

Findings from the 'Barriers to retrofitting privately owned homes' online survey

1. Summary of quantitative data

Respondents

There were 287 survey responses. 90 expressed an interest in participating in a focus group and left an email address for follow-up. Most respondents were either in their late 30s/early 40s or in their 60s and 70s, likely indicating life stages where housing is a focus. 'White British' was biggest group of respondents, followed by 'White other' and 'prefer not to say'. There were almost twice as many female to male respondents. Most respondents were home owners living in terraced property.

Key findings

About 40% hadn't done any retrofitting work in the last two years, 20% have never done any. This is a big percentage of participants who are not currently invested in this topic, but nevertheless interested. Draught proofing and insulations are the most common completed retrofits. Most respondents consider partial retrofits 'as and when' repairs and upgrades become necessary. Increasing comfort in their own home and the climate emergency were identified as the most common motivators, with reducing costs a close third. The greatest barriers identified were finding reliable contractors and the fear of escalating costs. Not knowing where to get good advice from, and the perception that technology is not good enough yet to make it worth investing in were also highlighted.

As well as Internet searches, respondents were asking friends, families and neighbours who have completed retrofit projects already to find relevant information. A website with signposting to local suppliers and services, a helpline to ask for specific advice and an online planning tool were all seen as very helpful. Financial incentives were identified as the biggest motivator, as well as access to vetted contractors.

Detailed analysis

The detailed analysis can be found in the '**Final Retrofitting Consultation Quick Report 3 Dec**' pdf file.

2. A thematic analysis of additional comments made by survey respondents

2.1. Executive summary of key themes, identified issues and conclusions/recommendations

The table is an executive summary of key themes, identified issues and conclusions/recommendations that are drawn from the narrative contributions of respondents.

Key themes	Key issues	Key conclusions/recommendations
Cost	<ul style="list-style-type: none"> • Cost is for many the main barrier • Lack of local information, advice and support to ensure that those who can and want to spend, can spend wisely • Difficulty accessing available grants and funding to offset cost 	<ul style="list-style-type: none"> • Explore loan scheme to help with up-front capital costs • Build support and advice infrastructure, including local 'retrofit champions' that can advise and signpost • Lobbying for VAT changes and grants, but also focus on local changes that don't cost (i.e. streamline planning)
Contractors	<ul style="list-style-type: none"> • Difficulty finding suitably qualified and experienced contractors • Lack of trust in competence, honesty and fair prices of contractors • Lack of knowledge around and availability of retrofit professionals 	<ul style="list-style-type: none"> • A local 'trusted traders' scheme with a specific section on retrofit installers • Promote available retrofit coordinators and quality assurance schemes, maybe via webinars • Ensure that local training providers focus on skills gap
Conservation Areas	<ul style="list-style-type: none"> • Conflicting strategic priorities from different parts of the Council leave residents confused • Planning application to replace windows in conservation areas is not fit for purpose • Lack of trust that residents are being listened to 	<ul style="list-style-type: none"> • A consultative review that reassesses the balance between preserving aesthetics of conservation area and needs of climate emergency • Agile planning policies that support retrofitting and rapidly improving technologies • Clear and supportive guidance on retrofitting in conservation areas and more generally

2.2. A wish list from participants

- I wish the retrofit of homes was subject to 0% VAT to make it more affordable.
- Given the scale and speed of national retrofit needed to reach climate targets, I am hoping for widespread availability of grants or subsidies (so am delaying action until then).
- It is difficult to plan out a step by step retrofit without knowing the typical costs of the measures and who to go to for quotes. **I wish Lewisham's trusted tradesmen brochure included a specific section on retrofit installers.**

- There should be more events to raise awareness of what retrofit is amongst the general population, so that they know the importance of a Retrofit Coordinator and the quality assurance schemes available. **Could the Council run a few online sessions, and maybe make the recording available online, on a dedicated section of the website?** I suggest Peter Rickaby as an expert speaker, I did my retrofit training with him.
- External wall insulation to the existing extension walls would be technically most efficient, but I am not sure if it is a planning matter, as the extensions seem to be on the permitted boundary already. Knocking down the wall to rebuild 200mm inbound would be too invasive. **Could the Council consider publishing clear guidance on external insulation to rear extensions** in case it might go over 1/3 of the garden (or whatever the rule is)?
- **Clearer and more supportive guidance for retro fitting in a conservation area would be helpful.** The Lewisham sponsored solar roof panel initiative was of interest to start - but given the need to arrange separate conservation area consent, I lost interest.

2.3. Some contrasting views that underline the challenge of making ethical and evidence-informed policy decisions:

- *I have not been able to afford to retrofit anything in my current home. Previously I lived in a flat with broken windows (in Southwark) so was forced to spend 5k upgrading those. I would love to make the changes necessary to upgrade to a fully Passive Haus standard, but I'm on a low wage and that is unlikely to change in my lifetime. Apart from costs, my concerns are that the **building industry is a HUGE contributor to climate change - materials are costly, compromises are made and shortcuts found, there is a huge amount of waste - even in supposed eco retrofitting.** Furthermore, Victorian homes need to breathe or they rot. It's also VERY hot here now and will only get warmer. **Insulation will be less of an 'emergency' in 10 years, floods and drought will be the issue in London.***
- ***I don't think the features of period homes (sash windows, wooden front doors) should be compromised during the retrofit process.***
- *I would like to do more for the environment but we live in a conservation area so are very limited. Solar panels, new windows, etc. are not permitted. It would be great to retrofit but we have to apply for permission and can only replace like for like. **Hopefully Lewisham Council will review to readdress balance between preserving the aesthetics of our conservation area whilst protecting the environment as current policy is not aligned.** Thank you!*
- *What I have done has been fine. However, the age of the house and the fact that it is listed preclude me from doing other energy saving improvements that I would like to do. For example, I cannot do cavity wall insulation because there is no wall cavity in a Victorian house. Listed status prevents me installing sealed double glazed windows, solar panel heating and possibly air source heating. **There is a conflict between listed status and the need to take action for environmental purposes. Which is more important?** I am clear that the environment is much more important than listed status but the Council must decide.*
- *We live in Lee Conservation area which means we have to go through a costly and cumbersome planning application to replace old single glazed sash windows with double glazed ones which look exactly the same externally. **We agree that there should be restrictions and like the fact it is a Conservation area, but this process is not fit for purpose and is a disincentive to retrofitting.***

- *The flat I live in is a garden flat in a 1913 terrace, with no insulation to the two tiny kitchen and WC extensions, leading to condensation issues. **I am not fuel poor but can't justify heating these rooms in the face of climate emergency.***

2.4. Some household stories:

I could only afford it because my uncle died...

- *The house is a Victorian terrace I have lived in a long time. The new boiler was installed by a good company who were able to provide advice. As well as the boiler being more efficient I no longer need a water tank so saving energy costs by not needing to heat water I will not use. 4 years ago the combination boiler broke down, so by law I had to fit a condenser. I could only afford it because my uncle died and left me cash, most of which was spent on the £3000 boiler. **The improvements are offset by very draughty rotten single pane sash windows that I cannot afford to replace.** Similarly, the outside doors are completely inadequate. I put blankets across all doors and draught cushions as well to try and keep the air in the house above dangerous to health temperatures while cutting back on heat by going to public library in the day time during cold months. I put plastic over windows in the winter to cut down on cold and draughts but it's very ugly. I use central heating for half an hour in the morning and evening, longer if temperatures are very bitter, and cardboard to plug up as many gaps letting in cold air as I can. There are many gaps in between skirting boards and wall. There is a cellar but no underfloor insulation. **I tried unsuccessfully to benefit from the disasters of the Tory government scheme for double glazing and floor insulation but that was just a frustrating waste of time and effort as it was impossible to get a contractor.** I have carpets and underlay everywhere except in the kitchen and bathroom which are both always cold as they are in the shaded part of the house. I use the sunlit rooms as much as possible in winter and block up air vents in brickwork that cold wind blows through. I'm an OAP and on low income. **I have contemplated selling up many times but it is too big an undertaking and I do not know where else I would move to as my life is here.***

We have to do this piecemeal...

- *We are having to do our house piecemeal due to the cost and we have definitely noticed a difference every time we have introduced some new insulation. We put in a new boiler when we first moved to this house about 6 years ago and have only just finished paying off the loan for this, so buying a new heating system is not what we wish to do just yet. We need to finish off the basics before we consider retrofit to walls etc., but there are some areas of our house which will be re-decorated soon and we are planning to add in some internal wall insulation at that point. **I feel I need more advice and access to trusted builders who know what they are doing as I'm worried we could cause problems, such as condensation and damp if we don't get this right.** Double glazing made a huge difference to how cold the house is when it is cold outside. We could literally only heat one room before, now the house overall is much warmer using less heating. Happy but expensive. Government subsidies would help.*

We have done our research, but there isn't always an affordable solution...

- ***The difficulty is primarily the cost, and finding reputable tradespeople who will do the job for a fair price.** We haven't yet been able to find any grants which will help allay the not inconsiderable costs of doing the work. The work that we've done has been part of general work that we've had done to the house - e.g., when we did a loft conversion*

we tried to ensure that the insulation was much better, and double glazed the windows. We'd like to double glaze the rest of the windows but it's very expensive.

- *Having the original 1880s windows replaced with double glazed version has been beneficial in reducing the draughts and heat loss. It was expensive as I chose to have wooden frames in keeping with the house. I would like to improve the insulation but with solid brick walls this is difficult. I have looked into solar panels but do not get sufficient sun on the flat roof that forms part of my flat and replacing the gas boiler is too expensive for me to consider.*

It was helpful to have a neighbour who could advise us...

- *It was helpful to have a neighbour who had had solar panels installed previously on a similar roof and could advise us. We used a local company who were very hands-on and communicative and able to deal personally with any follow-up issues and questions. The panels have saved money on our energy bills and we have gained a small income from selling electricity back to the grid. We would have liked to have earned more but the government had changed the feed-in tariff by the time we installed ours. Having a battery would mean we could use more of the energy ourselves but they are still too costly for us to acquire one.*

I am desperate to do it, but there are many insurmountable hurdles...

- *I am desperate to have external solid wall insulation (as it is a VERY cold 1930's solid wall maisonette with no insulation whatsoever) but can't afford it without financial help. There is also not enough information on how to go about it or enough information on reliable certified companies who carry out the work. There's also not enough information from the Council on whether I need planning permission for this. I must also negotiate with my upstairs neighbour who isn't very forthcoming.*

You need to be a trailblazer, economics don't make sense...

- *I have had double glazing installed in my 3 main rooms. This was done one room at a time over a number of years. It is expensive, so I could only do it slowly but am happy with the result. There is a conflict between space left and insulation - insulation takes away the inches in the living areas. I should have gone for more insulation. Air source heat pump works, but is still uneconomical whilst electricity cost per KWH is 5 times more expensive than gas. Moving to a low temperature heat air source heat pump heated home takes a lot of getting used to. Draughts are your enemy. **The benefit only comes if treated as an overall project** - until all is done the benefit is minor. More benefit would have come if linked to installing solar photovoltaic panels to generate low cost electricity linked to battery storage. Increases initial cost but reduces running cost. Capital cost is greater than expected to make things worthwhile – you need to be a trailblazer to do it at the moment - economics don't make sense.*

We are putting a sustainability lens to all we do in the house...

- *What worked well: Advice from SELCE future fit homes; installation of loft insulation - grant available and helpful fitter; installation of solar panels in 2015 - just in time for FIT and excellent service from company. The fabric first approach ensures that our house is ready for retrofitting measures and we are putting a sustainability lens to all we do in the house. **It is helpful that we have sufficient money to do the work**, helpful to have a smart meter. The level of disruption and lack of availability of contractors for exterior wall insulation is challenging. The difference it has made: energy bills are already lower, we are aware of our power use, we have been able to choose visually attractive products.*

2.5. What has worked out well and why?

Because it was straightforward...

- We replaced a couple of windows and it was straightforward.
- Draught proofing was easy, cheap and effective.
- Insulating our floor was quite straightforward.

We had good advice and support...

- An organisation (SELCE) helped me to get a funded boiler upgrade, they applied for me, and I wouldn't know where to start. They also gave me advice about my energy bills and using less energy.
- We got solar panels through a SELCE group-buy scheme in 2018, and we were very pleased with the price and the quality. The reason why we haven't done more is lack of funds. If we had lower cost access we would do it with great enthusiasm. Money is the barrier.

We had good builders, fitters and recommended tradespeople...

- Gas fitter was good.
- Used family recommended tradesmen from small reliable local companies.
- I live in a Victorian era building. Replacing (most of) my windows with double glazed units that were in keeping with the style of the property (traditional sash) was a positive experience mainly due to the excellent company that undertook the work.
- Builder added significantly more insulation to new roof than was required, with hindsight this was a great idea. The builder also installed underfloor heating which works well.
- Replacement to more energy efficient boiler worked well as I had a good gas fitter, who was recommended.
- Work undertaken by British Gas; took a morning to remove old boiler and install new one. New boiler is much more efficient.

We did it as part of a bigger project to minimise disruption...

- We did this as we converted our attic.
- We extended our previous home and added some measures then. It made more sense to us carrying out retrofit work all in one go.
- We upgraded at the same time as doing some other building work which meant there was less disruption. Unfortunately, we couldn't afford to retrofit the whole house.
- I did the work as part of a larger renovation project.
- For the floor insulation we were stripping back the carpet and refitting the floor boards so it made sense to insulate at the same time and the cost wasn't significantly more to do it. We recently had building work done on the rest of the house so again we insulated the remaining floor as the costs and disruption were minimal. Same for the boiler, we wanted to move it, it made sense to change it.

We got a grant, discount or other financial windfall to invest...

- Loft insulation was free, which was great.
- It has all worked out very well. The wall insulation and one double-glazed window were done in 2015 by Lewisham Council as part of a 'show home' project to try and encourage take up of the now-defunct green homes grant. We never got to be a show home but we did get some great investment in our home. It makes the insulated rooms much warmer, to the extent that we hardly need to heat them. We were pleased to get this investment for free.

- The Council got a great discount on solar panels. The installation went well and they are zero maintenance. They don't contribute a huge amount of electricity, but it all helps.
- I got a lump sum when I left a job and I've spent it all on 'green improvements'. I also got a government green homes grant of £10,000 for an air source heat pump (ASHP). Without those two things, I could not have afforded any of the work.
- Wall insulation was government funded so a no-brainer although not convinced the contractors knew what they were doing/ or milking the system as only did half the house.

It generates a small income for us...

- The loft insulation helps with heat retention and I get some income from the solar panels.
- Solar panels installed about 9 years ago. Electricity bills substantially lower. Maintenance free, regular feed in tariff payments.

It reduces running costs...

- Insulation is great to use heating less. More efficient boiler also keeps bills lower, good for the environment and cheaper. Boiler also more reliable/smaller/less likely to break down.

It reduced noise pollution...

- It worked out well. Triple glazing installed on sash windows got noise pollution but added bonus that rooms are much warmer.
- Draught proofing and double glazing had a good effect on noise levels in the house and increased the ambient temperature.

It created space...

- Boiler upgrade was mainly to create more space as it was a storage system in son's room. Now we have a new combination boiler.

It was costly, messy and stressful - but well worth it!

- I've installed double glazed sash windows. They were expensive but worth doing to conserve energy and retain the character of the building.
- Double glazed sash windows. Very expensive but had to be done as I live in a conservation area. They look good and obviously retain much more heat than the original windows.
- This year I replaced 30 plus year old double glazing and non-insulated fascia panels with new windows and new fascia panels with insulation under them. This was only on the back of the house and already I notice that it is warmer in those rooms (and quieter). It was costly and messy but worth it.
- Most stressful project. Worth it though!!!

2.6. What was challenging?

Affordability and needing to prioritise projects due to high cost

- It's tricky being able to afford to do everything you want in terms of retrofitting.
- We wanted to look at other energy options, but too expensive.
- The biggest issue was cost - especially the amount that VAT added to the build costs.
- The cost of changes has been a huge disincentive. Prices are high and have been skyrocketing; Brexit and Covid have made building works even more expensive.

- I've eaten up what little I have in savings and will have to retire much later than I'd hoped (I'm over 60) to pay for all this.
- The cost is challenging, we wanted to do more but we didn't have the budget. When we first got our loft conversion designed we wanted to make it green but found we couldn't afford it. Finding a good solar panel installer was hard too, we had to have them back to fix the install soon after they finished. We also wanted to have a heat pump installed but it wasn't an option, plus they look ugly. They are just add-ons at the moment, should have been done as an integral part of the building - considering our experience it's much easier for it to be done to new builds.
- It's a huge lump sum to pay up front!
- Cost was the major challenge, Vat just added to that problem.
- Cost is the main challenge and assessing which changes to make first.

Difficulty accessing grants

- The government grant process was appalling - bureaucratic, lengthy, Kafkaesque. Applying on GOV.UK was fine. Everything else to do with the grants process was a nightmare. I spent months emailing and phoning the grants team - sometimes on a daily basis - getting nowhere. I found it terribly stressful. I know several people who tried to get a grant and failed because the system was so chaotic. I also spoke to one company that had to drop out because they were not being paid for installations they had done.
- I paid for the loft insulation and the fitting of it myself. I spent a long time getting nowhere on the computer trying to get in on the Governments last scheme offering a grant.

It's disruptive, inconvenient and time-consuming

- Was challenging to get the insulation in (lots of mess!) and I'm a bit concerned about how flammable it is
- The loft insulation was done badly and created a lot of mess. The new boiler was very expensive and involved a lot more disruption than we expected as the old system had been badly installed. It was hard finding quality trades people to do it.
- Also, getting carpets put back properly is difficult and there needs to be storage solutions in the loft after it's been insulated above the joist line.
- For floor and loft insulation, the main problem is disruption - the work itself is easy and relatively cheap, but rooms have to be emptied of furniture and carpets, lofts need to be cleared. Where to put it all whilst the work is done?
- It is an expensive task that can be time consuming with finding quotes, contacting builders etc.

Choosing a competent, affordable builder/fitter/installer that you can trust

- Challenges are finding builders at affordable prices.
- Retrofitting these old homes is very expensive (double glazing the house alone will cost more than £40k). We would like to do as much as we can but it's going to take years on our current budget. It is a pricey process and it is very difficult to find builders in Lewisham as good ones are often booked for long periods of time.
- Challenging to find reliable fitters.
- It was expensive and we had to go on the advice of our builder/plumber when it came to decisions about the best type of boiler. I think they probably just wanted to sell us the one that was most expensive to fit! Not everyone has a builder they can trust - how are you supposed to know which are the good firms and which are the cowboys?
- Stressful dealing with double-glazing firms: not knowing if local firms are trustworthy and having to deal with salesmen's fake 'reductions' when dealing with the national firms.
- The tradesman was untrustworthy.

- Window salesmen are charlatans... they promised with double glazing that I bought it would improve thermal insulation, I'm not convinced it has any effect.
- Double glazing definitely needs multiple quotes. Only one wasn't a rip-off. No significant impact as it was a cosmetic replacement of older (out of character) double glazing
- Disliked the double glazing salesmen as they try to bribe and pressure you into choosing their product! You can't trust them for impartial advice.
- The loft insulation was done with the loft conversion, but it is full of cold bridges, as they did not care.

Lack of available contractors

- Attempts to install double glazing have been met with a lack of availability from builders and endless chasing of quotes without a response.

The absence of reliable and impartial retrofit information

- If they go to an installer they are VERY unlikely to be properly advised as most installers don't understand the issues.
- The best materials to use and control of internal moisture and ventilation are essential issues, and even now impartial information is difficult to find for the householders.
- The work was done 6 years ago. Even as an architect, clear information on the best methods to use in a traditionally built house was difficult to find. Most London houses are of this type.
- There isn't much reliable or helpful information out there on draught proofing.

Lack of confidence that it will make a difference and the difficulty knowing how to measure this

- I'm not really confident that floor insulation is very effective.
- Finding the recommended specifications is not easy, e.g. the right depth of insulation. Comparing options is not easy, e.g. how much difference would it make if I added an extra 50mm of insulation above the recommended minimum.

Knowing it's not practical and also maybe wasteful

- Putting in reasonable amount of wall insulation impractical in a small house with already-too-small rooms.
- Don't want to replace good quality doors but draught proofing options are limited.

The scale of the challenge paralyses

- Can only afford to do small internal projects, but they are not enough to make that much difference in large Victorian homes. These projects were fairly easy but don't make a huge difference.
- Much harder to complete more challenging projects such as solid wall insulation which have good potential gains but are technically difficult to achieve and expensive with poor return on investment.
- The loft is extensively boarded and used for storage so there is an element of insulation but not to official standards. Some insulation has been added to areas which are easily accessible (DIY using encapsulated insulation which is easy to lay across the joists, and some insulation between joists with boarding replaced over it). To do the whole loft we'd have to empty it completely and remove the boarding - and that's not going to happen.
- Couldn't have solar because my roof was too weak. Needed a steel support and I suspect most would chose a loft extension at that point?

2.7. What difference did retrofitting make?

What we did and how we think about it...

- Double glazing...good for Victorian premises but costly especially in conservation areas. Loft insulation, floor insulation ...we used rock wool. We would have used sheep (sheep?) wool or hemp if we could have afforded it.
- Double glazing replaced in kitchen and back bedroom plus a new double glazed back door to replace old single glazed one. Rooms warmed and draughts gone afterwards.
- Most retrofitting done when we first moved in (over a decade ago), to ensure house was warm. Especially windows were draught proofed / changed to double glazed / secondary glazing added. All very effective to keep warmth in and also sound proofing.
- Our house is fairly modern (1980s), but the windows were single glazed when we moved in. We've installed new doors and windows, plus a new boiler and central heating upgrade. It was expensive and a bit of a nuisance to install, but our house rarely feels cold, and we rarely put the heating on.
- We installed insulation whenever we could when refurbishing our house but had not heard of retrofitting then. The insulation has helped a lot in keeping the house warm.
- Double glazing and loft insulation (topped up) have been good; cavity wall insulation was added over 15 years ago and I believe it has become ineffective on the first floor especially in one corner, and understand that the 'filling' used then may have settled therefore leaving cold spots.
- Ground floor added wood over insulation on existing boards. Siliconed all gaps under skirting. Replaced all windows and back door with double glazing. Extensive loft insulation. Some internal wall insulation where possible. Replaced boiler with condensing plus external temperature gauge. Added radiator thermostatic valves. This all helped a 1927 property with high underfloor clearance.
- I had someone come in to service and draught proof some of my sash windows. It went smoothly. The rooms are now a little warmer and the windows don't rattle.
- Double glazing to one room - very satisfied less draughts but costly (wooden box sash custom made) and lots of other windows need doing so not made much difference to whole house.
- Loft insulation between the joists but still need to do the eaves to be more effective - costly and too much for DIY project.
- Energy efficient boiler -satisfied but expensive.

Doing it DIY....

- Draught-proofing windows and doors: very easy (and cheap) to do yourself, and can have a noticeable effect.
- Draught-proof strips round old wooden doors and windows is easy enough to do as a householder.
- I fitted additional loft insulation when I moved in myself. It was quite easy to do. I think it made some difference.
- Did my own loft insulation and draught proofing.
- The house is warmer and less draughty. I did most of the work myself, so helpful to find products at affordable prices.
- Tried to fit draught excluder round front door but was too hard to get it to fit and still be able to close front door.
- Installing floor insulation was very challenging and is not entirely satisfying as we did it ourselves to save money, and it was a horrible job.
- Undertook most of the work myself to keep costs down and ensure quality. Where I used contractors, it was hard to select a reliable professional and was expensive.

- We live in Victorian house without a cellar and therefore there is only the 50cm void below the floor boards... it is full of dirt, rubble etc. In order not to remove the floor-boards my husband, dressed in overalls, with hat, goggles and mask went on his back under the whole surface and wedged the insulation panels as tight as he between the rafters. It was really horrible to do. But we still have some cold air coming through.

It made a huge difference....warmer rooms, savings on heating, draught and noise reduction

- It has helped create warmer rooms and saved money on heating.
- Better loft insulation definitely has helped upstairs stay warmer.
- The house is usually warm and heats quickly in winter.
- Draught-proofing has helped keep the house warm along with double glazing.
- Loft insulation made the house significantly warmer and easier to heat, as well as allowing us to put down flooring in the attic which added storage space.
- The work (double glazing) significantly improved the temperature in the flat and stopped condensation but it was expensive and took me a long time to save up for.
- Draughts and noise reduction, particularly on the street side of the house.
- Made a huge difference to heat retained in the house.
- Small things like underfloor insulation have made a huge difference.
- I gradually double glazed the entire house over the last six years using Crystal. It made a noticeable difference to the heat retention of the house. Especially during the night if you need the loo! The installation process was quick and simple.
- Difference = an improvement in excluding draughts, reducing energy bills, a warmer home.
- When we moved in (25 years ago) there was partial double glazing but no central heating. Dealing with both those issues made a big difference.
- Double glazing was a definite improvement with less draughts and the dampening of traffic noise.
- We had the loft insulated a few years ago & that definitely made a difference to the warmth of the house upstairs. In fact I'm the summer it is very hot in the bedrooms!
- I put in floor insulation in one room about 7 years ago when re-decorating and that room is now much more comfortable to sit in during the winter.
- I have recently replaced old (from 30 years ago) double glazed window with new in one room - noticeable difference.
- Loft insulation made a big difference, as did new (in 2012) more efficient gas boiler. Solar PV influences when I use the washing machine (sunny day, solar electricity).
- Adding Solar Water heating panels to roof means free hot water for around 180 days a year - saving gas.
- Difference made: rooms with double-glazing have less outside noise and are slightly less cold.
- Draught proofing the front door made a big difference to Draughts. The more efficient boiler seems to be working out well but difficult to know how much cheaper as price for gas always changing.
- Cheaper energy bills.
- The biggest difference was when the roof was retiled and waterproof under sheet was added (there was no felt previously) - the loft was noticeably less cold afterwards. I can't say I've noticed any difference in the house from the insulation itself.
- All of the retrofitting has profited us as a household in terms of insulation, reduction in bills, and overall warmth in the winter and feeling like we are doing our part somewhat in helping to reduce CO2 emissions. We did all of them as part of our own refurbishment project - none of it was part of a scheme or anything.
- Good to be able to use loft space knowing it is well insulated.

- Insulating the loft and putting in double glazing front and back made a difference to the temperature and noise levels.
- Kingspan in the floor rafters made the room warmer.
- As we are in a Conservation Area, retrofitting exactly the same design sash windows was extremely important to both us and to the fitter. We achieved the correct architectural heritage look and are somewhat warmer.
- The double glazing made the most difference.

But it is often a mixed experience...

- Loft insulation has helped but the experience with the contractor was not to be repeated.
- Damage to floor boards, otherwise great, fast, big difference to heating efficiency.
- Insulated floor during extension and refurbishment – it made some difference, though logistical problems mean there is less insulation than ideal.
- Easiest although expensive was having double glazing fitted: firm advised on how much space they'd need so we knew how much furniture to move. New boiler was also very expensive, fairly disruptive - no hot water for most of the day.
- I was initially satisfied, but the windows in at least one room will need maintenance or replacement as the seals have failed. They still function for shutting out noise and the worst of the elements, but, given the price, I wasn't expecting to have to replace them.
- Draught proofing worked well. Upgrading the boiler was challenging as the wall needed repairs after removing the old one.
- Thicker (topped up) Loft insulation had a major immediate effect. But I should have had it boarded. Was trampled on by roofers...
- Boiler upgrade via British Gas some years ago. Boiler works fine, though could do with a more sophisticated mix of timing options mix for hot water and heating. Adding insulated plasterboard inside solid brick was less useful than we thought. Changing windows to double glazed (timber) was challenged by the planning department. Loft insulation the best but we will need to think harder to keep ventilation and increase it. Adding an extension to the cold end of the house, removed damp caused by cold spots. Best change. Insulating walls and roof was challenging because it involves lots of dust and the room becomes uninhabitable for the time of the work. New Windows and draught proofing doors was the easiest improvement. We had only our rear windows (and a side window) double glazed. Our front windows were left because of their architectural nature and their use of characterful old glass. I would undertake further works, but can't afford the costs. Double glazing was expensive but made a big difference. Our heating system took years to get right, due to rickety DIY plumbing done by previous owners, but is good now. We wouldn't be in any way able to afford to change it further. It's an old house so every time you do something to it you uncover a whole pile of other stuff that needs work.
- Installing good quality double-glazing was the most noticeable benefit both in terms of reduced energy consumption and physical comfort. We were able to ensure high quality cavity wall insulation was used when we added a small extension to our flat. This has also made a positive difference. When we installed a new gas boiler (2016) I made extensive enquiries about more efficient boilers and alternative heat sources, but no installer knew anything about alternatives and we had to opt for a normal condensing combination boiler.
- I love the Air Source Heat Pump but it was very technical and we were not served well by the company that put it in.
- Exterior doors have insulation around them but still draughty. Same needs to be done to windows when replaced.

Small affordable interventions can make a difference, but that is not enough...

- Cost was the limiting factor. However just doing the affordable changes made a big difference to comfort, and to my energy bills, and so I expect I wouldn't go beyond measures such as appliances, lighting, windows and roof and floor insulation unless there was a substantial drop in price for solar PV or renewable heating systems.
- It made a big difference, however there are other things we would like to do but cannot afford to do, for example; double glazing, air source heat pump, etc.
- Small interventions on its own improved the speed of heating up the house and improved the temperature retention, but I find that on their own they overall had a limited effect on carbon emissions. More substantial investment would be needed to have an effect that truly satisfies me.

We don't know that it made a difference or it is too early to tell...

- Made a huge difference to heat retained in the house.
- It was easy enough to obtain the materials online and fit them ourselves, and the cost was reasonable. However, it didn't make all that much difference to the draughtiness of the house.
- Draught proofing the front door made a big difference to draughts. The more efficient boiler seems to be working out well but difficult to know how much cheaper as price for gas always changing.
- Cheaper energy bills.
- All of the retrofitting has profited us as a household in terms of insulation, reduction in bills, and overall warmth in the winter and feeling like we are doing our part somewhat in helping to reduce CO2 emissions. We did all of them as part of our own refurbishment project - none of it was part of a scheme or anything.
- Good to be able to use loft space knowing it is well insulated.
- Exterior doors have insulation around them but still draughty. Same needs to be done to windows when replaced.
- Insulating the loft and putting in double glazing front and back made a difference to the temperature and noise levels.
- As we are in a Conservation Area, retrofitting exactly the same design sash windows was extremely important to both us and to the fitter. We achieved the correct architectural heritage look and are somewhat warmer.
- We live in Victorian house without a cellar and therefore there is only the 50cm void below the floor boards... it is full of dirt, rubble etc. In order not to remove the floorboards my husband, dressed in overalls, with hat, goggles and mask went on his back under the whole surface and wedged the insulation panels as tight as he between the rafters. It was really horrible to do. But we still have some cold air coming through.
- I was initially satisfied, but the windows in at least one room will need maintenance or replacement as the seals have failed. They still function for shutting out noise and the worst of the elements, but, given the price, I wasn't expecting to have to replace them.
- Haven't noticed particular advantages of boiler and with hindsight disappointed not to have looked into non-gas options.
- Too early to gauge the impact of the new central heating boiler (installed March 2021).
- Just temporary window screen & strips around edges. Quite messy & fiddly & not sure how much difference it made
- Difficult to assess benefit of loft insulation.
- It's very difficult to know what difference changes have made. I suspect my solar panels are not particularly effective even though they face due south. My house is 1930s brick with rough cast cover but I suspect it is not very cold resistant. The loft insulation is thick and should be ok. All windows are double glazed. The front porch is double glazed with a door kept shut. The loft is insulated but I have no means of knowing how my gas bills compare with other houses in the road. These were fairly easy projects

but they don't make a big difference in semi-detached homes where heat escapes from the exposed side of the house.

It wasn't very effective...

- Window & floor insulation has not been very effective.
- New boiler never worked as well as the old, seems to use more gas and not as warm in the house.

It didn't make a difference...

- It was easy enough to obtain the materials online and fit them ourselves, and the cost was reasonable. However, it didn't make all that much difference to the draughtiness of the house.
- Little or no impact to our converted Victorian ground floor flat.
- In general I haven't noticed any difference to the warmth of our house or energy bills.
- It helped a bit but the property is very old so still not a warm flat.