



Tour

**Tom and Anne's
Edwardian terrace
phased retrofit**

**Thu 30 Sep
19:00-20:00**

Cambridge
**Carbon
Footprint**



OPEN
eco
HOMES



Moved in 2001, then...

many DIY 'easy-wins':

Loft
Insulation

Also:

- Efficient combi boiler
- Secondary glazing



Draught-proofing

Front door seal:

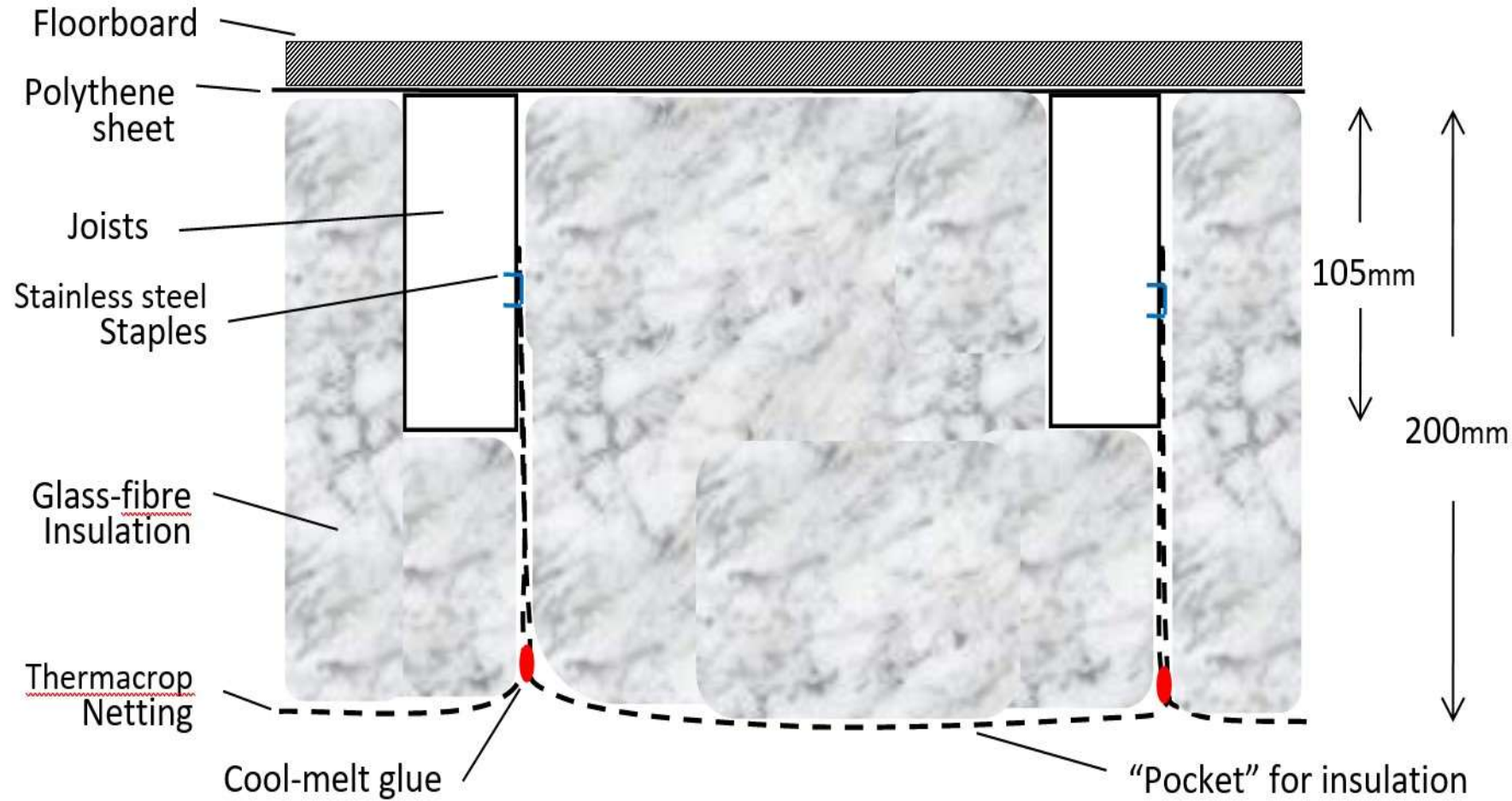


[Energy Saving Trust advice](#)

Installing DraughtEx:



DIY Underfloor insulation 1 - lifting all floorboards in room



DIY Underfloor insulation 2: Lifting a board every 1.2m

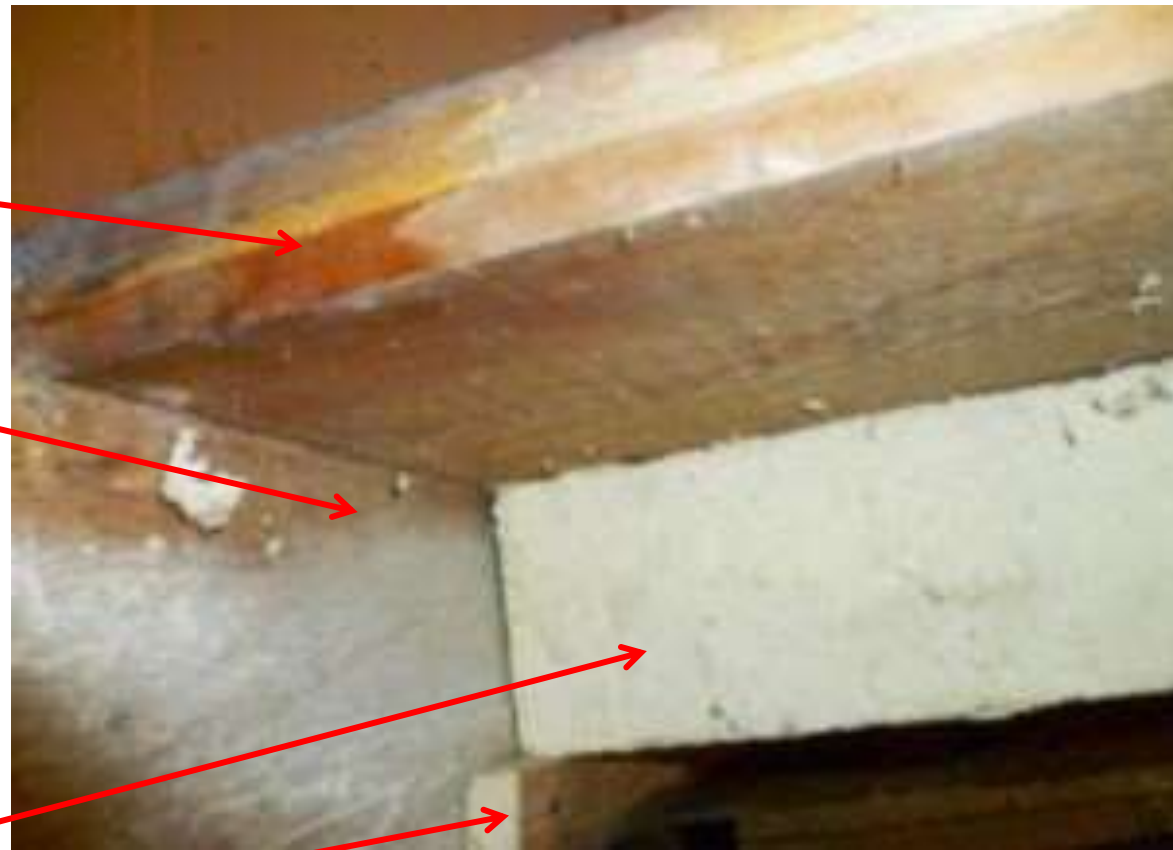


Floorboard

Joist

Celotex Insulation

Fixing Batten



[Detailed PDF on 2 methods](#)



Woodstove



BUT air pollution





Q&A

2004 Kitchen refurbishment

Missed opportunity for wall
insulation & triple glazing

Now: 'No half measures'



2020/21 “Extension upgrade”

- Air to air heatpump
- 8 New doors and windows.
- Internal and external solid wall insulation to rear of house



Stage 1: Air to air heatpump. Feb 2020



Comparison: Air to Air heatpumps, vs Air to Water

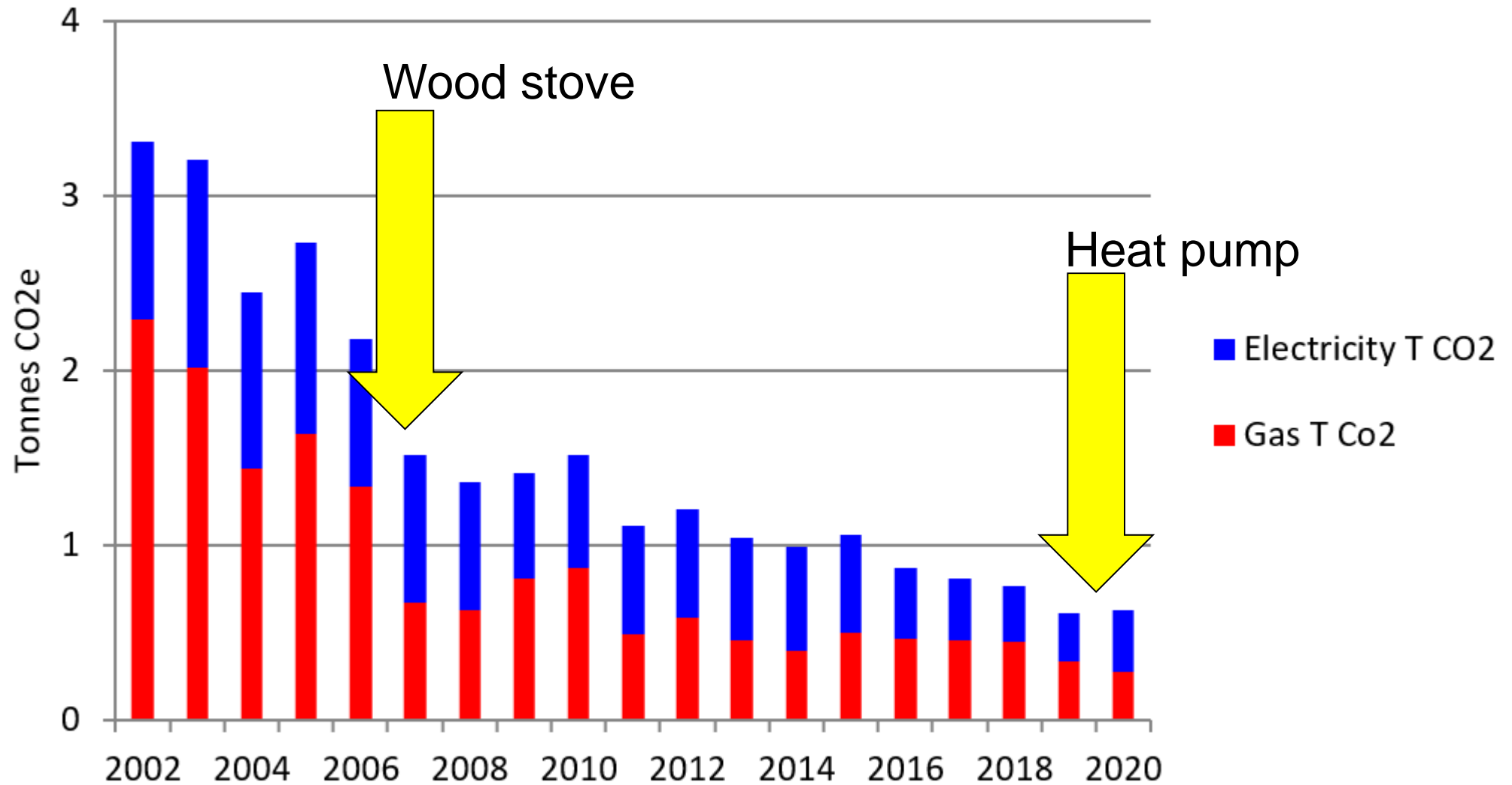
Advantages of air-air

- ~ Twice the efficiency (COP 5.1)
- ~ ¼ the initial cost (£2250)
- Installed in a morning.
- Can be used as an air conditioner

Disadvantages

- One large room / small house
- No RHI
- No domestic hot water
- No heat storage

Electricity and Gas Tonnes Co2 pa



Stage 2: New windows and Doors

27 Nov – 12 Dec 2020

- Windows and doors arrive .. At last



- Kitchen screened off... will it work?



● The messy stage



- Replacing the windows and doors is surprisingly quick..

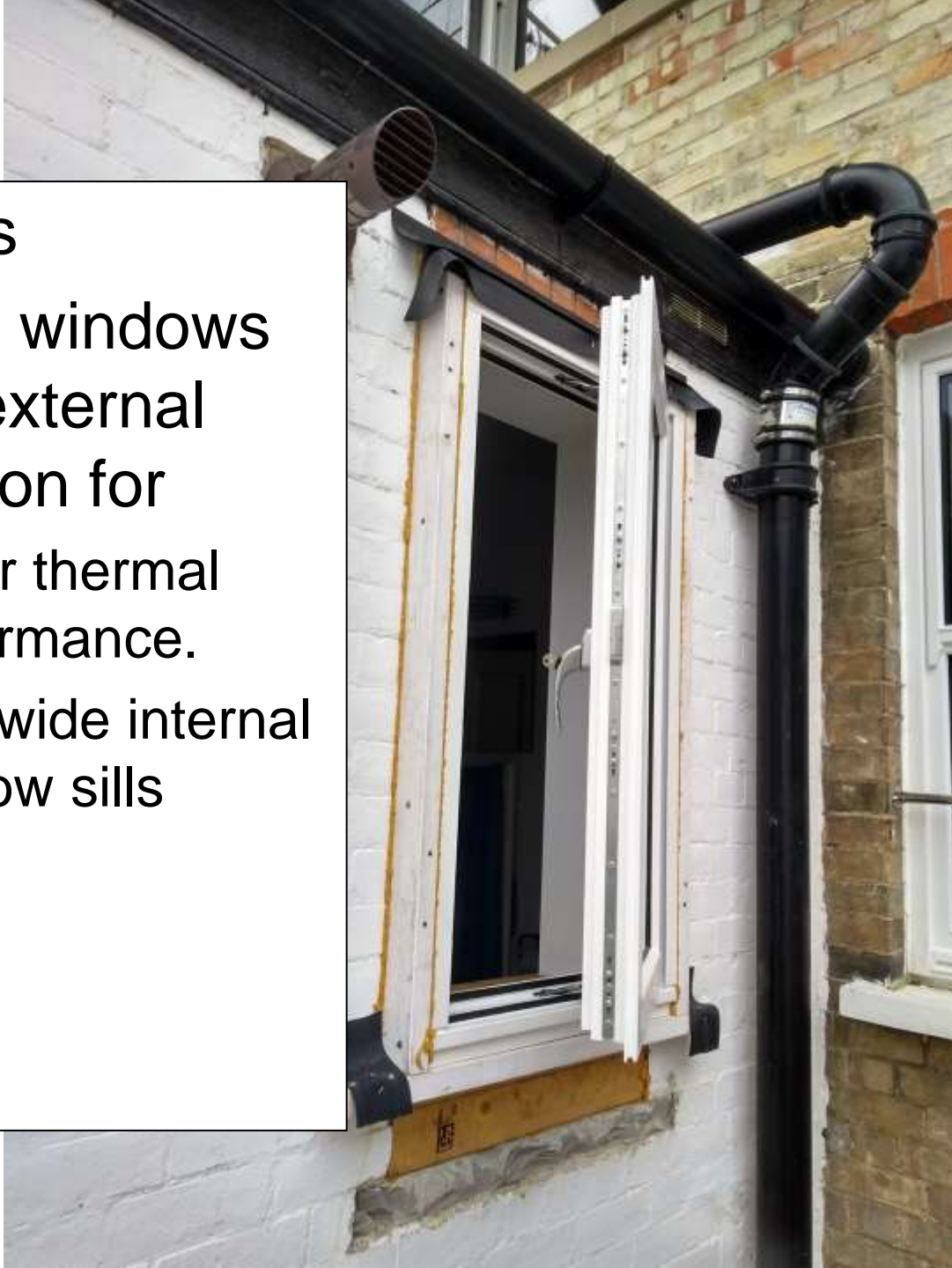


- Habitable again for Christmas



Learnings

- Put the windows in the external insulation for
 - Better thermal performance.
 - Nice wide internal window sills



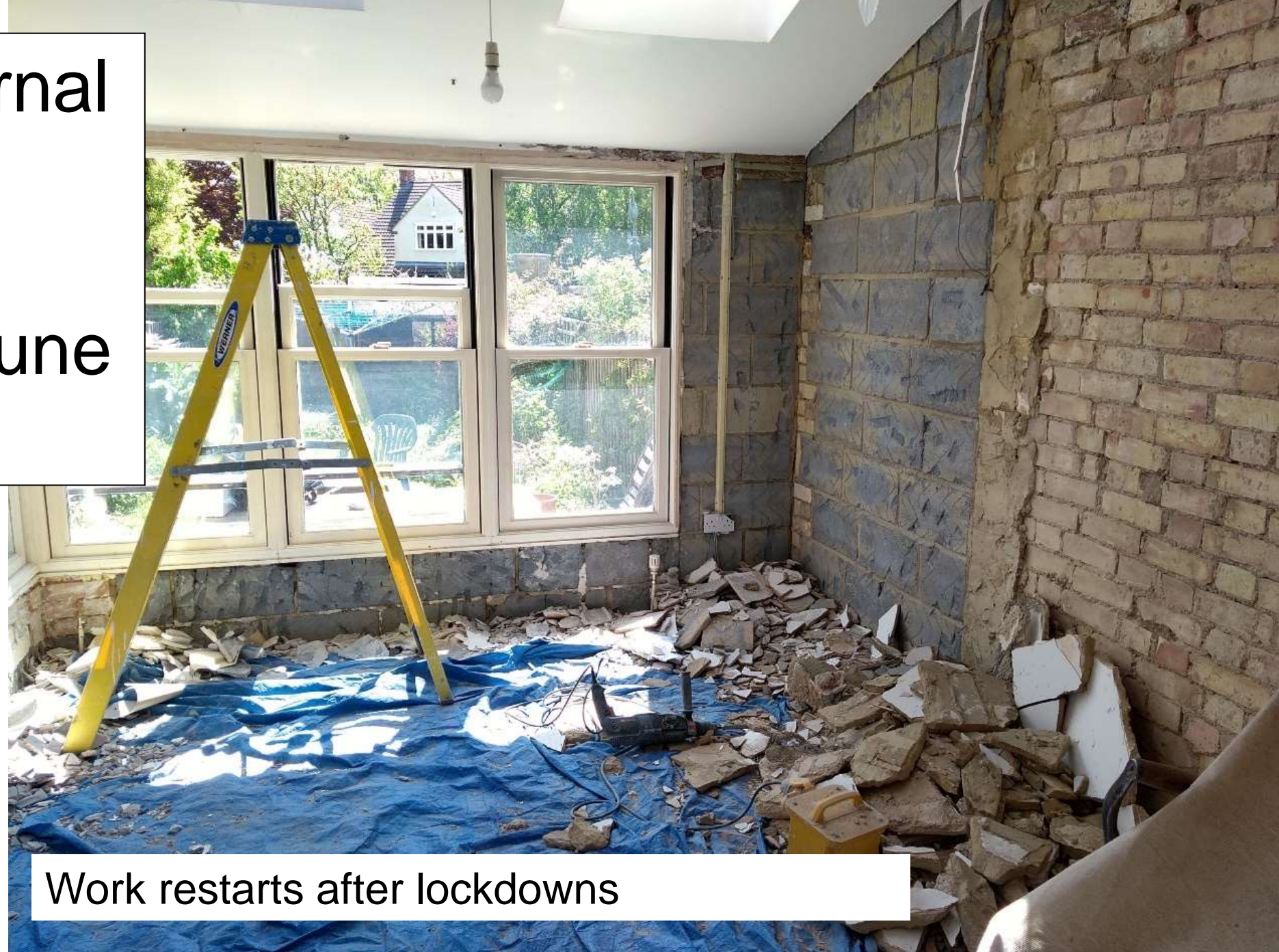
- Upgrading our 20yr old velux windows.

- Quick and easy
- U improved from ~1.8 to 0.83
- No more leaks!



Stage 3: Internal
Solid wall
Insulation
19 May – 2 June
2021

- More mess!



Work restarts after lockdowns

- Woodfibre insulation on lime plaster



Learnings

- Change is OK



- DIY enables more reuse of materials



Stage 4 : External
insulation: Sept 21-?



- “Live-in” retrofit

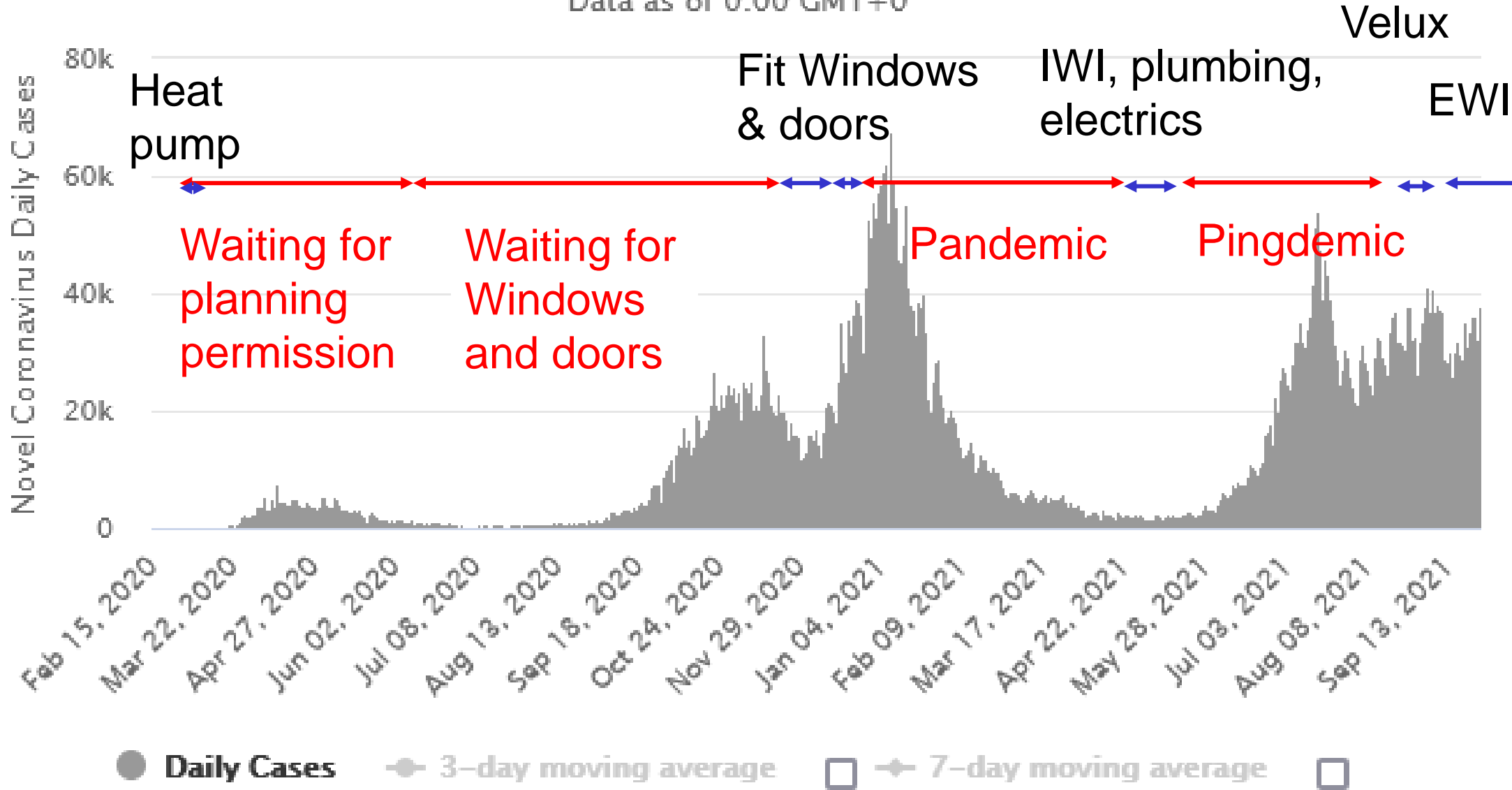
- Easier than expected..
- Took much longer than expected



Daily New Cases

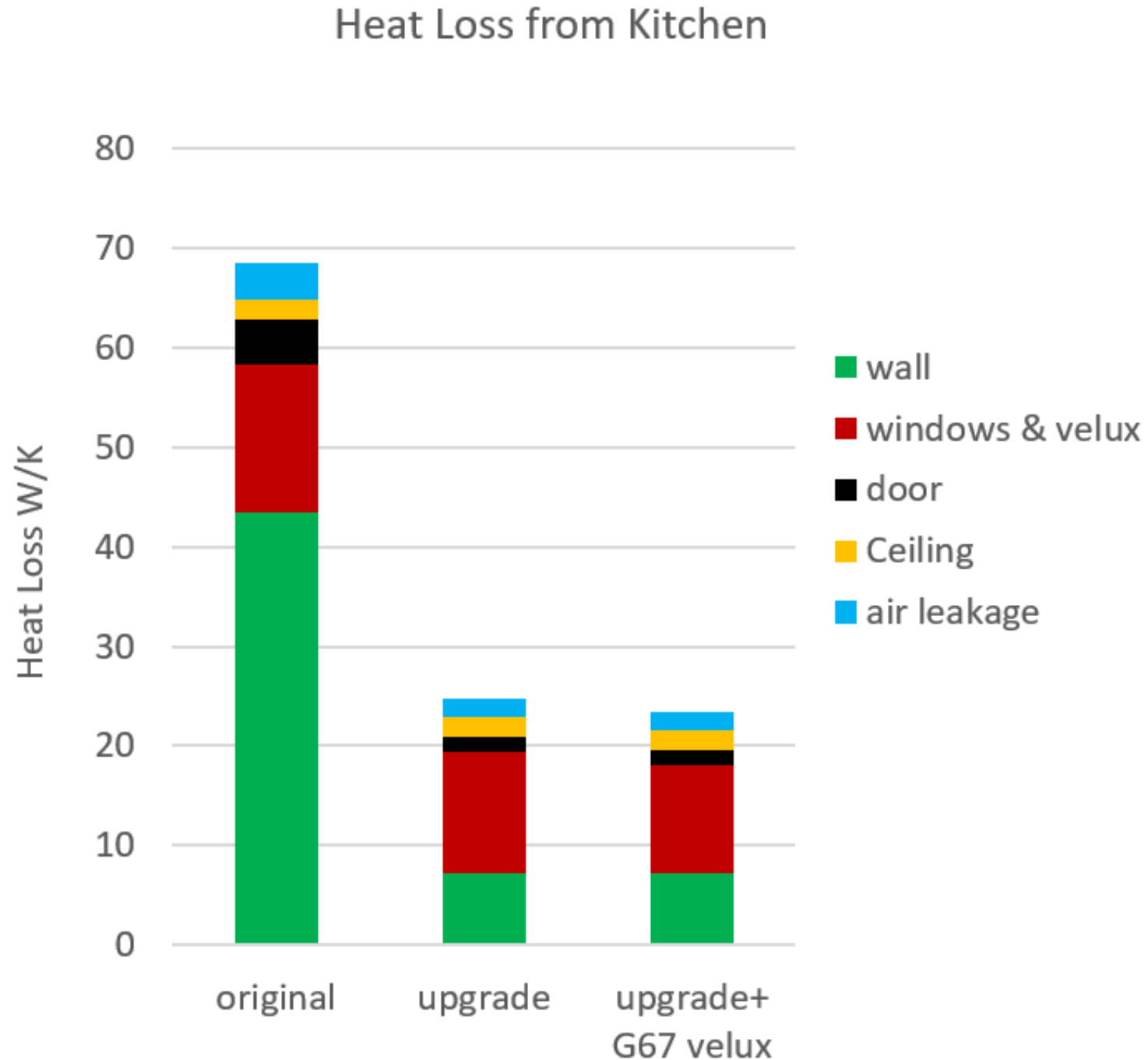
Cases per Day
Data as of 0:00 GMT+0

● Timeline...



Do we notice a difference?

- Energy use should reduce by 66%
- More comfortable
- Kitchen feels bigger
- No more irritating leaks
- Newly polished floors, fresh paint, less clutter!





Q&A



Next steps

- 🔗 Please give quick feedback: form.jotform.com/211853362329052
- 🔗 Make a donation: cambridgecarbonfootprint.org/donate/
- 🔗 Share on social media: #OpenEcoHomes

Thank you for your support!



Further Resources



- Find out how you can [get started with your retrofit](#)
- [Book another tour or talk](#)
- [Case Studies](#): Research our past homes
- [Borrow a thermal imaging camera](#) and get training
- Use Transition Cambridge's [personalised home energy advice tool](#)
- Take political Action, eg: [Households Declare!](#) - their [resources](#) & petitions.



Reference Slides...

Tom & Anne's Links

Getting Started

[Easy Wins List](#)

[Getting Started Retrofit](#)

Secondary Glazing

[CSE Advice](#)

[Magneglaze](#)

Draught Proofing

[EST Advice](#)

[DraughtEx](#)

Underfloor Insulation

[T&A's 2 Methods](#)

DIY Fanned Radiator

[Video](#)

[Details](#)

Woodstove

[Details](#)

DIY Awnings

[Webpage](#)

[Video](#)

[Stay Cool in a Heatwave](#)

Case Study

[Case Study](#) with more links

OEH online Tour

[Webpage](#)



Underfloor Insulation 3: Pro

[q-bot](#): insulation-spraying robot

[Home Energy Innovation](#) Oct 11

[Retrovive](#):

cellulose fibre
in 'hammocks'

