

# Retrofitting Homes for Sustainability

BBP Regeneration  
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Retrofitting homes to be more environmentally sustainable is identified as a policy priority both in the UK and Europe. The retrofit process provides the opportunity to combine community based regeneration, with skills and training initiatives, and the achievement of higher environmental standards.

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## Key Points

- There are clear environmental and social benefits in retrofitting homes to make energy savings and tackle fuel poverty
- Whilst the primary driver for retrofitting is to deliver improved environmental performance, it also provides an excellent opportunity to engage with communities, promoting shared learning and providing skills and employment benefits
- Funding for retrofit is available from a range of UK and European sources and programmes. Securing funding is however highly competitive, and the challenge for local authorities and their partners is to prepare robust and implementable retrofit programmes that can benefit from these resources
- To deliver significant energy savings a bespoke package of retrofitting measures, tailored to local communities' needs and aspirations, and particular types of residential properties, is required
- Retrofit programmes need to be easily replicated and rolled out across the UK to provide the impact necessary to cut carbon emissions significantly over the next 40 years.



## Background

The existing UK housing stock accounts for over 25% of the UK's carbon emissions, so whilst it is important to ensure that new build housing achieves good environmental standards (Code for Sustainable Homes for example), retrofitting is also a key way to make a real difference. There are a number of drivers that have influenced the development of the retrofit agenda:

### European Agendas



Sustainable technologies and retrofitting have been established as priorities in Europe, with a commitment to reduce carbon emissions by 20% from 1990 levels by 2020. The EU is prepared to

increase this to 30% when other developed countries commit to similar targets.

In December 2009 environment ministers and officials will meet at the UN climate conference in Copenhagen. The successful completion of these agreements is a priority for the EU.



## UK policy for a Low Carbon Economy

Retrofitting is also a policy focus for the UK Government. In July this year the Government published the UK Low Carbon Transition Plan and announced that 7 million homes would be given energy makeovers by 2020. In addition it was announced that a further 1.5 million households would be supported to produce their own clean energy through a 'feed-in tariff' paying households for the electricity they generate.

The Government also promotes the involvement of the private sector in reducing carbon emissions. For example, the Community Energy Saving Programme (CESP) places obligations on energy providers to deliver energy improvements in disadvantaged areas. The retrofitting of existing homes is a key element of the Government's aim to cut carbon emissions by 80% from 1990 levels by 2050.



## The Homes and Communities Agency (HCA)

The HCA plays a key role in supporting the Government's sustainability agenda. It is ideally placed to facilitate the delivery of low carbon solutions for both new and existing homes. It can foster relationships between the public and private sectors engaged in housing provision, and promote knowledge transfer.

The agency is already working with local authorities and

RSLs to help them achieve their goal of improving all social housing through the Decent Homes Programme. In 2008 the agency launched 'Fit for the Future: the Green Homes Retrofit Manual' which provides guidance for social housing landlords on improving the environmental performance of existing housing stock.

## Growth Area Opportunities

Due to the scale of planned residential development, Growth Areas provide a significant opportunity to develop and deliver sustainable technologies in new and existing homes, acting as exemplars for the rest of the UK.

In the Thames Gateway for example, the Institute for Sustainability (IFS) is driving forward the development of sustainable technologies, systems and services for new and existing communities. The IFS has a key interest in retrofitting, and aims to demonstrate how retrofit solutions for a range of different housing types can be developed.

The development of a low carbon economy can be harnessed to achieve wider benefits beyond energy savings. Retrofitting provides the opportunity to upskill and train individuals and businesses, creating employment in the construction sector. In the Thames Gateway for example, the SusCon programme is proposed to support low carbon development and foster skills in sustainable construction through education and training.



## Implementing a retrofit programme

A number of key issues need to be considered when developing retrofit programmes. A multidisciplinary approach is needed to ensure that a wide range of benefits are secured through improving the environmental performance of existing homes. These benefits include reducing energy demand and carbon emissions and lowering fuel bills for residents.

### Assessing the technical solutions

The use of sustainable technologies is at the heart of any retrofit programme. Each programme requires a bespoke approach which examines existing properties and tests the impacts of a range of technological interventions. Technical assessments should provide a good understanding of the energy savings that can be achieved.

A range of 'shallow' retrofit measures can be implemented at the household scale, such as loft insulation, double or triple glazing, smart meters and solar panels. These measures present no major technical challenges, can be delivered on a house by house basis and provide significant energy savings. However, whilst every scheme will be different and will depend on the type of property, its age and location, our experience suggests that more innovative solutions are required to significantly reduce carbon emissions.

### Developing a package of innovative measures

To achieve greater environmental improvements more innovative and community scale measures can be considered. These may include biomass heating, gas CHP, anaerobic digestion, waste to energy initiatives and community carbon offsetting.

The technological risks associated with these measures are higher and critical mass is required to generate both value for money and greater energy savings.

Developing a package of tailored, innovative measures is key to delivering a successful retrofit programme and contributing to wider policy aspirations for reducing carbon emissions. From our experience we recognise that this requires a multidisciplinary approach and an understanding of the technical, environmental, community, financial and delivery issues involved.

### Engaging communities and supporting regeneration

A fundamental social benefit of retrofitting is the potential to reduce household fuel bills. It also provides opportunities to engage communities and other local stakeholders in a process of shared learning whereby

more sustainable lifestyles and the use of fewer resources can be promoted. This can enable people to make informed purchasing decisions and contribute to changing behaviours for long term neighbourhood benefit.

Fundamental to any retrofit programme is the active involvement of communities whose homes are to be adapted. Residents need to be willing to have energy saving measures installed in their homes and be willing to use them. Communities should be involved in any programme from the outset, and a good communication strategy utilising local networks (such as schools, youth groups, resident associations) needs to be developed.



Retrofitting provides an excellent opportunity to support both wider economic recovery and community regeneration at the local scale. There is the potential to engage, involve and develop training and skills programmes tied to employment opportunities created through the physical redevelopment of homes. In disadvantaged areas this could generate real benefits for local communities, equipping residents with knowledge about their homes, environmental issues, and new skills for the emerging green construction sector.

### The role of housing organisations

RSLs, arms length management organisations (ALMOs) and local authorities are key players in the development of retrofit programmes. They develop land, build homes and perform a landlord function by maintaining and renting properties. As such, housing organisations such as RSLs are ideally placed to take a leading role in retrofit programmes across the UK, bringing a wide range of partners together with communities.

In addition, local authorities in particular will play an important role in engaging the private housing sector in retrofit programmes.

## Funding and delivery

A package of funding sources needs to be identified and secured in order to implement a successful retrofit programme. There is a range of funding opportunities available for retrofit programmes, the challenge is to identify and secure the timely allocation of resources. Potential sources include:

- The new Department of Energy and Climate Change (DECC)
- EU Funding streams
- Government and the HCA. For example earlier this year £12m of Growth Area Funding was set aside for the HCA to develop sustainability exemplars
- The Community Energy Saving Programme (CESP)
- Initiatives led by energy providers
- Sources from RSLs, Regional Housing Board allocations, and local housing partnerships.

Funding streams need to be aligned, and partners need to devote time and resources to preparing funding applications as part of a retrofit programme.

In the longer term, relying on 'ad hoc' funding sources is unlikely to be sustainable, and a strategic approach to funding retrofit programmes is required.

Clear delivery mechanisms, governance structures, and legal arrangements need to be developed to implement a retrofit programme. Programmes should link to the local sustainable community agenda, and local and regional development strategies. From our experience, we also recognise the importance of identifying a 'champion' for the programme who can lead delivery, drive the programme forward and coordinate partners.

## Conclusions

**R**etrofitting homes has the potential to make a significant contribution to tackling climate change and help people save money and energy.

Developing a retrofit programme is a complex and multidisciplinary process. The challenge of designing a bespoke package of measures that is tailored to a specific place and particular housing types, needs to be considered in tandem with the active engagement and involvement of communities, to ensure wider and longer term benefits.

Identifying a lead body that is prepared to drive forward a retrofit programme is key, with housing organisations ideally positioned to take on this role.



## About our team

**W**e are experienced in developing retrofit programmes and have assembled a multidisciplinary team with a strong track record in the delivery of regeneration.

- **BBP Regeneration** provides overall project management services and specialist business planning, options assessment, and delivery/funding advice
- **Graham Maunders Associates** provides expert advice on social housing, resident engagement, and the development and maintenance of sustainable communities
- **Daedalus Environmental** brings specialist sustainability and technical advice to our team, and
- **WT Partnership** is a consultancy providing specialist cost management advisory services to the Property and Construction industries.

For more information on the services we offer please contact Shannon Kelley on 0207 307 7000 or [skelley@bbpregeneration.co.uk](mailto:skelley@bbpregeneration.co.uk)