Energy Efficient Homes
The Retrofit Toolkit

Sheet no 6:
Insulation: Roof & Attic

Caution: Breathability!

Choose insulation materials which don't cause condensation

The most important part of our Whole House plan is to increase the energy efficiency of the fabric of our home. Reduced energy consumption is achieved by improving airtightness and insulation. But this can bring the risk of increased condensation.

Since condensation occurs when moist air comes into contact with a colder surface, it is important to ensure that the types of insulation used in roofs, walls and floors do not cause this kind of problem. Many modern insulation materials are not breathable and can generate the build-up of moisture. The fabric of older properties in particular needs to breathe. Making our homes airtight and warmer without proper ventilation could be a recipe for disaster. So before embarking on this phase of retrofit we need to take professional advice about the best forms of insulation for our own building.

See: www.thegreenage.co.uk/insulation-made-home-damp

Roof & Attic insulation

Cold or warm attic?

Types of loft and roof insulation

A cold attic is not regularly used and does not need heating. The best way to insulate the rest of the house is to put a thick layer of insulation material on the attic floor.

A warm attic is one which you use and want to keep warm, or which serves as an extra room in the house. The main insulation must be in the 'A' frame of the rafters.

Get it checked

Many modern insulation materials are not breathable, and their use can lead to problems with the build-up of moisture

To ensure the attic is properly ventilated and to avoid condensation, get professional advice before undertaking loft insulation, either by a contractor or as a DIY project.

The following websites offer much helpful information about these issues, and about the various types of insulation available:

www.cse.org.uk/advice/loft-insulation

www.theloftboys.co.uk/lofts/loft-insulation/#the-science-of-loft-insulation

Make the most of scaffolding

Plan your Retrofit timetable and budget to combine measures which need scaffolding.

If possible, plan your Whole House retrofit timetable and budget to combine work on the roof with other measures such as:

- Solar PV panels to generate electricity
- Solar hot water
- External wall insulation
- Re-positioning gutters and downpipes
- Installing new windows.

Other sheets available in this series

1. Fabric First: Planning changes to your home?
2. Preparing for Retrofit: Resources on your doorstep
3. The Energy Hierarchy: The Principle behind the Whole Building Plan
4. Opportunities to Begin the Journey
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6. **Insulation: Roof & Attic**
7. Insulation: Walls
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