



How do we make our home more energy efficient?

ENERGY BOOSTERS: Well-orientated energy-efficient windows, rooflights and doors, left and above, reduce heat loss and optimise views. While stone floors have a high embodied energy, these, above, are sourced locally, have a long life cycle, and store and release heat gradually. Left,

ARCHITECT'S CLINIC

DARRAGH LYNCH

Q WE would like to improve the energy efficiency of our home, but don't know where to start. We're considering a deep retrofit, but are not sure if it's worth it. Can you advise?

A THERE are several easy things you can do immediately to reduce the energy that you use in your home, such as turning down your heating, turning appliances off when not in use, draught-proofing windows and doors or upgrading old light bulbs to newer, LED energy efficient bulbs.

MEASURE YOUR ENERGY USE

Most homeowners are very conscious of their energy use through utility bills, in particular if they increase during the year. These may not be a true reflection as they can be skewed by other factors including the weather, occupancy, meter reading estimates (as opposed to actual readings) or price hikes by utility companies. You can buy

and install smart energy monitors in your home that tell you how much energy you are using right now, or another option is the Codema Home Energy Saving Kit. This is available to borrow free of charge from several libraries across the country, including Dublin, Roscommon, Leitrim, Cork and Wexford.

RETROFIT YOUR HOME

As part of the Paris Climate Accord, the Irish Government has committed to having all houses achieve an A2 standard by 2050. In basic terms, this means that over 80pc of our homes will require a deep retrofit by 2050.

If you're considering retrofitting your home, we would recommend doing it once and doing it right for the best possible outcome for this significant investment. There will be an obvious benefit in money saved through reduced energy bills but having a comfortable beautiful place to

live is going to have much more impact on the quality of your life.

TAKE ADVANTAGE OF ORIENTATION

A newly-built house should be designed to take maximum advantage of solar power. This will save energy as the sun will heat your rooms and fill your house with natural light. In an existing home, you might consider re-ordering spaces to benefit from the best orientation. An architect or designer will help you ensure that the flow between the rooms suits you and the way you live, but make sure to build in some flexibility for future life changes.

The design and layout of your home will have the biggest impact on the quality of the space that you live in so a little careful thought at this stage will make all the difference.

USE ENERGY-EFFICIENT AND HEALTHY MATERIALS

Invest and consider the fabric and materials in your home. Improving the performance of your wall, floor and roof insulation will reduce significantly the amount of energy required to heat your home.

Your doors and windows are typically replaced or upgraded every 30 years so get the best ones you can.

Aside from thermal properties it is worth considering the 'embodied' energy in producing or extracting a material against the life cycle of that material.

Materials such as aluminium, copper or zinc will have a high embodied energy due to their involved extraction process. This may be justified because it has a longer life cycle against an alternative material which might need to be replaced three or four times over the same cycle. In the same way that people are increasingly more conscious of food provenance and the carbon footprint of what we eat, it makes sense to apply the same standards to our choice of materials.

RECYCLE AND UPCYCLE

If you know that a material is a short-term choice or will likely be moved or changed in the future, consider the future disassembly of the material.

Do you need to use glues or adhesives? Can you screw in the material instead of nail? Simple measures during the construction process may increase the life span of the material.

You may want to consider recycling or reusing materials in your design.

It is important that the materials used in construction are fit for purpose, so it may not be advisable to reuse materials everywhere, but one person's trash is another person's treasure. You can find everything from car tyres converted to pet baskets to wooden pallets upcycled as shelving.

Even if this doesn't fit into the aesthetic of your home there may be someone else who will take it. The Rediscovery Centre in Ballymun runs furniture upcycling as well as a rediscovering paint scheme. This recycles non-hazardous water-based paints from recycling centres and makes it available for purchase by the public.

INVEST IN A HEATING AND VENTILATION SYSTEM

Lastly, after you have captured free energy from the sun and reduced the heat loss of your building, install a heating and ventilation system that will provide the required energy and fresh air to make your house healthy and comfortable.

These systems have typical life spans of about 10 to 15 years, so they will require replacing, servicing and upgrading. Some of these fabric and heating system projects could also qualify for SEAI grants (seai.ie), so make sure that you apply before you undertake the work.

A little professional advice will go a long way in improving the outcome of your investment and it is advisable to contact an architect for this.

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If considering changes to your home, work with a registered architect. Find one near you on riail.ie, the registration body for architects in Ireland.

Do you have a design dilemma? Email your problem to designclinic@independent.ie. Advice is for guidance only and readers are advised to seek professional assistance for any proposed project.