA, Construction Skills and the CPA.
5 Figures supplied by DECC

These local partnerships could be facilitated by trusted 'hub' organisations, as in Stroud where the District Council has brought together a supply chain network of over 100 local businesses. (See case study on Stroud District Council in appendix 2).

Perhaps the biggest shift in the market will be the move from selling a product to selling a service or package. A combination of assessment, finance, measures and customer protection will have to be communicated to potential customers. Some retrofit firms, architects practices and installation companies are already making this transition in how they communicate with potential customers.

There are collaborative opportunities for organisations to partner and market packages of measures which have bigger energy saving potential (e.g. passive and dynamic measures) and to offer whole house solutions. Another opportunity is the provision of project management of large scale area based installations for Providers and local authorities carrying out improvement projects in their area. (See section 4 for more details on area based installations and appendix 2 for examples of such schemes).

There is also the opportunity to use the Green Deal to trigger interest in other types of improvements, repairs, etc. which are not technically eligible for Green Deal finance because they do not provide savings on the property's energy bill, but will involve other areas of industry and SMEs. A good example is measures that save cold water in homes. Green Deal advice will encourage customers to think about their whole property and what can be done to improve energy efficiency and wider sustainability. Water companies and Green Deal Providers could create partnerships to see a range of work being done in the property all at the same time. Other examples are the provision of charging points for electric vehicles or sound-proofing alongside other insulation measures for properties in flight paths.

Many local authorities are already well advanced in planning for the Green Deal and ECO. To support, understand and encourage this activity, Ministers announced during the Energy Bill debates in Parliament the intention to retain the Home Energy Conservation Act (HECA) 1995 in England. This provides a mechanism for local authorities to report on activity to improve energy efficiency in the residential accommodation in their areas. Much of the effectiveness of HECA will lie in the guidance that DECC is developing and aims to publish later this year. For example, the new HECA guidance is likely to ask local authorities to report on how they plan to engage with the Green Deal and the future Energy Company Obligation (ECO). Local industry reps should make contact with their own local authorities to see how they are planning to deliver Green Deal.

There are opportunities for businesses to work with local authorities who have energy efficiency programmes. Birmingham City Council is currently in the process of procuring a Delivery Partner to manage the delivery of the Green Deal, (see example 5 in appendix 1, for more information). A group of social enterprises in Birmingham is involved in preparing for Green Deal and delivering Go Early initiatives. Operating under the umbrella of Birmingham Social Enterprise Energy Network, they include non-environmental social enterprises with a wider interest in social welfare such as Saltley and Washwood Heath Practical Care Project, as well as specialist environmental organisations. Energywise, a women's workers' co-operative, offers energy advice, EPCs and Green Deal assessments and Jericho Foundation, provides training placements to unemployed young people doing solar installations and solid wall insulation. B-seen members are currently delivering the Birmingham City Council Stay Warm, Stay Well project, as well as a home energy assessment project led by Balsall Heath Is Our Planet, funded by the Energy Saving Trust LEAF programme, in preparation for Green Deal, working with the Energy Saving Co-op. The social enterprises expect to be part of the delivery of the Birmingham Energy Savers scheme later in 2012.

For more information contact: Phil Beardmore, Localise West Midlands
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Energise Barnet CIC is a social enterprise, planning to provide a one-stop shop for the Green Deal in the London Borough of Barnet arranging impartial Green Deal assessments, surveys, quotations, finance and installation of energy saving measures and renewables. They have developed a network of local community organisations and others that will refer property owners to them and are establishing community buying groups so property owners can secure installation price discounts. Property owners will be able to register online for impartial Green Deal assessments or upload existing assessments which they will aggregate in order

to obtain discounted offers from a panel of best-of breed, Green Deal Providers. In this context, they have been asked by Barnet Council to produce a plan containing a range of options for delivery of the Green Deal in the borough. For more information contact: Nigel Farren, Energise Barnet CIC (0208 441 6599, nigel@energisebarnet.org.uk)

Keepmoat is a leader in delivering community regeneration across the United Kingdom and is passionate about creating vibrant, sustainable communities in which people are proud to live and work in. Keepmoat have already worked with a range of public sector partners to deliver a range of Green Deal pilot projects and are continuing to develop further schemes to test a wide range of options and strategies. For more information contact: Nigel Banks, Head of Energy & Sustainable Solutions (07837516349, nigel.banks@keepmoat.com). Website: www.keepmoat.com & www.keepmoatgreensolutions.co.uk.

The Coalition Government's Big Society agenda has the potential to support local partnerships. The Big Society is about putting more power in people's hands locally, in particular through empowering communities by giving councils and local neighbourhoods more power to take decisions and shape their areas. It is also about opening up services to enable charities, social enterprises and co-operatives to compete to offer them. DECC is working with communities on how they can engage with Green Deal. For example, the recent Local Energy Assessment Fund is supporting over 80 communities nationally to deliver local projects including gearing up for Green Deal and is being administered by the Energy Saving trust (EST).

£20million has been made available in loans for energy efficiency in schools, universities, hospitals, local authorities and other public sector buildings. Salix loans are provided for energy efficiency projects that pay for themselves within five years through lower energy bills. Repayments are made from the money saved on bills, and once the loan has been repaid the organisation will continue to benefit from the low carbon equipment and the savings it delivers. To date, the scheme has funded over 7000 projects across Great Britain. More information can be found on the Salix website: www.salixfinance.co.uk/home.html.

2.4 Opportunities for SMEs

The Federation of Master Builders (FMB) estimates that small building and contractor firms carry out approximately half of all repair, maintenance and improvement work in the UK and employ around two thirds of the construction workforce. The SME builders community and SMEs from all sectors with qualifying measures will therefore have an important role to play in the delivery of the Green Deal. In particular SME builders are very often the party in direct contact with householders and most familiar with the individual property and are therefore well placed to advise householders on specific works that might be appropriate and to trigger Green Deals[6].

For smaller companies and individual installers who are keen to get involved in the Green Deal, there is an opportunity to find Providers such as DIY companies and merchants looking for local installers to carry out work and advise them on installation requirements. SIG plc is an example of such a company (See example 4 in appendix 1 for more details). Providers will need to be registered by the Oversight Body and will be listed on-line on an official register. This will be a good place to find organisations to work with. Examples of Provider companies can also be seen in appendix 1 and the first 22 pioneer organisations are listed on the DECC website at the following link: www.decc.gov.uk/en/content/cms/news/pn12_042/pn12_042.aspx. More detail will be available on DECC's website in due course.

In recognition of the fact that SMEs must play a key role in delivering retrofits both with and without Green Deal financing, a number of new localised 'umbrella' organisations are being set up in the UK. RetroPHit and The Green Building Partnership are two such examples who are exploring the potential of collaboration in certain areas.

6 Green Deal and Energy Company Obligation Consultation Document, DECC, Nov 2011

RetroPHit is a social enterprise company (LLP) offering a high quality 'energy efficiency retrofitting' service to householders, landlords and business owners. It offers a 'one stop shop' from building assessments through to post refurbishment support. It is also training local SME building firms to deliver the work via a competitive tender process, based on 'approved' lists of builders. RetroPHit offers a way to demonstrate best 'Green Deal' practice locally and deliver a large number of demonstrably effective and affordable low energy domestic and non-domestic refurbishments.

The Green Building Partnership, based in Brighton and Hove, is a not for profit company limited by guarantee that brings together companies involved in energy efficient buildings. The advantage is that the partnership structure allows member companies to bid for larger projects that would otherwise be beyond their individual reaches. The Green Building Partnership is committed to the support and learning of its members, growing a local supply chain of specialists and creating new local employment.

In essence these two companies offer:

1. Nationally recognised local expertise, knowledge and advice
2. Training and 'approval' of local builders and larger specialist companies
3. A high quality 'Whole Building Retrofit Plan'
4. Affordable but effective, robust solutions plus tried and tested products and installers
5. Quality Assurance for refurbishment work
6. Delivery of warmer, cheaper, more sustainable homes and workplaces
7. A growing evidence base and an increasing number of successful exemplar retrofits

For more information contact:
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Green Building Partnership: info@greenbuildingpartnership.co.uk, Tel: 01273 961272, website: www.greenbuildingpartnership.co.uk

There is also an opportunity for new networks and groups to be formed; agents to hold approved lists of installers, manage installation work and help with administration brought about by new standards, buying groups, and project management groups for assistance in area based and multiple measure installation. A local Installer Network is a core feature of the Stroud Target 2050 Homes programme. (See case study in appendix 2 for more details).

Large installer companies, for example Mark Group (see example 7 in appendix 1), could provide sub-contracting opportunities for SMEs to enable flexibility and be able to provide specialist services. There is also an opportunity to adapt skills and bring new skills into the industry.

The Green Deal is voluntary. Without SMEs and property owners realising the benefits of implementing energy efficiency measures, uptake of the Green Deal in this area is likely to be very small. Green Deal Finance will also be available for non-domestic properties. Raising awareness of the benefits for SMEs would help open up the market. Ernst and Young estimate that a 10% uptake from this market would equate to an annual market size of some £800m in 2020 and £560m pa by 2016. The Ernst and Young report 'Making energy efficiency your business' can be found at the following link: www.ey.com/Publication/vwLUAssets/Making_energy_efficiency_your_business_-_Understanding_the_potential_of_the_non-domestic_Green_Deal/$FILE/EY_Making_energy_efficiency_your_business_-_Non_domestic_Green_Deal.pdf.

2.5 Opportunities for Manufacturers and Distributors of Products and Systems

It is possible to finance, at least partly, the installation of any product that falls within the range of eligible measures. These are not just insulation measures and the Green Deal also covers microgeneration technologies.

Manufacturers and distributors can supply products and systems into the Green Deal provided they meet with the requirements set out in the Code of Practice (Annex D) and are selected as suitable for the property by an assessor. (See section 3.4 for more details on product/system approval). Installers will only be able to use Green Deal approved products, so this is a must for companies wishing to take up this opportunity.

There will be no requirement for manufacturers and distributors to register their products/systems therefore an opportunity lies for companies to compose their own lists of Green Deal products and independent organisations to offer assistance to Green Deal participants by holding registers of approved products.

Manufacturers should also consider registering products within the product differentiation database with evidence of energy performance. Taking this action could enable manufacturers to leverage more Green Deal finance and increase product sales. (See section 3.6 for more details on the product differentiation process).

There are supply chain opportunities for component manufacturers to provide their products to manufacturers of Green Deal eligible products.

The non-domestic sector will have a greater requirement for non-insulation type products such as lighting, and ventilation. There is an opportunity for manufacturers and distributors of these products to supply into this market.

Green Deal Providers will be the most likely participant involved in the selection of the brands/products chosen for a property within the Green Deal. If unable to become a Provider (see section 3.8 for requirements for Providers), then this is a key relationship that manufacturers and distributors will need to have. Providers will need to be registered by the Oversight Body and will be listed online on the official register. This will be a good place to find organisations to work with. More detail will be available on DECC's website in due course. Examples of Provider companies can also be seen in appendix 1 and the first 22 pioneer organisations are listed on the DECC website at the following link: www.decc.gov.uk/en/content/cms/news/pn12_042/pn12_042.aspx.

Providers will also specify to the installers the work needed to be carried out. In reality unless the Provider is knowledgeable in the products and their installation that they are specifying, there is an opportunity for manufacturers, distributors, Installers or other experienced organisations to provide technical or domain expertise to advise Providers and assessors about specific and new products.

There is an opportunity for distributors to stock Green Deal approved products (fabric, microgeneration and other) and accessories to supply into Green Deal. This will be a particular advantage for area based and multiple measure installations requiring a range of products from various sources to be supplied together. Offering discounts on bulk supply will enable more measures to be financed under the Golden Rule. (See section 4 for more detail of supply chain opportunities with regards to area based and multiple measure installations).

Distributors can also provide energy efficiency advice to their customers to increase uptake of the Green Deal. One company, the 'Green Energy Centre', is a franchisor and has a franchise offer which is a bolt on resource for existing merchants, building and plumbing, to upskill them to provide energy information to their customers. Please use the following link for further details: www.greenenergycentre.co.uk/.

Products and systems that are better performing, cheaper and easier to install are more likely to be selected for Green Deal finance. Innovation in these areas is an opportunity for manufacturers.

DECC will provide £10m innovation funding for the application of pre-commercial technologies which can achieve significant energy savings in existing non domestic buildings. This programme will be delivered in partnership with the Technology Strategy Board (TSB). Details of how to apply will appear on DECC and TSB's respective websites by early May.

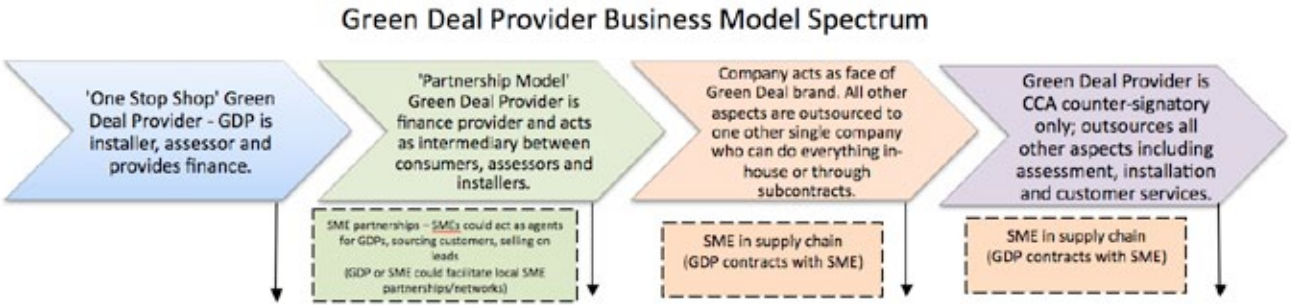
The Green Deal offers homeowners and tenants an exceptional opportunity to insulate their dwellings as part of an overall energy efficiency package. The installation of an insulation system will change the way that heating and ventilation need to be considered and it is important for the occupier to be given information on the changes they may need to make, for example reducing the time the heating is on for, opening windows more often and ensuring vents are unblocked. Most of the time, these simple behaviour changes will be sufficient. However there may be situations where additional ventilation will be beneficial. There is an opportunity for ventilation companies to supply continuous ventilation systems as part of an overall package where internal or external wall insulation is being installed along with cavity wall insulation or energy efficient glazing.

The Green Deal Provider should assess if additional ventilation is necessary based on the insulation system being specified and the fabric of the property being treated. The systems provider will be able to give advice on this. If additional ventilation is required then BEAMA ventilation manufacturer members can advise on suitable systems for installation. These include decentralised mechanical extract ventilation systems; decentralised mechanical ventilation with heat recovery systems or BBA approved Positive Input Ventilation systems. Visit BEAMA website at www.beama.org.uk for manufacturer listings or e-mail Kelly Butler at kbutler@beama.org.uk for more information.

2.6 Become a Green Deal Provider

There is an opportunity for any company to become a Provider within the Green Deal. Providers will be the participant who is most likely to select the brands/products being used, so becoming one, or partnering with one is a particular opportunity for manufacturers and distributors. They will also arrange for the products to be installed, so being a Provider offers an ideal opportunity for installer companies and any company already holding a consumer credit licence.

The model for Green Deal Providers is very flexible. Potential Green Deal Providers can fit into the spectrum below where they feel most appropriate, matching with one of the examples or with a mixture as long as they fulfil the minimum requirements along with the ongoing obligations. (See section 3.8 for details of Provider requirements).



Providers can range from small local businesses such as ReEnergise Finance (example 1 in appendix 1) based in the South East to larger national companies such as Willmott Dixon (example 6 in appendix 1). Further examples of Green Deal Providers can be seen in appendix 1.

Providers may have access to ECO funding for their customers by either contracting directly with energy companies or through the brokerage system and allow them to make a competitive offer. More details on brokerage will be available on the DECC website in due course.

If obtaining finance is a problem for companies wishing to offer a Provider service, there is an opportunity for companies to join organisations such as the Green Deal Finance Company (TGDFC). (See example 2 in appendix 1 for further information).

There is an opportunity for distribution firms to become Providers and offer standard loans in addition to Green Deal finance for measures which are not eligible, such as water saving measures, radiators, decoration, etc., thus increasing product sales through offering whole house solutions. Alternatively, Distributors can offer to supply additional products alongside Green Deal eligible measures. Also, to set up formal or informal relationships with local installers to enable a Green Deal offering, assisting their customers, SMEs and individual installers to become part of the Green Deal market and further increasing sales. They could offer assistance with the administration process where the single installer may struggle.

Providers may include the assessment cost within the Green Deal plan to encourage uptake of the Green Deal and will be able to offer a maximum of £150 cash back or 5% of the cost of the plan, which ever is less.

Where a package includes a measure which is particularly cost-effective, the Green Deal Provider may be able to rely on the savings likely to be generated by that improvement to finance some slightly less cost-effective improvements under the Green Deal plan which would otherwise have required top up finance from another source. Also, offering a low interest rate on loans will enable more measures to meet the Golden Rule and increase uptake further.

2.7 Become a Green Deal Assessor

A Green Deal assessment is the 'gateway' to the Green Deal. No measure can be installed under Green Deal finance without first having been deemed suitable for the property by an approved assessor. Therefore there is an opportunity for manufacturers and distributors to offer this service to consumers provided they have met the requirements for being a Green Deal Assessor. (See section 3.10 for requirements for assessors). There is also an opportunity for other companies to set up an independent assessment service free from commercial ties.

The assessment is impartial from commercial bias. Assessors are required to declare any ties to a Provider / energy supplier through the certification process and oversight functions.

All organisations providing Green Deal assessments will be listed on a central register so consumers will be able to check that they have signed up to the Green Deal Code of Practice and are legitimately using the Green Deal quality mark. This will give consumers confidence in the standard of assessment and, as a result of the ESAS, can also assist the assessor in obtaining business. The central register will be set up by the Oversight Body. More details will be available on DECC's website in due course.

The plan in the early stages of Green Deal in Scotland is that only members of the protocol organisations who currently undertake the preparation of EPCs will go through the APEL route to become certified Green Deal Assessors. There is an opportunity for new entrants to the market by going through the qualifications when they are up and running but they must then be employed by a protocol organisation. There is a full list of Scottish Approved Organisations and their contact details on the Scottish Government website at: www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/profinfo/epcintro/epcguidadvice.

2.8 Become a Green Deal Installer

For many businesses there is an opportunity to become an authorised Green Deal Installer. Only Installers who have been authorised can operate under the Green Deal (see section 3.11 for more details on installer requirements), but they will have access to a huge new market, be able to benefit from the quality and reputation of the Green Deal and work on contracts where they can be sure of payment at the end.

Once authorised, there are many ways an installer can operate within the Green Deal framework whether they are sole traders, SMEs or large organisations:

- Directly employed by a Provider
- As part of the supply chain for a Provider (i.e. sub-contractor)
- As an agent (promoting the Green Deal to their existing customers)

Three possible models are shown in the diagram below:

Green Deal: 3 Installer business models

For the latter two options installers should consider how they might engage with Green Deal Providers, and what their market offer might be. For instance, working through a trade association or local business network, or creating your own network to enable you to offer a wider range of services and installations.

Working through trade associations, chambers of commerce or other business networks will help small businesses create networks which can support each other and provide coverage of all or many of the Green Deal measures. Installers may also wish to develop links with assessors to create local delivery networks. There is an opportunity for trade bodies to help their members and installer companies to sub contract to sole traders and SMEs forming bigger groups, bringing together the installation of different measures and associated trades such as electricians, scaffolders, plumbers, decorators, etc. Networking for installers wishing to be involved within the Green Deal will be essential.

For example, the National Insulation Association (NIA) is providing extensive support for its members and potential members on how they can become involved in and gearing up for the Green Deal. The NIA is a trade association for manufacturers and installers of insulation measures cavity wall, loft, external wall, internal wall and hybrid insulation systems as well as draught proofing. For more information please email info@nationalinsulationassociation.org.uk or alternatively click here: www.nationalinsulationassociation.org.uk/householder/index.php?page=how-to-become-a-member

There is no right or wrong way for installers to engage with the Green Deal. Some installer firms may take a leading role, acting as the face of Green Deal Providers, dealing directly with all customer issues. Others may work alongside Green Deal Providers, providing their professional and technical services and leaving customer relations to the provider. Some firm may also work with Providers to help them design installations and produce quotes for customers.

A consumer can go directly to an independent installer to carry out the work, so there is an opportunity for installers to market the Green Deal themselves. Experience shows that consumers want local installers that they trust. Installers will still need to form a relationship with a Provider company to work within the Green Deal framework.

Where measures are installed under the Energy Company Obligation, with no Green Deal finance, the installer could be directly employed or sub-contracted by the ECO supplier.

There is also an opportunity to broaden an installer's skill base to be able to install multiple measures, for example plasterers becoming renderers for EWI systems. One example of an SME company making the most of this opportunity is The Green Deal Group. (See example 8 in appendix 1 for more details).

Firms who offer a whole house retrofit installation service by combining trades will present an opportunity for either individual installers or small companies to expand.

The installation of energy efficiency measures will also require the replacement or transfer of pipework, electrics, radiators, etc. meaning an opportunity for plumbers, electricians, joiners, scaffolders and many other trades to benefit from Green Deal retrofit projects. Installers with a wide range of skills in-house are able to deliver packages of measures very effectively as demonstrated by Dyson Insulations in the Dickenson Road case study. (See appendix 2 for details).

Installers will also be in a position to offer remedial work as required by the Provider and also to have the opportunity to offer assistance for the homeowner in vacating the property; furthermore for internal wall insulation (IWI) systems installers will be able to offer redecoration as an incentive to customers to promote uptake.

A key driver in the implementation of Green Deal will come from the public sector; Housing Associations and Local Authorities, For example Birmingham City Council, (See example 5 in appendix 1 for further information) will be looking to place contracts with Green Deal Installers.

A key component to the Green Deal is making it accessible to all. This in turn will provide further opportunities for installers to assist homeowners not located on the gas grid, for example in rural areas. Available finance could be used to connect properties to the gas grid, where possible and economic, or used to support the installation of appropriate microgeneration where mains gas is not a realistic option or the consumer's choice.

2.9 Marketing Opportunities

£200m of government funding will be made available to provide a special time-limited 'introductory' offer to boost the early take up of the government's Green Deal energy efficiency scheme. DECC will announce details of how this will be used as we get closer to the launch of the Green Deal.

Previously the energy efficiency market was dominated by energy companies. DECC are now opening up the market to everyone. Companies will need to market the Green Deal themselves to help ensure uptake. Here are a few ideas:

Opportunities still remain for extremely cost effective measures and Green Deal will allow households to insulate their homes with low cost cavity wall and loft insulation at no up-front cost.

Companies have the opportunity to market other benefits, for example soundproofing, alongside the energy efficiency benefits of their products and to offer incentives to increase consumer demand. One example would be to offer free gas connection with energy efficient boilers to incentivise customers to take up the Green Deal. The framework allows for customers to choose to install measures over time and to take out more than one Green Deal.

Using the Green Deal quality mark in marketing activities will help to make this signal of high quality advice and services as broadly recognised as possible and assist in driving customer demand for Green Deal.

A big opportunity is expected to come from getting those considering renovation or refurbishment to think about including improvements that can increase energy efficiency at the same time, whilst their home/ business will already be disrupted.

There is a number of potential links between the Green Deal and the domestic element of the Renewable Heat Incentive (RHI), including similarity of customer base, and some technologies. Some renewable heat technologies will be eligible under the Green Deal finance and improving energy efficiency in a property can help to boost the effectiveness of many renewable heat technologies, such as air and ground source heat pumps. There is plenty of scope for greater integration in the marketing of the RHI and the Green Deal, allowing consumers to make more informed consumer choices. However, at the moment there are a number of obstacles to further integration of the financial mechanisms that mean combining them is not currently possible.

Offer loft clearing schemes and boarding services for homeowners installing loft insulation, which companies like E.ON are already doing:

'Our priority is helping our customers to control their energy bills, and this includes helping them to become more energy efficient. In order to get the take-up required, we know that we have to make sure customers understand the benefits of becoming more energy efficient and that the process has to be hassle-free.

Building on our experience in delivering energy efficiency measures through programmes like the Carbon Emissions Reduction Target and the Community Energy Saving Programme, we have been trialling a number of Green Deal products to test what sort of incentives make energy efficiency measures attractive for customers.

Our trials include a product called 'Love your loft'. Here we are incentivising customers to take up loft insulation by providing practical help in clearing your loft. The loft insulation and other energy efficiency measures are covered by the Green Deal finance package.

We also know that timing is important and know that customers are more likely to think about energy efficiency when they are moving house or when they are doing major home improvement projects. We're therefore trialling a product that suits these circumstances.

We are also looking at a Community Green Deal trial, to understand whether communities will come together to take up energy efficiency measures'.

For more information from E.ON on their Green Deal projects contact: Zara Cuming, Delivery Manager – IGNITE (02476182385, Zara.Cuming@eonenergy.com).

Changing the way householders view a potential property to encourage more energy efficient homes to be purchased as a preference is one way to encourage uptake of the Green Deal. E.ON is currently working on a scheme aimed at changing the perception of energy efficiency in the property market.

Non-domestic properties with energy consumption performance improved under the Green Deal could be more attractive on the rental market (green credentials, better EPC/DEC, lower energy costs).

DECC figures indicate that 65% of non-domestic properties are leased. Consequently, there is an opportunity for packaged measures which pay back in a time that is lower than the residual lease period creating a more attractive proposition for the lease holder.

Installers and manufacturers must adopt a marketing approach in order to inform and motivate consumers and to capitalise on opportunities. Just 35% of product manufacturers interviewed view the Green Deal as an important opportunity for the industry. 78% of installers interviewed view the Green Deal as a great opportunity to grow their businesses according to research by CIM Construction Industry Group. There is great opportunity here for manufacturers and installers to build alliances to promote sustainable products. From the same research poll, 79% of these manufacturers/installer partnerships have found them to be successful (To see the report use the following link: www.cimcig.org/files/library/Taking_Sustainabilit_1313575604.pdf)

Energy Performance Certificate (EPC) data will be made available to help Providers target specific properties with specific measures. Information will be available on the EPC register at the following link: www.epcregister.com/

The social housing sector will play a key role in the Green Deal and there are opportunities for industry to work within pilot schemes.

It is widely agreed that ensuring uptake, across all tenure types, is key to ensuring the Green Deal has an impact on carbon emissions and fuel poverty in UK housing stock. Gentoo, a Housing Association in the North East, has been working on generating uptake – 'how will we get people on board?...

At Gentoo we wanted to understand how our customers felt about energy saving retrofits, what would motivate them to get involved and what was important to them in terms of their expectations. We have been trialling the Green Deal principles in our 'Energy Saving Bundle' (ESB) pilot in 1000 of our social housing properties. We offered packages comprised of new energy efficient boilers, double glazing and solar photovoltaic panels (PV) and like the Green Deal, we applied a charge to ESB properties to pay towards the cost of installing these efficiency measures.

Using what we learned from previous retrofit projects we took a considered approach to customer consultation – the packages are offered on a voluntary basis and we have allowed our customers to pay in a way which suits them. Our current uptake rate is promising - 84% of customers who have been offered the ESB have taken a package, with a further 240 calls received from customers wishing to be involved in future energy efficient retrofit schemes. This project has shown us how we can approach the Green Deal when the scheme goes live; we feel a cross tenure, community approach by a trusted organisation will ensure efficiency as large scale programmes can be undertaken.' For more information contact: Luke Gallagher (01915255971, luke.gallagher@gentoogreen.com). Web link www.gentoogroup.com/for-customers/179/ and click on 'Energy Saver Bundle'.

In the non-domestic market there is an opportunity to include businesses in local area based approaches. Businesses may be put off by cold calling, so try marketing via networks, forums, trade bodies etc.

2.10 Training Opportunities

All assessors and installers have to be certified by an authorised certification body that will be responsible for auditing Green Deal professionals. The Oversight body will hold the official list of Green Deal certification bodies. Currently, there is a Green Deal pilot scheme involving several certification bodies to see how the auditing will work for Green Deal advisors. This involves several of the existing accreditation schemes for energy assessors. Awarding bodies such as City & Guilds and ABBE will be responsible for developing the qualifications and auditing training delivery.

Assessors and Installers will need to be trained to carry out any work within the Green Deal. Certification bodies may endorse training courses but can not carry out training. There is a separation between training and awarding certificates. Training can be provided through a number of streams: companies, sector skills councils, colleges, etc. There is an opportunity to become a training provider and offer training to either participant. Saint-Gobain is one company offering such training. (See example 9 in appendix 1 for more details and section 3.12 for training requirements).

Asset Skills, as part of the Green Deal Skills Alliance (GDSA), is developing a Green Deal advisor syllabus which will drill down from the National Occupational Standards to help with consistent delivery of the Green Deal advisor qualifications. In addition the GDSA has developed two train the trainer manuals (advice and installation) to assist with quality of training delivery. The GDSA will also be running train the trainer pilots in the run up to Green Deal launch. To be kept informed about the availability of all train the trainer support, potential training providers should join the training provider network by emailing greendeal@assetskills.org.

As it currently stands, the company aspects of the MCS scheme, Quality Assurance, etc. will just pass over into the new Green Deal scheme but the technical competencies will have to be gained through up-skilling. So if you are MCS registered and want to install solid wall, you will have to have the technical competencies to do this work (contact MCS directly for further information).

The number of external and internal wall insulation installers needs to increase over the next ten years to deliver the number of jobs required to meet carbon budgets. The number of trained operatives is currently around 2000[7]. This installation rate needs to increase at least ten-fold over time. The Green Deal will require between 8,000 and 10,000 installers[7]. DECC is working with the National Insulation Association, INCA and others to ensure that there is an appropriate training infrastructure in place and that the 1000 Green Deal apprenticeships announced in the Budget 2011 can be fully utilised.

DECC has announced that £1m will be invested in training up to a 1,000 'go-early' Green Deal assessors, mainly from those already qualified as Domestic Energy Assessors.

Also, £2.5m will be invested by DECC and Construction Skills to train installers. This funding will focus on one of the key sectors – solid wall insulation – where industry and government analysis has highlighted particular challenges if the sector is to significantly ramp up its capacity. The funds will provide both training of trainers and up to 1,000 trainees.

Longer term, DECC is working closely with the sector skills councils, employers and BIS to develop new Apprenticeship schemes to support the demand likely to be generated by the Green Deal.

Further details on how to access this money will be placed on the Construction Skills and Asset Skills websites in due course.

One company currently planning to carry out the new top-up qualification to enable them to become both domestic and non-domestic Green Deal assessors is 'Green Heat Ltd'. It is not just an opportunity, but essential for them to continue doing what they have done successfully for many years. More information will be available on their newly updated website: www.greenheat.uk.com.

2.11 Other Opportunities

DECC announced that there would be a number of supply chain events in the lead up to the launch of the Green Deal – more detail will be available on DECC's website in due course.

7 These figures were agreed following a series of supply chain workshops involving DECC, INCA, SWIGA, the NIA, Construction Skills and the CPA.

According to DECC estimates, domestic gas and electricity prices are expected to increase by 52% and 70% respectively, in nominal terms, from 2011 to 2020. As energy prices rise, greater savings should accrue to customers who have a Green Deal.

Following a 'whole house' approach presents another opportunity to deliver more cost effectively. Specifying a suite of improvements for the same property at the same time means that improvements can be tailored to each other. This would avoid for example, an expensive, high output heating system being installed just before the heat requirements of a house drop due to a package of insulation being installed. (See appendix 2 for case studies and ideas for installing multiple measures).

Currently the majority of boiler purchases are as a result of a distress purchase with an immediate need for heat/hot water. There may be an opportunity to offer repairs to boilers under ECO Affordable Warmth funding. If not, this is a potential opportunity for Provider companies to offer separate funding for such occurrences and at the same time possibly incentivise the take up of a Green Deal package.

Whilst some smaller firms may struggle with all the new administration required around Green Deal this will provide an opportunity for companies to offer administration services/standard templates for companies to use.

DECC has created a framework that is very flexible so that participants in the Green Deal can decide what works for them, how they want to interact with customers and who they want to partner with. For example, some companies may want to offer their customers a 'one-stop-shop' service, while others may want to specialise in the delivery of a particular service.

There is an opportunity for independent project management companies who can take customers through the whole Green Deal Process.

There will be a requirement for repair or maintenance work following the installation of measures via the Green Deal. Also, economies of scale for repair and maintenance would allow cost savings. This offers an opportunity for both industry and Green Deal participants.

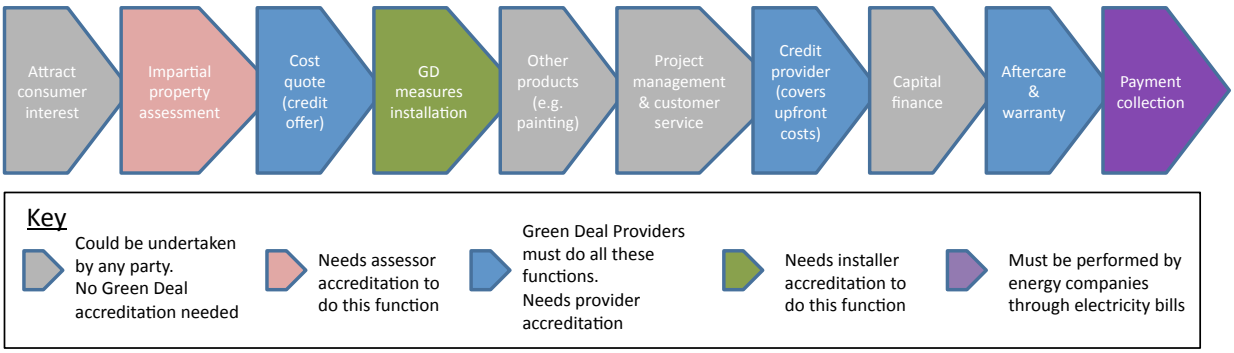
There are opportunities for companies to offer improved guarantees and warranties. For example, the Solid Wall Insulation Guarantee Agency (SWIGA), is a not for profit independent organisation that has developed and is currently piloting the SWIGA quality assurance framework and Guarantee. This incorporates requirements covering system approval, technical guidance, carding of operatives and surveillance of work and leads to cover under the independent SWIGA 25 Year Guarantee. The scheme covers external wall insulation, internal wall insulation and hybrid systems, which are a combination of both external and internal wall insulation installed at the same property.

Participation in the scheme requires that prospective contractors and suppliers are members of SWIGA and agree to be bound by the Rules of the Scheme. Opportunities to apply for membership will shortly be available, and further details can be found at the following link: www.swiga.co.uk. (See section 3.14 for requirements on guarantees and warranties).

3 Requirements

3.1 General Requirements

The diagram below shows the functions which require additional Green Deal authorisation and those covered by existing customer rights legislation:



3.2 Code of Practice

The Code of Practice defines the minimum standards required of those participating in the Green Deal whether as Green Deal Providers, Assessors (also known as advisors), Installers or Certification Bodies - the 'participants'. Certification Bodies will have a crucial role in ensuring agreed standards are met and quality of service maintained.

Participants can be businesses or sole traders. These minimum standards, developed in partnership with industry and government, have been designed to ensure that all Green Deal market participants are equipped to deliver good customer service, have appropriate levels of training, are able to guarantee their work and that clear procedures are in place to ensure fair and transparent redress when things go wrong.

The Code will underpin consumer and business confidence in the Green Deal. It will ensure consumers are protected, so they can trust the Green Deal plans they choose to enter into and the energy saving improvement works these fund. It will enable businesses to trust the Green Deal finance mechanism, providing more confidence that Green Deal plans will continue to be paid over time and that trades working in the Green Deal deliver high quality work for their customers.

Manufacturers and distributors, unless wishing to become a Green Deal participant i.e. Green Deal Provider, Assessor, Installer, or Certification Body, will only need to comply with annex D of the code of practice in relation to product and system requirements.

Installers, being classed as participants, will need to comply with the general requirement and installer sections of the code.

The draft Code of Practice can be found on the following link: www.decc.gov.uk/assets/decc/11/consultation/green-deal/3585-draft-green-deal-code-practice.pdf

The final document will be published following the consultation response on DECC's website.

3.3 Eligible Measures

A 'measure' means an improvement made to a property, for example, loft or cavity wall insulation, which has been financed through the Green Deal. This can include part-financing, where a customer pays for some of the work up-front themselves. The Green Deal may cover measures which generate renewable energy in a cost-effective way as well as those termed 'energy efficiency' measures.

Energy efficiency will often be used as short-hand for the types of measures which can lower energy bills and therefore be eligible for the Green Deal, even if not all such measures technically reduce energy use or increase its efficiency. For example, microgeneration will use renewable sources of energy (such as the air, sun and ground heat) to generate energy and this ultimately results in fuel bill savings.

Measures refer to those which can be installed in homes and businesses. Although certain measures will only be applicable to non-domestic buildings, the Green Deal requirements apply to both.

Energy efficiency measures that are capable of generating savings on fuel bills as well as carbon savings will be eligible for Green Deal finance.

The following measures were included in the Green Deal consultation as eligible for Green Deal finance and are recognised in the government's Standard Assessment Procedure (SAP) for domestic properties:

- Air source heat pumps
- Biomass boilers
- Biomass room heater with radiators
- Cavity wall insulation
- Change heating to high efficiency gas-fired condensing boilers
- Change heating to oil-fired condensing boilers
- Cylinder thermostats
- Draught proofing
- Energy efficient glazing
- External wall insulation
- Fan-assisted replacement storage heaters
- Flue gas heat recovery devices
- Ground source heat pumps
- Heating controls (for wet central heating system and warm air system)
- High efficiency replacement warm-air units
- High thermal performance external doors
- Hot water cylinder insulation
- Internal wall insulation
- Loft or rafter insulation and loft hatch insulation
- Lighting systems, fittings and controls
- Mechanical ventilation with heat recovery
- Micro combined heat and power
- Micro wind generation
- Photovoltaics
- Roof insulation
- Room in roof insulation
- Solar water heating
- Under-floor heating [in combination with measures specified in Part 1, Section 3 of the Statutory Instrument (interpretation section)]
- Under-floor insulation
- Waste water heat recovery devices attached to showers

This is the proposed 'pool' of measures that assessors will draw from to make property-specific recommendations. DECC has announced that new measures will be added with particular relevance to the non domestic sector. The final list, along with definitions, will be available on DECC's website shortly.

If a measure is not listed above, there is a procedure in Appendix Q of Reduced Data Standard Assessment Procedure (RdSAP) allowing the performance of new energy-saving technologies, or product specific data, to be added to the SAP methodology. The performance of any new measures will need to be verified by testing to a designated standard.

Use the following link to add a new technology to Appendix Q of RdSAP:
www.sap-appendixq.org.uk/page.jsp?id=3

DECC will develop a process with the Building Research Establishment, BRE (which currently manages RdSAP) to update RdSAP on a yearly basis, incorporating new measures and making changes to costs and energy saving estimates on the basis of new evidence.

For non-residential properties, SBEM is used to analyse energy consumption. The BRE is currently developing a process similar to appendix Q in RdSAP for new technologies to be entered into SBEM.

It will not be possible to install any measure under Green Deal finance without being recommended as a suitable measure by a Green Deal assessment ('qualifying assessment') carried out by an authorised Green Deal Assessor. Therefore it must be possible to model the measure within RdSAP or SBEM.

Measures must also:

- Be 'fixed' improvements to the property and not easy to remove or take out of service.
- Be installed by people with the appropriate Green Deal authorisation.
- Be accompanied by appropriate advice to the household on the proper way to maintain and use the energy efficiency measure, to ensure carbon savings are achieved.

3.4 Product and System Requirements

The product assurance requirements for the launch of the Green Deal and ECO in Autumn 2012 will not go beyond what is needed to help ensure that products installed with Green Deal finance are safe, durable and perform as intended. Requirements for such products are given in Appendix D of the Code of Practice.

A 'Product' means the branded material being supplied by the manufacturer or distributor into the Green Deal. Products may be supplied separately or as components of 'systems'.

Only products or systems falling within an eligible category of measure listed in section 3.3 will be eligible for Green Deal finance. Note that the product does not have to meet the Golden Rule. The Golden Rule affects the amount of finance available, not the eligibility.

The Green Deal Code of Practice will require products installed with Green Deal finance to meet all existing legal requirements that are relevant such as health and safety legislation, Building Regulations and European Directives. The legal requirements will not be defined in detail in the Code – only the broad categories of legislation. The requirements in the Code do not supersede or replace existing legal requirements.

Where products already fall within the scope of another UK certification scheme, such as the product testing requirements in the Microgeneration Certification Scheme (or equivalent), they will have to fulfil the level of testing and certification specified in that Scheme.

The Code also requires all products that will be subject to mandatory 'Conformité Européenne (European Conformity) CE marking' from 2013 to have CE marking to be eligible for the Green Deal. Measures or materials falling outside of CE marking regime should be tested and certified by a UKAS accredited or

equivalent certification body. A list of UKAS accredited certification bodies for products can be found at the following link: www.ukas.com/about-accreditation/accredited-bodies/certification-body-schedules-PROD.asp.

Measures fall into three categories: single installed components (e.g. a roll of loft insulation), pre-built system (e.g. boilers) and built-up or in situ systems (e.g. external wall insulation). For built-up systems that are put together on site by the installer it is required that the system is tested, and for the testing to be certified by a UKAS accredited or equivalent certification body. This means that full system, rather than just the component parts and material have to be tested and certified together. Measures that currently require system testing are Internal Wall Insulation, Cavity Wall Insulation and External Wall Insulation.

The products used for a specific Green Deal package will be selected by the Provider and/or installer once the measure has been selected as suitable for the property during an assessment by an approved assessor. Therefore it must be possible to model the product/system within RdSAP or SBEM. RdSAP will be used for domestic retrofits and SBEM for the assessment of non-domestic properties.

A Green Deal Oversight Body will be set up to perform a number of functions including quality checks of products and systems. DECC is proposing that these checks be carried out on the in-situ performance.

3.5 In-use Factors

DECC is exploring the implications of applying an appropriate 'in-use factor'. This would mean the savings estimates would be revised down by a specified percentage based on evidence and research, or where this does not exist, on the basis of expert judgement on the scale of the potential difference in performance. The reason is to ensure that savings estimates are not overly optimistic, resulting in inappropriate charges being applied to fuel bills. DECC will be publishing more information on in-use factors soon.

3.6 Product Differentiation Process

The objective of the product differentiation process is to allow product specific savings estimates to be substituted in the Golden Rule calculation in place of generic measures estimates. This is hoped to incentivise innovation and competition on performance as well as cost. Ultimately, the greater the savings can be shown to be, the greater the amount of finance that can be attached to that product.

The plan is to build up a database, over time, of products which lists their verified savings estimates. Manufacturers can apply to go onto the database and this will be entirely voluntary. Manufacturers will be required to provide proof of performance of their products.

It is envisaged that a standardised process will be needed to specify what level of testing and evidence of results is needed for entry onto the register.

The role to manage the product differentiation process will go to tender soon.

3.7 Innovation and New Products

DECC is encouraging innovation of new and more cost effective technologies to drive down costs and allow more measures to be chosen under the Golden rule.

New measures will need to be recognised within RdSAP, or SBEM for non-domestic properties, so the first stage in getting new measures approved is to follow the appendix Q process/SBEM equivalent. (See section

3.3 for details). Secondly, the product/system itself will need to meet the requirements set out in annex D of the code of practice. (See section 3.4 for details). Lastly, companies may also wish to differentiate their product by following the process above (See section 3.6).

Also consider training requirements for the installation of and marketing to ensure assessors, Green Deal Providers, Installers, customers etc. are aware of the new system/product.

3.8 Requirements for Green Deal Providers

The Green Deal Provider is a key participant in the Green Deal journey as they provide the finance and arrange for the Green Deal measures to be installed. They will also be the counter-signatory to the Green Deal plan, which is the credit agreement that sits between the customer and Green Deal Provider setting out requirements and obligations on both sides. They are the ongoing first point of contact for customer service enquiries after the Green Deal is complete and dealing with customer complaints.

Where ECO funding is available to part-fund a measure, the Green Deal Provider will arrange this and use the funding to reduce the cost of the package to the customer.

There must always be a Green Deal Provider who contracts with the customer to make the improvements, arrange the finance and who can help customers with problems if they occur. Any organisation can become a Green Deal Provider as long as they are authorised by the Secretary of State as being fit to perform this role.

The Green Deal Oversight Body will act, on behalf of the Secretary of State, as the managing organisation for participants in the Green Deal and will manage applications for authorisation as a Green Deal Provider. The Oversight body will carry out a fitness test to assess whether a Green Deal Provider is fit to hold a Green Deal license and operate in the Green Deal market.

To become authorised as a Green Deal Provider a company must:

- Comply with the **Green Deal Code of Practice**. (Note Annex B sets out specific duties to be fulfilled):
  - The Code of Practice includes detailed requirements regarding the implementation of the Golden Rule, use of the Green Deal quality mark and marketing material as well as information relating to minimum levels of redress they should offer to customers and information they should provide.
  - The Green Deal Code of Practice requires Providers to work closely with their customers and help them identify where they will need to seek consent. A Green Deal customer will need to gain express written consent to the Green Deal charge from the electricity bill payer (if they are different people), and the owner of the property. The customer may also need to obtain consent to the installation of the measures from, for example, a local authority, the landlord, or freeholder. The Provider will be required to maintain copies of these consent documents, for at least the duration of the plan.
- Sign up to the **Green Deal Arrangements Agreement** (GDAA), a contractual agreement between Green Deal Providers and electricity suppliers governing the payment collection and remittance process. This will be contractual and commercially enforceable through the courts.
- Hold a valid Consumer Credit Act 1974 (CCA) licence (if they wish to offer Green Deal plans for domestic properties). This will require that they (and anyone collecting consumer credit debts on their behalf) operate in accordance with the law and with relevant regulatory guidance, in particular the OFT debt collection guidance.

Green Deal plans for domestic properties will be regulated consumer credit agreements under the CCA and will therefore need to comply with all relevant CCA provisions. In addition, the Green Deal Provider will have to comply with other consumer protection legislation such as the Sale of Goods Act, the Consumer Protection from Unfair Trading Regulations (CPRs) and the Unfair Terms in Consumer Contracts Regulations (UTCCRs). The plans must meet with the Golden Rule for the property and have a 14 day cooling off period.

Advice on irresponsible lending has been published by the Office of Fair Trading (OFT guidance for creditors (OFT1107), March 2010 (updated February 2011). The report can be found at the following link: www.oft.gov.uk/shared_oft/business_leaflets/general/oft1107.pdf.

Providers will have access to anonymised data on customers, but will only be allowed to use this data for Green Deal purposes and will be subject to the Data Protection Act 1998.

Providers can only use Green Deal authorised assessors and use measures recommended as a suitable measure by a Green Deal assessment.

Providers can only use products or systems for work funded by Green Deal finance that meet the requirements of annex D of the Code of Practice.

The Provider is responsible for ensuring the energy efficiency works are carried out to a property by an authorised Green Deal Installer. Following installation, the Green Deal Provider will be responsible for ensuring that an EPC is updated to reflect the new improvements installed and to include details of the Green Deal Plan.

Green Deal Providers must seek to provide the consumer with as much protection as possible by using existing market warranty schemes where they are available and meet the minimum requirements. Where these are not available, Green Deal Providers must provide comprehensive product warranties for at least five years for all Green Deal measures. In addition to this, Green Deal Providers must provide 10 years of buildings cover to cover consequential damage to the property as a result of the measures installed.

Creditors must provide customers with periodic statements that set out how much they have paid off, and how much is left to pay on their agreement. These statements must be provided annually as a minimum. The Provider should also report annually to the Oversight Body.

DECC has recently issued a step by step guide on how to be a Green Deal Provider. The guide can be found at the following link: www.google.co.uk/#hl=en&sclient=psy-ab&q=decc+green+deal+provider+guide&oq=decc+green+deal+provider+guide&aq=f&aqi=&aql=&gs_l=hp.3...1390163121016609130122101717111329l4779l0j1j17j1122l0.&pbx=1&bav=on.2,or.r_gc.r_pw.r_qf.,cf.osb&fp=4dd03c1d0c39eb3c.

3.9 Finance Requirements

The proposed debt threshold is £200 for domestic customers and £400 for non-domestic customers. Above this level the Green Deal Provider would need to positively consent to the continuation of the Green Deal set up process.

Further information on Finance can be found on the DECC website: www.decc.gov.uk/en/content/cms/tackling/green_deal/gd_industry/gd_finance/gd_finance.aspx.

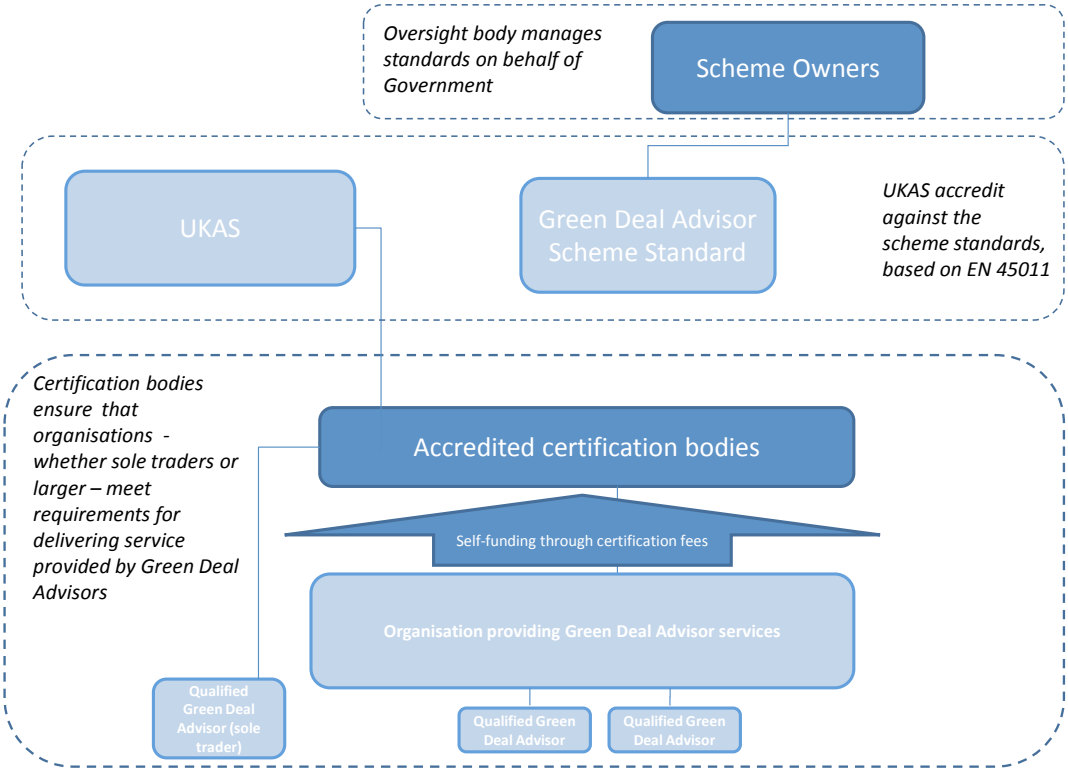
3.10 Requirement for Assessors

Green Deal Assessors (also known as advisors) will operate as EPC assessors do today, but with additional training and responsibilities. They will assess the energy efficiency of a building and determine (using RdSAP or SBEM calculations) which energy efficiency measures should be installed. They will also advise consumers on energy efficiency and give impartial advice. They will have to produce an occupancy assessment, explain the Green Deal and the potential impact of the occupant's behaviour on projected savings, as well as what happens if they sell the property and explore which package of measures is appropriate for them.

Green Deal Assessors will need to have a mixture of technical knowledge, practical competence to produce the assessment and 'soft' skills to provide households and businesses with the advice they need to take informed decisions.

To be authorised to provide Green Deal advice a business or sole trader would need to:

- Meet the training and qualification requirements for EPC assessors under the terms of the Energy Performance of Building Regulations 2007 (England and Wales) or are members of an Approved Organisation (Scotland.). I.e. they must be qualified to produce Energy Performance Certificates.
- Meet the requirements set out in the National Occupational Standards (NOS) for Green Deal Advisors developed by Asset Skills at the following link: http://www.assetskills.org/PropertyAndPlanning/EPBDGreenDealNOS.aspx. There are different levels of qualification required for assessors of domestic and non-domestic properties. The NOS will include the necessary skills to: understand and explain how the Green Deal works; prepare for and carry out the fabric and occupancy assessments, using suitable tools for these assessments; produce a Green Deal Advice Report (GDAR) and explain this to the householder or business.
- Be certified by a certification body which has been accredited by the government's chosen accreditation body, United Kingdom Accreditation Service (UKAS). The model for third party assurance and oversight of Green Deal Assessors is shown below. Lists of authorised certification bodies will be available from the Registration and Oversight Body, Energy Saving Advice Service or from the DECC website, which are not yet available, however some of the organisations involved in the trial Green Deal accreditation programme can be found at the following link: www.ukas.com/media-centre/news/news-archive/News_Arc_2011/Green_Deal_Accreditation_Programme.asp. UKAS is planning to accredit the first Green Deal certifying bodies by 30 April 2012 and from May 2012 these accredited certifying bodies will begin the process of certifying Green Deal Assessors.
- Meet all other requirements set out in the Green Deal Code of Practice and in particular the annex relating specifically to assessors (annex A of the Code of Practice).
  - The Code also sets out arrangements for consumer protection that must be adhered to by the Assessor.
  - Will require assessors to provide an impartial assessment of the property, using the government's approved methodology.
  - Will also require Assessors to raise the issue of consents with customers at the time of the Green Deal assessment. A Green Deal customer will need to gain express written consent to the charge from the electricity bill payer and the owner of the property before they can take out a Green Deal plan.
- Meet the requirements in a new standard produced by DECC, the 'specification for the provision of Green Deal Advisor Services'. A draft of which can be found by selecting 'download draft standard for organisations' at the following link: www.decc.gov.uk/en/content/cms/tackling/green_deal/gd_industry/advisors/advisors.aspx#2. The procedure details eligibility criteria, management and monitoring requirements for people management, complaints management and information management and also operational procedures, including what shall be delivered by the organisation prior to, during and after the assessment visit.
- Have public liability and professional indemnity insurance that covers them to deliver more than a standardised technical process. The insurance will need to cover the duration of the assessment and potentially a number of years to cover the duration of any finance agreement (e.g. 25 years). The requirement for appropriate insurance will be set out in both the Code of Practice and the Scheme Standard and will be enforced through the certification framework.



In the domestic sector the assessor will:

- Ensure there is a valid EPC on the property, which has been produced since 1 April 2012 and to check no alterations have been made to the property which affect the results on the EPC
- Undertake an occupancy assessment to determine how the household's energy use compares with the standard assumptions in RdSAP and therefore the level of savings they are likely to realise
- Identify households that are seriously under-heating their homes and explain the eligibility for ECO and where to find out more
- Consider with the householder the package of measures recommended on the EPC and any specific alternative measures the householder may be interested in
- Explain Green Deal finance and provide an indication of the measures likely to be eligible for Green Deal finance, either wholly or with a potential contribution from ECO carbon funding
- Provide behavioural advice
- Provide a Green Deal Advice Report summarising all of the above

The assessment and advice provided must be impartial and free from any commercial considerations or other biases. Assessors should make consumers and businesses aware of any affiliation that they have with a Green Deal Provider and any commission that they may receive for carrying out additional services.

3.11 Requirements for Installers

It will be mandatory for an Installer to be authorised to operate under the Green Deal and ECO and to have been certified to have met a new Green Deal installer standard for those measures being installed.

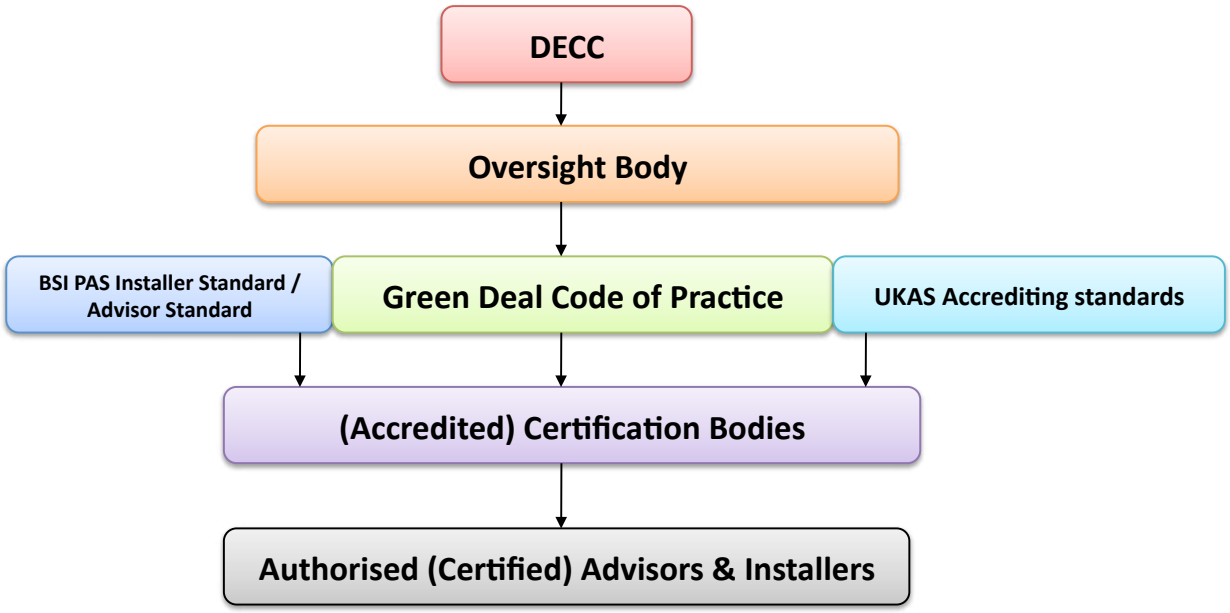
This standard is in the form of a Publicly Available Specification (PAS)[8]. The PAS is based on existing certification standards and sets out clear pathways for Installers to demonstrate that they have the necessary competences to install measures. This should allow clear transition from those with existing skills to meet the PAS requirements. Installers will need to be certified to the relevant parts of the PAS by an accredited certification body. Following certification, the certification body will register the Installer with the Green Deal Registration and Oversight Body and then issue the Green Deal quality mark which Installers can use.

Installers can contact either the relevant accredited certification body or their trade association for more details on this process (or see the DECC website at www.decc.gov.uk/en/content/cms/tackling/green_deal/gd_industry/installer/installer.aspx)

Details of the PAS 2030 can be obtained through relevant trade associations, certification bodies or can be purchased directly from BSI at the following link: http://shop.bsigroup.com/en/ProductDetail/?pid=000000000030248249.

Installers will also need to include the Green Deal quality mark in any Green Deal marketing, letterheads or identification, take full responsibility for the quality of their work and abide with the relevant requirements set out in the Green Deal Code of Practice, which sets out minimum standards/levels of competency, customer protection and duties of all participants. (See section 3.2 for more details on the Code of Practice).

The diagram below shows the oversight and accreditation process for Green Deal Installers:



Installers must keep clear records of work done under the Green Deal and ECO and allow access to these records and monitoring of installation work if requested. Green Deal Installer Authorisation will be reviewed on an annual basis, by their certification body, on the date the installer was first authorised. The accredited certification body will be required to provide the Oversight Body with the relevant information on those it certifies.

UKAS will carry out assessments of certification bodies to ensure they meet the necessary requirements. UKAS will charge certification bodies for this service (which is normal industry practice). Certification bodies may pass on these costs to those they certify as part of their normal certification fees.

8 'PAS2030: improving the energy efficiency of existing buildings - specification for installation procedures, process management and service provision', written by the British Standards Institute (BSI) and contains 26 annexes addressing specific measures.

The Green Deal requires providers to issue a minimum guarantee of 5 years on all installations, plus a minimum of 10 years consequential damage cover (see 3.14 below). It will be up to Providers to set any requirements in relation to this for Installers, but Installers should consider what they might offer Providers in terms of guarantees on their work, as part of their marketing to Providers.

Installers can only use products or systems for work funded by Green Deal finance that meet the requirements of annex D of the Code of Practice.

More information on Installers and the Green Deal can be found at the following link, as well as on DECC's website: www.davidstrong.co.uk/index.php?p=1_6_Articles-presentations-and-publications

3.12 Training Requirements

Businesses can consult their trade associations or certification bodies for information about training for the Green Deal.

For independent information on training requirements for the Green Deal please contact the Green Deal Skills Alliance: greendeal@assetskills.org.

The Green Deal Skills Alliance (GDSA) consists of Asset Skills, SummitSkills and ConstructionSkills working together to put in place skills and training for Green Deal.

This work centres around the development of a Common Competency Framework which consists of units of learning to help Green Deal professionals add value to their offering, develop a holistic understanding of the Green Deal process (across assessment and installation) and improve the customer journey. Some examples of the units are:

- Understand the principles and operation of the Green Deal (or equivalent programme).
- Understand the principles of customer service.
- Understand the effects of energy efficiency measures on conservation and heritage buildings.
- Understand insulation and building treatment roles.
- Understand air quality/ventilation requirements.
- Understand building services engineering roles.

In addition to the Common Competency Framework the GDSA has developed: industry research, train the trainer packs and awareness raising skills road shows.

National Occupational Standards, NOS describe what an individual needs to do, know and understand in order to carry out a particular job role or function. They are national because they can be used in every part of the UK. Occupational because they describe the performance required of an individual when carrying out functions in the workplace, i.e. in their occupation (as a plumber, police officer, production engineer etc). They are Standards because they are statements of effective performance which have been agreed by representative sample of employers and other stakeholders and approved by the UK NOS Panel.

Asset Skills have produced NOS for Assessors. There are different levels of qualification required for assessors of domestic and non-domestic properties. The NOS will include the necessary skills to: understand and explain how the Green Deal works; prepare for and carry out the fabric and occupancy assessments, using suitable tools for these assessments; produce a Green Deal Advice Report (GDAR) and explain this to the householder or business. The NOS can be found at the following link: http://www.assetskills.org/PropertyAndPlanning/EPBDGreenDealNOS.aspx.

A syllabus for Green Deal Advisors will be available in draft form on the website shortly.

3.13 Costs – Installation, Finishing, Maintenance

The Green Deal Plan will include the product and installation costs of the measures being installed. Other costs may also be included however the Golden Rule principle will continue to be applied and will limit the finance that can be offered. These additional costs are:

1 **Preparatory Works/Make Good Costs**

In order to ensure there are no upfront costs providing a barrier to works being undertaken, the cost of preparatory works can be included in Green Deal finance. In addition, Green Deal Providers will be required to return the property to a reasonable state following the installation of Green Deal measures and minimum standards will be set out to clarify the responsibilities. Green Deal Providers can then go beyond this as an added service to increase their competitiveness however the amount that can be included within the finance package is limited to the room or wall (if external) where work took place.

2 **Unexpected Costs**

There will be inevitable situations where following commencement of work to install energy efficiency measures other problems requiring remedial works are discovered. Potential unexpected costs should be identified as soon as is reasonable practicable and can be included in the Green Deal finance up to the limit imposed by the Golden Rule principle. The Green Deal Provider will be required to obtain the necessary customer consents for a revised Green Deal plan before continuing with any work. If the consumer doesn't consent to further work then the Green Deal Provider would be required to restore the fabric of the room or wall to the same standard as before the work commenced, apart from when asbestos is found where the normal industry rules of removal apply. The Green Deal must not be used to deal with known problems as costs are passed on to subsequent occupants.

3 **Cost of Assessment**

The customer may choose to include the cost of assessment in the Green Deal finance if this option is made available by their Green Deal Provider to minimise upfront costs.

4 **Cash Back**

Green Deal Providers may choose to offer incentives to customers as part of the finance package subject to a cap of £150 or 5% of the finance, whichever is the lesser. Non-cash incentives may also be offered but the cost passed to the customer must also not exceed the limits set for cash incentives.

5 **Maintenance**

Customers have the responsibility to ensure any equipment installed as part of a Green Deal plan is adequately maintained in accordance with the manufacturer's instructions however Green Deal Providers may offer maintenance contracts as part of the Green Deal plan.

3.14 Guarantees and Warranties

Green Deal Providers must seek to provide the consumer with as much protection as possible by using existing market warranty schemes where they are available and meet the minimum requirements. Where these are not available, Green Deal Providers must provide comprehensive product warranties for at least five years for all Green Deal measures. In addition to this, Green Deal Providers must provide 10 years of buildings cover to cover consequential damage to the property as a result of the measures installed.

Assessors will need to have professional indemnity insurance to cover them.

Manufacturer's being able to offer long-term product and system guarantees is likely to be a bonus for Provider and Installer companies who are responsible for the performance and quality of the installed measures.

3.15 Complaints Process

The Green Deal Provider is the first point of contact for customer service enquiries after the Green Deal is complete and for customer complaints. A bespoke Green Deal Ombudsman is also being set up to deal with any customer complaints.

There are two main areas where something could go wrong with a Green Deal. The first is when there is a problem with the installation, the measures installed or the terms of the Green Deal plan. The second is where other people with an interest in a Green Deal plan fail to meet their obligations. In both cases the Green Deal Provider is responsible for trying to put the problem right. If required, Green Deal Providers will compensate the customer and seek redress from their installers or assessors through commercial contracts.

If the complaint concerns the professional competence of the Installer then the Green Deal Provider may take the matter to the relevant certification body to investigate. Certification bodies will be required to have procedures in place for dealing with complaints against those they certify, including independent appeals processes. A certification body may remove certification of an Installer, in which case the Installer would also be removed from the register and no longer be able to install that measure under the Green Deal.

However, if this is unsuccessful, Green Deal Providers may direct their customer to consider using the Financial, Energy or Green Deal ombudsman Service, depending on the nature of the complaint.

It is crucial to note that the Green Deal Provider must handle the complaints in accordance with the complaints handling procedure set out in the Green Deal Code of Practice.

Where the complaint is about an assessment carried out by an independent assessor prior to being linked to a Green Deal Provider, it would be for that independent assessor to resolve the dispute directly with the customer.

3.16 Checklists

3.16.1 Checklist for Products and System Approval

1	The product or system falls within a category of qualifying measure	
2	The product or system falls within a category of qualifying measure which has been recommended during a Green Deal Assessment	
3	The product or system complies with the requirements of the Green Deal Code of Practice (Annex D)	
4	Voluntary – suppliers opt to have enhanced product or system performance recognised for the Golden Rule calculation	

3.16.2 Checklist for Installers

1	Identify a relevant approved certification body for your trade/measure(s) you would like to install	
2	Become certified by that body to the requirements set out in the 'PAS2030: improving the energy efficiency of existing buildings - specification for installation procedures, process management and service provision'	
3	Comply with the requirements of the Green Deal Code of Practice	
4	Receive a licence to use the Green Deal quality mark in relation to all work carried out under the Green Deal	
5	Consider – Working relationship with Green Deal Providers (GDPs) and possible business models, including: • As an independent contractor, feeding leads to GDPs • Working with others as part of a local network • As an agent for a GDP (this may be through a local network or via a trade body) • As part of the supply chain for a GDP	

3.16.3 Checklist for Green Deal Providers

1	Hold a valid Consumer Credit Act 1974 (CCA) licence	
2	Sign up to the Green Deal Arrangements Agreement (GDAA)	
3	Comply with the requirements of the Green Deal Code of Practice	
4	Meeting the requirements set out in the Green Deal Framework Regulations	
5	Sourcing of finance for the customer for the installation of measures	
6	Consider – IT and administration systems	
7	Consider – installer and assessor networks	

3.16.4 Checklist for Assessors

1	Meet the training and qualification requirements for Green Deal Advisors under the terms of the Energy Performance of Building Regulations 2007 (England and Wales) or are members of an Approved Organisation (Scotland.)	
2	Meet the requirements set out in the National Occupational Standards (NOS)	
3	Be a registered member of an approved certification body	
4	Hold the necessary public liability and professional indemnity insurance	
5	Comply with the requirements set out in the Green Deal Code of Practice	
6	Meet the requirements set out in the 'specification for the provision of Green Deal Advisor Services'	

3.17 Green Deal Requirements for Everyone

3.17.1 Marketing Services

Each part of the supply chain will have a role to play in creatively marketing and promoting the benefits of energy efficiency improvements to realise the full Green Deal potential.

The Unfair Commercial Practices Directive (UCPD), Doorstep Selling Regulations, Distance Selling Regulations and the Privacy and Electronic Communications (EC Directive) Regulations all set out clear requirements for anyone marketing their services to consumers, both solicited (invited) and unsolicited (uninvited visits or 'cold calling'). As part of the Green Deal, all participants i.e. Providers, Assessors, Installers, or Certification Bodies will need to ensure they comply with the requirements set out in this legislation as a condition of their authorisation.

3.17.2 Promotional Materials

The Green Deal Code of Practice will require all professionals operating within the Green Deal to inform their customers about the government backed remote advice line and website. Any information or promotional materials supplied around the Green Deal must include the contact details of this independent advice service.

3.17.3 General Requirements

The Green Deal Code will require participants to cooperate fully and supply any necessary information to the Ombudsmen.

Participants must undertake to pay suppliers on time and encourage good practice, in accordance with the Prompt Payment Code administered by the Institute of Credit Management (ICM) behalf of the Department for Business, Innovation and Skills (BIS). Further guidance can be found at: www.promptpaymentCode.org.uk/.

4. Packages of Measures and Area Based Approaches

4.1 Introduction

This section addresses the opportunities presented by Green Deal for offering packages of energy efficiency and microgeneration measures to customers, and for rolling out area-based schemes.

Area-based approaches offer a wide range of benefits: They can reach a significant number of householders with clear, consistent and locally specific messages; they can create the sense of participation in a local movement; they offer economic benefits including local job creation; and they offer efficiencies to the supply chain in planning, procurement and delivery.

Packages of measures are at the heart of Green Deal. The Green Deal assessment identifies the full spectrum of measures which can be cost effectively installed in a property and the customer is encouraged to consider multiple measures as part of the overall Green Deal plan.

It is exciting to see companies already gearing up and making links across the supply chain to deliver these types of approaches once Green Deal is launched. In doing so, they will be building on a great deal of prior experience held by local authorities, housing associations, installers, communities and others. This chapter aims to bring together the key lessons of those experiences.

The chapter opens by defining area-based approaches and packages of measures. These definitions are to help shape your thinking about your response to Green Deal and have been produced by the Energy Efficiency Partnership for Homes (EEPH).

The chapter then provides a number of case studies of area-based approaches and projects involving packages of measures, to help illustrate the types of opportunities that are available.

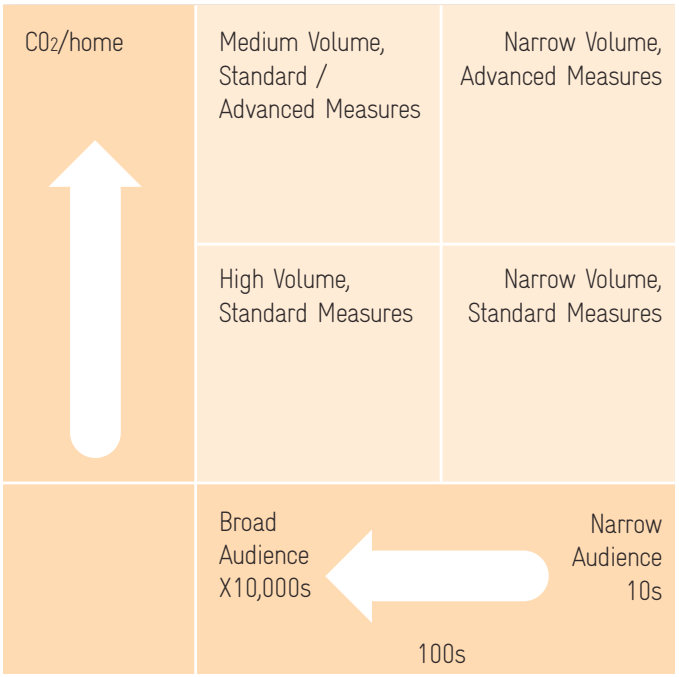
It then explores the factors that can help make a project or offer successful, before identifying some potential opportunities for area-based approaches and packages of measures presented by Green Deal.

4.2 Definitions

4.2.1 Area-based Approaches

Area-based schemes operate within a limited geographical area (which could be a ward, a town, a city or a county), offering energy efficiency and microgeneration solutions with the aim of reaching every (eligible) householder or business in the locality.

Schemes range in size – from a cluster of houses, to a block of flats, to whole neighbourhoods – and also in the complexity of measures and support that they offer. This is illustrated by the diagram below[9]:



Area based approaches typically include most, if not all, of the following elements[10]:

A local authority working in partnership with the local community, energy suppliers, installers and other local organisations

Area-based delivery to gain economies of scale (e.g., reduced travel time / costs for installers; bulk purchasing of measures)

Trained assessors making door-to-door visits to check the current energy efficiency of dwellings and to identify appropriate measures for each household (the equivalent of the Green Deal assessment)

An intensive marketing campaign often using door-to-door leafleting and backed up by dissemination and support through trusted community networks

A main focus on basic insulation measures such as cavity wall, loft insulation and draught proofing, sometimes accompanied by more advanced measures. Some schemes provide other support to low-income households, for example, benefit entitlement checks.

A good deal for the householder, whether from grants, subsidies or provision of measures for free. Usually, funding from several different sources is brought together to subsidise measures; some of this funding contribution could be provided by Green Deal or ECO in the future.

9 Area Based Approach: Best Practice Guide, Energy Saving Trust 2009
10 Powering your local neighbourhood – Ashden Awards

4.2.2 Packages of Measures

In simple terms, this is the provision of energy efficiency and / or microgeneration measures provided in combination to a customer. Measures may be provided at the same time or over a period, but they are part of a coherent package planned in advance. The Green Deal assessment process is designed to identify packages of measures which may be suitable for a property. The supply chain has an opportunity to anticipate what common packages might be and develop offerings with wide appeal and potential uptake.

4.3 Area-based Approaches – Success Factors

4.3.1 Strong Leadership and Effective Community Partnerships

The most successful area-based approaches have established multi-sector partnerships, working with local agencies and initiatives that are already in place on the ground.

Local sponsors – including political sponsors – can enable area-based approaches to happen quickly and to be more effective. Areas with well established carbon reduction or fuel poverty strategies are more likely to encourage area-based approaches. Local priorities do change, however, so you will need to think about how your scheme can be future-proofed, for example, by seeking support from across the political spectrum.

The most effective delivery models for CERT were widely considered to be **schemes involving the local authority**[11]. Local authority involvement can increase communications activity, provide trusted endorsement, build credibility and drive uptake. It can also help to address some of the logistical challenges of a scheme (e.g., road closures). Some local authorities are wary of projects that they see as risky; they may be unwilling to be the first to try something, or afraid of getting it wrong. Providing evidence of successful schemes in other areas can help, as can working closely with the local authority to understand and mitigate risks. That said, many local authorities have been leading the way in delivering energy efficiency improvements for several decades and they may have a great deal of experience from which you can draw.

Many successful area-based schemes have been **driven by community organisations**, such as environmental groups, charities and voluntary organisations. In community trials carried out by Scottish and Southern Energy, the participating communities were involved in designing and evolving their own projects, capturing local priorities and people's imaginations.

Working in partnership with communities means that you can **tap into detailed local knowledge** and experience of issues faced by local households, as well as giving you more ways to reach isolated householders. However, **funding** has always been an issue, particularly for voluntary organisations, and you may want to think about incentives or donations to reward community efforts.

If you are working with community organisations, your partnership has to be **sincere and committed** over a period of time. There have been schemes where the community has felt that it has been used as a 'marketing wing' for a project, generating opportunities before the delivery organisation moves on to the next location.

Getting it right brings **multiple benefits to the community**. The Kirklees Warm Zone scheme, which offered free insulation to all householders regardless of income or tenure, as well as targeted support on other measures. The scheme achieved widespread penetration of energy efficiency improvements and microgeneration installations, delivering economies of scale, local job creation and collective action for change.

It is important not to underestimate **the amount of time that is needed to develop partnerships** – both with the community and across the supply chain. If a scheme is particularly complex, this can make it more difficult for other organisations to participate.

11 CERT Evaluation

Choose your partners carefully: you will need to work with organisations that have the right mix of **expertise, experience and drive**. You will also need to make sure that you have a clear and shared set of objectives.

4.3.2 A Well-organised and Well-resourced Supply Chain

Setting up and managing an area-based scheme can be complex and it is important to establish a supply chain which can deliver what your customers need, when they need it.

Local skills shortages can have an impact on area-based schemes. There may be a lack of skilled installers for a specific measure, which means bringing in contractors from outside the area. There may be sufficient installers but so much demand from customers that waiting lists start to build up.

The Warm Streets project in Bath and North East Somerset illustrates the challenge: during the pilot phase, there was only one installation company involved, making it difficult to respond to customer demand. As the project was rolled out, additional installers were contracted, to ensure that customer needs could be met.

The Trelewis Estate project installed external wall insulation on 71 semi-detached properties and a number of blocks of low-rise flats, with a view to improving energy efficiency and boosting community pride by enhancing the appearance of the estate. Local employment and the use of local contractors were central to the project: external wall insulation was sourced from a local supplier whilst local scaffolders, electricians and heating contractors were also used. In addition to existing jobs, seven local employees who had been out of work for over twelve months were also allocated to work at the different organisations delivering the project.

As part of its PAYS pilot, Stroud District Council looked at the need for a well-organised supply chain. The Council, working with SWEA, developed a local installer network for sustainable energy retrofit. The network now has over 100 members, covering the full range of relevant technologies. It is run on an open and inclusive basis to encourage new members to join, increasing the supply chain capacity available in the local area.

The supply chain for energy efficiency and microgeneration is largely made up of smaller businesses, particularly amongst installers. This fragmentation can lead to complex **contracting and subcontracting arrangements**, which will need careful management, and – for larger schemes – the need for OJEU tenders or the establishment of framework contracts. Bringing a supply chain together takes time: generally speaking, the broader the audience and the larger the initiative, the greater the amount of set-up time required. In its evaluation of CESP, DECC noted that 'Even when schemes are successfully agreed, the process can take up to a year from initial discussion to scheme start.'

All of these things have been done before, as the case studies show, so there is experience to emulate across the country. Local authorities and housing Providers have significant experience in procuring energy efficiency improvements at scale and therefore make valuable partners in area-based schemes.

Organisations coming to area-based schemes for the first time may lack experience in **managing complex projects**. Working with an experienced, local partner or hiring a dedicated project manager can help to develop the organisation's capacity. The Rampton Drift Demonstrator Project in South Cambridgeshire illustrates the project management challenge. The project involved retrofitting a number of privately-owned, ex-MOD properties with a range of measures. It was established as a JCT-style Building Contract for each property; however, as the scope of works, budget and timetable shifted, the project progressed in a more Design and Build format.

A well-organised supply chain can make a real difference. The Cornwall Home Health scheme looked at how to reduce installation costs in an area-based scheme covering a large geographical footprint. By carrying out installations on a 'zoned' basis, the scheme was able to install specific measures in certain locations on given dates. Not only did this provide reassurance to the customer about when their measures were installed, it reduced the need for installers to travel and cut installation costs by 10%.

On the island of Islay, Argyll Community Housing Association and contractor A.C. Whyte & Co installed external wall insulation on 25 properties that were in a poor state of repair. In order to reduce transport and delivery charges, material was bulk ordered and delivered by a haulage company. Once in Islay, the materials were stored at a builders' merchant; batches were then collected and held in secure containers on site. A.C. Whyte operatives stayed in Islay for the duration of the project; works were completed in four months – two months ahead of schedule.

A well-organised supply chain is important even at a smaller scale. Flintshire County Council carried out a project to externally insulate two 1930s semi-detached properties. The contractor, A&M Insulations Ltd, was able to coordinate all works, including scaffolding, in a very efficient way, with all works completed in two weeks.

No matter how well organised your supply chain, things can and will go wrong. As in all construction projects, there is a need for **robust contingency planning**. At the Rampton Drift Demonstrator Project, unexpected issues included existing faulty electrical wiring which had to be repaired before subcontractors could work in the buildings and existing loft insulation which had been poorly installed and was not guaranteed.

4.3.3 A Trusted Delivery Organisation with a Clear Offer that is Relevant to Local Need

A report from the Ashden Awards[12] found that a common factor in area-based initiatives is 'the presence of **an impartial hub organisation** that can orchestrate activity, is trusted by the communities it is working with and is skilled in bringing together and working with local partners'.

Understanding local needs is essential to a successful area-based approach. You will need to consider:

The split of household tenure in an area

Historically, social housing has been more attractive for area-based approaches because of the presence of the local authority or housing Provider as a coordinating body (for example, take-up of measures within CESP was much higher in social housing than in private sector housing[13]).

The types of businesses in an area

If you are designing an area-based approach for business energy saving, it is equally important to consider tenure. There will be a mix of businesses that own their own premises, those that lease premises, landlords and managing agents.

The mix of building types

There is no 'one size fits all' solution to energy efficiency and microgeneration. In any given area, there is likely to be a range of building ages, types, sizes and structures.

Areas with a significant proportion of flats present additional challenges (for example, flats make up 36% of Scottish housing, compared to 17% of housing in England). The Review of area-based approaches to energy efficiency initiatives in Scotland reported that 'the installation of measures often requires securing the agreement of numerous owners who may be eligible for different packages of support'. The City of Westminster study Energy Efficiency in Private Sector Flatted Buildings explores some of the challenges associated with improving energy efficiency in blocks of flats with a particular emphasis on understanding the contractual relationships between freeholders, leaseholders and tenants.

Your product or service offering will need to be relevant to the types of building and sensitive to local priorities, for example, conservation issues, whether formal (such as conservation areas) or informal (such as a local aesthetic preference for brick rather than render).

12 Power to our neighbourhoods: towards integrated local sustainable energy solutions
13 CESP Evaluation

Whether the area is urban, suburban or rural

Whilst the bulk of area-based schemes have taken place in urban or suburban locations, the Ashden Awards[14] found that they can be just as effective in rural areas. This is demonstrated by the Northumberland Warm Zone case study (see above). In fact, targeting rural areas may be a very effective marketing strategy as there may be a greater concentration (and therefore more competition) on schemes in cities and towns.

Even with a comprehensive understanding of the local building stock and its inhabitants, you will find that customers want different things. Householders value[15]:

Impartiality: that you are offering what is best for them, not what is best for you. The Green Deal assessment process helps to deliver this.

Security: the confidence that you are financially stable and will offer a good quality of service. The Green Deal certification frameworks help to indicate quality of work.

Energy expertise: again, the Green Deal certification framework should be a badge of expertise.

An element of control: the CESP Evaluation[16] found that householders wanted differing degrees of control or influence over the process, for example, in the choice of colours of external wall insulation.

It takes time to talk to customers about what they want, how the process works and how things are progressing. Experience from the Pay As You Save pilots suggests that about 2-3 days per householder may be needed for advice, support and handholding[17].

4.3.4 An Understanding of Customer Demand

The barriers to customer take-up of energy saving measures are well-known. Green Deal helps to overcome some of these, particularly barriers around cost and lack of trust in the supply chain.

A positive aspect of demand in many area-based schemes is the existence of a 'community snowballing' effect where **early installations help to build awareness and confidence among other potential customers**. Newport Council's Private Residents Scheme aimed to encourage take-up of external wall insulation, loft insulation and PV by offering a significant subsidy. Similar works were being carried out on the Council's social housing stock in the area, so local private residents could see the aesthetic uplift of external wall insulation and appreciate the value in the scheme. Similarly, Northumberland Warm Zone carried out a project to install external wall insulation in a community of private-sector, off-gas properties. Five households initially took up the offer; a programme of community engagement and onsite support helped to accelerate uptake and 34 of 39 homes in the community have now benefited from installations.

There are some specific challenges associated with area-based approaches, in particular:

Securing sign up to a project from multiple owners

If you are working with blocks of flats or entire streets, you will need to work with multiple customers. This is especially important if you are trying to achieve efficiencies in the supply chain (e.g., erecting scaffolding once for external wall insulation, glazing or roofing work).

Resentment from households that are outside a rigid geographical area

Area-based schemes such as CESP operated within strict geographical boundaries. This sometimes led to negative perceptions from people living just outside the qualifying area, who could not see why the people across the road received support but they did not. Universal area-based approaches (such as the

14 Power to our neighbourhoods....
15 DECC and EST PAYS review
16 CESP Evaluation
17 PAYS review

Kirklees Insulation Scheme) can help to overcome this issue. If you are partnering with a local authority on an area-based scheme, you could think about working with neighbouring authorities to extend the reach of your scheme across authority boundaries.

Demand changes over time with **householders dropping out of area-based schemes** at various points[18]. This can happen for a number of reasons: An unwillingness to take on the financial agreement, concerns about disruption and hassle or changing household circumstances. The FutureFit scheme reported a drop out rate of 23% after sign-up, even when works were offered free of charge to the householder. FutureFit suggest that ongoing resident engagement and awareness campaigns can help to sustain levels of participation.

4.3.5 Intensive Marketing Tailored to Local Requirements

There have historically been two different approaches to marketing area-based schemes: door-to-door approaches which offer something to everyone in an area or schemes which are targeted to specific segments of the population. The Kirklees Home Insulation scheme found that going door-to-door, whilst more labour and time intensive reached more people. Under CERT[19] and CESP[20], it was also found that **door-knocking approaches had higher costs but led to higher take-up** (60-70% take-up compared to 20-25% take-up from advice centre website referrals).

The area-based approach implemented in Penistone, Barnsley offers a useful insight into the costs and benefits of a door-knocking approach. Through a combination of door-knocking, direct mail of the Energy Saving Trust's Home Energy Check surveys and local advertising, the project team were able to provide face-to-face advice in the home to 850 residents. This led to 273 referrals for cavity wall insulation, loft insulation or heating improvements, with estimated carbon savings of almost 4900 tonnes. Advisors were particularly targeting able-to-pay households who were not eligible for the main grant schemes. They found that early evening was the best time to find people at home.

We have noted the importance of a 'hub' organisation. This should continue through into the **branding** of a scheme. Many successful schemes (e.g., the various Warm Zones) have included the name of the area in their brand, to ensure that it feels to the customer like a dedicated local project.

The Stroud PAYS scheme found that **exemplar homes** were very helpful to show potential customers how different measures work and the benefits that they offer. This can be as simple as asking early customers if they will welcome visitors from time to time to talk about their experiences. Similarly, Newport Council and Northumberland Warm Zone both found that installing measures in a few homes led to a 'community snowballing' effect, creating demand from owner occupiers and other residents.

In the non-domestic sector, area-based approaches are less well-developed, but can provide significant business opportunities and economies of scale. Islington Climate Change Partnership, run by Islington Council, coordinated a programme of local SME engagement around energy saving and carbon reduction. The Partnership offered a range of subsidised measures (energy monitors, standby busters) at discounted prices, along with free energy audits. Face-to-face engagement helped to unlock opportunities for other measures, such as heating improvements, upgrades to controls and lighting and insulation measures.

4.3.6 A Sound Financial Package and Solid Business Case

Green Deal will help to **overcome some of the capital barriers** which traditionally prevented householders, landlords and businesses taking up energy saving measures. In particular, it can help address the 'patchwork' effect which was seen in some area-based schemes, such as CESP, where social housing was targeted because the housing Provider made a contribution to costs.

18 PAYS review
19 CERT Evaluation
20 CESP Evaluation

Green Deal should not be seen as limiting what can be done in a household. In some cases, householders may be willing to pay more from their own savings to pay for additional measures. In the Stroud Pay As You Save pilot, managed by SWEA, 29 out of 49 participating householders made their own financial contribution to measures, averaging over £2,500 and accounting for 13% of the total cost of works. In one case, a householder contributed over £10,000 of their own money to the cost of energy performance improvements. Successful area-based schemes have made **proper provision for the revenue costs of developing and delivering a scheme**, in particular, the costs associated with marketing to target customers. As we have seen, door-to-door marketing can deliver a higher take-up of measures but carries higher costs.

Historically, most energy efficiency schemes have involved **drawing together multiple sources of funding**, for example, CERT in combination with Warm Front or a local housing improvement grant. For area-based projects, you will need to consider the applicability of each customer for Green Deal and for other incentives; these incentives could apply to the individual householder or be channelled through a housing Provider (e.g., a housing association).

Working in partnership on area-based approaches not only helps you to reach more customers in a given area, it can also deliver **economies of scale**. Research by the Energy Saving Trust has shown that area-based approaches can use bulk purchasing to secure measures at up to 30% lower than their individual cost.

4.4 Packages of Measures – Success Factors

4.4.1 A Well-organised and Well-resourced Supply Chain

The energy efficiency industry has historically worked in quite a fragmented way, with specialist companies and installers focusing on different elements such as heating, insulation and glazing. Green Deal encourages the industry to think about how a range of eligible measures can work together; the Green Deal assessment and the financial package are built around offering a combination of measures to the customer, whether in one installation or over a period of time.

In order to effectively offer packages of measures, industry will need to consider:

Developing partnerships to support the sales, marketing and installation of multiple measures

Effective ways of **selling and marketing packages of measures to the customer**. There are very few organisations offering a bundled approach to energy efficiency at present, so methods for promoting a whole-house package will need to be developed.

The share of profits and liability through the supply chain. With multiple product and installation companies involved, there will need to be thought as to how to manage the commercial relationships between partners. The Rampton Drift project (see above) illustrates how the contractual mechanism may evolve as a project progresses.

How to coordinate multiple trades on site. The more complex the package of measures, the more complex the installation process can be. Customers will have expectations about how quickly work can be done so it is important to make sure that your supply chain has enough capacity. In the Sutton PAYS pilot, 'a whole house approach managed by a single third party was... a major attraction to those who participated'. There is a clear opportunity for a project management function, someone who can coordinate on-site activity with the customer's interests at heart. The Northumberland Warm Zone project involved a significant amount of on-site project management, leading to an 87% penetration rate (34 properties out of 39 provided with energy efficiency improvements).

Getting the supply chain right can make a big difference. The Review of area-based energy efficiency initiatives in Scotland identified that the most successful schemes were those which integrated all aspects of a service into something seamless for the customer.

4.4.2 Developing a Clear and Attractive Offer

Bundling products and services into a package can be attractive to the customer as it can simplify what may seem a complex journey. It is important to think about your offer, particularly:

The combination of measures that you are bringing together, and to what extent this can be customised.

The sequence in which those measures will be installed.

Whether installations will happen over a short or a long time frame.

It is possible to make some assumptions about **a base package of measures** which might have wide appeal. However, one of the lessons from the PAYS pilots was that customers have different circumstances and often want or need a different set of energy saving measures. This can make a packaged approach more complicated, because you may need to customise the package each time.

It may also take some **time to discuss and agree the precise package of measures** that the customer will adopt. Bear in mind that some measures are seen as more attractive than others: research by DECC[21] found that the greatest influence on consumers' choice of proposed Green Deal packages was the inclusion of a particularly attractive measure.

21 Understanding potential consumer response to the Green Deal, Nov 2011

Under the PAYS scheme, packages were offered which included up to eight measures, though the average package consisted of two or three measures. Specialist installers might want to place once measure at the heart of a standard package, for example, the British Gas PAYS scheme was developed around an offer of solar PV systems. The Rural Innovation for the Future project developed four different packages to appeal to customers in different situations: An insulation package; a heating package; a combined solar package; and a lighting, appliances and controls package. Each package could be purchased separately or, importantly, they could be combined to offer a part- or whole-house solution.

It is worthwhile **testing packages of measures** in a pilot situation: Notting Hill Housing undertook a comprehensive refurbishment of a six-bedroomed Victorian home which improved the property's SAP rating from 13 to 90, cutting energy costs by almost 90% through a combination of insulation, heating, solar water heating, glazing and lighting. Notting Hill Housing has a significant portfolio of similar properties so can take forward a similar packaged approach elsewhere and potentially access economies of scale from bulk purchasing.

Similarly, FutureFit adopted a property-led approach, testing three different packages of measures in 102 properties across England, falling into 22 common building types. The packages were priced at £6,500, £10,000 or £25,000, giving a range of energy saving and carbon reduction outcomes. The findings of this work will help to inform Affinity Sutton's programme of retrofit works and its interaction with Green Deal and ECO.

The CESP programme was designed to encourage the installation of packages of measures in households. It was easier to identify properties requiring multiple measures in the social housing sector (where the housing Provider holds data on stock condition and works undertaken). In the private sector, it was more difficult to find properties where there was a need for more than one measure, as householders may have taken up different measures at different times on their own initiative.

One of the strongest barriers to the uptake of energy efficiency measures is the **'hassle factor'**. This is the degree of disruption that the customer must face whilst works are being planned and carried out. The more complex a package of measures and the more trades visiting the property, the more disruption the householder is likely to face. The review of the PAYS pilots found that householders preferred short term disruption to get the work done rather than multiple visits over a longer period.

4.4.3 An Understanding of Customer Demand

For many customers, the **concept of a whole-house approach or a package of measures will be quite new**. Householders are used to the separation between different trades. It is important for the Green Deal assessment and subsequent installation works that the customer comes to understand that different energy efficiency measures work together in different ways.

Building trust in the supply chain is essential. Research by Consumer Focus[22] found that householders have quite low levels of trust in the construction industry supply chain in general and are often unfamiliar with measures which will generally be one-off purchases. It is important to communicate clearly with potential customers to reduce perceptions of risk.

The Sutton PAYS pilot scheme identified that **some householders were willing to take up packages of measures that would not pay back**. They were interested in achieving increased comfort and in using a professional service, rather than being purely driven by the payback period. This is an extremely useful lesson for those marketing packages of measures: Green Deal finance does not have to cover all of the costs of energy performance improvements if the householder is willing to part-finance some of the works.

Complex packages of measures which impact on every room in a property will cause **disruption to the occupant**. In the social housing sector, this has usually been reduced by 'decanting' or moving tenants to alternative accommodation. There may be periods when a property is more likely to be empty (e.g., when a property has been bought or rented but the new occupants have not yet moved in, or after other remedial works such as structural repairs have been undertaken).

22 Green Deal or No Deal

4.4.4 A Sound Financial Package and Solid Business Case

Green Deal will help to **overcome some of the capital barriers** which traditionally prevented householders, landlords and businesses taking up energy saving measures.

Historically, many energy efficiency measures were taken up based on the availability of specific grant funding or subsidy. Those incentives tended to support one measure at a time and to only be available at certain times. This tended to work against a packaged approach. **Green Deal is designed to take a broader view,** helping the customer to understand the range of measures that are required and available and the level of investment needed over time.

Green Deal should not be seen as limiting what can be done in a household. As shown in the Stroud Pay As You Save pilot, **householders may be willing to pay more from their own savings to pay for additional measures**. More than half of participating householders made a financial contribution, averaging over £2,500 each.

4.5 Green Deal Brings Opportunities

4.5.1 Green Deal with Other Finance Sources

One of the key lessons from past experience of both area-based approaches and packaged approaches is that they often bring together multiple sources of funding. This can add time and complexity to the process, but is sometimes essential in putting the business case together, particularly where measures are costly or properties are harder to treat.

We have seen above examples of the types of economies of scale that can be achieved through area-based approaches – with estimates from 10-30% of product or installation costs (e.g., Cornwall Home Health, www.idea.gov.uk/idk/core/page.do?pageId=8917117, Kirklees Warm Zones). We have also seen schemes where householders have contributed above and beyond the subsidy provided to them (e.g., the Stroud PAYS pilot) and, indeed, this has been the dominant model for CERT over recent years.

4.5.2 Opportunities for Area-based Approaches and Packages of Measures

Here are some ideas about the way you could identify opportunities to develop area-based approaches or packages of measures using Green Deal. This is by no means an exhaustive list; it is meant to stimulate your imagination and ideas about how you could create solutions using Green Deal.

4.5.3.1 Approaches Based on Building Type

Bundling of measures into house-type packages (packages)

Manufacturers could think about how they will develop their own products – or partner with other organisations – in order to produce standard packages of authorised Green Deal measures for use in installations.

A distributor may wish to develop a standard kit or package for improving certain types of house or property (allowing that the assessment will identify property-specific issues so there may always be an element of variation).

An installer might build a 'toolkit' of authorised products that they use for Green Deal installations, reducing complexity and ensuring quality by using the same products across multiple customers and, potentially, securing discounted prices from the manufacturer or distributor.

Geographic clustering of an offer based on predominant property types (area-based)

This is more likely to apply to distributors and installers, or to link to schemes being developed by communities and local authorities.

Use of systems such as the Homes Energy Efficiency Database (managed by the Energy Saving Trust) can help to identify areas where there are opportunities to install certain measures (e.g. unfilled lofts or cavities).

4.5.3.2 Approaches Based on the Householder

Approaches targeting different tenures (packages)

Green Deal Providers may develop packages which are suitable to the needs of people in different tenures.

These packages could link into people's motivations, for example:

- For owner occupiers, a package that was aspirational, tapping into people's interest in home improvement.
- For landlords, a package that was focused on providing affordable warmth to tenants.

Approaches based on households income (packages)

Some packages may be more appropriate to householders who are more able to pay. This is particularly the case if the package includes wider elements of a service beyond that which is covered by Green Deal (e.g., household appliances, loft conversion) or if there are elements of the package which do not meet the payback requirements of Green Deal.

Approaches based on timing (packages and area-based approaches)

The Energy Saving Trust report Trigger points – a convenient truth identifies a series of trigger points where householders may be more likely to take up energy efficiency measures, for instance, when moving house or when a family is growing. There may be opportunities to bundle energy efficiency measures under Green Deal with wider lifestyle services which will appeal to householders at specific trigger points.

In rented properties (whether domestic or non-domestic), there may be periods when packages of measures or area-based approaches are more attractive. For example, an area-based or package approach targeting landlords of student housing could be effective in the summer, when properties are likely to be empty.

4.5.3.3 Approaches Based on Local Priorities

Local supply chain partnerships (packages and area-based approaches)

Local supply chain partnerships will be central to the roll-out of area-based approaches and packages of measures under Green Deal. Partnerships could be brokered by installers, builders' merchants, local authorities or community organisations.

Community priorities (area-based approaches)

Some communities may have strong networks, groups and principles around environmental issues. Transition Towns, for example, are based around reducing carbon emissions and building resilience for the future. There will also be areas where there is a strong community focus on providing affordable warmth, or on improving the appearance of an area to build civic pride. Identifying and understanding the priorities of a community can help shine a light on the opportunities for area-based initiatives under Green Deal.

Local authority priorities (packages and area-based approaches)

Many local authorities are committed to supporting their residents and businesses to reduce their environmental impact and their energy bills. Most area-based approaches to date have involved a local authority working with supply chain partners to roll out measures in a neighbourhood or locality, and this is expected to continue under Green Deal.

4.5.3.4 Approaches Based on Products and Services

An opportunity for project management

Strong project management and coordination skills are essential for delivering packages of measures. This could be the biggest business opportunity for installers and general builders, as well as for architects and other built environment professionals wishing to engage in Green Deal.

Packages of measures

Five schemes in the PAYS pilot generated eighty different packages of measures. Green Deal is designed to encourage packages of measures. These could range from simple and quick bundles of measures through to whole house retrofits. Packages should make sense to the customer – for example, a package for windows and walls together, or a package of insulation products, is more logical for the customer to understand than a seemingly random mix of measures.

Manufacturers and distributors could develop simple bundles of measures which align with common house types, making the specification process easier and potentially enabling economies of scale in production and purchasing.

Installers and Green Deal Providers could market these bundles of measures as 'ready-made' solutions for typical house types (allowing for the variation that may arise during the property assessment and discussion with the customer).

Manufacturers, distributors and installers can also develop more complex whole-house packages, although there will be an element of bespoke work to any whole-house project.

Installers can promote whole-house approaches which use Green Deal funding for appropriate measures but which add in further measures paid for by the customer or through other incentives such as Feed-in Tariffs or the Renewable Heat Incentive.

Creating new business models

There are opportunities to create business models, frameworks and contracts that can be used by the supply chain in setting up partnerships and delivering area-based approaches or packages of measures. Template business agreements and contracts can help to reduce transaction costs and time associated with setting up new schemes.

5. Appendices

Appendix 1 - Examples of Opportunities Being Realised by Industry

The following examples have been provided by the companies and organisations themselves and do not necessarily reflect the views of the Construction Products Association.

Example 1

Company Name: ReEnergise Finance Limited

ReEnergise Finance is a local SME business based in the South East, providing advice on renewable energy and energy efficiency projects.

Green Deal Opportunity Identified: Local Green Deal Provider

There is a great deal talked about the Green Deal Assessment, Green Deal authorised installation and the Green Deal Provider (with various roles and responsibilities shared amongst and between these parties), but very little about the actual finance Providers. The danger of assuming the big banks will provide funds is two fold: firstly, they may not (!); and secondly, that the single most important piece of the puzzle and the piece that has all the responsibility attached to it for a long period, becomes centralised and commoditised.

Many Green Deal projects will or should be part of bigger energy efficiency and renewable energy projects and therefore require more funding than permitted under the Green Deal. Finance needs to be provided and understood at the local and project level, in discussion with customers and local installers, to actually provide the boost to energy efficiency and the energy market.

How is the opportunity being realised?

ReEnergise Finance is building a capability to lend money from its own balance sheet (currently fund raising) and to act as a unique and specialised broker of energy efficiency and renewable energy finance into the wider finance market.

ReEnergise Finance has been founded by experienced bankers from UK and European finance market, who bring many years of lending and managing complex finance transactions.

What are you doing in preparation for the Green Deal?

ReEnergise Finance sees that the requirements of the Green Deal are part of an overall need for small to medium scale funding for energy efficiency and renewable energy projects.

Capability to lend needs to be fully incorporated into a wider offer of high quality advice, various technologies, different forms of finance and to homeowners and businesses.

ReEnergise Finance has developed a direct dialogue with DECC, continues to take an active role in the Green Deal development workshops and have been part of the consultation exercise. Our perspective is original.

ReEnergise Finance is supported by the ReEnergise group of businesses that provide energy efficiency and renewable energy advice and consultancy services, and project management services to domestic and commercial clients. Thereby providing ReEnergise Finance with a unique insight into the market, the technology and the issues, in a way that big financial institutions cannot possibly replicate.

Challenges faced/Expected:

- **Capital Raising** – the energy efficiency and renewable energy market has not, to date, had access to small and medium scale debt funding. Although typical funders are unfamiliar with the opportunity there is a tremendous amount of interest in this new and exciting market, supported by large amounts of capital.
- **Market Coverage** – maintenance of a true local approach requires wide coverage, therefore a business should take an initially narrow geographical approach or alternatively invest heavily on infrastructure.
- **Flexibility** – the Green Deal will be flexible enough to allow it to be part of a project, not stand alone.

Website Link:	www.reenergisefinance.com
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Example 2

Company Name: The Green Deal Finance Company

Green Deal Opportunity Identified

The aim of The Green Deal Finance Company (TGDFC) is to provide the lowest cost of finance to the market place, which in turn will mean the widest range of energy efficient measures can meet the Golden Rule, which of course is significantly impacted by the underlying cost of finance. Its membership, once operational, will be open to all market participants.

It is critical to the success of the Green Deal that the underlying cost of finance is as low as possible. This will allow the largest number of measures to be introduced on each property while still meeting the Golden Rule. This cost of finance includes the costs across the industry, including IT and loans administration, all of which need to be as low as possible for the whole Green Deal to help the Golden Rule.

This suggests that the market is best served by having one central finance company which:

- Is being established as a not for profit company to minimise its overall cost of capital
- Minimises the set up and administration costs of providing finance across the industry
- Aims for Green Deals to be quickly and regularly aggregated and refinanced in the capital markets at high investment grade
- Will be able to run funding competitions between alternative sources of finance and can access any specialised, low cost sources of finance and grants
- Provides a solution to Green Deal Providers on how to best finance the Green Deal

The Green Deal Finance Company intends to be the natural source of finance for the growing number of local authority Green Deal initiatives, who will benefit from its scale and being able to access cheaper investment grade source of finance.

The Green Deal Finance company will therefore aim to provide the most economic source of finance and enable an underlying competitive and innovative market for the provision of energy investment measures.

How is the opportunity being realised?

The Green Deal Finance Company is intended to have many roles, some of which are outlined below:

- **Provision of finance** – source of finance for all Green Deal Providers, providing consistent quotes for specific loan durations and amounts
- **Establishes common IT systems across the industry** – for the calculation, monitoring and amortisation of individual loans
- **Loans Administration** – competent control of Green Deals outstanding, amortisation of Green Deals and keeping records of individual property details, to banking standards, to ensure households can get information centrally, securitisation proceeds are maximised, and security values of houses are not impaired
- **Conduit for start-up finance** – Before the refinancing market for GD assets is established, TGDFC intends to access start-up finance from a variety of sources. As a national aggregator the amount of start-up finance required across the industry will be minimised, as the long term bond markets can be more quickly and regularly accessed
- **Off balance sheet** – GD finances will be on TGDFC's balance sheet, not the energy suppliers, Green Deal Providers or public sector balance sheet

What are you doing in preparation for the Green Deal?

Feasibility (3 months)	• Developing detailed structure, security arrangements, IT planning, outline credit rating, loan loss estimates, input into secondary legislation, Memorandum of Understanding (MOU) and stakeholder agreements
Set-up (6 months)	• Procuring IT and loans administration systems, full credit rating, recruitment of full-time employees, Articles of Association, detailed treasury management policy
Implementation (3 months)	• Arranging debt and working capital facilities, IT going live, finalised stakeholder agreements, funds advanced
Go Live (October 2012)	• Available to provide Green Deal finance

Challenges faced/Expected:

- Ensuring TGDFC represents the whole market

  Developing the feasibility stage, 16 companies have worked to develop the Business Plan. As we move into the set up and TGDFC will be incorporated as a company, we anticipate over 30 new members will join TGDFC including Green Deal Providers, Local Authorities and Registered Social Landlords

- Timetable

  To provide finance to the Green Deal, TGDFC needs the right IT, staff, finding and relationships with Green Deal Providers and energy suppliers. There is a lot to do to be ready for launch, so strong support and fast action is needed from all stakeholders and government

- Finance challenges

  The purpose of TGDFC is to remove the challenges to Green Deal Providers, so that finance is an enable, not a barrier to entry

Website Link:	www.TheGreenDealFinanceCompany.com
For more information:	Rob Cottrell, The Green Deal Finance Company / PwC
email:	greendeal@uk.pwc.com

Example 3

Company Name: British Gas

Green Deal Opportunity Identified

British Gas intends to be at the forefront of delivering the Green Deal and believes it can help drive a transformational change in UK energy efficiency. We will be involved in the Green Deal programme at every stage of the customer journey: we will drive customer demand; we will offer assessments; we will arrange financing; and we will install products.

How is the opportunity being realised?

We are investing heavily in staff, training, logistical support and products to support our future propositions. We are also gaining valuable learnings of how best to deliver the Green Deal through extensive customer market testing, and through the delivery of a go-early Green Deal.

What are you doing in preparation for the Green Deal?

In July 2011 we launched the British Gas 'Home Energy Plan', an early Green Deal for our customers. The Plan offers a full assessment, and makes recommendations and installs measures. We also provide financing so that measures can be installed upfront at no cost to the customer and paid back over 15 years.

Challenges faced/Expected:

- Driving customer demand - so that as many customers benefit from the Green Deal as possible
- Ensuring customer confidence is maintained through implementing high standards - in assessments, in installers, and in technologies and products
- Ensuring customer finance is available at low interest rates – so that as many products as possible can be part of a Green Deal

Lessons learnt

- Customers are attracted by energy savings but can be put off by long-term borrowing so careful messaging is important
- Households need to be helped to navigate through a complex customer journey involving multiple products

Website Link:	www.britishgas.co.uk/greendeal.html
For more information:	Chris Morrison, British Gas
email:	chris.morrison@britishgas.co.uk

Example 4

Company Name: SIG

SIG plc is a leading European supplier of specialist products to the building and construction industry.

Green Deal Opportunity Identified

SIG Plc will become a one-stop shop Green Deal Provider. SIG is one of the pioneer Green Deal Providers and plans to help lead this exciting initiative for the UK construction industry. We will help the customer understand the various stages of the process through being a Green Deal Provider and act as an Assessor and Installer via SIG Energy Management.

How is the opportunity being realised?

We are committed to an investment programme which includes apprentice schemes, IT systems, product and system development and early customer engagement. Our national coverage is also enabling us to develop bespoke customer experiences across all key segments.

What are you doing in preparation for the Green Deal?

One key customer segment is housing associations and social landlords. SIG Energy Management has launched their Insight Programme - a holistic energy management scheme that uses state-of-the-art assessment and monitoring technology to help customers improve the energy efficiency of their housing stock. Following a comprehensive survey and assessment recommendations are made on specific energy saving measures which will combat inefficiencies identified by that audit process. These measures are then installed by SIG and monitoring equipment is used to help the owners gain a greater understanding of how the houses in their portfolio perform.

Challenges faced/Expected:

- Ensuring an easy, well-explained customer journey
- Gaining confidence amongst the broad customer base in the Green Deal
- Matching our operational capability to the pace of change in the market
- Addressing the fragmented multi-solution requirements of the wide range of customer types

SIG ENERGY MANAGEMENT
Insight Programme

Website Link:	www.sigplc.co.uk (main company website)
	www.sigenergymanagement.co.uk (Green Deal advice)
For more information:	Gary Sutton, SIG Energy Management
email:	garysutton@sigcplc.co.uk
Phone:	07720 427 966

Example 5

Company Name: Birmingham Energy Savers

Green Deal Opportunity Identified

A comprehensive, ambitious and award winning initiative, Birmingham City Council's Energy Savers Program is expected to lead to £1.5 billion of green retrofit work for nearly 200,000 buildings in Birmingham and across the West Midlands over the next 15 years.

How is the opportunity being realised?

During the initial Pathfinder phase of the Energy Savers Program (2012 – 2015), the program will deliver energy efficiency improvements for 15,000 houses and 40 public buildings. This will lay the foundation for a wider program that by 2026 will see 60,000 houses and 1,000 non-domestic buildings retrofitted in Birmingham and a further 100,000 houses and 1,500 non-domestic buildings retrofitted across the West Midlands.

The retrofits under the program will involve installation of energy efficiency measures along with renewable energy and heat technologies that aim to drastically reduce the amount of Birmingham households living in fuel poverty (i.e. households that spend more than 10 percent of their income on heating their homes). The program is expected to create and safeguard 60,000 'green' jobs, from installation engineers, to designers in the area. By 2020, a reduction of 84,000 metric tons of CO_2 per year (4.3 percent reduction on current emission figures) is expected from domestic retrofits performed under the program. For non-domestic buildings, the program is expected to cut emissions by 189,000 tons per year by 2020 (7.8 percent reduction on current emission figures).

The model used by Birmingham is particularly relevant as it addresses the challenges of providing affordable financing under the Green Deal and neighbouring cities have already agreed to replicate the program.

What are you doing in preparation for the Green Deal?

The Council is seeking a Delivery Partner who can support our vision by providing strong management skills and bring together the best delivery resources, customer relationship management, financing, IT and administrative functions for the Scheme in a manner that will ensure sustainable quality and value for money for customers, the Council and the other 36 Contracting Authorities that may contract with the Delivery Partner.

Challenges faced/Expected:

- High fuel poverty (23% of households are in fuel poverty)
- High numbers of hard to treat properties (40% of houses need solid wall insulation)
- Low levels of awareness and engagement in energy efficiency

Website Link:	www.birminghamenergysavers.org.uk
For more information:	Dave Allport, Birmingham Energy Savers
email:	Dave.Allport@Birmingham.gov.uk
Phone:	0121 303 6826

Example 6

Company Name: Willmott Dixon Energy Services

Green Deal Opportunity Identified

Willmott Dixon launched its Energy Services Company - offering whole-building energy efficiency and renewable energy solutions - in January 2012. The new Company carries out work to be funded by the Green Deal and other sources. As a Green Deal Provider our involvement will start at assessment, run through to installation and include sub-contracting specialist contractor measures.

What are you doing in preparation for the Green Deal?

We have invested significantly in bringing together a team of experts and specialist organisations to provide the diverse range of skills and experience required. We are seeking to develop the most effective proposition to ensure early uptake and mitigation of long-term risks associated with the works.

We are also carrying out a programme of energy management, refurbishment and behavioural change across our office stock to realise 20% savings on emissions resulting from their operation. These actions are also required for us to meet a PAS-certified declaration of carbon neutrality by the end of 2012.

What's the focus?

Energy efficiency improvements and renewable energy installations to domestic and non-domestic properties across the UK. We are currently focusing on a 'whole-building' solution to ensure appropriate investment decisions are made based upon a medium and long-term view, avoiding 'quick wins.' We will build on our extensive experience of large scale, complex building design and construction; home repairs and refurbishment and in house energy expertise.

What's the timing?

We launched the new business on 1 January 2012 to ensure we had the necessary capacity and systems in place to be able to respond to market opportunities after the Green Deal launch.

Who will lead and staff the business?

Rob Lambe, who also leads our internal sustainability consultancy, Re-Thinking. He has constructed a team from people within the business and made some significant appointments to create a team with vast experience and capability in this field.

For more information:	Michael Willoughby, Willmott Dixon
email:	Michael.willoughby@willmottdixon.co.uk
Phone:	07837 775236

Example 7

Company Name: Mark Group

Green Deal Opportunity Identified

Mark Group has four decades of experience installing home energy saving measures. Now offering 'whole home' solutions and exploring the prospective market which Green Deal will create, Mark Group will offer services as a Green Deal Provider, Installer and Assessor. In addition Mark Group will deliver 'white labelled' services by partnering with some of the biggest names on the British high street.

How is the opportunity being realised?

Mark Group already has the expertise in house to specify and install cavity wall, solid wall and loft insulation as well as a range of renewable technology systems. Combining these valuable green skills with its national logistics capabilities, three Training Academies and a 2,500-strong workforce, Mark Group has taken its portfolio to prospective consumer-facing partners to help both parties realise their Green Deal potential.

What are you doing in preparation for the Green Deal?

Mark Group appreciates that homeowners have a choice and so businesses offering Green Deal packages must develop them with the customer front of mind. Systems and processes are therefore being reviewed to make the customer journey as easy and as helpful as possible, bespoke marketing collateral is being developed and additional training is being provided for employees right across Mark Group's workforce.

Challenges faced/Expected:

- Educating the homeowner: Many homeowners will never have come across many of the energy efficiency solutions which will be offered through Green Deal, so there is a steep curve to climb to educate prospective customers
- Gaining confidence amongst consumers: Installing measures through Green Deal will be a long term commitment, so why should homeowners firstly trust the different energy efficiency measures and secondly, choose to employ the services of a particular organisation?
- Demonstrating success: Nobody likes to be a guinea pig so demonstrating how well Green Deal is working, right from the outset, will not only be a huge challenge for the industry, but one which must be overcome within a very short space of time

Website Link:	www.markgroup.co.uk
For more information:	Jay Hensman, Mark Group
email:	jay.hensman@markgroup.co.uk
Phone:	0116 236 6523

Example 8

Company Name: The Green Deal Group (UK) Ltd

Green Deal Opportunity Identified

We feel there is a great opportunity for the building trade and for companies that have good codes of practice and high standards of work within the Green Deal. This is a project that has the potential to get the UK out of the recession. The legislation will create jobs and improve the building industry on a massive scale.

How is the opportunity being realised?

We saw the opportunity of being a one stop shop was the way forward. Previously Shane Patel ran his small insulation company installing cavity and loft insulation and more recently expanding into photovoltaics and solar. Arron Cooper was working for a national external render installation company. We decided to join forces after identifying the opportunities of the Green Deal and are looking to expand.

What are you doing in preparation for the Green Deal?

We set up the Green Deal Group in November 2011. We now have 5 administration staff including surveyors and sales staff, 8 installers of cavity and loft insulation, 4 solar installers and subcontractors including a plumber, electrician and scaffolders. We hope to recruit further to expand.

We are looking down every avenue possible to ensure we can become the ideal installer for all measures that become part of the Green Deal. We are attending the relevant courses (e.g. DEA Green Deal assessor training for domestic and solar thermal installation) and also making sure that we are authorised for us to comply with government legislation.

We are also talking to local builders who are interested in getting involved with the Green Deal, but find that all the paperwork and authorisations they need to comply with are very daunting and off putting. After several conversations, we believe that the best way to overcome this issue is to work alongside the builders and do all the necessary paperwork, assessments, authorisations, billing, sign offs, after sales and customer care servicing and allow the builders to do what they are good at.

Challenges faced/Expected:

- Building consumer trust. We hope to overcome this by obtaining all the necessary authorisations
- Planning is a worry of ours. It can take up to 3 months to get planning through and if we expect to hit targets and keep to deadlines this will need to be looked at

Website Link:	www.thegreendealgroup.co
For more information:	Arron Cooper, The Green Deal Group (UK) Ltd
email:	info@thegreendealgroup.co
Phone:	07805410918

Example 9a

Company Name: Greenworks Training Academy

Green Deal Opportunity Identified

- **Training** - Green Deal Installers and Energy Assessors - SMEs and large contract partners - new and current customers of Jewson, Graham, Gibbs & Dandy and Minster to do retrofit works and energy assessments - staff within Jewson Ltd and all its sister companies

How is the opportunity being realised?

Developed by Jewson and its sister brands, Greenworks have grown to become the UK's recognised authority and market expert in sustainable building products and solutions.

The Green Deal will require a large number of certified Green Deal advisors, energy assessors and qualified installers for both the domestic and commercial sectors. Jewson and its sister brands are best placed to support these emerging markets with its Greenworks Training Academy and its whole approach to this opportunity.

The Greenworks Training Academy has been recognised for delivering first class training and certification nationally since its doors opened early 2011 and partners with training provider Stroma. The Certifications are approved by the Department of Communities and Local Government (CLG) to certify assessors, inspectors and advisors needed as a result of legislative updates and industry developments.

More recently the Greenworks Academy has launched a Green Deal awareness training day, to improve their understanding of this opportunity, to teach the delegates the importance of fabric first and improve their knowledge of new renewable and microgeneration technologies.

Greenworks continues to support the Microgeneration Scheme (MCS) and offers customers a potential stepping stone into Green Deal.

What are you doing in preparation for the Green Deal?

Greenworks Training Academy is actively promoting their Green Deal Awareness days via their marketing materials, websites, media, events and staff training. The subject is high on the group's agenda and is taken very seriously at the highest level.

Jewson and its sister companies are already training customers in the installation of Green Deal eligible measures via their Greenworks Training Academy. Delegates have the opportunity for practical installation training in a multi-purpose training space on a wide array of product solutions, including Solar Photovoltaic, Solar Thermal and insulation technologies. Demonstration areas include; room sets for wet and dry work, a training set for commissioning of solar thermal and installing of solar photovoltaic panels linked to a live system for electrical testing, rainwater harvesting and a full training area for both internal and external insulation methods.

Website Link:	www.greenworks.co.uk
For more information:	Marcus Jefford, Greenworks Training Academy
email:	marcusjefford@greenworks.co.uk
Phone:	07717 557620

Example 9b

Company Name: Saint-Gobain Technical Academies

Saint-Gobain Technical academies provide both theoretical and practical training for the construction trade. Training courses currently offered focus on products and systems from Saint-Gobain businesses including British Gypsum, Isover and Weber specialising in the manufacture of cavity and loft, external and internal insulation technologies.

Green Deal Opportunity Identified

- To ensure that Saint-Gobain products and systems are correctly installed therefore ensuring that the in situ performance equals or exceeds the theoretical performance
- To enable both our existing customer base and potentially new customers to generate new business in the renovation and energy efficiency markets across all insulation technologies through delivering Green Deal accredited training focussing on products and systems offered by Saint-Gobain businesses

How is the opportunity being realised?

Saint-Gobain already offers training on the installation of its products and systems via the Saint-Gobain Technical Academies. We plan to develop and deliver Green Deal approved training through our national network of Academies.

What are you doing in preparation for the Green Deal?

Working with Certification bodies to ensure our courses are developed and available to interested parties so that our customers' installers are fully versed and qualified in line with the requirements of the Green Deal well in advance of the autumn launch.

We plan to run an awareness day during the second quarter to help raise awareness of the Green Deal and the options available.

We are also currently undertaking the necessary product/system testing and certification required to ensure our products are Green Deal ready.

Website Link:	www.saint-gobain.co.uk
For more information:	Sharon Haywood, Saint-Gobain
email:	sharon.haywood@saint-gobain.com
Phone:	0844 561 8810

Appendix 2 – Case Studies

Many additional case studies were submitted to the Energy Efficiency Partnership for Homes and can be found on the website at the following link: www.eepb.org.uk/resources.

Case study: Purbeck and St Michaels Road

The Purbeck and St Michaels Road project involved the closure of two roads in Bournemouth to allow insulation measures to be installed in over 100 private rented dwellings.

Project partners:	
Project Managers:	Dorset Energy Advice Centre
Contractors:	Warmerhome

Objectives:

Road closure to allow insulation measures to be installed in over 100 difficult to access private rented dwellings

What was done:

Loft and cavity wall insulation

What was achieved:

Estimated savings of 77.5 tonnes CO_2 per annum and £8510 annual fuel savings

About the project

For over eight years, the Dorset Energy Advice Centre (DEAC) has worked on the Bournemouth Landlords Project, working with over 900 landlords in Bournemouth alone to improve the energy efficiency of private rental and multi occupancy properties.

DEAC had long known that accessing properties in Purbeck Road and St Michaels Road would be particularly challenging – many of the buildings are three storeys high meaning that ladders would have to be put into the single one-way road to afford access to the upper floors. In addition, parking is incredibly difficult so getting space for an installer's vehicle was almost impossible. DEAC coordinated the closure of the two roads to allow these difficult properties to be addressed.

What was done?

- 12 buildings were insulated in Purbeck Road (80 dwellings)
- Seven buildings were insulated in St Michaels Road (31 dwellings)
- Completed cavities in 128 one-bed flats
- 10 loft top ups of 200mm each and 10 of 250mm-270mm each

How was the project managed?

Dorset Energy Advice Centre worked for around five years to bring the project to fruition.

Engaging landlords and tenants

A number of the landlords in the area was aware of DEAC's work in the private rented sector in Bournemouth and were keen to take action on their own properties. Other landlords were brought on board through two years of intensive engagement activity by DEAC, including mail shots to properties and to landlords, housing group meetings, landlord forums, direct phone calls and meetings. Although challenging, DEAC eventually managed to get all 18 landlords and agents in the two roads to agree to the project.

A week before the works took place, DEAC hand-delivered letters to all businesses and residential addresses in the area to notify them of the road closures. This prompted a late response from a property in Purbeck Road which was quickly surveyed and added to the programme.

Road closure

DEAC originally started enquiring about the road closure in July 2010, liaising with Parking Enforcement to get a temporary Traffic Regulation Order (at a cost of £500).

Having booked the dates for the two-day two-part road closure, it was then necessary to hire the required barriers and signs in line with the Road Traffic Act. After much perseverance with traffic management companies, DEAC finally managed to arrange a company to supply and set up the correct equipment.

It was then necessary to notify other parties such as local bus Providers and the council waste department to ensure that the road closure would not disrupt any bus routes or waste collection.

Installation

The installer, Warmerhome, undertook a pre-installation check on all the properties to ensure that any issues that had not been noted during previous surveys were addressed. This additional check was felt to be particularly important as this would be the only chance to access the properties.

The properties were successfully completed over two days.

Project successes

There were 18 different landlords and agents involved in this road closure project, and all were actively involved in allowing access, notifying tenants and signing off paperwork. All of the landlords involved were happy with the works and many were surprised that it was possible to coordinate such a successful operation in this difficult area.

Estimated savings

- 77.5 tonnes CO_2 per annum
- £8510 annual fuel savings (at current prices)

Challenges faced

Undertaking this project was a significant challenge in itself, taking around five years from its inception. Apart from a few small setbacks on the day which were easily addressed, the installation ran very smoothly once it was under way.

Lessons learned

Although a long and occasionally difficult process, this project shows that hurdles such as lack of parking and complex access issues can be addressed. The Bournemouth Landlords Project as a whole has demonstrated that it is possible to engage landlords in energy efficiency and address the well known challenges in the private rented sector and Houses in Multiple Occupation.

Potential for replication

There is great potential to replicate this project to address the large number of properties in the UK that are difficult to access.

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email:	peter@deac.co.uk
Phone:	01202 307416

Case study: Lauriston Place, Edinburgh

Low carbon refurbishment of listed tenement flats in a UNESCO World Heritage Site.

About the project

The three projects Energy Heritage, Renewable Heritage and Double Glazing in Listed Buildings involved installation of energy efficiency and microgeneration measures to solid stone, listed, occupied tenement flats in central Edinburgh.

The buildings are owned by a registered social landlord and the householders were at high risk of fuel poverty.

What was done?

- Bespoke secondary glazing usable with shutters
- Timber shutter refurbishment
- Draught proofing
- 'A' rated boilers and controls
- Slimline solid floor insulation
- Slimline double glazing, various systems (formerly prohibited)
- Smart monitors
- Multiple solar thermal installations to all 5 floors of seven tenement blocks
- Best practice guides on energy efficiency and renewables in traditional & historic properties

Project partners:	
Project Managers:	Changeworks
Client:	Lister Housing Co-operative
Partners:	The City of Edinburgh Council Edinburgh World Heritage Historic Scotland
Contractors:	BCA Insulation, Storm Windows, Ventrolla, Glendevon Energy, AES Solar, Capital Glazing

Objectives:

Lower running costs and CO_2 emissions; demonstration of making hard-to-treat historic homes more energy efficient while maintaining their architectural integrity

What was done:

Glazing (secondary & double), timber shutters, draught proofing, solid floor insulation, 'A' rated boilers, multi-floor solar thermal systems

What was achieved:

Around 40% CO_2 savings per flat if all measures installed; best practice guides

How was the project managed?

Scottish sustainable development organisation Changeworks developed and managed the projects in partnership with Lister Housing Co-operative (the building owner), Edinburgh World Heritage, Historic Scotland and The City of Edinburgh Council. Lister Housing Co-operative managed the tenant interface, with support from Changeworks for events and guidance. A good relationship and attention to tenants' needs ensured selection of appropriate measures and as little disruption as possible.

For all three projects, a list of all the potential solutions was compiled and each measure assessed to establish its suitability in historic buildings. Some measures were excluded either because of their incompatibility with historic buildings, or because their intensive nature could make it unrealistic for many households to replicate them. Packages of measures were presented to tenants through letters and open days and different combinations of measures were installed in each flat, determined by its location and the preferences of the householder.

Project successes

For flats that installed the full package of energy efficiency measures and the solar thermal systems, Changeworks has estimated 40% CO_2 savings. Detailed breakdown of the savings achieved can be found in the Energy Heritage and Renewable Heritage guides, and the Double Glazing In Listed Buildings project report (see link below).

Slimline double glazing was installed in both new and existing timber sashes. In situ U-Value testing showed significant improvements in performance from all systems, from c.5.5 to as low as 1.0.

Challenges faced

Planning and listed building restrictions limited the choice of measures that could be offered.

Rather than one large communal solar thermal system, each flat has its own separate system in order to minimise disruption in the event of any malfunction. As such, for all flats below the top floor, the pipework connecting each solar panel to its respective hot water cylinder runs through multiple properties. Installing these systems was technically complex and required careful planning by the client and the installer.

Lessons learned

The installations were planned around the householders wherever possible, giving advance notice of any access needed and working around their daily lives wherever possible. Once the work was under way, maintaining a clean, efficient and professional service played a large part in reassuring the householders and retaining their support for the works.

The projects have shown that solid-walled and historic homes can be made considerably more energy efficient without compromising their appearance. However, the measures needed are often very specialist (with a particular emphasis on unobtrusive products) and come at a premium.

Potential for replication

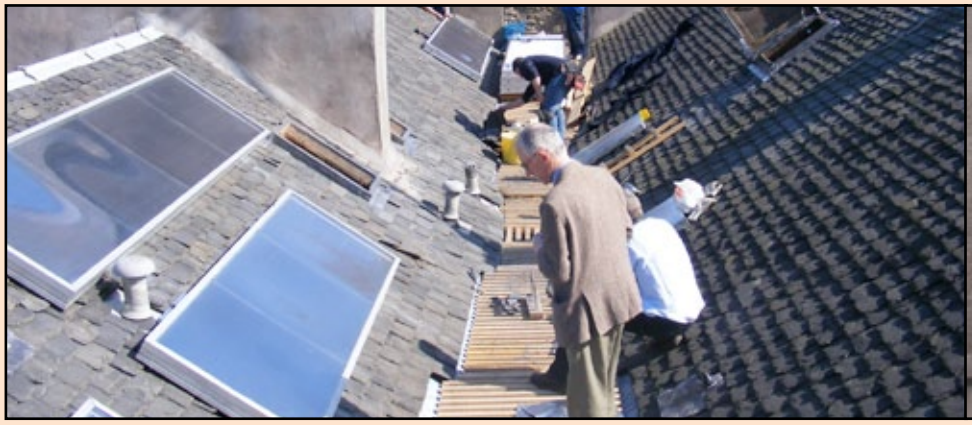
Stone tenements are a predominant house type in urban areas across Scotland; similar stone flats are also common across the rest of the UK, and many of the measures are equally applicable to individual houses.

Cost

Capital costs for the Energy Heritage project included:

Measure	Quantity	Cost per flat	Cost per unit
Secondary glazing	5 flats (30 windows)	£5,040	£840
Draught proofing	4 flats (24 windows)	£2,262	£377
'A' rated boiler	4	£2,434	£2,434
Floor insulation	2 flats (161m^2)	£9,434	n/a
Loft insulation	2 flats	£431	n/a

The solar water heating system installations amounted to £196,450, just over £4,000 per flat.



The project reports can be downloaded from:	www.changeworks.org.uk/publications.php
For more information:	Nicholas Heath, Changeworks
email:	nheath@changeworks.org.uk
Phone:	0131 468 8660

Case study: Edward Woods Estate

Comprehensive low carbon refurbishment of a 1960s residential development - the scheme involves the refurbishment of three 24 storey towers.

About the project

The refurbishment of the Edward Woods Estate near Shepherds Bush, London was intended to extend the life of the towers through comprehensive repair works as well as by undertaking a thorough thermal and visual upgrade. In addition, the scheme establishes a flagship for building-integrated renewable technologies within the Borough.

What was done?

Existing facing bricks on the gable ends had deteriorated so were stripped away and replaced with lightweight steel frame filled with 100mm Flexi between studs and 50mm Flexi behind in the original cavity. A cement particle board braces the frame to create an even substrate on which 90mm Rockshield insulation system is applied giving a total U-value of 0.18W/m2K – nine times better than the existing make-up.

Project partners:	
Client:	Hammersmith and Fulham Homes
Contractors:	Brever Group
External Wall Contractor:	Lawtech Ltd
Architect:	ECD Architects Ltd
Insulation Solution Supplier:	Rockwool

Objectives:

A comprehensive low carbon refurbishment of a 1960s residential development

What was done:

External wall insulation, cavity wall insulation, PV panels

What was achieved:

U-value of 0.18W/m2K in the gable end walls, U-values of 0.15W/m2K for the roof and walls of the new penthouse flats, 82,000kWh of solar

The principal south-facing gable of each tower block was fitted with a 318-panel photovoltaic rainscreen system, spanning from the 4th to the 22nd floor providing around 82,000kWh of solar generated electricity annually.

Cavities in the east and west elevation were blown with HP Energy Saver cavity wall insulation and externally clad with Rockpanel Rockclad Xtreme board.

New build penthouse flats on each tower block were constructed, incorporating lightweight steel frames with 300mm Flexi insulation, faced with Rockpanel wood finish cladding and Rockwool flat roof insulation. The U-values of the roof and walls were calculated as 0.15W/m2K and the acoustic performance of the building was improved by reducing noise proliferation by 29Db.

How was the project managed?

Residents have been involved with the scheme from the start, with representatives from each block working with the design consultants, using their local knowledge to help steer the proposals for the benefit of all who live there.

Project successes

- Life of the building extended for another 40 years
- Improved the SAP ratings and thermal comfort for residents and reduced fuel poverty concerns for many residents
- The appearance of the towers is much improved, in line with the wider regeneration of the area
- Established an exemplar of building-integrated renewable technologies

Challenges faced

Constructing new flats on the top floor of a tower block presents a number of logistical challenges, as does removing externally facing bricks from 24 storeys.

Lessons learned

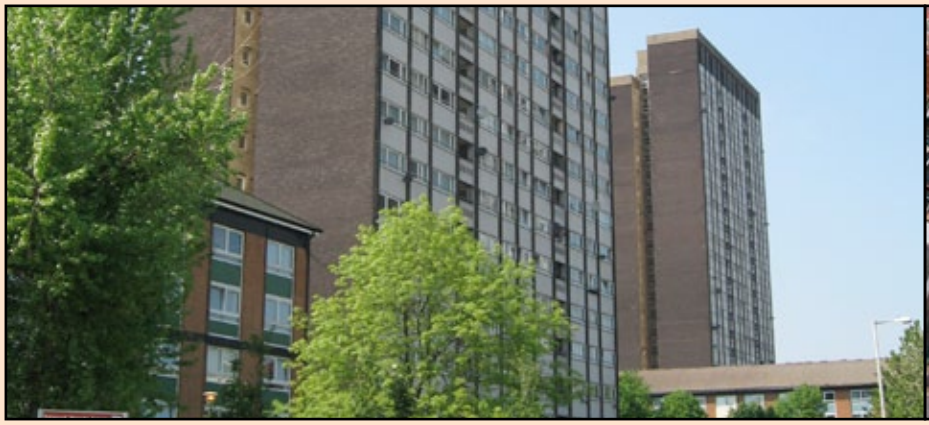
Due to extensive and ongoing consultation, resident support has been strong from the outset.

Potential for replication

In order to meet future government carbon reduction commitments, the measures undertaken within this project will need to become far more commonplace. The greater use of insulated over cladding (external wall insulation) working alongside micro generation technologies will play an important part in meeting those objectives.

Cost

- £12.2 million budget
- Core funding came from H&F Homes' regeneration budget supported by a substantial grant from the London Development Agency's Targeted Development Stream and CESP funding for carbon reduction measures obtained via British Gas
- The revenue from the market sale of the 12 new penthouse flats and further income derived from the conversion of the ground floor into office space for the Borough's Community Liaison department will be fed back into the project budget



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Case study: Cheshire West Warm Zone

The Warm Zone scheme offers free or discounted cavity wall and loft insulation to everyone across Cheshire West and Chester, to help residents cut their fuel bills and reduce the effects of climate change.

Project partners:	
Client:	Cheshire West and Chester Council
Contractors:	KAZ & Co, SIG Energy

Objectives:

Reduction of fuel bills and effects on climate change

What was done:

Loft and cavity wall insulation

What was achieved:

490 measures installed in 394 properties

About the project

Cheshire West Warm Zone is Cheshire West and Chester Council's flagship home insulation scheme, for homeowners, private tenants and landlords to access discounted or free cavity wall and loft insulation. The aim of the project is to help local residents cut their fuel bills and make their homes affordably warm and energy efficient.

The Zone is a dynamic partnership delivered on behalf of Cheshire West and Chester Council in collaboration with Warm Zones CIC and ScottishPower. It brings together funding to improve household energy efficiency to modern insulation standards and was launched in September 2011.

What was done?

The popularity and profile of the scheme has rapidly gained pace culminating currently in 2,288 successful customer applications. A combination of loft and cavity wall insulation has so far been installed into 394 properties throughout the Cheshire West and Chester area.

How was the project managed?

After the initial application by post, phone or web, Cheshire West Warm Zone refers the details to its surveying contractors who arrange a free technical home survey to identify if the loft and walls are suitable for insulation to be installed. Once the survey is complete, the details are passed to insulation contractors who then arrange a date for the work to be completed.

Project successes

The scheme has received a very high level of interest. 2,288 enquiries were processed via web, post and phone applications. This resulted in 687 properties surveyed and a total of 490 loft and cavity wall insulation measures installed.

Challenges faced

- Promoting the project and increasing the general awareness of the scheme's benefits and qualification criteria
- High level of demand and interest in the scheme
- Sourcing reputable and reliable contractors

Lessons learned

- A combination of marketing measures was implemented to raise the profile of the project. A postal campaign containing information packs focused on households in the target areas. Additionally, local newspapers such as the Chester Chronicle featured articles highlighting the story of satisfied homeowners who had benefited from the scheme
- Due to the high numbers of customer applications and enquiries, additional temporary members of staff were employed to assist
- In addition to a list of existing contractors, an additional start-up company was utilised

Potential for replication

This ongoing scheme has been successfully developed in Cheshire West and previously in the North Staffordshire area. With consumers being much more conscious of rising energy costs, similar programmes could easily be promoted in other areas with similar benefits.

Cost

Because of the high volume of work involved, very competitive prices could be sourced from local contractors. Combined with additional funding from external organisations such as Scottish Power and local government, this has allowed the scheme to be free of charge in many properties.

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Case study: Blaenau Gwent - Saving Energy in South Wales

Challenge

To deliver 'whole house' energy saving retrofit solutions to around 800 properties across four communities in a deprived area of South Wales.

About the project

The Blaenau Gwent community in South Wales has a high level of deprivation with many of its residents living in fuel poverty. The area was singled out as a priority for the Council to improve the thermal efficiency of the housing stock, reduce fuel bills and educate residents on how to live a more energy efficient lifestyle.

What was done?

The project was delivered in two parts – installing External Wall Insulation (EWI) to 245 homes with funding from the Welsh Assembly Government's Arbed programme, and, working in partnership with EDF Energy, installing cavity, loft or external wall insulation, plus boiler upgrades to 525 properties through the CESP (Community Energy Saving Partnership) funding programme.

Project partners:	
Client:	Blaenau Gwent County Borough Councill
Contractors:	Mark Group
Suppliers:	Alumasc; Shadow Scaffolding; Gastech Wales; Leeway
Partners:	EDF Energy

Objectives:

The take up of energy saving measures by all residents – private and social.

What was done:

External Wall Insulation across three housing estates; cavity, external wall and loft insulation and boiler replacement at one further estate

What was achieved:

U values for the Bryn Mawr estate dropped from 2.10W/m2K to 0.34W/m2K

How was the project managed?

The project was managed by Mark Group, coordinating the services of specialist local contractors with its own personnel and works programme. A project of this scale required an efficient working pattern which was made possible as follows:

- Mark Group opened a new local Service Distribution Centre and Training Academy where materials could be delivered on a weekly basis and stored. A secure container was also held on site with materials on hand for the day ahead
- Materials were organised according to individual property requirements to enable swift deployment
- In total, 35 installers worked on the project. Working in teams of five, each had a specialist role to fulfil and, working together, they were able to move swiftly along a row of houses, reaching completion on each in eight to ten days, causing minimal disruption to residents
- Communication was key to success. The Council, Tai Calon Housing Association, tenants and homeowners were not only kept informed as work progressed, but residents were engaged on a one to one basis to help them understand what the energy efficiency measures were and how they could get the most out of them

An additional element of this project was the employment of local labour, particularly focussing on the long term unemployed. Working with local programme Provider JobMatch, Mark Group took on and trained five skilled and semi-skilled workers to be part of its team with the prospect of a future career with the company.

Project successes

In terms of energy savings, U-values for the Bryn Mawr estate dropped from 2.10W/m2K to 0.34W/m2K and to quote one happy resident:

'We try to do our bit look after the environment, so were really pleased to hear that we could have our home insulated through the Council scheme. The result is brilliant! The new rendering has made the outside of our house look so much better and, inside, we've had to turn our thermostat down by four degrees.'

Challenges faced

The project ran extremely smoothly and the only real challenge was the weather. Part of the installation work was carried out during one of the coldest winters South Wales has seen for more than 20 years. Temperatures dipped as low as minus 15°C at times and with heavy snow to boot, Mark Group's installation teams had their work cut out for them.

Lessons learned

Through efficient project management and the right personal protective equipment, the installation teams were able to continue working through the sub zero temperatures to complete the project on time and on budget.

Further lessons were learnt through communication with tenants and residents. Whilst Mark Group dedicated time to one to one engagement, a more structured approach to providing communication materials and literature would be worth considering for future projects – to aid education and understanding.

Potential for replication

The successful delivery of this project demonstrates that through good management, partnership working and communication, area-based whole house retrofit programmes can be achieved. With the experience to call upon, Mark Group has no doubt that this model could be rolled out again and expanded.

Cost

The total value of the contract was £3.3million. Best value was achieved in part by employing specialist, local contractors and through bulk buying materials from companies with whom Mark Group has long standing relationships. Costs were reduced further by strategic, efficient project management.

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Case study: Stroud District Council, Target 2050 Homes

Development of a programme to achieve deep cuts in energy consumption and carbon emissions in existing homes.

Project partners:	
Client:	Stroud District Councill
Contractors:	Severn Wye Energy Agency

Objectives:

To provide the basis for an effective, long-term, targeted approach to achieving deep energy and carbon cuts in existing homes in the UK

What was done:

Development of an expert advice programme, local installer network, case studies and communications programme

What was achieved:

Average household energy savings of 24%, and fuel bill savings of £406

About the project

In 2007 Stroud District Council launched a new programme of work to tackle climate change. Severn Wye Energy Agency was commissioned to develop and deliver the programme, through close collaboration with Council staff and a wide range of other local partners over a four-year period.

What was done?

The main features of the programme were the development and delivery of:

- **An expert advice programme** to support whole house sustainable energy retrofit
- **Ongoing support for an installer network**
- **A set of case study homes**, broadly representative of the range of building types in the area
- **An effective communications programme** to share knowledge and experience
- **A pilot Pay As You Save (PAYS) loans programme**

The local Installer Network is a core feature of the programme. It is a free service to both installer members and consumers, and is relatively light touch and simple to administer. It builds upon national accreditation schemes and is flexible to adapt to changes in the market. The network includes the full range of sustainable energy retrofit technologies in order to encourage and consolidate a more holistic approach to home energy performance.

How was the project managed?

An initial feasibility study was carried out to review the current position and design a programme to support low carbon retrofit activity in the locality.

In order to design a programme of work that would make a real difference within a limited time span, the project team were at pains to seek the views of interested parties on both the consumer and supply side, to work with them to identify the specific barriers encountered, and to suggest solutions to overcome them. The feasibility stage was crucial in this respect.

Project successes

102 of the households surveyed are known to have gone on to install energy saving measures which could reduce their energy consumption and carbon emissions by an average of 24%, and their fuel bills by £406. If all measures were installed in the 248 homes surveyed, average savings of 57% in annual energy consumption and 58% in CO_2 emissions were identified.

85% of households interviewed said the involvement of Severn Wye Energy Agency made them more likely to apply, and 80% said the same with respect to Stroud District Council.

Challenges faced

The feasibility study identified that installers felt that local building suppliers held a poor range of relevant items, leading to time lost in sourcing supplies. Information sharing within the project has gone some way to address this, reducing the time it takes for installers to find out what they need to know in the case of unfamiliar technologies and tricky details on older homes.

Lessons learned

The small local advice team was contactable by telephone or e-mail, enabling customers to speak to a known individual. This local personalised approach is beneficial as advisors are already familiar with the home in question, and can quickly recall and identify the building issues and household.

The Installer Network has proved extremely beneficial to installers. It provides the opportunity to talk to similar businesses and share experiences; links from installer lists on the Severn Wye and Local Authority websites have offered a new route for enquiries; and linked advice from Severn Wye offers a 'first port of call' for customers to access straightforward and impartial information on the measures and latest schemes.

The evaluation of the PAYS pilots indicated that households would prefer a programme led by public/non-profit Providers that are commercially impartial; it also highlighted the importance that they placed on practical knowledge and expertise.

The project team has concluded that the ideal programme to support the achievement of deep cuts in energy consumption and carbon emissions in existing homes is:

- Tailored to the practical realities of the existing building stock
- Designed to address the real and multiple practical needs of households
- Able to engage with all key actors in the supply chain, and deliver to their needs
- Intelligent, and flexible to develop as Providers learn, markets develop, and external factors change
- Open and transparent, allowing benefits and learning to be shared

Potential for replication

The programme has shown that there is significant value in moving forward with an integrated non-profit local partnership model which builds on these positive features. By extending this to neighbouring local authority areas, it is possible to achieve some economies of scale while maintaining the benefits of local knowledge and a personalised service. The approach is highly replicable.

The Target 2050 homes report can be viewed at	www.swea.co.uk/downloads/print/HomesReport_print.pdf
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Case study: Northumberland Warm Zone – Shilbottle Community Solid Wall Insulation Project

Northumberland Warm Zone (NoWZ) had to engage with a rural, off-gas community and persuade as many of the private residents as possible to install external solid wall insulation (as the lead measure in an integrated package of support including loft insulation, heating improvements and benefits advice) within a relatively short period of time.

Project partners:	
Client:	Northumberland County Council
Contractors:	Carillion Energy Services via Northumberland Warm Zone

Objectives:

To trial the delivery of external solid wall insulation in an off-gas private sector community via an integrated whole-house approach

What was done:

External solid wall insulation measures delivered to 34 off-gas, hard-to-treat properties in rural Northumberland

What was achieved:

Wall U-values reduced to 0.3 and saving an estimated £250+ off residents' fuel bills p.a.

About the project

NoWZ was tasked with identifying a suitable trial community of private sector, off-gas 'hard-to-treat' homes, and then engaging with that community to persuade the residents to take-up external solid wall insulation (as the lead measure in a whole house approach).

Using existing Warm Zone data and local intelligence, a community in the village of Shilbottle was identified and a programme of community engagement was agreed and implemented.

This quickly led to the initial sign-up of five properties for external solid wall insulation. However, as these five properties were being installed, the Warm Zone continued to promote the project locally. Following these initial installations and the very positive testimony of the residents, more of their neighbours then agreed to have the measure installed.

By adopting this ongoing community engagement approach and by encouraging the installing contractor to ensure very high standards of workmanship and customer service in their 'shop window' role, the number of homes signing up snowballed from five to 34, facilitating the cost effective continuity of on-site delivery and some local economies of scale.

How was the project managed?

The project was managed by Northumberland Warm Zone on behalf of Northumberland County Council. The Warm Zone was responsible for identifying and engaging with the target community, managing the measures installers (Carillion Energy Services for the solid wall insulation) and ensuring that a cost-effective whole-house approach was adopted, including the provision of advice and support to the local residents.

Project successes

As a result of the project, 34 out of 39 target homes had external solid wall insulation measures installed (an 87% success rate).

There were very high levels of client satisfaction, as evidenced by extensive on-site liaison throughout the process and follow-up discussions following completion of the works.

The project also featured on regional BBC TV news and current affairs programmes as an exemplar of how to improve the energy efficiency of such hard-to-treat homes and as a pointer towards the new Green Deal and ECO market framework.

Challenges faced

It was clear that there was very little client understanding of and hence demand for measures such as external solid wall insulation. This is a significant barrier that can be overcome by time and a sympathetic, local approach from a trusted party.

As the properties were already white rendered and the finish coat of the new EWI was to be the same or similar, then planning permission was not required. However, open and proactive discussions with the local authority's planning department helped to guide the project.

Another issue which needed a significant amount of consideration was the Construction Design and Management (CDM) health and safety requirements. In the case of Shilbottle, there was asbestos contained within both the roof and the rain water guttering which needed specialist attention.

Supply chain management is also key. It helps to maximise on the ground delivery efficiencies and the cost effectiveness of the project, whilst also to persuading more residents to sign up. Allowing residents to see firsthand what was involved and the level of workmanship and customer service that they could expect helped to build a much more relevant and powerful understanding of and trust in the product and its delivery.

Lessons learned

In addition to the lessons outlined above, it was clear that there were major advantages in having a trusted local organisation managing the project. As the not-for-profit Warm Zone partnership had a successful 10 year track record in Northumberland and was crucially backed and endorsed by the County Council, it was able to carry out that role, helping to build trust and secure the sign-up of more residents.

However, the project also demonstrated that the residents were very sensitive to cost. Although nearly 90% of homes were persuaded to sign up on the basis of at or near 100% grant funding, anecdotal evidence strongly suggests that the level of take-up would have been very much lower (and at best would have taken much longer to secure) if a 'pay as you save' loan type funding approach had been offered.

Potential for replication

The project is regarded as a particularly relevant and useful exemplar for the adoption of a flexible, community-based approach to the delivery of external solid wall insulation measures, especially given the drivers to install such measures under the new Green Deal and ECO market framework to be introduced from later 2012.

Cost

The average cost for the external solid wall measures was around £4,880 per home (including CDM & asbestos related costs), with funding secured from NoWZ's partners SSE and Northumberland County Council, with a client contribution in one case for a much larger property.

NoWZ used its established framework contracts and market knowledge to ensure best value, with the lead installer partner also working proactively to ensure a flexible and cost-effective approach in order to ensure that this 'pilot' project was a success and would act as an exemplar to help drive future business opportunities.

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Case study: West Sussex Flats Insulation Project 'The Swallows'

Following the introduction of CERT funding in 2008, local authorities and local managing agents started receiving an increasing number of calls from residents living in blocks of flats wishing to have insulation installed.

The project was set up to deliver cavity wall and/or loft insulation to whole blocks of flats and HMOs (Houses in Multiple Occupancy) at no cost to any residents, regardless of their income, vulnerability or the additional access costs that are often incurred. An important aspect of the project was that the residents were guided through the whole process by a project manager and insulation surveyor so that issues were solved before they became problems and each building could be insulated quickly and easily.

Project partners:	
Client:	West Sussex Partnership (six local authorities, led by Environmental Health Officers)
Contractors:	HCL Energy (Managing Agent)

Objectives:

Enabling blocks of flats in the private sector to be insulated using a combination of CERT and Regional Housing Board funds, and addressing the specific difficulties in tackling these buildings.

What was done:

Cavity wall insulation and loft insulation

What was achieved:

Wall U-Values decreased from 1.40 to 0.49. Loft insulation topped up to 270mm, start-point ranging from 60-120mm.

About the project

The Swallows is a three-storey block consisting of 24 private sector flats in the centre of the coastal town of Littlehampton.

Most of the flats in the block were owner occupied. 75% of the residents were over 70 years old and so fell into the CERT Priority Group. The flats are surrounded on the south side by a landscaped garden and lawn and brick balconies, whereas the north side of the block has been built right up to the pavement and road. Each top-floor flat has an individual private loft with varying levels of insulation; there are also three communal lofts. At the start of the project, the roof of the block was in need of replacement, but the work to replace the roof was not expected to be carried out for at least a year ahead.

What was done?

Phase 1: Initially, only cavity wall insulation was addressed. The insulation in the loft was going to need to be brought up to Building Regulations when the roof was replaced, so there was little point addressing this ahead of time. The 60mm cavity was filled over the course of approximately 1½ weeks using a local insulation company who used Springvale's platinum Ecobead.

Phase 2: Once work had progressed on the roof almost eighteen months later, loft insulation (mineral wool) was fitted, bringing levels up to 270mm.

How was the project managed?

Engaging with the residents was particularly challenging despite the fact that the project team was initially approached by a resident member of the board of directors managing the block. It took several months, many individual visits to residents' flats reassuring them of the benefits of insulation, and attendance at the residents association meeting before permission was gained from all residents. This engagement work was carried out by the project manager and the local Council's Energy Efficiency Officer.

Project successes

Wall U-Values of the cavity wall improved from 1.40 to 0.49W/M²K (using Springvale platinum Ecobead with K-value 0.033W/mK).

Loft insulation in each of the lofts was topped up to 270mm, with starting points ranging from virgin to 120mm.

Challenges faced

Occupant engagement was very challenging in this block, even with a local board of directors and residents association. If the residents had not been guided through the whole process by a project manager and insulation surveyor, it would not have gone ahead.

The balconies and gardens proved complicated. Many complaints were raised before and during works with regards to damage to personal property and to the grass and plants from equipment. Access was complicated too: some of the building could be reached on ladders, but a cherry picker had to be hired for several days work at an additional cost of approximately £500.

Lessons learned

One of the most significant lessons learned from the project is that coordinating all the parties involved in a block of flats to make a communal decision is difficult and if not managed properly can lead to the abandonment of projects.

Residents seem to have low confidence in those offering insulation measures and are worried that even with 'expert' advice that they will make the wrong decision about what work they get done.

Access must be considered from the beginning; this is vital to getting the work done but it can be very costly and is not covered by most insulation grant schemes.

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Case study: Rural Innovation for the Future

Rural Innovation for the Future (RIFF) delivers a non-invasive renovation package with four distinct modules. Each module could be installed as a standalone project but together they form a whole house solution that delivers deep cuts in both carbon emissions and primary energy consumption.

Project partners:	
Client:	Warwick District Council
Contractors:	Kinetics, Bowater, Transcast, WattBox, Windhager

Objectives:

Development of a whole house retrofit kit

What was done:

External wall insulation, triple glazed windows, wood pellet boiler, solar thermal, solar PV, lighting, appliances and controls

What was achieved:

Reduction in carbon emissions of 138kgCO_2 per year (91% saving) and a fuel bill reduction of £1,837 per year (81% saving)

About the project

Two 1950s semi-detached properties in a rural setting in Warwickshire were chosen for this Retrofit for the Future project.

The properties had filled cavities with a cavity gap of around 20mm, making them only slightly better than a solid wall. The homes were heated electrically.

What was done?

The renovation package is made up of four modules which were implemented on both houses:

- Non-invasive insulation module - this includes external wall insulation (120mm phenolic foam), new triple glazed windows and composite doors (Bowater)
- Extremely low carbon heating module - a wood pellet boiler (Windhager Biowin) with 150kg integral hopper for manual feed
- Combined solar module - this includes both solar thermal (Baxi Solarflo flat panel collectors with associated dual coil hot water cylinder) and a 1.48kWp solar photovoltaic system
- Lighting, appliances and control module - this includes low energy light bulbs for all light fittings, new appliances, V-Phase unit for regulating the incoming electricity supply and a Wattbox for the control of space and water heating

How was the project managed?

The modules were selected so that tenants could remain in their homes throughout the project. This approach means that there are no hidden costs since there is no need to re-house tenants or spend money on the type of redecoration work that is required for some of the more invasive retrofit options.

Project successes

Carbon emissions were reduced by 138kgCO_2/m^2 per year (91% saving) and primary energy demand reduced by 597kWh/m^2 per year (75% saving) with an associated fuel bill reduction of £1,837 per year (81% saving).

Challenges faced

Many difficulties were experienced because the tenants were not decanted. It was the express wish of the tenants that they should remain in their homes but the amount of work that was carried out was perhaps too intensive and certainly more invasive than first thought. If implemented individually, each module of the retrofit kit would not be too invasive, but when packaged together as a whole house retrofit, the impact is arguably so great that it requires tenants to be decanted.

One way around this could be to implement the retrofit over a number of years as part of a planned maintenance programme but this could bypass the benefits of taking a whole house approach and measures could be poorly selected as they have not been considered holistically.

The scale of the project in financial terms did not warrant a continual site presence (e.g. from a site based project manager) but this was certainly needed from a tenant liaison point of view. Tenants frequently overheard discussions about problems arising onsite and were at risk of forming misconceptions as to the scale of problems due to their relative lack of experience.

Lessons learned

It was initially thought that a project of this scale would not need a full programme of works or a full and detailed specification of works. However, the project has shown that timescales and problems arising onsite could have been reduced if more time had been spent on forward planning before and during the work onsite. This would have avoided various problems that were encountered such as the scaffold being readjusted a number of times because it was not designed with all measures and all requirements of each contractor in mind.

Each contractor left detailed technical information about the systems they installed. It was agreed that a more holistic approach to the handover process would be more effective but the financial constraints of this project did not allow for the expenditure. A whole house handover and education day would certainly be recommended if this level of retrofit is replicated.

Potential for replication

The properties are in a rural setting in Warwickshire and were selected as typical examples of the rural house type so that the solution would automatically be replicable.

Cost

Costs stated in the table below do not include VAT and are quoted as a total for both houses:

External wall insulation, windows and all prep work	£51,922
Lighting, appliances and extract fans	£9,194
Biomass boilers, solar thermal, solar PV and all prep work	£58,901

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Case study: Dickenson Road, Manchester

Partial whole house low-carbon refurbishment of a Victorian house in Manchester.

Project partners:	
Client:	Great British Refurb project winners
Contractors:	Dyson Insulations

Objectives:

Reduce carbon and fuel bills

What was done:

- Knauf Insulation ThermoShell Internal Wall Insulation: 75mm thick EcoStud system
- Knauf Insulation Loft Insulation: 100mm glass wool topped up with 200mm Loft Roll
- Knauf Insulation Intermediate Floor Insulation: 100mm glass mineral wool
- Knauf Insulation Suspended Timber Ground Floor Insulation: 200mm Space Blanket

What was achieved:

Reduction in carbon emissions from the house by 1.07 tonnes per annum and financial savings through reduced energy bills of around £235 per annum

About the project

The owners of this solid wall terraced property won the opportunity for the energy efficient refurbishment of their home as part of a Great British Refurb Campaign.

What was done?

Knauf Insulation supplied a number of insulation solutions which included its new Internal Wall Insulation (IWI) System, Loft Roll and Space Blanket.

To complete the package, the external doors, cellar door and insulated loft hatch were draught proofed, all lighting was changed to low energy bulbs, boiler controls were added and a future refurbishment plan was provided to the homeowner highlighting the next steps towards a low energy house.

How was the project managed?

It was important that the occupants experienced minimum disruption whilst the work was carried out. Dyson Insulations were able to install the internal wall insulation to the ground floor kitchen and a first floor bedroom with very little disruption – all the work was undertaken simply by moving furniture away from the walls and moving it back again at the end of each day.

Because Dyson Insulations held all the plumbing, joinery and electrical skills for removing the radiators, draining the boiler and installing the insulation, there were no difficulties in sequencing the work.

Project successes

Carbon emissions have been reduced by 1.07 tonnes per annum.

Fuel bills have been reduced by around £235 per year.

'The refurbishment has been so successful in terms of being a quick and simple process – with minimal disruption to our daily lives, as well as helping to significantly reduce the heat that was previously escaping through the solid walls, the cold air coming up from the cellar and high energy bills.'

Rebecca Williams, homeowner

Challenges faced

Some walls on the ground floor were not insulated as the owners did not want the decorative coving to be affected.

Potential for replication

By using trained installers, this relatively low cost refurbishment could be widely replicated across the UK.

Cost

The overall costs were circa £2300.

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Case study: Aubert Park, Islington

Low carbon refurbishment of a hard-to-treat Victorian ground floor flat.

The aim of the project was to carry out a contractor-led, whole house refurbishment in a time and cost effective way alongside Decent Homes works.

About the project

This mid-terrace flat with solid walls and sash windows was seen as a useful test bed for low carbon refurbishment.

Being a Victorian dwelling, there were also certain heritage issues to consider.

What was done?

Walls were insulated internally with 30mm of Aerogel with an air gap. The floor was sealed with 150mm of Warmcell insulation. The airtight breathable membrane was also brought up above the skirting board to improve air tightness.

Project partners:	
Client:	London Borough of Islington
Contractors:	United House

Objectives:

Groundbreaking low-carbon retrofit exemplar project carried out alongside Decent Homes works. The principle was to select the technologies that delivered the most effective carbon reduction and energy saving at the lowest cost

What was done:

Aerogel, flexible thermal lining, vacuum glazing, draught proofing, micro CHP, water saving fixtures, rainwater harvesting

What was achieved:

- EPC band improved from E to C
- 52% saving on fuel bills
- 60% reduction in CO_2 emissions

The sash windows were retained, but the glass was replaced with Pilkington Spacia vacuum glazing with a 0.2mm gap between the double sheets of glass. Brushes to exclude draughts were added to the windows.

A Baxi micro CHP system was installed alongside a new programmer, room thermostat and TRVs and installation of a Vent-Axia HRE-350 MVHR unit.

Low flow water fittings were installed, with rainwater harvesting which supplies the 4/2 litre WC flush by using a 100-litre tank with mains back-up.

How was the project managed?

Although this property was unoccupied, United House wanted to investigate what types of refurbishment activity would be feasible if they were required to adopt a tenant-in-place model.

United House cross-referenced skills of the contractors on the project; if contractors are skilled in more than one area, the number of trades on site can be reduced.

Project successes

Significant energy and carbon savings were achieved:

	Before	After	Saving
Fuel bills (£ pa)	£371	£178	52%
CO_2 emissions (tonnes pa)	3.8	1.5	60%
EPC band	E	C	n/a

Challenges faced

At the outset of the project, United House believed that due to the kind of 'super materials' they planned to use, compliance with the Building Regulations would be a given. It was surprising to find that even using these materials the specification had to be revised to comply. Any new work along the same lines would focus more closely on Building Regulations requirements prior to work commencing.

Lessons learned

When analysing CO_2 savings per measure, it is important remember that the percentage savings produced by individual measures can vary quite significantly depending on the order in which they are applied. For example, had the MVHR been installed earlier in the sequence, its savings potential may well have been higher.

If walls are to be insulated, the best time to do this is when kitchen and bathrooms are being replaced; to do this afterwards can be costly and result in high thermal bridging.

There was a significant amount of labour involved in the installation of the MVHR system which would make it unfeasible for tenant-in-place working. Similarly, the Aerogel insulation generated a significant amount of dust when being cut to size; if tenants were in place this would have to be done off site.

Potential for replication

The work was deliberately based around a typical Decent Homes package in order to learn which CO_2 reduction measures can be rolled out easily in the future. Combining the work with Decent Homes has several advantages, particularly if the trades used for Decent Homes works are able to carry out the energy saving elements. This gives a better overall labour value.

The only items that could not work in tenanted homes are the MVHR – due to cost - and the floor insulation – due to the disruption.

Cost

The capital costs of measures amounted to around £22,000.

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Case study: The Building Centre

The Building Centre, located in central London, was originally designed and built as a car showroom nearly a century ago. The building was purchased by the present owners in 1952 and today comprises approximately 4,000m² of office space over four levels, occupied by 17 companies working within the building services industry.

As the acknowledged reference point for information and advice within the Building Industry generally, The Building Centre took the decision in 2008 to lead by example and to demonstrate the effectiveness of energy saving technologies by applying as many as possible within the building.

Project partners:	
Client:	The Building Centre
Contractors:	The in-house team worked with Morgan Lovell, the Design & Build Project Management team, and dealt with individual manufacturers and installers

Objectives:

To improve the DEC rating of the building

What was done:

Improvements to HVAC, lighting, water usage and heat loss performance levels

What was achieved:

Reduction in building energy use of 22.2% and in water consumption by 27.5% compared with 2008 levels and an improvement in notional DEC assessment from F to C

About the project

The first step was to quantify, as far as possible, the various types of energy used in the Centre. The Centre has no gas supply so depends entirely on electricity for its building services, covering HVAC, lighting and general office and domestic facilities.

It was established that the traditional domestic water heaters had not been improved or upgraded since their installation. Heat loss was occurring from the single float glass glazing installed throughout the building, with a general U value of 6.5. This loss was compounded as insulation had not been upgraded for many years.

What was done?

The most significant change was the installation of a Baxi Commercial Division / Andrews Water Heaters SOLARflo solar thermal system, which needs only a single 300 litre cylinder to serve the hot water needs of the entire building. The removal of the numerous bulky units released 18m² of floor space, the rental value of this space funding a large proportion of the entire cost of the system.

Carbon emissions were further reduced by the introduction of more energy efficient air conditioning equipment that utilises Mitsubishi City Multi VRF (Variable Refrigerant Flow) and free cooling technologies (with Mitsubishi G150 BMS system).

Lighting system efficiency was improved by the installation of T5 rated fluorescent light fittings, the use of LED lights and the introduction of advanced lighting control systems. The more efficient use of water was made possible by the introduction of PIR sensors, electronic taps and in-cistern and POU water saving measures. Heat loss was addressed by installing laminate glass in the majority of the main windows, with the UK's very first triple glazing installation of its kind at the back of the building (U value of 0.8), and secondary glazing at the front (U value of 1.8). Heat and sound insulation were improved by the addition of gypsum board wall covering and thermal acoustic partitions.

How was the project managed?

It was decided to start work on the first floor as new tenants were due to move in and improvements needed to be made - a good opportunity to make wider improvements to the building fabric. Luckily, at this time there was free space elsewhere in the building so other first floor tenants were able to be moved whilst the works were under way.

With the co-operation and full support of the occupants, a three year rolling programme of carbon saving initiatives was put in place.

Project successes

At the end of the three year rolling programme electricity consumption had fallen by over 130,000 kWh, a reduction of 22.2%. A further notional DEC assessment revealed a rating of C.

Water saving initiatives reduced water bills by 27.5%.

Challenges faced

Noise pollution during the drilling of concrete beams was a major issue, not only because tenants needed to work in the building, but also due to the numerous seminars and conferences taking place throughout the week. In addition, with so many tenants, financial drivers meant that downtime needed to be minimised, so work had to be meticulously planned around consent from the tenants and all of the other activities that were taking place.

Lessons learned

Ongoing tenant liaison is vital when undertaking such disruptive works. Tenants were informed of the works initially through meetings and in writing. Once the work had begun to take place, the building manager liaised with tenants daily to ensure that there were no problems.

It is also important to be flexible - as much as possible, work was planned to take place at appropriate times and occasionally work was stopped if tenants felt they were being disturbed. Work was also scheduled to take place in evenings and at weekends when the building was not being used.

Potential for replication

The Building Centre is recognised as a source of excellence for information regarding building industry theory and practice and is a reference point for government agencies and decision making bodies. By undertaking this initiative and leading by example, the Centre has underlined the significant role that building energy use plays in the creation of harmful emissions. The reduction in annual carbon emissions achieved will be of considerable encouragement to other building owners who are perhaps delaying taking similar action until they are obliged to do so.

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Case study: Hallamshire Golf Club (HGC), Sheffield

When Hallamshire Golf Club's two old boilers were ready for replacement, the management team took the opportunity to look into energy saving measures for the club. Green Energy Centre (GEC) was engaged to carry out an energy assessment and audit.

The original aim was to access a Carbon Trust interest-free loan but unfortunately this programme closed before the project was initiated. However, because the energy report provided by GEC showed the compelling business case for the energy efficiency measures, HGC decided to fund the work themselves.

Renewables options were included in the energy report and, although of a longer payback, HGC was happy to consider them in its energy plan. Despite the changing landscape of incentives and financial opportunities, the underlying business case held strong and gave HGC the confidence to carry on.

Project partners:	
Client:	Hallamshire Golf Club
Contractors:	Green Energy Centre Limited, Positive Footprint Limited, TDP Limited, J & J Crump Limited

Objectives:

Replace old gas boilers and reduce energy costs

What was done:

Loft insulation, draught proofing, heating controls, altering hot water system, change supply contracts, lighting, air movement control, electricity control, ground source heat pump (GSHP), Solar PV, altering laundry system etc

What was achieved:

U Values of loft dramatically improved, from about 2.0 to 0.35. Fuel cost reductions of approximately 40% before RHI and FIT income.

About the project

HGC is a highly regarded and long established golf club. The relatively old solid wall clubhouse is formed around a Victorian cottage with the addition of extensions in the early 1900s and a further small flat-roofed extension to cater for a steward's flat. The building sits in an exposed position facing into the prevailing winds and rain. Like all golf clubhouses, it operates most days of the week for most weeks of the year. Various energy using systems had grown up over time and, with the identified need of a new gas boiler, the club wanted to review the whole energy consumption picture.

Some energy saving measures had been installed, such as occupancy sensors in the men's changing room, but these had been one-off projects.

What was done?

Fabric measures included loft insulation and draught proofing.

Operational measures included installation of zone controls, lighting upgrade, alteration of the extraction system, alteration of the hot water heating system and installation of a new boiler-GSHP bivalent system.

Solar PV was installed onto the south facing roof.

How was the project managed?

The breakdown of the project allowed a main contractor to oversee the mechanical and electrical (M&E) aspects. This was important to ensure that the GSHP was fully integrated with the overall system. Other trades were brought in to deal with discrete measures.

The main controls were located in the secretary's office as this was where staff with the most knowledge about the programming requirements of the system were based.

Project successes

The creation of the business case energy plan was key to success - this was robust enough to keep the client engaged and focussed rather than being built upon incentives which could change and thus undermine the project.

Sourcing a main contractor who was Microgeneration Certification Scheme approved and was willing to take on the M&E was vital to ensuring that the whole 'wet' system worked efficiently.

Challenges faced

Some members were unsure about some of the technologies such as the GSHP. To tackle this, GEC organised a visit to a local GSHP installation to educate the sub-committee that the golf club had set up to review this option. This helped inform the subsequent positive decision.

Lessons learned

A robust energy plan keeps the client focussed and confident.

Work was done on a marginal basis for the client and the contractors understood the holistic approach. The cheapest option for the contractor is not always the cheapest option for the client!

Potential for replication

By starting with a holistic energy plan and sequencing works, this approach can be successfully replicated in any property.

Green Energy Centre has delivered this package approach to many non-domestic clients, from office based companies to builders' merchants.

Cost

Approx £70,000 - the cost of the installation was marginalised by introducing measures at suitable trigger points.

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Appendix 3 - Glossary of Terms
(Definitions around the Green Deal)

Assessor	An approved Green Deal assessor who recommends the energy efficiency measures suitable for a particular property.
CERT - The Carbon Emissions Reduction Target	CERT requires all domestic energy suppliers with a customer base in excess of 50,000 customers to make savings in the amount of CO_2 emitted by householders. CERT, the third supplier obligation phase, was introduced in 2008. On 30th July 2010, CERT was extended from March 2011 to December 2012 with a new higher target and significantly refocused around supporting insulation.
CESP - Community Energy Saving Programme	CESP targets households across Great Britain, in areas of low income, to improve energy efficiency standards, and reduce fuel bills. There are 4,500 areas eligible for CESP. CESP is funded by an obligation on energy suppliers and electricity generators. It is expected to deliver up to £350m of efficiency measures.
Code of Practice	The Green Deal Code of Practice sets out the criteria that assessors, products and systems, Installers and Providers must meet and adhere to in order to be able operate under the Green Deal banner.
DECC	The Government's Department of Energy and Climate Change.
Domestic building	A building or part of a building intended to be occupied as a dwelling.
ECO – Energy Company Obligation	Energy Company Obligation is a legal obligation placed on energy companies requiring them to promote measures which improve domestic energy efficiency, reduce emissions and reduce the cost to households of heating their homes.
EPC – Energy Performance Certificate	EPCs give information on how to make your home or building more energy efficient and reduce carbon dioxide emissions. All buildings bought, sold or rented require an EPC.
ESAS - Energy Saving Advice Service	The Energy Saving Advice Service will provide information and support to households and non domestic customers (including businesses, the public sector and the third sector) on take up of energy saving measures in their properties. It will cover information around all DECC energy saving schemes and incentives including an increasing focus over time on the Green Deal and Energy Company Obligation (ECO).
GDAA – Green Deal Arrangement Agreement	Agreement between Green Deal Providers and electricity suppliers.
Golden Rule	The Golden Rule is the principle which limits the amount of Green Deal finance that a Provider can attach to the electricity bill to the estimated energy bill savings that are likely to result from the installation of measures under the Green Deal plan.
Green Deal Oversight Body	An independent body to manage the day to day activities around the Green Deal on behalf of DECC. It will manage the approval process for installers, assessors and products.
Green Deal Plan	The financial and contractual agreement between the Green Deal Provider and customer outlining the payment and saving details and other details of the agreed deal.
Green Deal Participant	A person or company who provides a service under the Green Deal i.e. Green Deal Providers, Assessors, or Installers.
GDSA – Green Deal Skills Alliance	The GDSA, comprised of CITB-ConstructionSkills, AssetSkills and SummitSkills, has been set up to develop and implement the Green Deal Competency Framework. This framework will develop a set of common standards to sit across Green Deal assessment and installation.

HECA – Home Energy Conservation Act	Requires every UK local authority with housing responsibilities to publish an energy conservation report identifying practicable and cost-effective measures to significantly improve the energy efficiency of all residential accommodation in their area, and progress made in implementing the measures.
Installer	A person or company certified by an accredited certification body and registered on the installer register as approved to install measures for the Green Deal.
Measure	A 'measure' means an energy efficiency improvement made to a property, for example, loft insulation, cavity wall insulation or replacement boiler.
Non-domestic Building	A building or part of a building that is not a dwelling.
NOS - National Occupational Standards	NOS describe what an individual needs to do, know and understand in order to carry out a particular job role or function. They are national because they can be used in every part of the UK. Occupational because they describe the performance required of an individual when carrying out functions in the workplace, i.e. in their occupation (as a plumber, police officer, production engineer etc). They are Standards because they are statements of effective performance which have been agreed by representative sample of employers and other stakeholders and approved by the UK NOS Panel.
Participant	A person or company who provides a service under the Green Deal. Includes Providers, assessors, installers and certification bodies.
Provider	The company or organisation funding the Green Deal.
Product	'Product' means the product that is installed (falling within a category of qualifying energy efficiency improvement). The branded component being supplied by the manufacturer or distributor into the Green Deal.
RdSAP – Reduced Data Standard Assessment Procedure	A simplified version of the Standard Assessment Procedure (SAP), which is the Government's methodology for assessing and comparing the energy and environmental performance of dwellings.
SBEM – Simplified Building Energy Model	A software tool developed by BRE used for non domestic buildings, providing an analysis of its energy consumption.
SME – Small and Medium Enterprises	Organisations with less than 250 employees as per the European Commission definition found at http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm
System	A measure made up of specific components and materials which are put together on or off-site, such as external wall insulation systems.
UKAS	The United Kingdom Accreditation Service (UKAS) is the sole national accreditation body recognised by the British Government to assess the competence of organisations that provide certification, testing, inspection and calibration services.

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