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Aim:

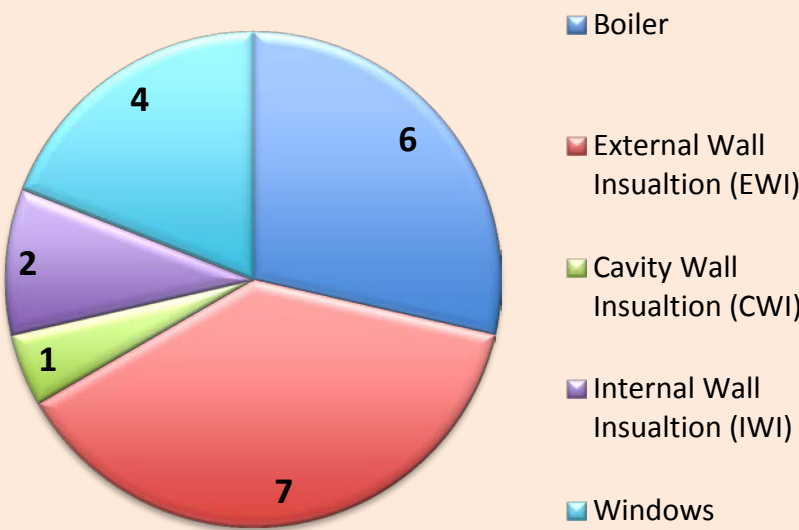
To identify whether energy efficient refurbishments are successful from the householders' perspective.

Research questions:

- 1. What are the occupant expectations of an energy efficiency installation and what do they actually get?
- 2. Do the occupants perceive an internal environment improvement?
- 3. Do the householders actually save money, energy and carbon?

Case studies and planned measures:

Case	Work planned	Funding
E	Boiler	Private
L	Boiler	Private
G	CWI + Boiler	Private
C	EWI	Private/ ECO
D	EWI	Private/ G D
H	EWI	Private
K	EWI + Boiler	Private
F	EWI + Passivhaus	Private
I	EWI + Windows	Private/ ECO
A	EWI + Windows	Private
M	IWI + Boiler	Peak District
N	IWI + Boiler	IIPF/ ECO
B	Windows	Private/ ECO
J	Windows	Private



Data collection:



Main reasons to install:

add baby comfort condensation control
demand energy floor
improve maintenance money
prepare reduce repair save
space temperature thermal

Finding installers:

"There's actually **very few cavity wall insulation companies who will accept private clients...** They'll only deal with over 70's and the grant schemes, they don't want to take on any additional work.... I said you must be really busy and he [installer] said **they're actually all going out of business.** He said a year ago we'd have got a grant for the property but they closed it."

Securing funding:

"I was **advised to wait until this Green Deal came out and now that it's come out it doesn't look as good as we thought it might be...** we'll still look into getting it [EWI] done through some sort of subsidy scheme or something like that but that's taken a while."

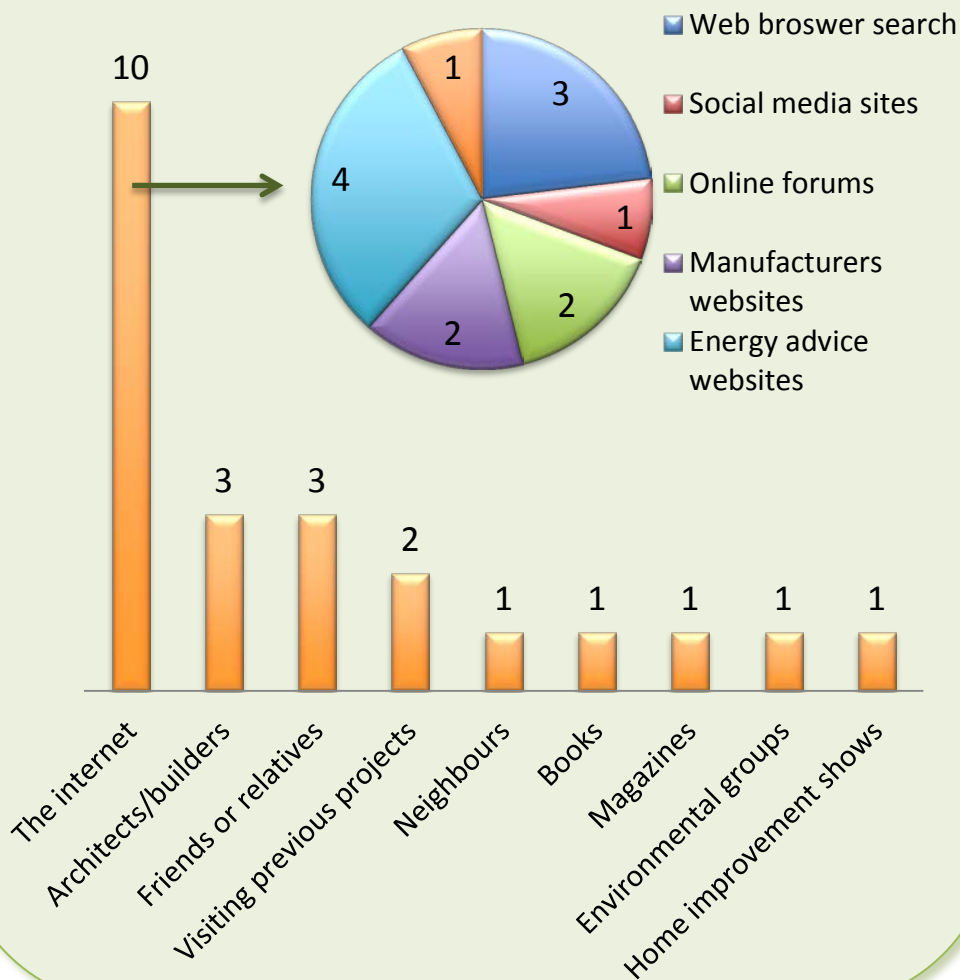
Trusting advice:

"They end up giving **contrary advice about damp** and all that kind of thing... Yeah the internal insulation, there's all different advice about that, whether it's good or bad."

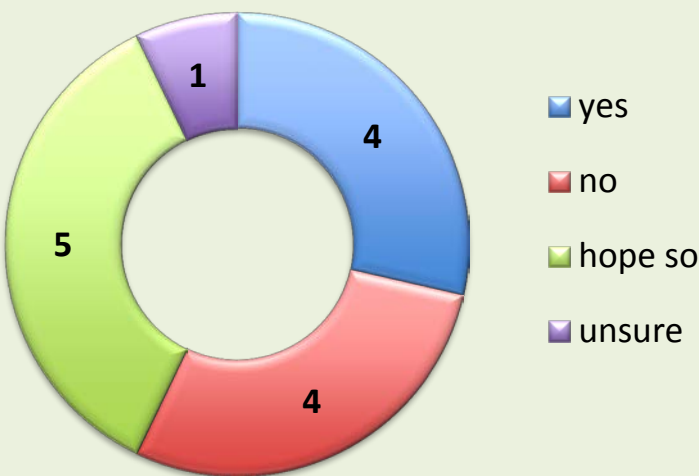
Motivation:

"It feels like **it's something we ought to do, but it's a chore!**" "It's definitely worth the risk!" "Only because we're extremely motivated and geeks!"

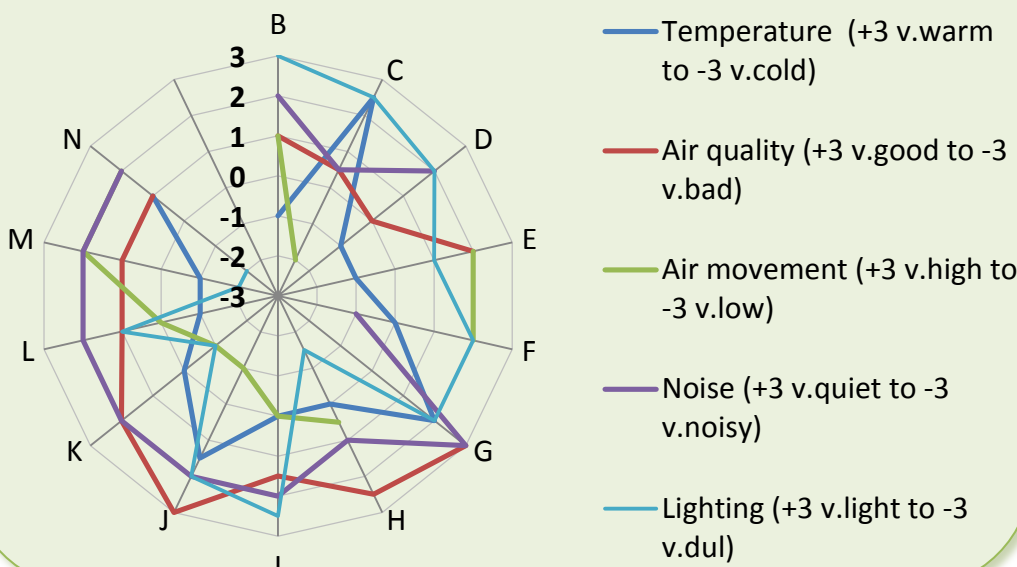
Information sources:



Expect to save money?



Environmental comfort:



Key literature:

- Holm, M. G. (2000). **Service quality and product quality in housing refurbishment.** Sweden: International Journal of Quality & Reliability Management.
- Johnston, D., Lowe, R., & Bell, M. (2005). **An exploration of the technical feasibility of achieving CO2 emission reductions in excess of 60% within the UK housing stock by the year 2050.** Energy Policy, 1643–1659.
- Vadodaria, K., Loveday, D., Haines, V., Mitchell, V., Mallaband, B. & Bayer, S. (2010). **UK solid walled dwellings - thermal comfort, energy efficiency refurbishment and the user perspective - some preliminary analysis from the CALEBRE project.** NCEUB Windsor Conference: Adapting to Change: New Thinking on Comfort.
- Stiess, I. & Dunkelberg, E. (2012). **Objectives, barriers and occasions for energy efficiency refurbishment by private homeowners.** Journal of Cleaner Production.
- TSB (nd) **Retrofit Revealed: The Retrofit for the Future Projects – data analysis report.** Available from: <http://www.retrofitanalysis.org/>
- Wilson, C., Chrysoschoidis, G. and Pettifor, H. (n.d) **Understanding Homeowners' Renovation Decisions: Findings of the VERD Project.** UKERC. Available from: http://tyndall.ac.uk/sites/default/files/verd_summary_report_oct13.pdf