

September 2014

Briefing: Business planning for energy efficiency and renewables

Summary of key points:

- This briefing provides the latest information on Government policies and funding streams, including European ones, to help associations plan, fund and implement energy efficiency improvements and to install renewable energy
- Creating a robust, long-term energy efficiency improvement strategy should be part of the business plan to ensure housing remains affordable by reducing fuel poverty. Integrating this strategy into asset management programmes helps ensure that programmes are cost-effective and also helps to minimise disruption for residents
- There are additional benefits from making homes more affordable to heat, such as reducing arrears and voids and improving residents' physical and mental health. Since energy efficiency improvements are generally labour-intensive, such schemes typically provide good training and local employment opportunities
- The Federation will continue to work with Government to ensure policies and funding suit housing associations and to make the case that a more strategic approach with associations could deliver a step change in reducing fuel poverty and carbon.

1. Executive Summary

This briefing provides the latest information on Government policies and funding streams to help associations plan, fund and implement energy efficiency improvements and to install renewable energy to their existing stock.

Social housing energy efficiency standards and programmes should be based on an agreed business case that considers both affordable warmth and the practical limitations of each association's stock. Such energy efficiency improvements should be integrated and planned into asset management programmes, rather than approached as standalone 'retrofit' because this is more efficient, economic and reduces the disruption for residents.

Some Government funding and income streams have not always proved as useful as anticipated and have often been too short-lived or bureaucratic to suit the larger projects planned by social landlords. They have also tended to encourage associations to chase funding rather than to consider how retrofit can be most effectively delivered. As a consequence such schemes should not be the main focus of associations' energy efficiency activity, but should instead be seen as means to an end to help fund planned improvements.

There are additional benefits from making homes more affordable to heat, such as reducing arrears and voids and improving residents' physical and mental health. Since energy efficiency improvements are generally labour-intensive, such schemes typically provide good training and local employment opportunities.

The Federation believes the social housing sector, with its concentration of ownership, should be a major focus for Government policy on carbon reduction and home energy efficiency because it presents an opportunity for large scale programmes.

2. Introduction

This briefing provides the latest information on Government policies and funding streams to help associations plan, fund and implement energy efficiency improvements and to install renewable energy to their existing stock. It builds on the approach set out in the Federation's 'Managing the assets' Guide by advocating a strategic approach to assessing existing stock, setting standards or targets and integrating the work into asset management programmes. Such a strategic approach ensures that these improvements are based on a strong business case, supported by the Board and utilising all funding sources available when the project is to be undertaken rather than designing schemes to benefit from specific time-limited funding schemes.

With rising energy bills and welfare reforms putting more onus on tenants to manage their budgets, ensuring that they can afford not only to pay their rent, but also heat their homes is becoming ever more business critical.

Housing associations are committed to reducing carbon emissions and improving energy efficiency and have significantly raised the average energy performance of their stock since 2000, in most cases without any Government funding. As a consequence, many of the more cost-effective measures have been undertaken. However, there is still considerable scope for social landlords to improve energy efficiency further and reduce tenants' vulnerability to fuel poverty but this will involve the more expensive measures, such as solid wall insulation (SWI). Funding these improvements by largely relying on short-lived and changeable funding regimes has been challenging. For example, the changes to the Energy Company Obligation (ECO) and the oversubscription of the Green Deal Home Improvement Fund (GDHIF). Another challenge is that not all funding programmes are applicable to housing associations; this is particularly the case with affordable warmth ECO funding.

In the long-term, the Federation believes the social housing sector should be a major focus for Government policy on carbon reduction and home energy efficiency. There are over 4 million homes in the sector, 20% of England's housing stock. In the housing association sector, ownership is highly concentrated: 272 housing associations own 90% of housing association stock. This presents the opportunity for large scale improvement programmes, producing substantial carbon and fuel poverty benefits with economies of scale.

3. Planning energy efficiency improvements and asset management

'A housing energy strategy is an essential component of any housing organisation's corporate environmental sustainability strategy, and should be an integral part of its asset management strategy (Managing the assets)'. To be effective, a housing energy strategy should be fully supported by senior management with ownership or buy-in from across the organisation. To set its energy efficiency standard an association needs a detailed knowledge of existing stock (i.e. standard assessment procedure or SAP ratings) and what is cost-effective, as well as an understanding of what residents can afford. Such a strategy could consider other sustainability improvements that could be made during planned improvement programmes, such as installing renewable energy, improving water efficiency and climate change adaptation.

In recent years associations have been increasingly focused on delivering affordable warmth programmes rather than reducing carbon emissions per se; although the energy efficiency measures to deliver affordable warmth will also typically reduce emissions. It is good business sense for associations to consider what combined housing costs are affordable in terms of rent

(largely being pre-determined), energy bills, water and possibly service charges (can be significant on newer developments). Organisations offering services to enable associations plan and deliver energy efficiency improvements are listed in the Resources Section.

Such analysis enables associations to present a clear business case to the Board and senior management to approve its energy efficiency standard. With the standard agreed, the energy efficiency and other sustainability improvements can be integrated into the asset management programme so that work can be delivered most cost-effectively, more efficiently and with less disruption to residents than a typical retrofit programme. Such an approach means associations are less reliant on external funding and are in control of what they want to do and when.

Associations that have made the business decision to invest in high-levels of energy efficiency in their stock have seen zero or reduced rent arrears, as well as fewer voids because tenants can afford their energy bills. Energy efficiency improvements can improve residents' health. They also generate economic benefits because they typically require local labour, such as SMEs; provide local employment and training; as well as increasing local economic activity. These benefits are set out more fully in [Housing stock fit for the future](#) and can strengthen the business case for improving energy efficiency.

Case study: Octavia have started a project that will address the SAP score of each of its properties. This project is designed to ensure the dwelling EPC (energy performance certificate) is not less than a "C" band and its SAP is ideally 75. The goal is to achieve this through passive measures, such as wall insulation and loft insulation. The project to carry this work out will build on other work streams such as cyclical decorations and kitchen and bathroom works. 75 is the target SAP that Octavia considers significantly reduces the likelihood of fuel poverty in homes occupied by residents on low income or benefits.

Case study: Wigan and Leigh Housing (WALH) commissioned a Carbon Reduction Asset plan which they are incorporating into a 30 year Asset Management Plan. The current investment programme not only considers the life cycle costs of elements, but also the SAP rating of the property as well as energy efficiency improvements that would be logical to carry out at the same time as the planned programme. For example the forthcoming roofing programme will incorporate solar PV where appropriate; the cyclical maintenance programme has and continues to include external wall insulation to non-traditional properties. They are looking to include under bath heat recovery as part of their bathroom replacement programme. WALH has set a 5 year target of an average SAP rating 75 that it intends to achieve through intelligent asset planning.

4. Funding energy efficiency improvements

The best way to fund energy efficiency improvements is through planned improvement programmes because external funding regimes have often been too short-lived or bureaucratic to suit the larger projects planned by social landlords. Consequently such schemes should not be the main energy efficiency driver but they can help fund these planned improvements. To help associations consider potential finance options, this section summarises current funding. In addition, private finance initiatives are being developed, such as an Energy Service Company as part of an association that will deliver energy efficiency improvements and energy generation, with all residents benefiting.

4.1 Energy Company Obligation

Since CERT (Carbon emissions reduction target) and CESP (Community energy saving programme) ended, ECO has been the main source of funding associations have been using to improve their stock. Of the three obligations (CERO, CSCO & HHCR0), CERO (carbon emissions reduction obligation) was seen as the most useful because it was originally intended to fund the more expensive measures, particularly SWI, that could not be funded under the Green Deal. Social landlords are not eligible for HHCR0 (Home heating cost reduction obligation or affordable warmth) and there has been limited uptake of CSCO (carbon saving community obligation) designed for the poorest communities, identified by the Index of Multiple Deprivation (IMD).

However, the proposed changes to ECO announced in the Autumn Statement December 2013 and now confirmed by the Government, following its consultation, have resulted in most SWI schemes being cancelled. The main changes to ECO are:

- CERO (March 2015) target reduced by 33% but the eligible measures have been expanded to include loft and cavity wall insulation, as well as District Heating Systems in addition to SWI
- CSCO and HHCR0 (March 2015) targets unchanged
- CSCO extended to 25% IMD and rural sub-obligation simplified
- ECO scheme extended to March 2017 and allowing some carry-over from 2015 period.

Full details of all the changes and the Government's analysis of the consultation can be found at [The Future of ECO](#).

4.2 Incentive Schemes

The £125 million Green Deal Home Improvement Fund (GDHIF) was set up to compensate for the reduction in SWI as a result of the ECO changes, with up to £6000 available for SWI but the total amounts are subject to state-aid limits. However, as a result of unprecedented demand

this Fund has now been closed to new applications. It is possible that not all vouchers will be used and so GDHIF may be re-opened or even that a successor to the GDHIF could be announced. Whatever the longer term outcome with this fund, it is not a reliable source of funding but could provide 'bonus' funding for projects being planned and implemented.

4.3 Green Deal

The [Green Deal](#) is a finance mechanism that enables energy efficiency improvements to be carried out at no up-front costs to the residents. It is a specific quality-marked PAYS (pay as you save) scheme introduced in the Energy Act 2011. While PAYS, as a concept, is seen as attractive to many associations, there has been no real uptake of Green Deal by the Sector. This is largely due to the complexity and costs of the scheme, as well as credit checks on residents. The Federation and a number of associations are exploring whether a social-housing specific PAYS model could be developed.

4.4 Allowable Solutions

As part of its zero carbon homes policy, the Government has accepted that it is not always technically feasible or cost effective to meet the zero carbon homes standard purely through measures on site. While there will be a more stretching minimum on-site energy performance standard for new homes from 2016, there will also be a cost effective and flexible mechanism to allow house builders to meet the remainder of the zero carbon target by supporting off-site carbon abatement measures termed 'allowable solutions'.

The Government published its response to the consultation on '[Next steps to zero carbon homes – allowable solutions](#)' on 8 July and confirmed its intention for the scheme to operate flexibly, allowing house builders, including associations to decide how best to meet their requirements. Since two of the proposed options specifically provide for allowable solutions to deliver carbon reductions and energy efficiency improvements to existing homes, this policy is expected to provide good opportunities for associations.

Housing associations that have assessed their stock and built energy efficiency improvements into their asset management programme will be best placed to take advantage of these opportunities when the policy is introduced because they will know precisely what carbon reductions can be achieved at what costs.

4.5 Affordable Warmth and Fuel Poverty

The Government published its consultation '[Cutting the costs of keeping warm](#)' on 22 July, setting out proposals to improve the energy efficiency of fuel poor homes. Unveiling the new

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proposals, Energy and Climate Change Secretary Ed Davey said: 'These proposals mark a radical shift away from old policies of tinkering at the edges without tackling the root causes of fuel poverty – homes that need too much energy and leak too much heat to be able to keep warm'. A new fuel poverty target of an EPC Band C by 2030 for fuel poor homes is proposed, with an interim target of Band D by 2025. It recognises the health benefits of warmer homes and the potential for this to reduce demand on the health service, as well as the need for further evidence.

However, this strategy makes no specific reference to the problems of fuel poverty in social housing or the lack of funding available to social landlords to reduce the risks of fuel poverty among their tenants. The Federation will be making the case for the strategy to recognise the incidence of fuel poverty in the sector and the important role associations and other social landlords can make in delivering improvements.

Case study: [Boilers on Prescription](#) by Gentoo Living is a [cross-tenure service](#) originally funded by Sunderland Primary Care Trust (PCT), now Clinical Commissioning Group (CCG). It is an innovative study, which looks to improve people's homes with new boilers, double glazing, and other environmental improvements such as external insulation. People are referred to the service by their GP based on historical medical records and clinical expenditure. Durham Dales, Easington and Sedgfield CCG has already committed to further funding the project to encompass their local residents based on the robust evaluation being carried out. The results of the first six months of this trial will be made available around mid-September. Gentoo, in partnership with Nottingham City Homes and Bangor University, are also undertaking another study to establish to what extent warm homes improve health outcomes, using the Quality Adjusted Life Year outcomes (QALYs) to measure the effectiveness of interventions.

Case study: In Oldham, the CCG is working with the Council and Oldham Housing Investment Partnership to bring people out of fuel poverty and improve their health. The [Oldham Warm Homes scheme](#) initially benefitted from £200,000 upfront investment from the Partnership with the aim to get 1,000 people out of fuel poverty, with the CCG and Public Health expecting to save £300,000 a year in reduced health costs due to cold related illnesses. The scheme offers a holistic approach to getting people out of fuel poverty through ECO upgrades (e.g. boilers, insulation), behaviour change advice, energy switching and income maximisation work like benefits checks and trust fund applications for fuel debt. It was launched in August 2013 and met its first year's target of getting 1000 people out of fuel poverty (1074). The Partnership agreed to continue to fund the project next year (2014/15) with a new budget of £300,000 and a target of getting 1200 people out of fuel poverty. The Centre for Regional Economic and Social Research is independently evaluating the scheme's health & wellbeing impacts on residents involved that should also give some real figures of health costs savings for the Partnership.

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5. Renewable energy: funding and income streams

As part of its carbon reduction plan, the Government is incentivising renewable energy schemes through guaranteed income streams. This section examines how these installations can be financed, the resulting income streams and also the benefits for residents. Private finance initiatives are being developed based on this guaranteed income. For example some renewable heating suppliers can offer asset finance arrangements that enable housing associations to obtain RHI income while not affecting existing borrowing arrangements. This is due to the fact that the finance security is limited to the assets only (e.g. renewable heating system) no need for land or building security.

5.1 Feed-in tariffs

The Feed-in Tariff (FIT) scheme is a government programme designed to promote the uptake of a range of small-scale renewable and low-carbon electricity generation technologies. Details of how to apply and the latest rates are available from [Ofgem](#).

Case study: Alliance Homes set up an OJEU PV framework that had 75,000 system and £500m contract capacity and allowed other associations to participate, subject to paying legal fees of £250. 20 landlords have joined to date. It has installed over 6,000 systems that have proved very popular with tenants and have generated an average £250 contribution to energy costs annually. The Carbon Savings Alliance was formed from this group and represents 400,000 homes. They have also been researching the use of PV with electric storage heaters and hot water that could save up to 70% of energy costs. FIT income is currently providing returns on investment of 10 to 12 per cent dependent on the location. These returns can be re-invested either for new build or other energy related projects.

Case study: Gentoo have developed a fully funded and maintained PV scheme '[Empower Community](#)' as an alternative to the 'rent-a-roof' that captures the benefits of free daytime electricity for tenants and offers a share of FITs to the landlord over the 20 year period. The initiative is a financing instrument that offers landlords fully funded, Off Balance Sheet, Solar PV. It also allows the FITs income to be shared between the landlord and a local community fund.

5.2 Renewable Heat Incentive (RHI)

RHI was introduced in July 2011 to incentivise greater use of renewable energy for space and water heating. The non-domestic scheme was introduced first and the domestic scheme has been operational from April 2014. Both schemes are administered by Ofgem. Like FITs, the scheme does not help with initial investment but provides a Government guaranteed revenue

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stream to help repay the additional capital costs. Renewable heating is most appropriate for off-gas grid properties where fuel poverty is more prevalent. Below is a summary of the current schemes but details of the precise rates and eligibility should always be checked on the [Ofgem website](#).

The **non-domestic RHI scheme**, in spite of its title, applies to any renewable heating system that serves more than one home (even a pair of semi-detached houses), such as communal heating or sheltered housing schemes. It can be used for both new-build and existing houses but careful accounting is necessary for new development to ensure that no public funding is used for the renewable heating element of the scheme. RHI payments are guaranteed for 20 years.

The **RHI domestic scheme** applies to individual homes, irrespective of tenure and also to self-build new homes. The payments are guaranteed for 7 years but are calculated on 20 years of operation i.e. the tariffs provide a faster pay-back than for non-domestic. Social landlords who installed renewable heating under the Renewable Heat Premium Payment competitions can also claim for RHI domestic (legacy applications) but with lower tariffs since the up-front payment is deducted from the total payments.

6. European funding

Housing associations have and could continue to benefit from EU funding associated with the Europe 2020 goals of smart, sustainable and inclusive growth.

6.1 European Structural and Investment Funds

The 2014-2020 [EU Structural and Investment Funds Growth Programme](#)¹ provides an opportunity to promote investment in green jobs, green firms and sustainable living. The top priorities of this programme are innovation, support for SMEs, low carbon, skills, employment and social inclusion. 20% of the total European Regional Development Fund (ERDF) allocation is dedicated to investment in supporting the shift towards a low-carbon economy in all sectors; this could equate to approximately £62.5m of funding over seven years. In particular investment should be made to support energy efficiency and use of renewable energy in the housing sector; no ceiling applies and all housing is eligible.

European funding is competitive and there is a need for match-funding with co-financing ranging from 60% (Cumbria; Tees Valley and Durham; Merseyside; South Yorkshire; Shropshire and Staffordshire; Lincolnshire; Devon; and Cornwall and Isles of Scilly) to 50% elsewhere.

¹ This programme brings together the European Regional Development Fund (ERDF), the European Social Fund (ESF) and part of the European Agricultural Fund for Rural Development (EAFRD).

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The implementation of the funding programme will be guided at European level by a Common Strategic Framework and at national level by a Partnership Agreement. This Agreement is being negotiated between the European Commission (EC) and the UK government. Local Enterprise Partnerships (LEPs) will be leading the strategic investment within their area delivering against the overall EU structural funds objectives.

It is anticipated that calls for funding applications will open in early 2015. However, at present it is not clear whether LEPs will be administering these competitions or whether there might be a more centralised approach. The Federation has been working with different LEPs on a range of initiatives to fund energy efficiency improvements. For more information please contact [Arno Schmickler](#).

6.2 Other European Initiatives

In addition to grant-based programmes there are other European initiatives that might be relevant to associations for financing retrofit projects:

- [European Energy Efficiency Fund \(EEEF\)](#) – debt finance at market rates; the fund was initiated by the European Commission in cooperation with the European Investment Bank. The initial capitalization provided by the European Commission was increased with contributions from the sponsors European Investment Bank, Cassa Depositi e Prestiti as well as the Investment manager Deutsche Bank.
- [Horizon 2020](#) - Research and demonstration of more energy-efficient technologies and solutions; Market uptake measures to remove market and governance barriers by addressing financing, regulations and the improvement of skills and knowledge. The most recent calls for proposals closed in June 2014; the Federation is a partner in "[Transition Zero](#)", a project submission to set up a market development programme for energy efficiency improvement using off-site manufacturing.

6.3 European Investment Bank

There is also funding being made available by the European Investment Bank (EIB) to finance retrofit; the majority of this funding is debt finance but there is some inclusion of grant finance as well, some geographic restrictions apply e.g.:

- The Greener Social Housing UDF as part of the [London Green Fund](#); £12m grant finance enhanced by £400m EIB loan facility managed by THFC; London only; [case studies and more information](#)
- [London Energy Efficiency Fund](#); £100m debt finance procured by EIB managed by Amber Infrastructure; London only; also part of the London Green Fund

[London RE:NEW](#); a London-wide home energy efficiency retrofit programme capitalised by EIB funding procured via the Greater London Authority; designed to overcome these barriers and significantly increase the scale of domestic retrofit by working with London's boroughs, social housing providers and private landlords to understand their unique situations and provide tailored support programmes.

7. Conclusion

Integrating energy efficiency improvements into asset management programmes ensures that they can be financed without reliance on short-lived funding regimes and can be delivered more efficiently, cost-effectively and with less resident disruption. However, when external funding is available it can make these schemes even more economic and provide the potential to increase the rate of improvements.

Since housing associations are committed to reducing carbon emissions and improving energy efficiency, energy efficiency improvements should be an integral part of their business plans and asset management programmes. Targets can be agreed at Board level based on sound analysis of what energy costs are affordable to residents and what improvements are both practical and financially viable for associations rather than determined by current funding.

To make sure that associations are best placed to take advantage of future funding regimes and policies, such as allowable solutions, it is essential that they have agreed programme of energy efficiency improvements. This demonstrates to government and other investors that there is a strong pipeline of works to be undertaken in a predictable way which will deliver a good rate of return. Such an approach requires associations to have a good knowledge of their stock, which improvements to make and when these should be done.

8. Additional Resources

The Federation's [Managing the assets](#) guide is designed for all those involved in developing and implementing sustainable asset management strategies within social housing. The Federation is working with associations and partner organisations to help make this strategic view a reality. We will continue to work with Government to ensure policies and funding streams suit housing associations and to make the case that a more strategic approach with associations could deliver a step change in reducing fuel poverty and carbon emissions.

Sustainable Homes is a not-for-profit sustainability consultancy and training provider working primarily with housing associations. As well as providing bespoke training on issues such as fuel poverty, it co-ordinates the [SHIFT](#) benchmarking network. This enables associations to measure, monitor and improve their environmental performance, with formal certification and

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recognition through awards (bronze to platinum). Members' performance is illustrated relative to peers, with recommendations and advice on the most cost-effective routes to improvement.

[Parity Projects](#) and [Sustainable Homes](#) offer one example of a service that can be used to help Providers create a retrofit strategy. Their Carbon Reduction Options for Housing Managers (CROHM) tool uses property-level data to develop an accurate baseline assessment of a property portfolio's energy performance. Detailed analysis "scenarios" are then applied to this to quantify the costs and benefits associated with achieving organisations' retrofit targets – whether they be reducing the risk of fuel poverty, improving SAP ratings or cutting carbon dioxide emissions. Alongside this, the analysis can be used to quantify the potential contribution Government grant schemes may make to overall programme costs and how retrofit can be effectively be aligned with asset management and investment plans to maximise synergies.

[Carbon Savings Alliance](#) provides its members with free access to established procurement contracts, saving on individual procurement exercises, these include:

- PV Framework
- External Wall Insulation Framework
- Technology Framework (under development).

Energy Saving Trust offers a range of services, consultancy, interactive tools and training. For social housing providers, it provides a systematic programme to analyse the housing stock's current energy performance and assess the opportunities for making energy improvements. The range of services includes:

- [Development of a new property and energy database](#)
- Analysis of property-by-property energy improvement potential
- Funding eligibility analysis
- Strategic and technical advice and investment optimisation
- Reporting and on-going support
- [content for communications](#)
- [Staff training](#) including through [e-learning](#).

It also provides a [Tenants Engagement Support Service](#), to help social housing providers work with tenants on energy improvement programmes. To find out more [email](#).

[Better retrofit partnership](#) promotes an approach to the refurbishment of traditional buildings that is based on fully joined-up processes and backed up by its unique Performance Pledge. It considers energy, health, fabric, durability, environmental impact and usability together to guard against serious and unintended consequences to building and user health.

[CoRE](#) (Centre of refurbishment Excellence) aims to transfer practical retrofit knowledge to support excellence in retrofit products and projects. It has a range of training courses to create a trained workforce and project managers.

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