What is retrofit?

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'Retrofit' quite simply means making improvements to a building to reduce its energy use. The term used for this type of improvements is 'energy efficiency improvements'. Because the whole building (for example, walls, heating system, householders etc.) is considered when planning which energy efficiency improvements are most suitable to a particular building-retrofit is known to take a 'whole house approach'. Retrofit is not the same as renovation or refurbishment, which often 'makes good', repairs, or enhances the look of a building but doesn't necessarily reduce its energy use.

Why do we need it?

The UK government has pledged to reduce all greenhouse gas emissions to net zero by 2050. Around a quarter of these emissions come from the UK's 27 million homes, so improving their energy efficiency is a vital step towards achieving this target.

Previously householders improved their properties depending on what funding was available. It could have been loft insulation one year, a new boiler in another, or more recently solar panels or an air source heat pump. But these may not be the appropriate measures for your property, or they may be the right measures, but installed in the wrong order. Or in the worst case they may be installed badly, making the property even worse than before.

In response to this, the UK government published the Each Home Counts review in 2016 which called for the establishment of an industry-wide Code of Practice. This resulted in a universally recognised quality mark called Trustmark, and the best practice guide called PAS 2035. Both these require funding schemes and contractors to install energy efficiency measures with a more householder-focused approach.

How does it work?

The process starts with a Retrofit Assessment, and this is a requirement when any publicly funded energy efficiency improvement is made. The whole process from assessment to installation is overseen by a Retrofit Coordinator who ensures the right measures are installed in the right order. A Retrofit Assessment is an in-depth survey of your home and takes between one and two hours.

It includes:

- an Energy Performance Certificate (EPC) survey
- an assessment of any current energy efficiency measures
- a condition survey
- a ventilation survey
- a heritage significance survey for older properties
- advice on the retrofit process

- proposals for appropriate energy efficiency improvements.
- intended outcomes agreements with the householder

What is a Fabric First approach?

The fabric of a building is all the structural parts that separate the inside from the outside – roof, walls, floor, doors, and windows. Improvements to these parts usually have a longer lifespan than heating systems, and they also reduce the required capacity and cost of the heating system. The most technically sound and usually cost-effective approach is to improve the fabric and implement the low-cost and easy-to-install measures first. This prioritises improvements in five stages:

1. Repair obvious defects such as water penetration, damp and poor pointing of masonry.
2. Do the easy, low-cost improvements such as, energy efficient lighting, basic heating controls, hot water cylinder insulation, draughtproofing doors and windows.
3. Improve the building fabric with insulation to reduce heat losses.
4. Control the reduced heat requirement as efficiently as possible using efficient heating technology and responsive controls.
5. Use Low/Zero Carbon (LZC) renewable energy technologies to reduce emissions further.

What does Build Tight, Ventilate Right mean?

When we insulate and draughtproof a house it is very important to include ventilation. Lack of heating and poor ventilation may cause damp and mould which can lead to health problems and damage to the property. Moisture can build up from bathing, cooking, drying laundry and even breathing. There must be a system to expel this moist air and input fresh air to the living spaces. The Retrofit Coordinator will review the ventilation survey and suggest a suitable ventilation system to maintain good internal air quality.

What if I can't do it all now?

Retrofit is rooted in the real world. It recognises that not all improvements can be made in one go, so the Retrofit Coordinator prepares a Medium-Term Improvement Plan. This is a guide for the improvement of a home in different phases over time. It identifies what improvements are needed, what order they should be done and how improvements might interact with each other. The Medium-Term Improvement Plan can be updated to respond to changes in standards or the availability of new technologies and to record improvements as they are made.