

SCSI GUIDE TO A MORE SUSTAINABLE HOME

WE ARE ALL AWARE OF THE NEED TO ACT AGAINST CLIMATE CHANGE, BUT WHAT CAN WE DO TO MAKE A REAL DIFFERENCE? FOCUSING ON SUSTAINABILITY WHEN BUILDING OR RENOVATING OUR HOMES IS ONE WAY THAT WE CAN SAVE ENERGY, REDUCE GREENHOUSE GAS EMISSIONS, AND SAVE MONEY WITH REDUCED UTILITY BILLS TOO.

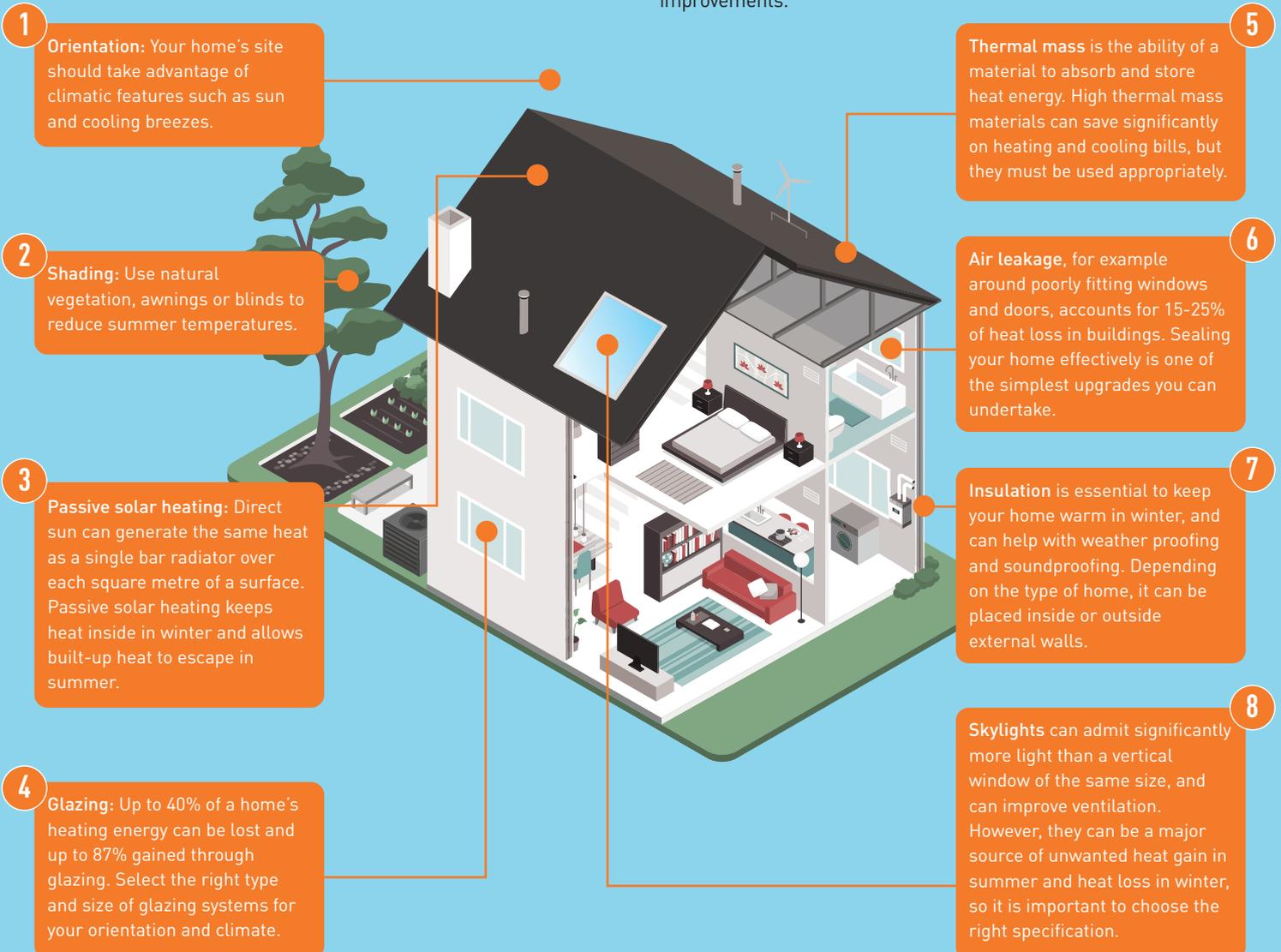
The average household's energy use could be significantly reduced through:

- passive design measures such as good design, the use of energy-efficient materials, and encouraging behaviour that focuses on energy conservation; and,
- active measures such as using renewable energy sources and technologies like solar and wind.

Passive design

Passive design uses natural sources of heating and cooling, such as the sun and cooling breezes, to maintain a comfortable temperature range in the home, reducing or eliminating the need for additional heating and/or cooling.

Passive design is easiest to achieve if you're building a new home, but even small upgrades to your home can deliver significant improvements.



1 Orientation: Your home's site should take advantage of climatic features such as sun and cooling breezes.

2 Shading: Use natural vegetation, awnings or blinds to reduce summer temperatures.

3 Passive solar heating: Direct sun can generate the same heat as a single bar radiator over each square metre of a surface. Passive solar heating keeps heat inside in winter and allows built-up heat to escape in summer.

4 Glazing: Up to 40% of a home's heating energy can be lost and up to 87% gained through glazing. Select the right type and size of glazing systems for your orientation and climate.

5 Thermal mass is the ability of a material to absorb and store heat energy. High thermal mass materials can save significantly on heating and cooling bills, but they must be used appropriately.

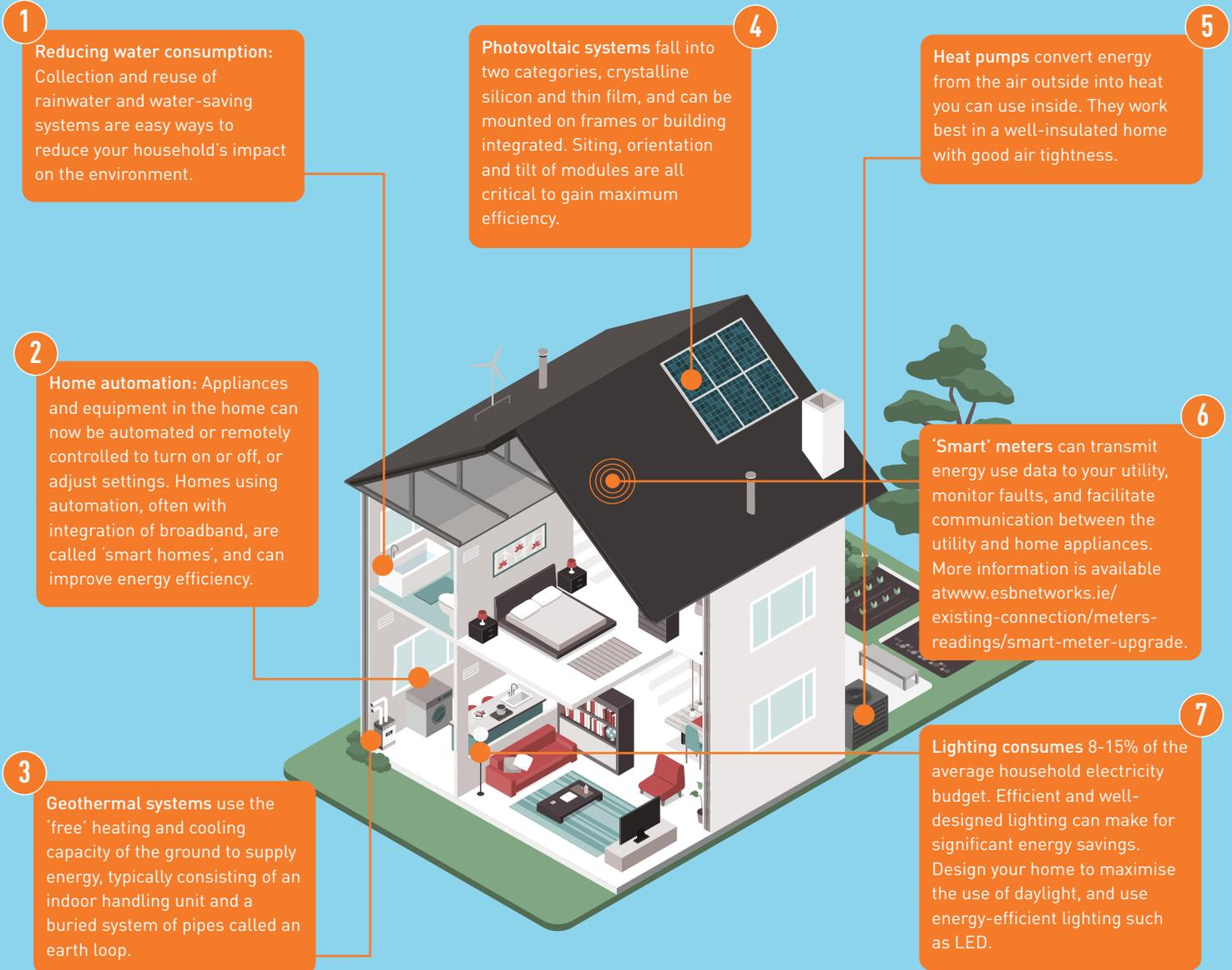
6 Air leakage, for example around poorly fitting windows and doors, accounts for 15-25% of heat loss in buildings. Sealing your home effectively is one of the simplest upgrades you can undertake.

7 Insulation is essential to keep your home warm in winter, and can help with weather proofing and soundproofing. Depending on the type of home, it can be placed inside or outside external walls.

8 Skylights can admit significantly more light than a vertical window of the same size, and can improve ventilation. However, they can be a major source of unwanted heat gain in summer and heat loss in winter, so it is important to choose the right specification.

ACTIVE MEASURES

These can be purchased and added to your existing home to improve energy efficiency or supply renewable energy.



Energy Ratings

There are a number of different energy ratings that can be applied to buildings:

Building Energy Rating (BER)

This indicates a building's energy performance on a grading system from A to G. The estimated annual fuel cost for an A-rated 100m² three-bed semi-d is €380, versus €1,850 for a D-rated property. *www.seai.ie/home-energy/building-energy-rating-ber/

Superhome

This is an energy-efficient home that has implemented all cost-effective and sensible energy measures to retrofit to A3 BER standard. Capital grants are available from the Sustainable Energy Authority of Ireland (SEAI). See www.seai.ie or www.superhomes.ie for more information.

Nearly Zero Energy Building (NZEB) Standard

This means a building that has a very high energy performance. This standard will apply to all new buildings occupied after December 31, 2020.

Passive House Standard

Passive House is a building standard to create energy-efficient homes and a passive house is designed to have an energy demand that is as low as practically achievable. The Passive House standard has emerged as a key enabler for the Nearly Zero Energy Building Standard. For more information, visit www.phai.ie.

Home Performance Index (HPI)

The HPI provides a label for quality, sustainable residential development, providing homebuyers with the assurance that their homes have been designed and constructed to ensure low running costs, enhance occupant well-being and minimise environmental impact – <http://homeperformanceindex.ie/>

Contact

For advice and further information on making your home more energy efficient, visit www.scsi.ie and use our 'find a surveyor' search function to find a building surveyor in your area.