



Healthy, Comfortable and Affordable

- Home improvements in
Letchworth Garden City

4th February 2025

Marianne Heaslip

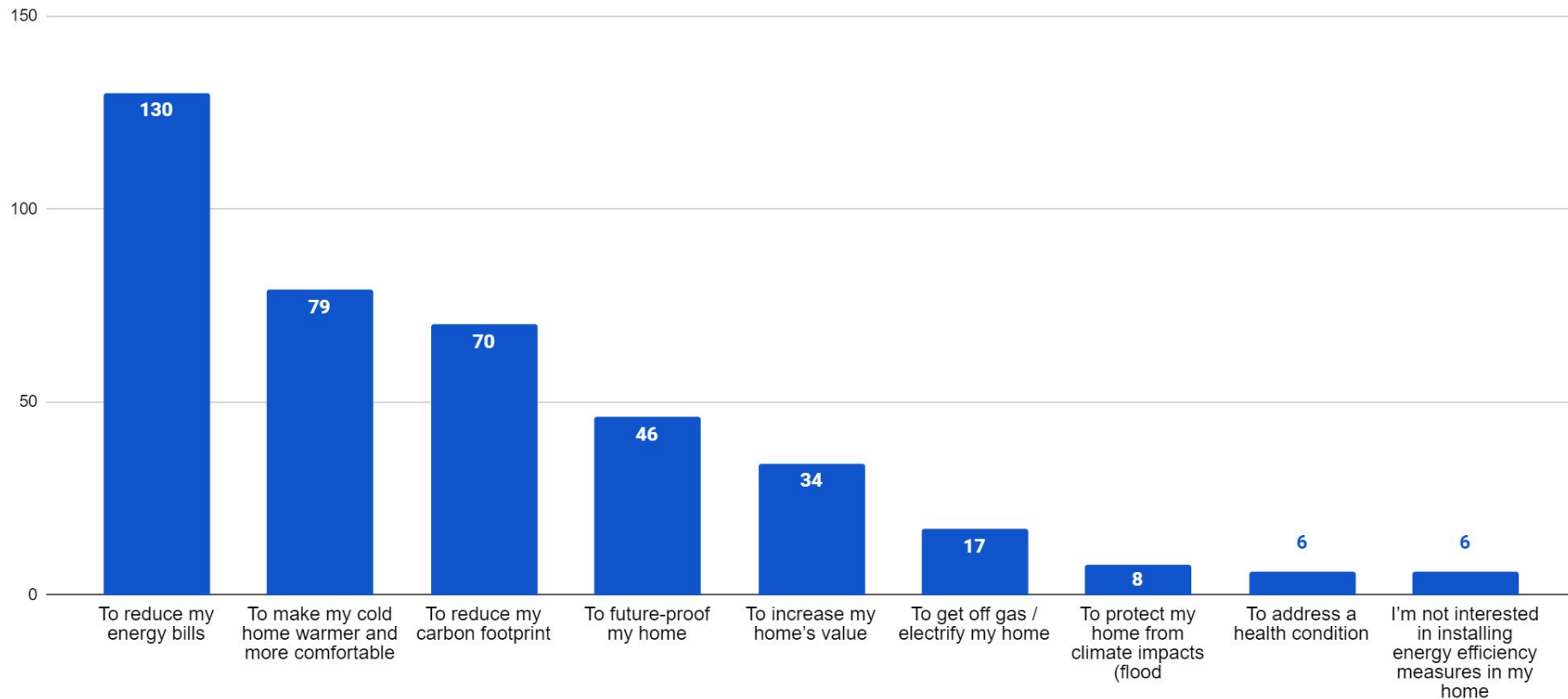
**Supporting high
quality retrofit and
energy efficiency
in homes...**





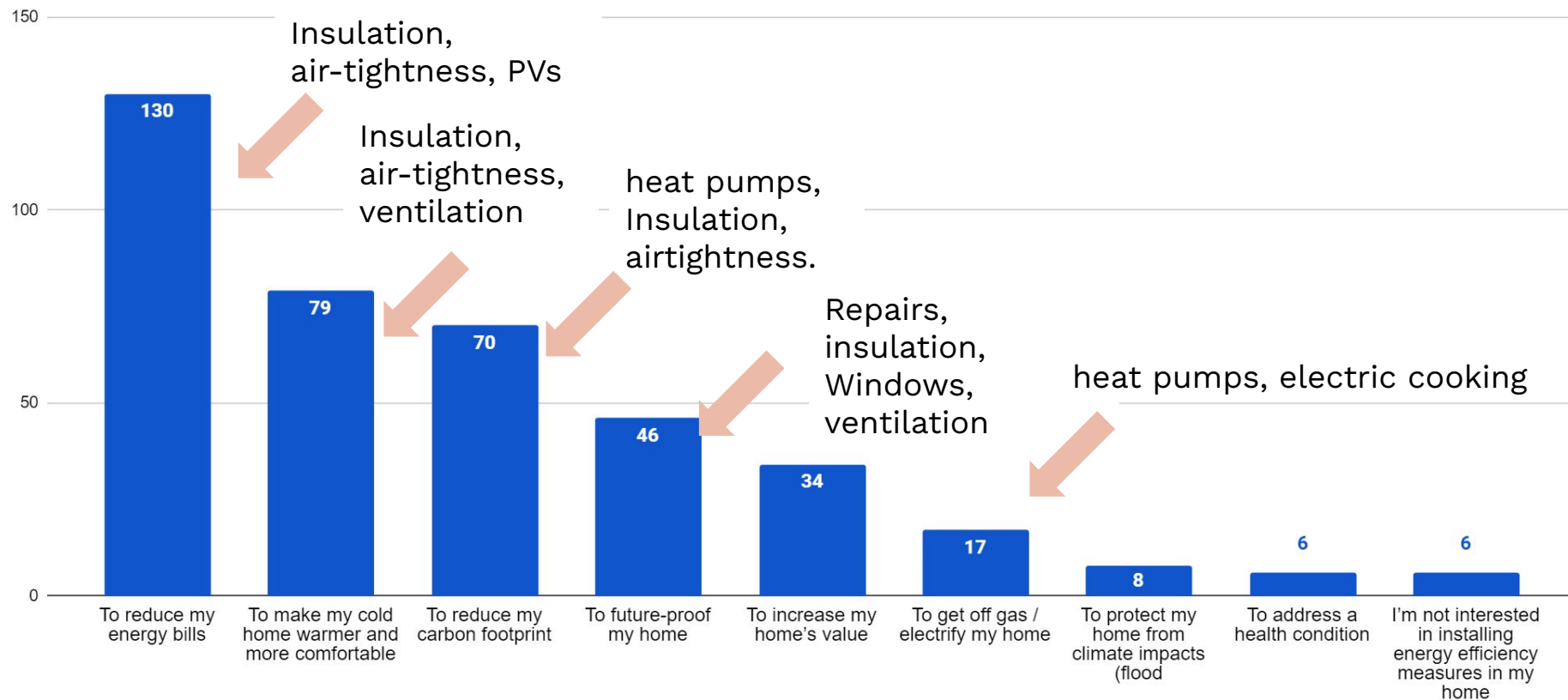
1. What are you aiming for? What are your top priorities?

Why are you interested in installing energy efficiency measures in your home?



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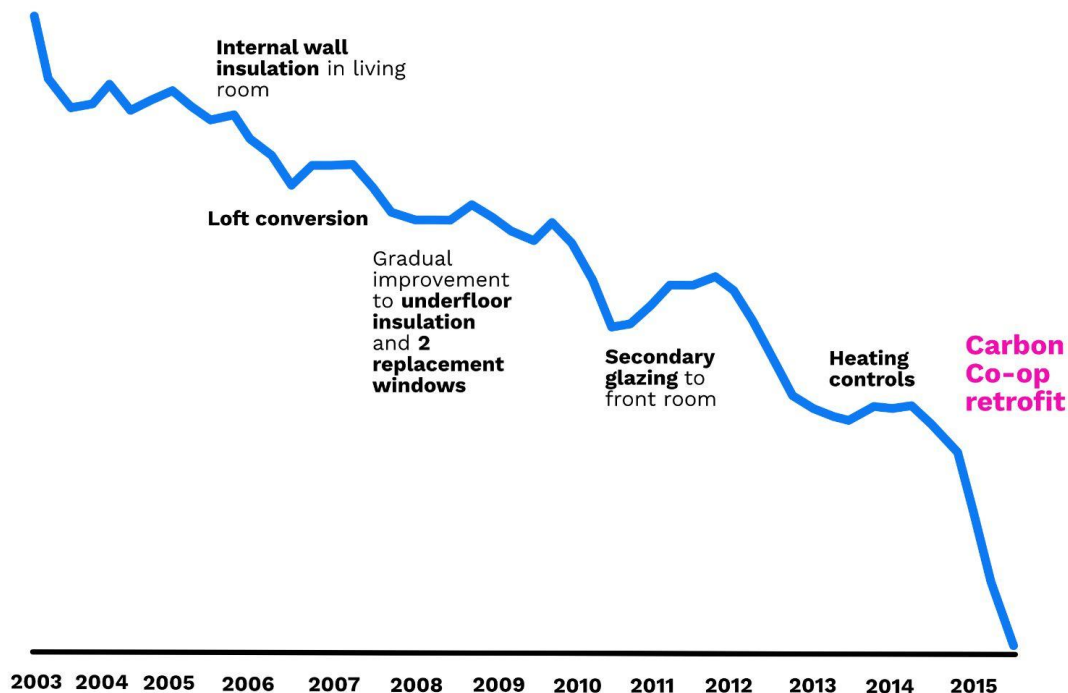
Why are you interested in installing energy efficiency measures in your home?



Know where you're starting from - track your bills.

Gas use over time

Carbon Co-op member: Dominic McCann





Understanding the building...

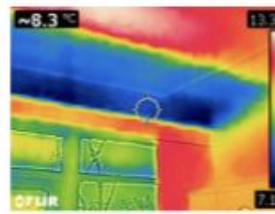


Figure A: Uninsulated area of roof at rear of ground floor bedroom.

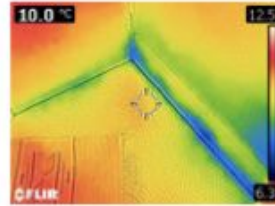


Figure B: Visible draughts/ cooler areas at ground floor skirting board.

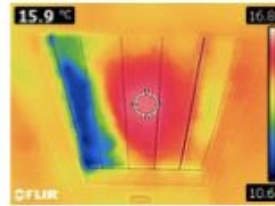


Figure C: Existing loft hatch, showing draughts.

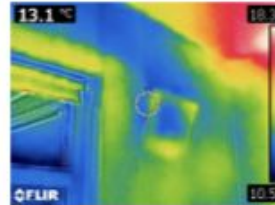


Figure D: Showing cool area and draught from uncontrolled vent in ground floor kitchen.

Repairs first!



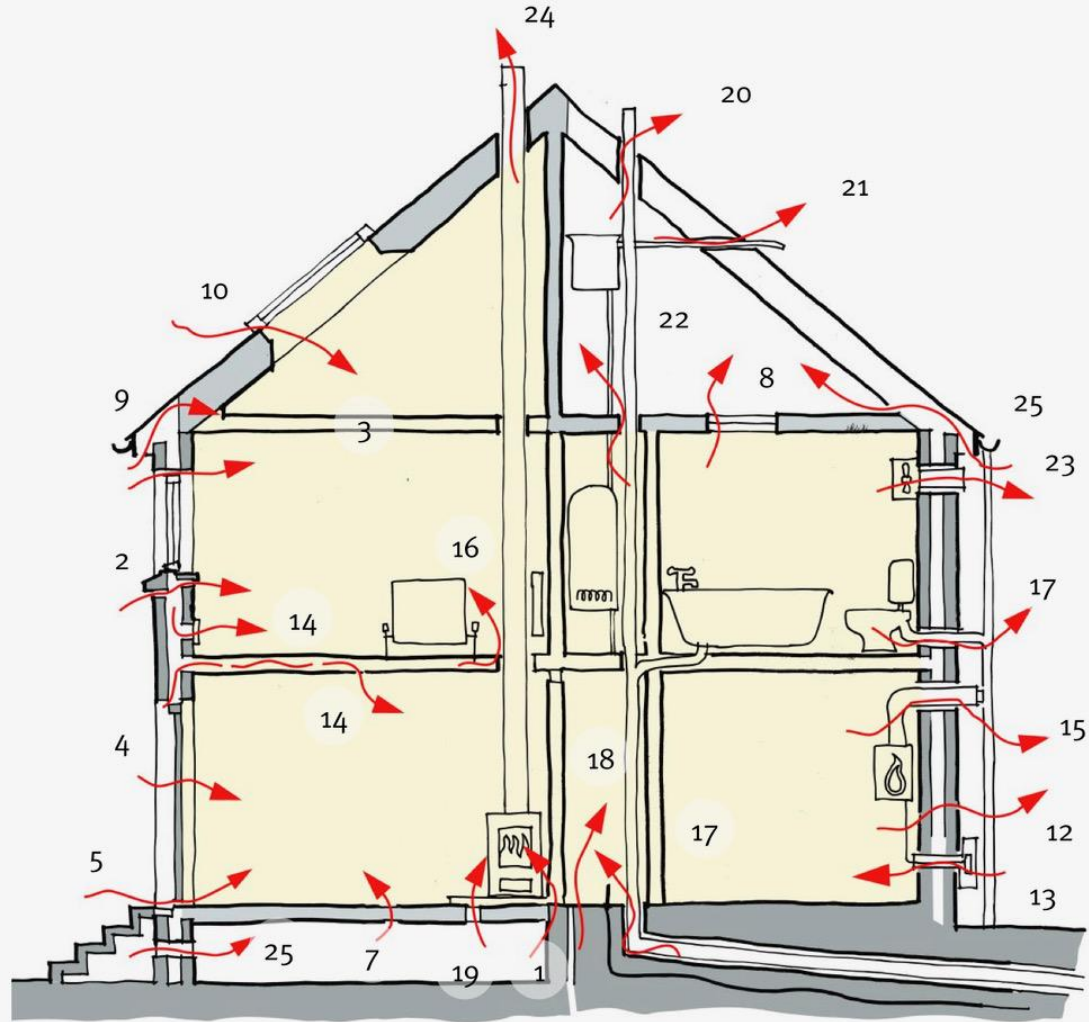
Repairs first!
- It's not glamorous
but it's important!



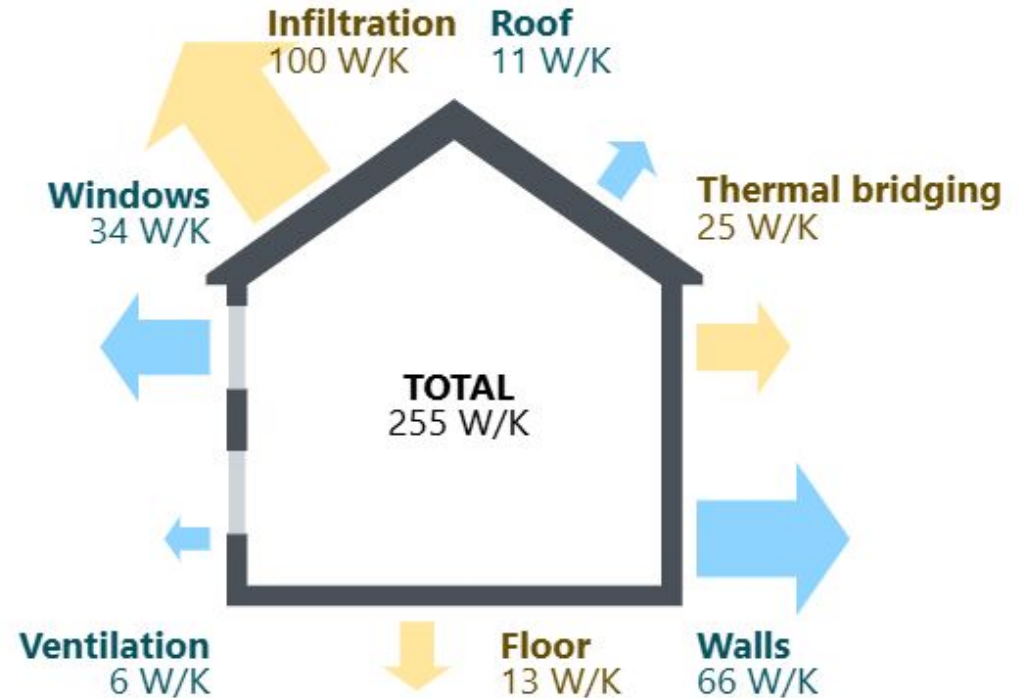
Draught proofing and airtightness



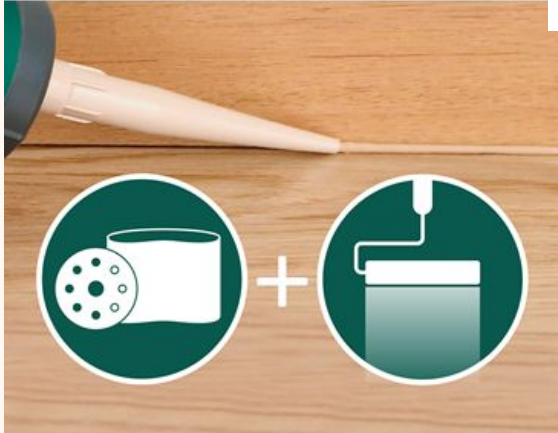
© John Gilbert Architects



Draught proofing and airtightness



Basic draught proofing





Airtightness



Airtightness



Ventilation

“Any insulation project without a ventilation strategy is a condensation project”

- Colin King, BRE



Intermittent Extract



**Mechanical Extract
Ventilation**



**Mechanical ventilation
with Heat Recovery**

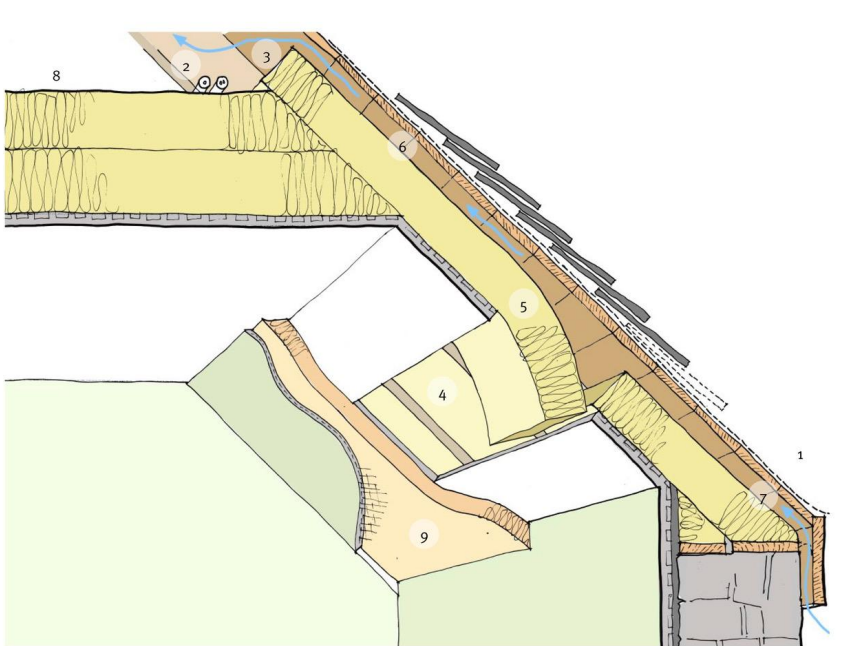
Ventilation



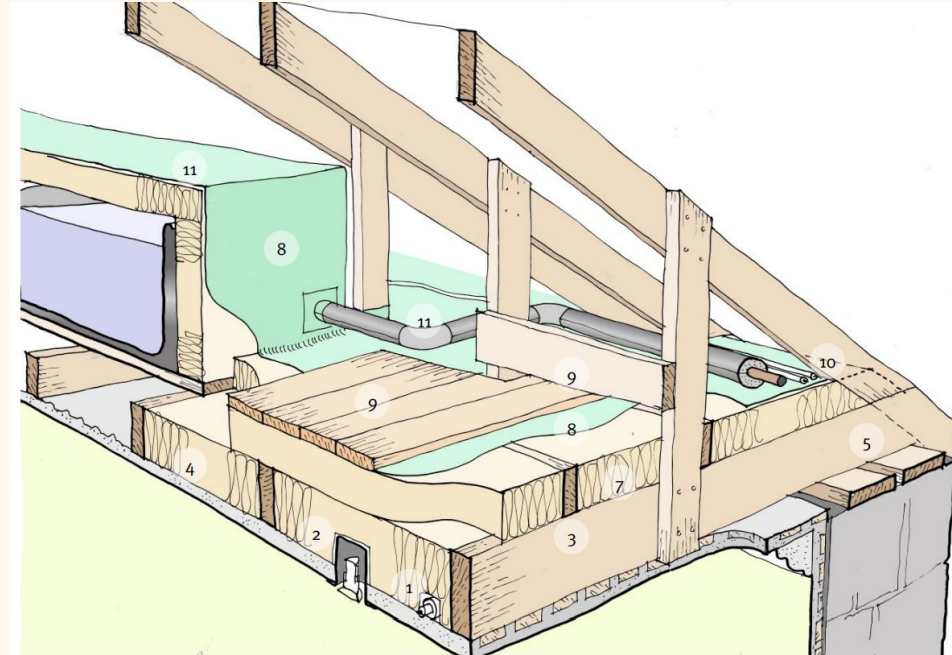
Need a combination of:

1. **Extract** from wet rooms to remove humidity and pollutants.
 2. **Background** for fresh air in the whole home)
 3. **Purge** for when you've burnt the toast!
- **Be clear about your strategy up front!**

Loft Insulation



© John Gilbert Architects



© John Gilbert Architects

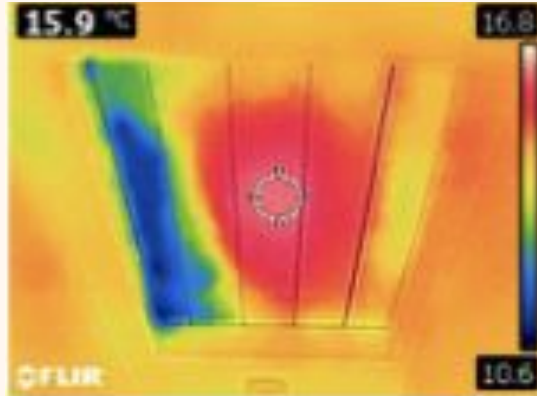
<https://www.thepebbletrust.org/sustainable-renovation-guide/>

Loft Insulation

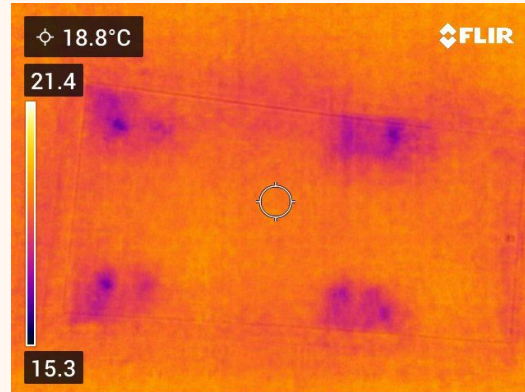


Loft Hatches

Old:



New:



Secondary glazing and window repair

© Centre for Sustainable Energy

<https://centreforsustainableenergy.org.uk/wp-content/uploads/2023/02/22172402/advise-leaflet-secondary-glazing.pdf>



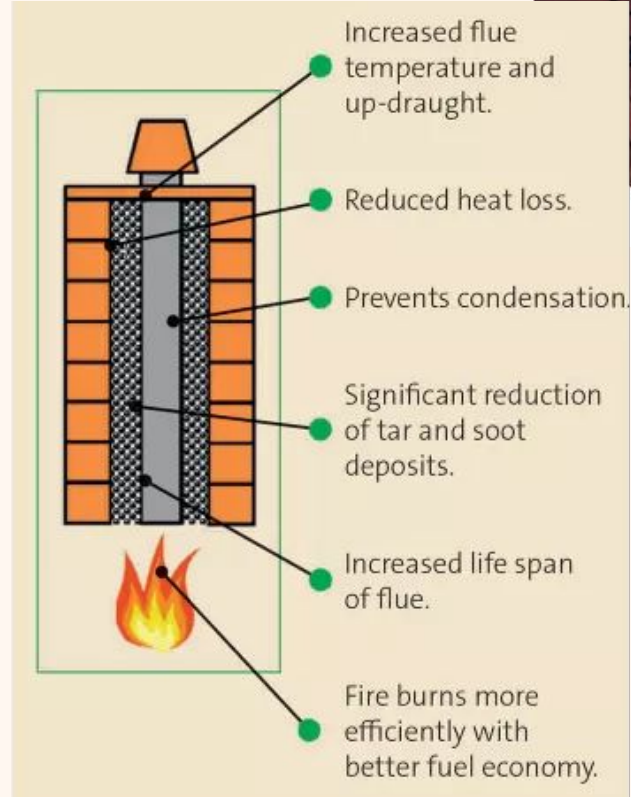
Windows replacement



Photo credits: Carbon Coop

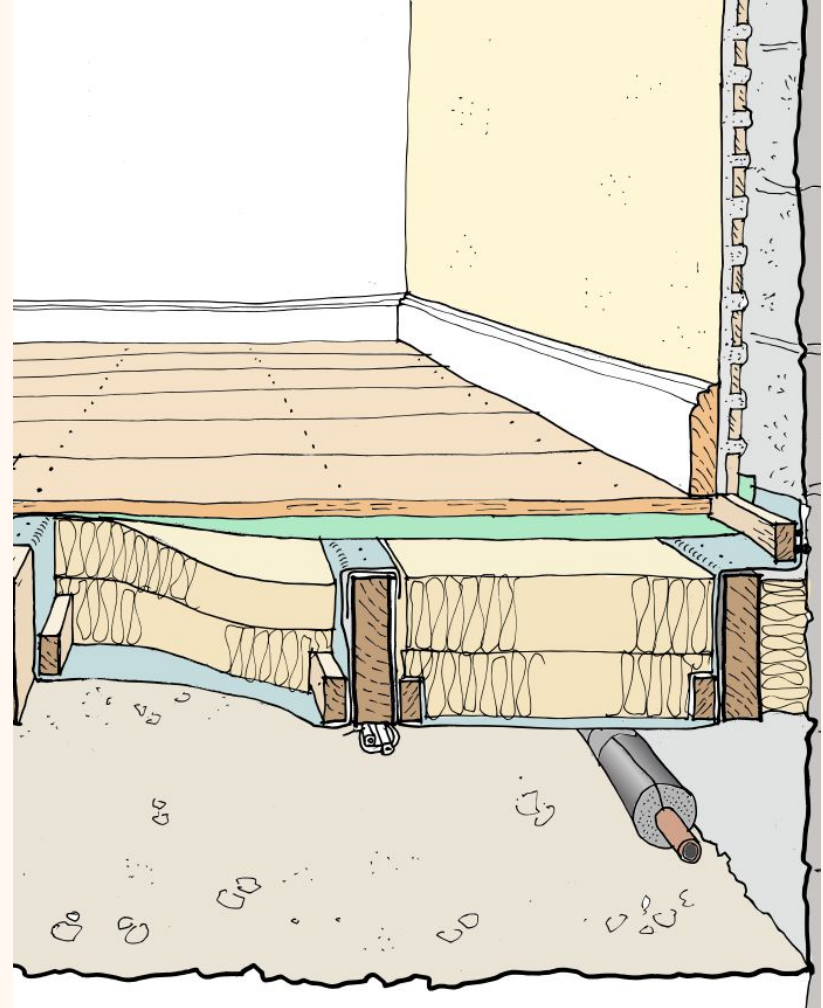
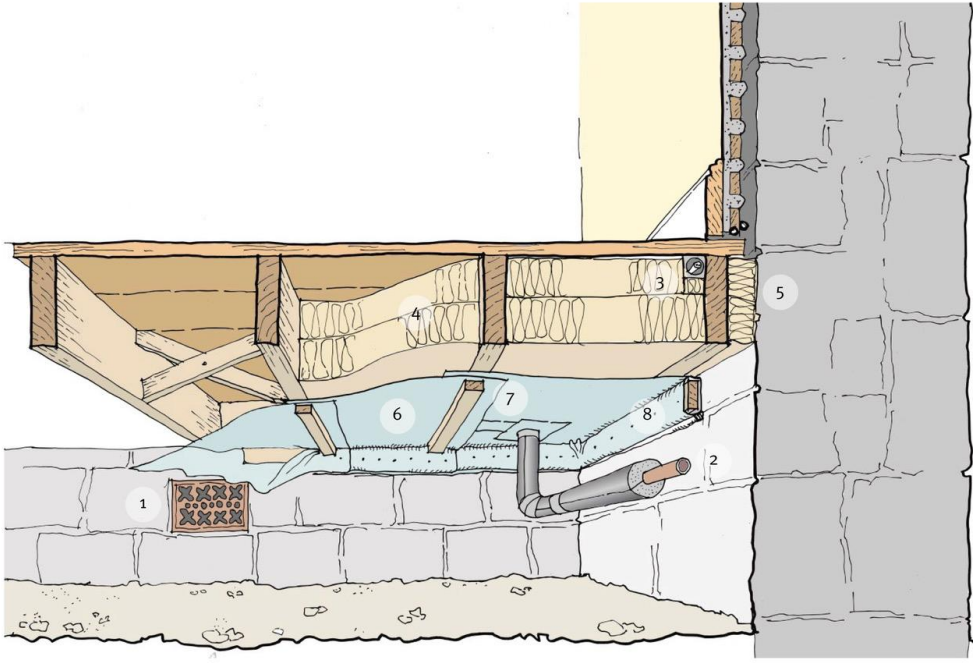


Chimneys

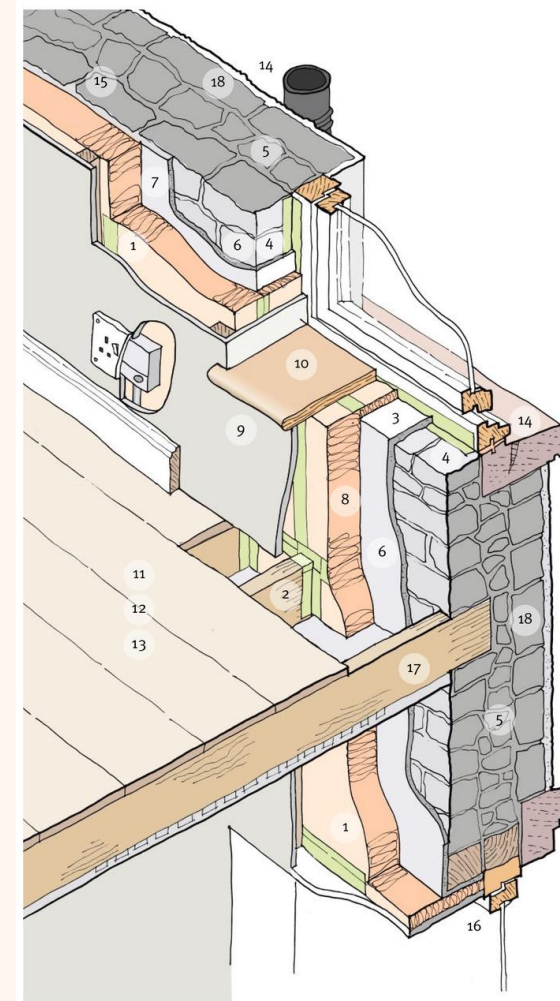
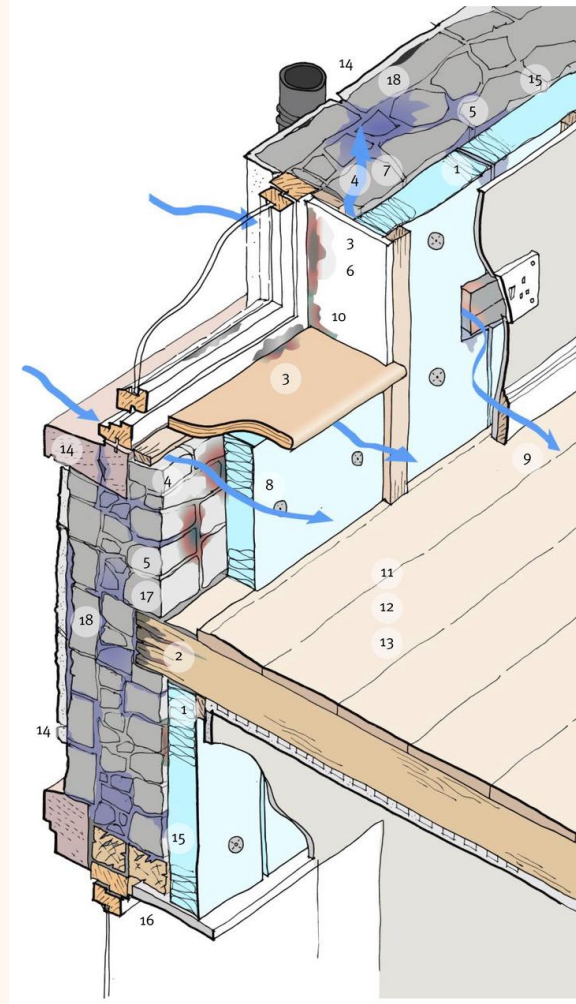


© leca

Suspended Floors



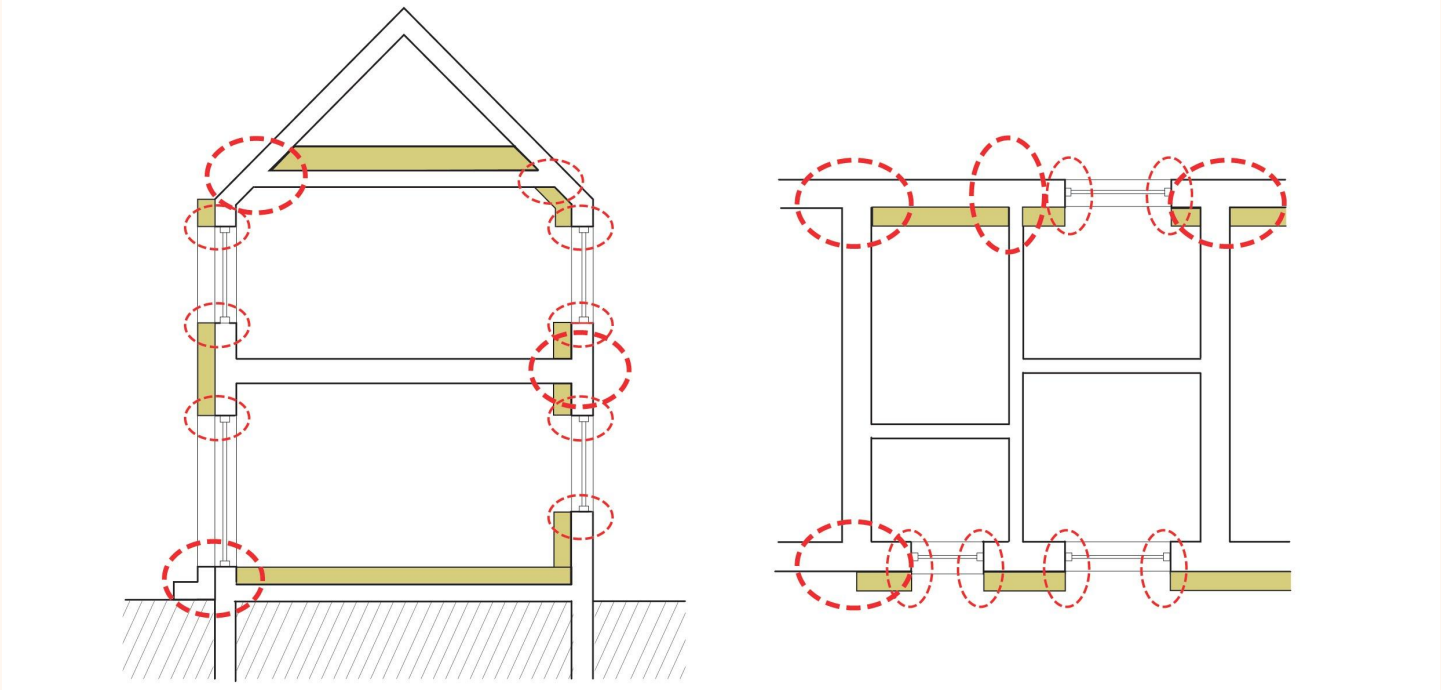
Internal wall insulation



Internal wall insulation



How you join things up is important!



©URBED (Urbanism Environment and Design Limited)

Retrofit gone wrong...



Credit: Passive House Plus Magazine, <https://passivehouseplus.ie/news/health/disastrous-preston-retrofit-scheme-remains-unresolved>





Solar panels



Photo credit: Carbon Coop

Solar panels and energy generation



Heat pumps

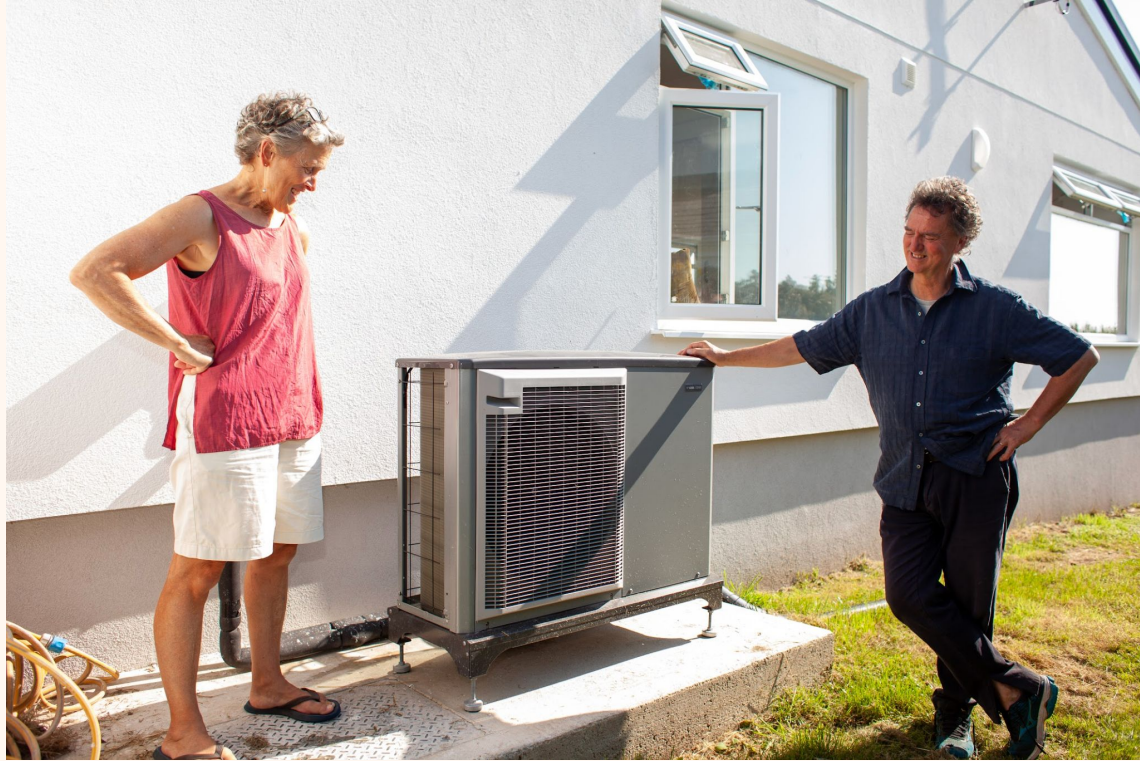


Photo credits: Carbon Coop



Heat Pump Ready?

- Can you run your existing heating system at 55-45 degree flow temperature?
- Do you heat pretty continuously - not switching the system off for long periods?
- Are you generally comfortable and warm enough?
- Are you roughly happy with what you pay now for heating?

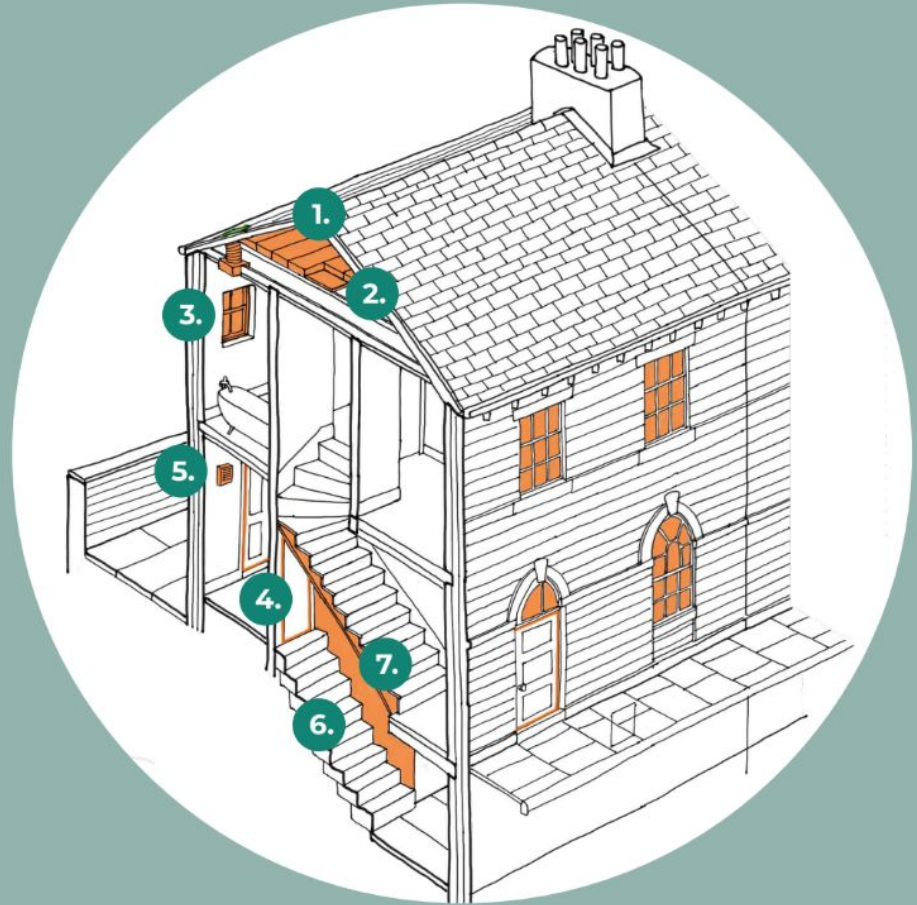
If 'yes' to all of the above you are likely to be able to switch to a heat pump now with minimal fuss. Some things to note:

- Check your electrics! They need to be safe and have capacity.
- Pre-payment meters make taking advantage of special heat pump tariffs harder.

Make a plan

<https://www.above-ground.co.uk/saltaire-retrofit-reimagined>

<https://drive.google.com/file/d/1xpmv9A1b2icQasti323QwgUKtWA8ZXFi/view>



Funding options

- **Great British Insulation Scheme:** ‘Single measures’ - mostly cavity wall and loft insulation. Qualifying criteria are council tax band and current home energy efficiency. **Apply through your energy supplier.**
- **ECO (Energy Company Obligation):** Insulation, solar panels and heating improvements for homeowners and renters. Qualifying criteria include household income and current home energy efficiency. **Apply through your local council or a participating energy supplier.**

Funding options

- **Boiler Upgrade Scheme:** Up to £7500 to homeowners to install low carbon heating systems - heat pumps. **Apply through a Microgeneration Certification Scheme (MCS) certified installer:**
www.mcscertified.com
- **Warm Homes: Local Grant:** Formerly known as the Home Upgrade Grant. Criteria changed recently and new schemes just about to start running - so keep a lookout for new information.
<https://www.gov.uk/government/publications/warm-homes-local-grant-budget-allocation>

Funding options - things to note:

- You may see “government backed” in adverts. This usually means the company is making use of funding from the schemes above, **not that the government (local or national) endorses their work.**
- Ask about criteria and timescales up front - **make sure it suits you and your needs.**
- **Ask about the process and make sure you're satisfied** - what assessments and surveys are needed, how long and disruptive the work might be, what contracts you need to sign, and what information and guarantees you will be given at the end.

Case studies

www.youtube.com/@carbonco-op



Letchworth Garden City Interactive House

A new, easy-to-use interactive web-tool which will provide an illustrative guide on retrofit measures homeowners and social housing landlords can take to improve the energy efficiency and reduce the carbon footprint of their homes.

The measures are focussed on the Heritage Character Area of Letchworth but are relevant to other properties.



Interactive House

Instructions:

Click an element of the house to see guidance on relevant retrofit measures.

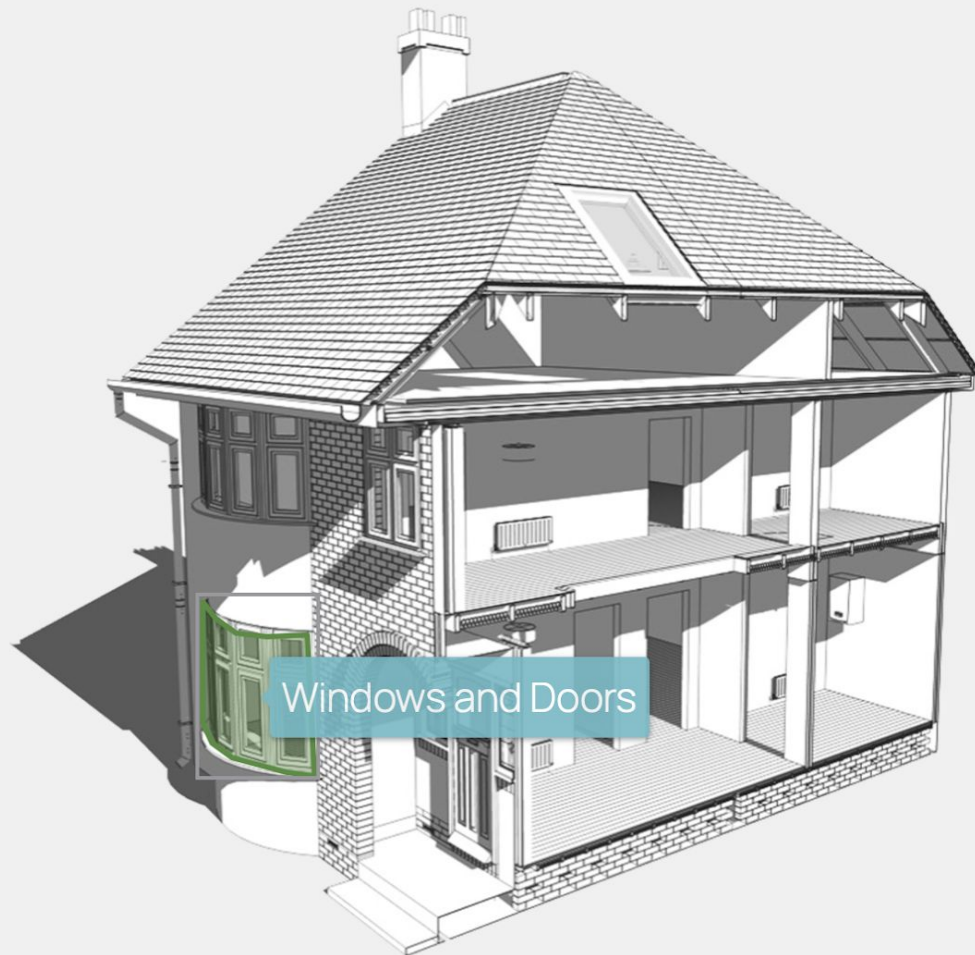
**Screenshots of
draft tool**



Windows and Doors

“Repair of original windows is generally preferable but new high-performance double or triple-glazed units can be used if they match the appearance, style and design of the original windows.”

[Click to see retrofit measures](#)





Windows and Doors

Example retrofit measures include:

- Repair original windows £
- Secondary glazing ££
- Replace with high performance double or triple glazed units ££-£££

[Click an option to see more information](#)

Timber window case study - Bereco



[Click to see case study](#)

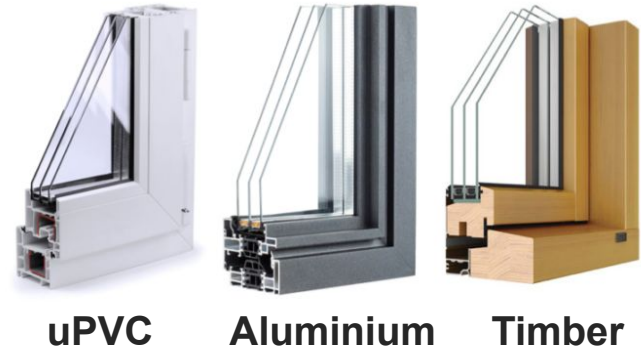
Window replacement

Windows contribute significantly to the historic identity of the house and careful planning of any changes is essential to ensure the integrity of the home and street scene.

Matching new and replacement windows with the appearance, style and design of the original windows in the property is crucial.

Sympathetically replacing poorly performing single glazed windows with high performance double or triple glazed units can greatly improve the building's energy performance.

[Click to link to further reading](#)



Material considerations

- All window types can meet high performance standards.
- Aluminium windows typically have the highest embodied carbon.
- uPVC windows are usually the cheapest option but there are wider environmental considerations in regard to their production processes.
- Timber windows can be expensive but are made from renewable materials so have a better carbon footprint.



FAN PARTY!

Limited places available
for this free event



🕒 10am & 1.30pm

📍 (TBC) Letchworth Area

📅 22 February 2025



<https://www.eventbrite.co.uk/e/fan-party-discover-learn-ways-to-fix-hidden-drafts-in-your-home-tickets-1218047706479>