



Engagement Toolkit

Guide for building managers of mixed-tenure housing

UK version

Low Energy Apartment Futures (LEAF) Deliverable 4.1.

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1 Introduction

This document was developed as part of the 'Low Energy Apartment Futures' (LEAF) project. LEAF is a European-wide project of eight partner organisations from across six countries, co-funded by the Intelligent Energy Europe Programme of the European Union.

The project aims to improve the energy efficiency of blocks of flats, addressing a number of key barriers that exist in retrofitting these properties, with a particular focus on the limitations of Energy Performance Certificates (EPCs) and difficulties associated with buildings under multiple ownership.

The project has developed a toolkit that provides a step-by-step approach to retrofitting blocks of flats, incorporating:

- A **'technical toolkit'** to identify appropriate energy improvements. Based on EPCs, the toolkit provides supporting information to aid decision-making. The tool also enables EPCs from individual properties to be assimilated together to provide a whole-property approach, including recommendations for communal areas.
- An **'engagement toolkit'** providing information and guidance to progress installations such as obtaining legal agreements for communal measures, securing finance and guidance on planning permission.

This guide represents the latter of the two toolkits. It has been written for people who are interested in improving the energy efficiency of blocks of flats such as individual owners, tenants, resident management companies, housing co-operatives, community group members and charities.

The aim of this guide is to raise awareness of the benefits of such improvements and provide a 'helping hand' to individuals who want to improve a mixed tenure building but are unsure where to start and how best to engage residents.

The guide summarises the most important steps of the planning and decision-making process, the people who need to be involved, as well as the challenges and difficulties that might arise while preparing or implementing a project. It offers potential solutions to these issues, provides best-practice guidelines and recommendations to assist decision-making.

This document is specific to the UK but a common document that can be used by any European country is available separately¹. Additional country-specific versions have been developed by the other LEAF project partners for Austria, France, Germany, Hungary and Sweden.

¹ See the LEAF website: <http://www.lowenergyapartments.eu/>

2 Retrofit process: from preparation to evaluation

The diagram below provides an overview of the process the retrofit may take. However, it will differ between buildings. This guide has been designed to address each of these key stages.



3 Why carry out retrofits? The benefits of improving energy performance

Before you start to think about improving the energy performance of buildings, it is important to consider what the potential benefits may be. This will help engage residents and assess priorities when it comes to decision-making. There are various reasons to improve the energy efficiency of your building:

- **Reduce energy bills:** There is a huge potential to reduce household energy bills by improving the energy efficiency of the building. In the last ten years energy prices in the UK have more than doubled so reducing energy usage can lead to significant financial savings.
- **Increase the level of comfort in the home:** Draughty windows and cold walls can mean that residents in blocks of flats might struggle to keep warm. This can be improved through improvements to heating systems as well as reducing heat loss through glazing and insulation improvements. It can also prevent mould and condensation problems. Improvements in warmth and comfort can sometimes be as important, if not more important, to residents than reducing energy bills.
- **Improve security and safety in properties:** Older windows and doors can also prove a security risk, replacing them with a more efficient version will not only reduce draughts but can also make a property more secure. The possible replacement of outdated heating appliances is an important consideration from a safety perspective as modern appliances represent a lower risk of leaking dangerous substances such as carbon monoxide.
- **Increase property values:** Legislation introduced in 2007 states that Energy Performance Certificates (EPCs) must be made available to potential buyers or tenants to indicate the energy demand and running costs of the property. With energy costs on the rise a poor EPC rating could deter prospective buyers and renters. An energy performance upgrade can be completed in conjunction with other maintenance and improvement works to a building which can result in cost savings (e.g. payment of scaffolding) and contribute to increasing the overall value of the property.
- **Improved appearance:** An energy performance upgrade does not only represent lower energy bills, but can improve the look of the property. For example, external wall insulation or glazing upgrades can make the external property look newer and more attractive. Not only does this make residents more satisfied with their properties, but could also potentially increase the property value. This can also help reduce long-term maintenance requirements and costs.

Wider benefits and considerations

In addition to the benefits to individuals of improving the energy efficiency of the building, there are some potential wider benefits and policy/ legal requirements that may be worth considering and help support the case for undertaking improvement works.

- **Good for the climate, good for the environment:** If less energy is used, then less CO₂ (the main gas responsible for climate change) is emitted. Improving the energy efficiency of our housing stock is therefore profitable not only for individuals, but for the environment as well. Furthermore, reduced fuel consumption can improve overall urban air quality.
- **Improve the private rented sector:** The UK government recognises that private rented properties are typically less energy efficient than social housing or owner-occupied dwelling. It has therefore introduced new regulations to help improve standards in this sector. From 2016, private landlords in England and Wales will not be able to refuse 'reasonable requests' from tenants to improve the energy efficiency of properties. In addition, from 1st April 2018 it will be illegal to renew an existing rent agreement or create a new one where the specified Standard Assessment Procedure (SAP) rating on the EPC for the property is below a band E 2. In Scotland, the Government is currently consulting on whether to introduce minimum standards in the private sector (including both rented and owner-occupied properties) with potential legislation expected after 2015.
- **Improving the social housing in Scotland:** The Energy Efficiency Standard for Social Housing (ESSH) means that social landlords in Scotland must improve the energy performance of their housing to achieve a minimum SAP rating by 2020. The rating each property must meet is dependent on property type and fuel type³. Over 60% of social housing in Scotland already meets the standard proposed by the ESSH; but some of the remaining buildings may struggle to meet the standard due to issues such as mixed tenure, with some owner-occupiers unwilling to front their share of the costs.

² For more information refer to:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/401378/Non_Dom_PR_S_Energy_Efficiency_Regulations_-_Gov_Response_FINAL_1_1_04_02_15_.pdf

³ For gas and electrically heated properties, it is a D or C rating with a specified SAP rating. See: <http://www.energyefficientsocialhousing.org/>

4 The starting point: considerations before retrofit

While an energy performance upgrade is a great opportunity to save money, improve the aesthetic appearance of a building and reduce carbon emissions, it is vital that you **involve the residents right from the beginning**. Through effective engagement and consultation, you can ensure they have a good understanding of the processes involved, opportunities and potential challenges specific to their building. This will help facilitate an informed consideration of potential improvements, and what may help or hinder the decision-making process. This should be the first stage of planning.

Before embarking on a retrofit project there are a number of potential issues to consider, including:

- **Are there any structural or repair problems** that might hinder an energy performance upgrade? This could include problems with the building foundations, the roof-timbers, rising damp or leaks in the roof, for example. Such problems should either be tackled before energy efficiency improvement works or completed in conjunction with the upgrades. The specifics of the repairs or maintenance work will be dependent on whether it needs to be resolved prior to or at the same time as improvements.
- What is the **overall management and financial management structure** of the building? Is there a sinking fund that could be used for improvement works? How willing are the residents to contribute to the costs? While there may be funding streams that can be tapped into, residents that are unwilling or unable to pay anything towards the project costs may find it harder to make initial progress (e.g. financing surveys).
- How **willing to invest** are residents likely to be? Do they have experience of making joint decisions in order to improve the building? The more residents that are keen to invest, the easier the planning and implementation process will likely be. High levels of consensus will also make it easier to find solutions to any difficulties that arise during works.
- Are there any **specific regulatory restrictions**, e.g. listed building or conservation area status, which may mean proposals require planning permission? This can create additional expenses, time delay and if refused, will restrict options.
- **How much time is available** for preparation before work gets underway? Co-ordination of the various responsibilities of different stakeholders and experts requires effective communication and can involve time-consuming administrative tasks. For this reason the residents of the property should ensure there is an adequate management/co-ordination system in place.
- What **recent works** have been carried out? For instance, if the walls were recently refurbished, owners may feel less inclined to carry out significant refurbishment work. On the other hand, **are there repairs or maintenance works which are required**? These could present an opportunity for improving the energy efficiency.

- What are the voting rights for communal measures? Are there other **relevant legal issues** that need to be considered? The questionnaire in Appendix 2 may help you collect this information from residents.
- Are there any **funding streams** available from local or national government or third sector organisations for which the project may be eligible? Have a look at the Energy Saving Trust website for more information (see below).

The Energy Saving Trust: Helping you save energy



The Energy Saving Trust (EST) provides energy efficiency information on a wide range of topics including insulation, heating, appliances and renewables. The site provides up to date information on any government grants that are available for domestic retrofit including any specific provision from the devolved nations. The website also provides a Home Energy Check online based on information individuals provide about their property to help them make informed choices regarding any potential improvements to their homes. Many people take energy use for granted so fostering a discussion around energy in general is an important initial engagement strategy before moving on to the details of a large-scale project.

EST is an independent, not-for-profit organisation that receives funding from national government and private businesses.

For more information, visit their website: <http://www.energysavingtrust.org.uk/domestic/>

Or call the advice centres:

- England & Wales: 0300 123 1234
- Scotland: 0808 808 2282 (Home Energy Scotland)

Northern Ireland: 0800 142 2865

5 How to prepare for decision-making

When the responsibility for decision-making is shared by multiple owners, it can be extremely difficult to find a solution that is acceptable to all. This section provides guidance on what and how best to prepare in advance of the decision making process.

5.1 Collecting information and making preliminary plans

The first step is to collect **Energy Performance Certificates (EPC)** for the building. An EPC shows the energy performance of a building and recommends measures that could improve this. For more information about what an EPC is and what information it provides, see **Part A** of the [LEAF Technical Toolkit](#).

- **How to get an EPC:** All buildings that are rented or sold are now required to have an EPC. EPCs are publicly available online for England and Wales and could be very useful when considering the best retrofit options. The EPC for an individual property can be found by searching for the postcode on the [EPC register](#). In the absence of an EPC being available, one can be obtained through an accredited EPC assessor.
- **Communal EPCs:** Domestic EPCs in the UK are provided for individual homes e.g. one flat, rather than on a whole building basis. However, in many European countries they are available for a whole block of flats. The LEAF project has created a **communal EPC tool** within the [LEAF Technical Toolkit](#) that allows EPCs from individual flats to be collected together to form a whole block EPC.

BEST PRACTICE EXAMPLE: The LEAF Technical Toolkit

The Technical Toolkit of the LEAF project provides comprehensive and useful background information for owners, residents and housing managers in decision making. It also provides tips and recommendations for smart use of energy.

See: <http://www.lowenergyapartments.eu/the-leaf-toolkit/the-toolkit/>

Ahead of undertaking a full EPC you could use a free and simple tool that will give an indication of possible measures. An example of this is the [EST Home Energy Check](#). However, remember that this will only give recommendations for an individual home. You may also find the [EPC advisor tool](#)⁴ useful, where you already have access to an EPC.

Other things to do in the early stages include:

- Collect feedback from residents on their needs, problems and desires with their building. For example: is it draughty, is it overheated, are there mould problems, are energy bills high? You can use this feedback as the basis for a preliminary plan for improvement works, in addition to details of the technical requirements of the building.
- If possible, collect recent **energy bills** for the building. In order to determine how much energy can be saved it is necessary to know how much energy the building is currently using. This will also play an important role in the evaluation of the final results.

⁴ Available for England and Wales only.

- Think ahead! Major retrofit works may require **your own capital**; it is recommended that such capital be collected over an extended period of time through small, more manageable payments rather than requesting a large, one-off lump sum.

5.2 Convincing the community to invest in retrofit

Even with full support of some residents for the retrofit works, there may be others who are indifferent or against it. This could be due to various reasons such as unfamiliarity or disbelief regarding the potential energy savings, concern over disruption, or lack of finances or financial assistance to pay for the work.

How many residents are needed to decide?

In most of England and Wales, the decision-making process depends on the nature of ownership of the building and tenancy agreements in place. Buildings with multiple and mixed ownership and tenants will typically have management company, of one form or another, to lead the decision-making process. See the [LEAF Work Package 2 report](#) for more detailed information about different ownership and decision-making models in England and Wales.

In Scotland, the title deeds of a property may define and provide guidance on voting rights in properties i.e. how many owners are required to vote on an improvement, what is communal or individually owned and how to go about decision making. Where these are unclear or aspects are absent, the Tenements (Scotland) Act 2004 comes into play. The Act defines what is classed as 'maintenance' to a property and whilst this does not include improvements, the Climate Change (Scotland) Act 2009 amended the definition of maintenance to include insulation installations. Therefore, only a majority of residents being in favour is required for insulation work to go ahead, whilst for 'improvement' works a unanimous decision is required. For more information, see Consumer Focus Scotland's guide to the Tenements Act [Common Repair, Common Sense](#) (2009).

Top tips for engaging residents:

- The best way to convince uncertain residents is to provide them with sufficient, easy-to-understand information and highlight the benefits of retrofit, such as those reasons outlined in Section 3 of this guide.
- Get in touch with those members of the community who are keen for the retrofit to happen first. It will be easier to persuade other residents with their support.
- Distribute information leaflets and materials to the residents to get their attention and generate interest.
- Organise visits to other buildings where the same or similar recommended improvements have already been installed. Consult with residents of these buildings; ask them about their experiences of both the process of installation and impact (e.g. any financial savings realised, improvements in comfort in the home). Share this information with the residents of your building.

- Investigate financial assistance that may be available. An opportunity to have measures installed for free or for a small financial contribution may motivate the residents to act.
- Should local funding be available there could be an opportunity to form a partnership, particularly if a scheme is operating at council level. This could include a tailored letter being sent to all residents detailing what is on offer (see Appendix 3).
- Large scale works may involve significant disruption for an extended period of time which could deter residents from proceeding. Look for a reputable company that will not only provide high quality work but may be ready to perform extra duties e.g. moving furniture, obtaining permits, full clean-up after the installation.
- If there is not a pre-existing residents' committee, establishing one should be a priority. It is worth starting with a small circle of residents who can help with the preliminary decision making in the early planning phase e.g. establishing which measures are not suitable. As a project gains momentum and all residents become involved, it is useful if this original core group can follow the planning and implementation phases through to completion.
- It's important to ensure residents have a point of contact throughout the process, where they can direct any questions and voice any concerns. A residents' committee can be useful for facilitating effective communication which may also include gaining access to the building to complete necessary surveys.

BEST PRACTICE EXAMPLE

Greening the skyline: The challenges and opportunities of tower block retrofit

These two case studies both utilised external wall insulation. Benefits beyond increased thermal performance included improved appearance, local job creation during the work and lower energy bills for residents with savings worth hundreds of pounds a year. Both were managed by local councils which invested in engagement with residents before work started.

Holly Park Estate, Islington (see photos below)

- Cost £2.3 million so far (continuing in 2015)
- Includes 3 high rise tower blocks and 300 homes
- Additionally installed new boilers and two CHP systems for the estate



Before

After

Wilmcote Building, Portsmouth

- Cost £12 million in total
- Composed of 3 connected tower blocks, each 11 storeys high
- Completed to EnerPhit standard which is above current building regulations. Additional £1 million cost but will save £87,000 in annual running costs.

Source: http://www.green-alliance.org.uk/greening_the_skyline.php/

5.3 Preliminary decision making: the first steps

Once the residents have achieved a consensus regarding the decision to go ahead with the improvements they need to then consider which aspects of the building they want to address. They may want to focus on completing one measure, such as insulating the building fabric or replacing old windows with new ones or address multiple areas at the same time. The latter option may be more cost-effective in the long run, but is likely to entail a more detailed and complex planning process. The development of detailed technical and financial plans for the building may also require special expertise, bringing in external parties. It is important to ensure that residents understand the need for this and what it may entail, keeping them engaged and ensuring a transparent process.

Even in these early stages, it is important that all stakeholders are aware that decisions must comply with the relevant building regulations and legislative frameworks. This may include national legislation (which may vary by country, with the Devolved Nations having different

requirements), in addition to seeking guidance from the local planning authority where the project is based.

At this point, the residents may choose to establish a committee for preparatory works such as more detailed investigation of funding options. If a residents' committee is already established then it may still be necessary to delegate roles and tasks via a voting procedure if deemed appropriate. Similarly, during the preliminary decision making the community can be involved in the selection of experts and potential installers who will later carry out the detailed planning and implementation phase.

See further information in the resource list in Appendix 1 for finding expert help.

BEST PRACTICE EXAMPLE

City South Manchester Housing Trust: St George's towers

These three 1960s tower blocks were suffering from leaks and mould resulting in high costs for the families living there. Completion of an extensive retrofit plan cost £25 million but will save residents' approximately 25% in annual heating costs. In addition to externally insulating each of the blocks the project included:

- PV panels on each block to power low energy, self dimming communal lighting;
- Argon-filled double glazed windows that are larger to allow in more natural light;
- High performance storage heaters so residents can monitor their energy use
- Complete regeneration of the area providing better quality of life for residents



Photos: <http://www.architectsjournal.co.uk/news/daily-news/landmark-manchester-tower-blocks-refurbished/5217925.article>

Residents were extensively engaged both before work started and during the project to ensure their views shaped key decisions regarding the final appearance. This allowed for issues to be resolved and ensure as little disruption as possible.

http://www.citysouthmanchester.co.uk/files/City_South_Case_Study_-_a_high_rise_transformation.pdf

6 Detailed planning

Once the initial key decisions have been agreed by the community the next stage is the detailed planning. In this phase it is important to involve an expert with technical knowledge. Remember, the more thorough the planning-preparatory phase is, the easier the implementation will be.

6.1 The involvement of experts

During the preliminary decision making phase numerous potential retrofit measures may have been discussed. However, expert input will almost certainly be required to ascertain which options are technically feasible and economically viable for the project. The committee may want to be involved in the selection of experts or the ordering of the expert opinion (see Section 5.3).

What kind of expertise is required for the planning and implementation of retrofit measures?

- **Technical:** A technical assessment may require a specialist such as an architect, energy assessor, installer or engineer.
- **Financial:** Depending on the financial opportunities a financial expert and a tender specialist may also be necessary. They will be able to advise on potential funding sources such as loans and could also make recommendations on how to ensure all owners make a financial contribution and how this is collected.
- **Project management:** In the case of a larger, more complex project, special expertise might be required for the acquisition of authority permits, timing the coordination of the works, the standard conclusion of contracts and the technical audit.
- **Public procurement:** If state subsidies are to be utilised for the implementation of the improvement works then it may be useful to seek assistance from the council or a relevant local energy advice service regarding the best way to access this.



6.2 Technical solutions

The planning of the retrofit work starts with a full energy assessment that takes account of the current energy needs of the building. This assessment will also show what could be achieved in the building through various different upgrades. Certain funding streams may also require an up to date EPC for all flats within the building.

An EPC will provide preliminary information about the energy needs of the property and will provide some suggestions for retrofit but these will not necessarily be sufficiently detailed with regard to cost estimates or payback periods for individual measures. A thorough assessment will take into account more detail from the building, including input from the residents regarding their particular energy usage habits.

Following an initial assessment, the next step is to instruct technical experts, such as contractors installers, to carry out a more thorough and detailed assessment of the building. This may include consideration of several different options for improvement works. The case studies available on the [Build Up](#) website provide a good range of examples of different measures and approaches to improving the energy efficiency of buildings.

6.3 Get quotes

Request detailed quotes from contractors/ installers, covering all potential options available to improve the building and the work involved. It is worthwhile getting quotes from more than one contractor to compare recommendations and cost estimates.

It is important that quotes are as detailed and comprehensive as possible to allow for easy comparison with regards to price and technical content. If contractors are to be selected by means of a public procurement procedure, then a public procurement expert should also be involved in the process.

6.4 Financing

In moving from the planning to implementation phase it will be necessary to start collecting financial input from the various sources, including any from the building management company (if applicable). See Section 4 on issues to consider around financing the works. Once formal quotes have been received, it is likely that you will want to review questions such as:

- What input is required from owners? And do they have their own capital stock or access to any funding to make this viable?
- What kind of national or local authority support is available for the recommended works and what proportion of the costs could this cover? Are there any additional terms and conditions for accessing this funding?
- If the project is planning to use government funding, is there a formal public procurement procedure?
- What kind of bank finance is available? What conditions are associated with accessing this finance? What are the costs of borrowing?

Applying for a loan, submitting a tender application or a public procurement procedure may incur fees that need to be included in the total cost for the investment.

6.5 Schedule

The timeframe for the retrofit will differ from project to project. A preliminary schedule should be agreed, detailing timings for each aspect of the work and expected completion. Residents' expectations should be managed however, to allow for potential unforeseen circumstances that may result in delays, such as weather conditions.

7 Final decision making

Once all residents are familiar with the detailed technical and financial plans, an informed decision can be made to determine whether or not the improvement works will go ahead. At this stage it is important to ensure any complicated and lengthy documents are communicated in an easy-to-understand format. Poor or lack of understanding could result in reluctance to support the proposed works.

7.1 Prior to the residents meeting

If a committee has been established with the specific purpose of driving forward the retrofit project, it would be useful to meet ahead of the residents' meeting to discuss the plans in detail and create a summary document of all the essential figures relating to the technical and financial plans. This document should then be given to all residents for consideration ahead of the meeting. This summary should discuss each of the following issues:

- How much energy and money can the block save?
- What is the investment required from each apartment?
- What is the payback period of the investment?
- What kind of subsidies can the building apply for?
- How will the works affect the residents (before, during and after)?

It would also be useful to summarise any additional benefits such as the potential to: increase in property value, improve level of comfort, reduce noise pollution, (and so on, as relevant to your building). To make the document more accessible and readable, ensure that the information is concise and include charts and illustrations as appropriate. This document should also seek to address key questions and potential concerns that residents may have (similar to a 'frequently asked questions' format).

It is also important to ensure that residents have the opportunity to meet with the experts if desired, so they can be introduced to the plans and consult them regarding any specific technical issues or concerns.

7.2 Residents' meeting

Though slightly dependent on the building ownership structure, the residents' meeting is likely to be the forum in which a decision is formally and finally made as to whether the plans can go ahead; for this reason the meeting needs to be arranged in accordance with any relevant legal regulations and internal statutes of the building.

As a general rule, the greater the number of the residents who support the investment, the fewer problems that will arise during implementation. When making preparations and organising the residents' meeting, try to achieve a high level of participation.

It is useful for the experts preparing the technical and financial plans to also be present at the residents' meeting so they can answer any outstanding questions.

The meeting also provides the opportunity to elect a project management team (if necessary) to implement of the project. This should involve a smaller group of residents, and could also involve experts participating in the planning process.

8 Installing measures

If residents decide to proceed with the retrofit, the second phase of planning can commence. This is when the practical part of the implementation can begin.

8.1 The project management team

During implementation the project management team or residents' committee will make necessary interim decisions. They are responsible for communicating with the residents and completing various administration tasks. It is important that the project management team meet regularly and discuss any arising issues.

8.2 The selection of the contractors

The earlier planning stages will most likely have required detailed technical assessments of the building to develop precise recommendations for improvements and cost estimates. As noted previously it is recommended that several quotations for works are obtained to ensure a competitive offer.

In simple cases the project management team or authorised representatives can decide on the contractor on the basis of the quotes. Depending on the procedure rules of the building and the amount to be invested, the involvement of all the residents may also be necessary in selecting the contractor(s). Another round of written voting or a second residents meeting would be appropriate at this point to prevent potential disputes further on in the process.

8.3 Contracts

The contract should include as many relevant details as possible, but the following list outlines the key features:

- Price
- Exact technical works to be completed
- A list of any additional works to be included (e.g. the acquisition of authority permits, the removal of building rubble, clean-up, repairs)
- Deadlines: final and internal schedule
- Conditions of completion
- Handling of snagging issues
- Terms of payment
- Warranty conditions

8.4 Permits

During the planning phase you must also obtain any necessary permits (the requirements of which may vary between the devolved nations) from your local authority **before** starting the implementation. Depending on the works and the local regulations the following may be required:

- site occupation permit
- the approval of the authority responsible for the protection of historic buildings
- construction permit / building warrants

- the approval of the local energy provider or that of the authority responsible for chimneys
- the consent of the neighbouring buildings

See the resource list in Appendix 1 for further details on planning regulations for your area.

8.5 Organisational works during the retrofit

It might be necessary to have regular discussions with the project management team, for example in specifying the division of tasks and the supervision of works.

It is important to liaise with the contractors regularly during the implementation of measures. In the case of large, high cost projects, it is sensible to involve a construction supervisor who can professionally represent the interests of the building during the works.

Schedules should be monitored for any changes and residents/owners need to be made aware of these as they occur.

Major buildings works are likely to cause some unavoidable inconvenience for residents. While the residents will have been fully informed of this possibility prior to the start of works it is still possible that complaints may arise and these will need to be managed properly.

The best way to reduce the likelihood of complaints is to keep residents updated, with information including the following:

- The start and expected end date of the implementation works
- Works to be expected
- On-going progress updates and notification of any problems or delays
- Contact number and e-mail address where residents can find information or lodge their complaints

In the event of a complaint, ensure processes are in place to ensure a quick response and resolution, to avoid potential delays to the work or disgruntled residents.

8.6 Completion of works

The completion of the works - or the partial completion of certain tasks – should be closely monitored and cross-checked with the requirements and specification of the contract.

A certificate from the local authority (or other relevant authority responsible for the protection of historic buildings, energy supplier, chimney authority, etc.) regarding compliance of the works may be required (e.g. an inspection and sign off by development control for building regulations). Collect and document any such certificates.

The acceptance of the works has to be certified by the construction supervisor. The certificate of completion should only be issued after the work has been completed to a satisfactory standard. Invoices for the work should only be accepted and paid once this has been achieved.

8.7 Technical warranties, complaints

Even with the best planned and well implemented works there may still be warranty issues or complaints. It is recommended that the management of these and the division of responsibilities is agreed as part of the contract in advance.

Matters in dispute should always be managed in a written form in order to avoid any misunderstandings through verbal communication.

9 After the work has been carried out

Retrofit projects do not end with the implementation of measures.

In the case of energy efficiency improvements or heating upgrades particularly, the inhabitants might benefit from guidance or advice on how best to use the renovated building, for example new heating controls. It is recommended that residents are provided with providing a “users’ manual” for the new heating system and other measures installed throughout the building. This could also include feedback forms or details of how and where to direct any questions or complaints about the changes. This may help to avert a number of questions or concerns.

In order for the full benefit of the retrofit to be realised (e.g. savings on energy bills), it is important that residents practice (maintain or adopt) the principles of energy saving behaviour in their home. For smart energy use tips, see the LEAF Technical Toolkit: <http://www.lowenergyapartments.eu/the-leaf-toolkit/the-toolkit/>.

Undertaking renovation work to improve the energy efficiency of a building could also be used as a helpful trigger to prompt residents to review their tariff with their energy supplier. Switching energy supplier or tariff can offer significant financial saving. Engaging residents through the renovation process is a good opportunity to raise awareness of this potential.

It is also important to remember that residents may need to change the type of tariff they are on if they have switched to a different type of heating system, in order to reduce their fuel bills. For example if gas central heating has been installed in place of electric storage heaters the residents should change from Economy 7 to a standard electricity tariff.

Where possible, monitoring energy use (for example by taking meter readings) and/or internal conditions of the building after the renovation process is recommended. The results could be useful in providing evidence to residents of the impact of improvements (energy savings or increases in internal temperatures for example), providing positive reinforcement of the benefits of investing in the retrofit. Asking residents if they’ve noticed the benefits of the measures and if they were happy with the process could also help form useful lessons for any future projects.

Appendix 1: Resource list

Finding installers:

Energy efficiency installers:

Green Deal ORB: <http://gdorb.decc.gov.uk/providers>

Cavity Insulation Guarantee Agency: <http://www.ciga.co.uk/registered-installers/>

Solid Wall Insulation Guarantee Agency: <http://www.swiga.co.uk/>

Insulated Render and Cladding Association: <http://www.inca-ltd.org.uk/>

BFRC (Windows and doors): <http://www.bfrc.org/consumer/index.aspx>

NICEIC (electrician): <http://www.niceic.com/householder/introduction>

SELECT (electrician (Scotland): <http://www.select.org.uk/sectionindex.php?sectionid=3>

Gas Safe Register: <http://www.gassaferegister.co.uk/>

SNIFE (plumbers (Scotland & NI)): <http://www.snipef.org/>

Renewable technology installers:

Green Deal ORB: <http://gdorb.decc.gov.uk/providers>

Micro-generation Certification Scheme: <http://www.microgenerationcertification.org/>

Renewable Installer Finder (Scotland only):

<http://www.energysavingtrust.org.uk/scotland/tools-and-calculators/renewables-installer-finder-scotland>

Planning guidance:

Planning (England and Wales): <http://www.planningportal.gov.uk/>

Planning (Scotland): <https://eplanning.scotland.gov.uk/>

<http://www.scotland.gov.uk/Topics/Built-Environment/planning/Roles/Planning-Authorities/Information>

Information on current technologies:

Renewable Energy Association: <http://www.r-e-a.net/renewable-technologies>

Energy Saving Trust: <http://www.energysavingtrust.org.uk/domestic/content/home-insulation>

(England & Wales: 0300 123 1234, Scotland: 0808 808 2282 (Home Energy Scotland), Northern Ireland: 0800 1422 865)

Useful legal information:

Law Depot: <http://www.lawdepot.co.uk/free-documents/uk/?loc=GB>

Rocket Lawyer: <https://www.rocketlawyer.co.uk/>

Lawyer Locator: <http://www.lawyerlocator.co.uk/>

Possible funding options:

Renewable Heat Incentive: <https://www.ofgem.gov.uk/environmental-programmes/domestic-renewable-heat-incentive>

Further reading:

[‘Love your home’](#) (Centre of Sustainable Energy) Impartial energy advice, including leaflets on different measures available to download and print

[Guide to Insulating Hard-to-Treat Cavities \(HTTCs\)](#) Changeworks (2014)

[Common Repair, Common Sense](#) Consumer Focus Scotland (2009)

[Communal improvements: Energy efficiency in tenements in Scotland](#) Consumer Futures (2013)

Appendix 2: Questionnaire for residents

About your building and home

We are interested to know a bit about any problems or concerns you have with maintaining a comfortable living environment in your home and building.

Your building

- Thinking about the building in which you live (the whole building, not just your individual flat/apartment), to what extent are the following factors: 'no problem at all'; 'somewhat of a problem'; or 'a significant problem' for you?

About your building	No problem at all	Somewhat of a problem	A significant problem
Water-tightness or poorly insulated roof	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor condition of outer façade (e.g. plastering cracked)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Damp and/or condensation in communal areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor lighting inside the building in communal areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Draughty communal areas (e.g. due to poorly fitting windows or doors)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open space / outdoor area in poor condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low building value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor external appearance of the building	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of heating in communal areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of control over heating in communal areas (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- How would you describe the overall level of warmth in communal areas of your building last winter? Was it...
 - Much colder than you would have liked
 - A bit colder than you would have liked
 - About right
 - A bit warmer than you would have liked
 - A lot warmer than you would have liked
 - Both too warm and too cold (e.g. too warm in some areas, too cold in other areas of the building)

3. How would you describe the overall level of warmth in communal areas of your building last summer? Was it...
- Much colder than you would have liked
 - A bit colder than you would have liked
 - About right
 - A bit warmer than you would have liked
 - A lot warmer than you would have liked
 - Both too warm and too cold (e.g. too warm in some areas, too cold in other areas of the building)
4. Overall how satisfied are you with the appearance of internal communal areas of your building?
- Very satisfied
 - Moderately satisfied
 - Neither satisfied nor dissatisfied
 - Quite dissatisfied
 - Very dissatisfied
5. Overall how satisfied are you with the external appearance of your building?
- Very satisfied
 - Moderately satisfied
 - Neither satisfied nor dissatisfied
 - Quite dissatisfied
 - Very dissatisfied

Your home

6. Thinking now about your own home and personal living space, to what extent are the following factors: ‘no problem at all’; ‘somewhat of a problem’; or ‘a significant problem’ for you?

About your home	No problem at all (/not applicable)	Somewhat of a problem	A significant problem
An ineffective heating system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of control over heating system (e.g. lack of room thermostat, heating programmer etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Damp and/or condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poorly insulated building fabric (e.g. lack of insulation on walls, loft/roof, floors etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Draughts (e.g. through poorly fitting doors and windows)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poorly insulated building fabric (e.g. lack of insulation on walls, loft/roof, floors, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Draughts (e.g. through poorly fitting doors and windows)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Problems with mildew in wet rooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Problems with mildew in living- or bedrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electrical installation is in bad shape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. How would you describe the overall level of warmth in your home last winter? Was it...
- Much colder than you would have liked
 - A bit colder than you would have liked
 - About right
 - A bit warmer than you would have liked
 - A lot warmer than you would have liked
 - Both too warm and too cold (e.g. too warm in some areas, too cold in other areas of the home)
8. How would you describe the overall level of warmth in your home last summer? Was it...
- Much colder than you would have liked
 - A bit colder than you would have liked
 - About right

- A bit warmer than you would have liked
- A lot warmer than you would have liked
- Both too warm and too cold (e.g. too warm in some areas, too cold in other areas of the home)

9. Thinking back to last winter, would you say your heating bills were:

- A heavy financial burden
- Somewhat of a financial burden
- Not a problem at all

Appendix 3: Example letter to residents

Home Energy Scotland 0808 808 2282
South East Mon-Fri 8am-8pm, Sat 9am-5pm.
36 Newhaven Road Calls are free from landlines
Edinburgh, EH6 5PY and all major mobile networks.



Date: XXX 2015

Insulate your walls – completely FREE of charge!

XXXX Council and Home Energy Scotland from the Scottish Government are working together to offer FREE cavity wall insulation for blocks of flats that are three storeys or higher. We know there's more to consider when you live in a flat and that's why we're providing extra funding and support to insulate flats. We don't just want to make it free, we want to make it easier for you to have a warm home that will be cheaper to heat in the long run.

Why is it free? What's the catch?

We have secured a combination of funding through the Energy Company Obligation and from the Scottish Government to make cavity wall insulation* free. There's no catch – it's not means tested, so if your property is suitable you can have cavity wall insulation installed free.

Is there anything else up for grabs?

Yes, if your home is suitable* you could also receive other FREE energy saving measures, such as draught proofing.

How to get your free insulation

The first step is to arrange a no-obligation technical survey of your flat. As you live in a flat, we'll also need some information about the block you live in. Please go to www.changeworks.org.uk/flatform and fill in the form. If you need any help completing the form or you need a paper form, you can call Home Energy Scotland free on 0808 808 2282.

We hope to hear from you soon.

Manager	XXXXX, Manager
XXXX Council	Home Energy Scotland, South East
council.gov.uk	homeenergyscotland.org

*Installation of free insulation and any other energy saving measures is subject to a technical survey.

HOMEENERGYSCOTLAND.ORG
0808 808 2282
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