# Research Report on Obtaining Planning Permission for Retrofitting Homes to Reduce Carbon Emissions

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## Contents

# 0. Executive Summary

Increasing domestic energy efficiency is vital to achieving the UK Government's commitment to reducing the emission of greenhouse gases. However, the current rate of improvement is well below what is needed. Improving the energy efficiency of our homes involves upgrading the building fabric and installing systems for controlling internal temperature and moisture movement. Obtaining planning permission for these improvements has been identified as one of the barriers to implementing retrofit projects. However, there is a lack of evidence about the extent of the problem. This research aims to contribute to filling this gap.

The research involves interviews with built environment professionals about their experience of implementing domestic retrofit projects in England. It investigates the extent to which obtaining planning permission was an obstacle to implementation in both conservation areas and non-designated areas, and suggests possible improvements to planning policy and procedures.

The research identifies a number of areas in which the planning system in England currently hinders the implementation of domestic retrofit projects. These include lack of clarity and inconsistency in the implementation of policy, conservation policy being given greater weight than energy efficiency policy, planning officers' lack of knowledge about retrofit, application forms unsuited to retrofit projects, and delays resulting from an under resourced planning system as well as problems relating to the retrofit of specific building elements.

Recommendations for changes to the planning system and to local authority practice include:

- revising regulations for permitted development in England
  - to promote a fabric first approach to retrofit;
  - to allow the installation of heat pumps with a noise output below a certain decibel level;
- amending the National Planning Policy Framework for England
  - to require local planning authorities to produce guidance on domestic retrofit based on new national model retrofit guidance;
  - to balance the weight given to energy efficiency improvements with that given to protecting heritage in making decisions about planning applications;
- permitting development which is in compliance with local retrofit guidance;
- training on retrofit for local authority planners;
- appointing a lead planner on retrofit in local authorities;
- amending local plans to require energy impact statements;
- ensuring effective local authority cross departmental working.

# 1. Introduction

The Committee on Climate Change (CCC, 2019) has advised the UK Government that, in order to meet its commitment under the Climate Change Act 2008 to reduce the emission of greenhouse gases, there needs to be a major improvement in the energy efficiency of our housing stock. It reported that energy use in the existing 29 million homes in the UK is responsible for 14% of carbon emissions. To meet the target for reduction in emissions near complete decarbonisation of the housing stock is needed. This will involve both reducing energy demand through upgrading its fabric and moving away from using fossil fuels for domestic heating.

It is estimated that 80% of the homes which will be in use in 2050 already exist (Alabid et al, 2022). Most of these homes were built prior to any Building Regulations requirements for insulation to limit heat loss. Domestic retrofit involves upgrading the fabric of our homes and the systems for controlling their internal temperature and moisture movement. As the priority is to reduce the demand for energy, a 'fabric first' approach focussing on reducing heat loss is widely advocated by construction professionals (see for example CLC, 2021).

The Committee on Climate Change (CCC 2022a) has recently reported that the rate of improvement in the energy efficiency of buildings is well below what is necessary. It highlighted that the pace of improvement to the fabric of existing buildings needs to be ramped up quickly (CCC, 2022b). Obtaining planning permission has been identified as one barrier to implementing retrofit (see for example Ince & Marvin, 2019). Improvements which will normally require planning permission include a change in visual appearance resulting from installation of external insulation, raising the level of roof and installation of air source heat pumps within one metre of a boundary[1]. As permitted development rights only apply to single family dwellings, a wider range of improvement to blocks of flats or houses which have been sub-divided require planning permission (MHCLG, 2019). The Construction Leadership Council (CLC, 2019) advocates the streamlining of planning procedures to facilitate the implementation of retrofit. It proposed the use of Local Development Orders for retrofit and automatic planning permission for specific retrofitting works.

Listed buildings and those in conservation areas are subject to further restrictions on improvements. The rights to undertake certain types of development which are permitted elsewhere can be suspended in conservation areas by local planning authorities issuing Article 4 directives (UK Government, 2015). Friedman and Cooke (2012) conducted research on the extent to which UK planning was a barrier to energy efficient heritage retrofit. Their research focussed on Inner London boroughs and involved a survey of planning policies and documents, and interviews with conservation officers. They found a lack of consistency in the application of planning policy and concluded that in order to ensure project compliance in a timely fashion, projects defaulted to the least disruptive baseline, resulting in less energy efficient measures being undertaken. Based on their experience from the Retrofit for the Future Programme, which involved government sponsored deep retrofits, Lewis & Baeli

[1] https://www.planningportal.co.uk/permission/common-projects/heat-pumps/planning-permission-air-source-heat-pump

(2012) found that the installation of replacement windows was the most consistently adopted measure. They argued that high performance double or treble glazed windows can closely resemble historic sash windows. However, they found that heritage considerations often trumped human comfort and energy savings, and that replacing windows frequently involved difficult and lengthy negotiations.

Availability of funding for retrofit is a crucial factor in determining the number and scale of retrofit projects. Regrettably, the UK Government has failed to develop a coherent policy to support retrofit on the scale needed. Whilst devolved governments in Scotland and Wales have responsibility for housing, energy and planning, the UK retains responsible for these matters in England. Currently English local authorities and other providers of social housing can apply to the Social Housing Decarbonisation Fund to improve the energy efficiency of properties (BEIS, 2022a). Local authorities can also apply for funds from the Local Authority Delivery Scheme (LADs) and to administer Home Upgrade Grants (HUGS). Both schemes are aimed at low-income households living in homes with poor energy performance ratings. LADs is for upgrading homes heated by gas and HUGs is for homes not on the gas grid (BEIS, 2021). All of these schemes have limited funding and tight deadlines for works to be completed. The Government also requires energy companies to help their low-income customers make energy saving improvements to homes with low energy ratings (BEIS, 2022b). Grants are also available to cover part of the cost of replacing fossil fuel heating systems with heat pumps[2]. The Green Deal and the Green Homes Grant, which aimed to encourage a broader range of householders to retrofit their homes, failed to realise their objectives and were short lived (Bergman and Foxman, 2020; Blackman, 2021; Pullen, 2021), This pattern of public funding results in much of the retrofit activity in England tending to focus on improvements to specific building elements of homes in the social housing sector or homes of low-income homeowners or private sector renters. Deep retrofits involving more ambitious levels of energy efficiency for the most part are commissioned by homeowners who have the resources to pay for such improvements (Fawcett & Killip, 2014).

Whilst commentators have identified the requirements of planning permission for domestic retrofit projects as a barrier to implementing retrofit projects and advocated streamlining planning procedures, there is a lack of evidence about the extent of the problem. This research aims to contribute to filling this gap. It investigates the extent to which built environment professionals found obtaining planning permission an obstacle to implementing domestic retrofits both in conservation areas and in non-designated areas in England, and explores what changes to planning procedures and policy could facilitate the implementation of domestic retrofits. It includes experience of projects ranging from small scale one-off retrofits for owner occupiers to large scale retrofits of social housing.

## 2. Research Method

Building professionals involved in domestic retrofit projects were identified through the Architects Climate Action Network, the Association for Environmentally Conscious

[2] https://www.gov.uk/apply-boiler-upgrade-scheme#:~:text=Through%20the%20Boiler%20Upgrade%20Scheme,to%20apply%20for%20the%20grant.

Building, Passivhaus Trust and Retrofit Works. Possible further participants were identified by those who participated in the research. The interviews followed a semi-structure format. Interviewees were asked about the range of retrofit projects with which they were involved, their experience of obtaining planning permission, any issues concerning particular building elements and how they thought planning policy and procedures could be improved. Most of the interviews were conducted and recorded using Microsoft Teams, but two of the participants in the research opted to respond to questions in writing. It was originally proposed to conduct twenty interviews, but as the varied nature of experience became clear during the conduct of the interviews, a total of 38 people were interviewed. Many public funded projects did not involve architects or surveyors and were being implemented by specialist installers or using existing framework contracts. Twenty interviewees were architects, who were mostly working directly for clients, but sometimes were employed by contractors. Other interviewees included housing managers, contractors, surveyors and retrofit coordinators. Interviewees were responsible for projects in a wide range of locations in England and some also had experience of working in Wales and Scotland.

## 3. Research Findings

### 3.1 The range of issues raised

The issues raised in the interviews included different approaches to applying for planning permission, inconsistency in the interpretation of policy, pre-application advice, lack of joined up policy, conservation policy being given priority, the form of extensions, application forms unsuited to retrofit projects, applications based on archetypes, planners' lack of knowledge of retrofit, design and access statements, requests for excessive detailed information and delay in processing applications. Interviewees also reported difficulties in obtaining planning permission for external wall insulation, external service pods, raising the height of roofs, new windows and double glazing, heat pumps and solar panels.

### 3.2 Different approaches to applying for planning permission

The extent to which planning was an obstacle to implementing domestic retrofit projects varied considerably. This was in part due to the different approaches taken to applying for planning permission. All those interviewed generally tried to avoid planning permission being refused. However, some were more cautious, whilst others tried to push the boundaries of policy. One architect explained:

> 'Typically we try and avoid refusals at all costs. the only reason we might accept a refusal is if we felt so strongly about the principle of something that we wanted to take it to appeal'.

Another described his approach as a juggling act:

> 'We really try to really understand what is going to be possible with the local policy but also pushing at it a bit'.

Those working on social housing projects were constrained by funding conditions and tight deadlines, and therefore selected the projects that would be easiest to deliver. A housing association energy services manager responsible for a programme of external insulation and heat pumps explained: 'We're looking for the easy wins in this phase'. However, there were concerns that there would be future challenges in decarbonising social housing. One housing association manager was concerned

about social rented homes in listed properties; he feared that the difficulties in getting planning permission for retrofit might result in selling off them off and that this would result in no social housing being available in some neighbourhoods.

### 3.4 Inconsistency in the interpretation of policy

The uncertainty about policy and how permitted development would be interpreted by different planning authorities was an issue for many of the interviewees. As one architect explained: 'There's no consistency across different authorities. it's still a lottery'. Another commented: ' You're quite often at the mercy of personalities and then the skill set of people.' Interviewees found that in the absence of clear policy on retrofit, the response from individual planners within the same authority could vary considerably.

The lack of clarity about policy was exacerbated by the difficulties in having a dialogue with planners. The sustainability lead for a large housing association explained:

> 'It's very bureaucratic rather than a discursive process. And quite often you know It becomes quite an adversarial process as opposed to a discursive process, and I think that's one of the things that we're very keen to see is being able to have an open, frank discussion with planners at the earliest possibility.'

One architect commented:

> 'Previously, back in the day, you used to be able to call up the planning department and have a conversation. You're not allowed to do that anymore and they aren't allowed to engage in any conversation about a project without having a fee. We don't have an issue with paying for the advice, but in order to get that, you have to wait weeks and weeks for a meeting.'

Another interviewee explained that In the last few years it has become even more difficult to have any discussion with planners:

> 'We've seen a massive impact post COVID or from the start of COVID really. Everyone started working at home and they haven't really come back to the office. It used to be that you could pick up the phone and speak to a planning officer, and you just can't now'.

### 3.5 Pre-application advice

There were mixed views about the value of pre-application advice. As one architect explained:

> 'We'll test the water with planning as priority number one really. So as soon as we are anywhere close to satisfying the client's brief we're putting in a pre-application on 95% of projects, but a pre-app is a nightmare for us because it takes a long time. Most of the time I would say the pre-app advice is clear enough that it gives us something to respond to., but that's been less of a guarantee since the pandemic. I suppose because teams are stretched thinner and people are working remotely and then in sort of different hybrid ways, I'd say nowadays it's quite rare that you get feedback from a pre-app officer and it's the same person looking at the main application.'

Another commented:

> 'Although we were advocates of pre-apps. It's just everything is taking a long, long, long, long, long time these days. The person that you dealt with in pre-application isn't the person you're dealing with in the main application. And refusals happen all the time. It forms part of why we're maybe questioning a bit more whether we continue to go down a pre-application route. It was different when we were able to meet with an officer at the site and have a discussion.'

Because of doubts about the value of pre-application advice interviewees were increasingly employing planning consultants to advise on applications.

### 3.6 Lack of joined up Local Authority policy

Many local authorities had declared a climate emergency, but this often had not changed how planners operated. The construction advisor for a whole house retrofit system who was working on social housing projects, explained:

> 'A lot of local authorities are committing to net zero and all that, but that message isn't necessarily being passed down to the planning department. So, you're beginning to get a complete disjunct really between the philosophical objectives of the members and the directors, and then the officers who haven't really been given any guidance'.

Another interviewee commented:

> 'Our Council has signed up to the climate emergency, so they all have that kind of in the background, but it's not so much in the detail'.

A planning consultant thought that government performance indicators for local authorities focussing on the number of new homes meant that upgrading existing homes was not a priority for local planners. She explained applications for retrofit projects:

> '… are not considered a major application, so you get very, very junior people on them. They're not high priority because they're not delivering new housing, so they're not contributing to meeting targets'.

Problems also arose between local authority departments. One local authority housing development manager reported that planners refused permission for external wall insulation on council owned street properties, despite it having been previously granted for properties in the same street. As a result, she was in dialogue with the planning department about having a dedicated planning officer to deal with retrofit projects.

### 3.7 Conservation policy given priority

Getting planning permission for retrofit projects in conservation areas and for listed buildings presented particular problems. As one architect put it**: '**Conservation trumps thermal performance pretty much always'. Interviewees wanted to make energy efficiency improvements, which respected the fabric of historic buildings, particularly street elevations. One elaborated:

> 'The front is always going to be a concern, even if it's not a conservation area. So we've decided that, if there are very similar houses on the street all the way down, we didn't want to spoil the street scene so we've ended up internally insulating on the front'.

Another explained that when working on projects in conservation areas:

> 'At day one, there's a realisation that some things are definitely off the menu, so we agree with the conservation officers to some degree. But we found that there's a middle area where we think things are wholly appropriate in many instances, and they tend to think they're completely outrageous'.

Some interviewees were able to have a positive dialogue with conservation officers, but experience was mixed. As one architect explained:

> 'Some of them are excellent and you have a really positive kind of dialogue with them. You cannot agree on everything, but you can work out where they are coming from and you can come to some sort of compromise. But some of them are completely unreasonable'.

Others were unable to have any direct dialogue with conservation officers, as another architect reported:

> 'We deal with the conservation officer via the conduit of the case officer, so we never get to speak to the conservation officer in many cases'.

One conservation architect was experiencing a change of approach in the area where he was working. He elaborated:

> 'There are small, but relevant, changes in the policies and in the guidance. The title is now conservation and sustainability officer, so they have the responsibility to also look at sustainability within their remit. So it's a game changer and I think it's a welcome game changer'.

### 3.8 The form of extensions

Retrofit projects for homeowners are generally part of a bigger remodelling projects, and the form of the extended property affects its thermal efficiency, as heat loss is proportional to the external surface area. However, this was not an issue which was understood by most planners. Typically, the external surface area of existing back extensions is high relative to the floor area. As part of a deep retrofit project, an architect proposed a full width two storey extension, which made the external envelope of the building more compact and thus thermally more efficient. The extension did not have a negative impact on neighbouring properties, but it was resisted by the planners as it did not comply with planning guidance[3]. As the architect explained: 'As soon as you depart from prescribed approaches, you're in trouble.'

### 3.9 Application forms unsuitable for retrofit projects

Current application forms are not well suited to retrofit projects. In one instance the retrofit of a block of flats involved the construction of a new plant room and bin store at ground level and the planners initially treated it as a new building and required a flood impact assessment. In this instance the architect was able to negotiate and in the end the planners conceded on this issue, but such negotiations can cause delay and extra expense. In another case, 44 houses belonging to a local authority, which were pepper potted around an estate, were being renovated, which caused the architect problems in completing an online application form and getting it validated, because the system would not accept that number of addresses. However, as the homes being renovated only represented 10% of the estate, it was not appropriate to include all of the estate in the application. The architect for these projects commented: 'Whilst this might seem a minor administrative problem, in practice it proved quite a challenge.'

### 3.10 Applications based on archetypes

Some interviewees had been able to negotiate submitting applications based on archetypes. As one, who was working on a project involving retrofitting over 300 social rented homes on an estate explained:

> 'Only through meeting, we discovered that we could submit the application based on the archetypes rather than based on every single property, and that's hugely reduced our workload'.

This meant that they could submit plans, sections and elevations for each archetype instead of having to do drawings for 300 plus properties.

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[3] In a conservation area 'an extension from a rear wall is not permitted development if it results in an enlarged area of the house that has more than one storey' MHCLG, 2019, p. 30.

The acceptance of applications based on archetypes would also be helpful for retrofitting street properties. An advisor to an organisation, offering a system approach to retrofit, reported that despite standardised designs for retrofitting ten houses in the same street, the planners had required full applications with surveys, acoustic reports and full drawings for all ten properties. This involved considerable expense as well as delay and the permissions then came back at different times.

### 3.11 Planners' lack of knowledge about retrofit

Local planners often had little knowledge about what was involved in retrofit. An architect working on a project for homeowners found:

> 'The Council resisted every single kind of option and weren't really prepared to engage with retrofit. I didn't know quite how to manage that massive knowledge gap that was being presented to me.'

Another architect commented:

> 'I've talked to planning departments and understood just how little opportunity they were getting for education, training on all this kind of stuff, which is super important'.

### 3.12 Design and access statements

As planning officers' level of knowledge about retrofit was often limited, architects, seeking approval for ambitious retrofits, had put a lot of effort into design and access statements. As one architect explained:

> 'We get them through now, because we see the problem coming and we write quite lengthy and well justified design and access statements.'

Another commented commented:

> 'One problem is the amount effort one has to do on the research, report writing and convincing'.

### 3.12 Requests for detailed information

A number of interviewees highlighted the problem of planners asking for detailed information at an early stage, which resulted in them having to undertake work at risk. As one architect commented:

> 'They are constantly asking for more and more information, like having to mock things up and do 3D rendered views, before and after, even though they look the same. They wanted one to fives[4] as well to show how it was going to work. Detail that you wouldn't expect to necessarily be doing at RIBA Stage 3[5].'

### 3.13 Delay in processing applications

The length of time it takes to get planning permission was a major problem. As one architect commented:

> 'It's just the amount of time that things take. I'm not sure we've had a planning application go through recently when there hasn't been a request for an extension[6].'

[4] Construction details at a scale of 1:5.

[5] Royal Institute of British Architects Work Stage 3 Spatial Coordination is usually completed before submitting planning, but Technical Design is carried at out in Work Stage 4.

[6] The UK Government sets statutory limits to the time Local Planning Authorities are allowed for responding to applications, However, LPAs regularly request extensions to these time periods, which applicants usually accept to avoid the risk of refusal.

There were a number of consequences of these delays. Because of the tight deadlines for funding for social housing, architects avoided improvements which might be controversial, and they proceeded with detailed design work prior to getting planning permission, which meant that they risked work being aborted and not getting paid. At a time of a high inflation in construction costs, delays also had an adverse impact on project budgets, which sometimes resulted in projects not going ahead.

Although there was widespread frustration about delays, interviewees were aware that planning departments were under resourced. As one architect commented:

> 'People are overworked and don't have enough time to deal with things. We're not critical of planning officers, because they are grossly overworked.'

In 2019 the Royal Town Planning Institute indicated that the problem of under resourcing of local authority planning services was worsening; it reported that in England between 2009 and 2018 the expenditure of local authorities on planning decreased by 42%.

3.14 The finish of external wall Insulation

Many interviewees had submitted planning applications for installing external wall insulation. Whilst the installation of external wall installation is classified as permitted development in England, this is subject to the condition that the materials used ' shall be of a similar appearance to those used in the construction of the exterior of the existing dwellinghouse' (MHCLG, 2019. p.31). In practice, unless the existing finish is render, the installation of external wall insulation usually involves a change in the finish of the wall. Interviewees found that planners' opinions varied about what constituted a similar visual appearance; sometimes it was render of a similar colour to brickwork, sometimes brick effect render[7] and sometimes brick slips.

There was a general consensus amongst interviewees that retrofits should be sensitive to the existing street scene. However, in some streets the front elevations have a variety of finishes. One architect was retrofitting a small brick end of terrace Victorian house in a conservation area. As insulating internally would have made the rooms too small, she submitted an application for external insulation with a rendered finish, including on the front and side elevations. The application was successful due to a carefully argued, detailed design and access statement. This showed how the frontages of buildings in the street had a variety of brick and render finishes, and explained how replacement windows were to be positioned to preserve the traditional relationship with the external wall finish and how the roof was to be extended to cover the insulation at eaves level. Many interviewees agreed that such attention to the detailing of external insulation was more important than maintaining a similar finish.

A number of interviewees had experience of planners objecting to the installation of external wall insulation at the rear of properties. As one architect who had been consulted by a group of homeowners in a conservation areas explained:

> 'It's very clear that they do not allow external insulation from the front. Fair enough. But the backs of these houses, it's a higgledy, piggledy mess. And so saying 'you can't put on external insulation' just seems extremely random, because for most of these people, internal insulation is going to be a monstrous headache.'

[7] Brick effect render involves applying a first coat of render matching the mortar colour and a second coat the colour of the original brick, scored in the pattern of brickwork joints to reveal the render in the mortar colour.

Problems also arose as a result of planners' lack of flexibility about finish. One architect found that planners viewed going from a red brick to a reddish render as permitted development. However, her clients wanted a paler colour render at the rear of properties with back extensions in order to reflect more light and this required having to go through planning adding cost, uncertainty and delay. Another interviewee had to resubmit to planning, because of a supply problem with the particular brick slips that the planners had wanted.

A surveyor with extensive experience of working on retrofits in different parts of the country was frustrated by the lack of consistency. He found that some planning authorities would not consider external wall insulation with a rendered finish on very average brick houses, whereas others permitted it on almost identical houses.

### 3.15 Installation of external service pods

A number of problems were reported regarding the installation of service pods on retrofits of social housing. These units are designed to house all of the building services including the air source heat pump, the solar panel inverter, the water tank and the mechanical ventilation with heat recovery. They are manufactured off site and thus their installation causes minimum disruption for tenants. On one project the planners' refusal to accept the integral grey finish of the pod and requirement for a brick finish had caused six months delay. On another project retrofitting a terrace of houses, it had originally been intended to house the service pods within new porches. This did not need planning permission, as there are permitted development rights for porches of up to three square metres (MHCLG, 2019). However, due to supply problems the specification was changed to door height units which had to be installed externally. It was proposed to install them adjacent to each front door below a canopy. However, because the area below the canopy was not enclosed by a door, the planners did not consider this to be permitted development and required a full planning application to be submitted.

### 3.16 Roof heights and chimneys

Raising ridge lines to accommodate insulation was sometimes resisted by planners. One architect commented:

> 'There is an obsession to keep heights matching neighbours. But the problem is sometimes these heights are too low to insulate properly internally.'

A surveyor recounted mixed experience:

> 'Adding a layer of insulation 50mm thick over the rafters of a pitched roof, then counter-battens, allows us to fully fill the rafter voids and more, creating really good U values. We have successfully done this many times, but some boroughs just refuse to accept the concept.'

He had also found great resistance by planners to the removal of redundant chimneys, which were major thermal bridges and often required costly maintenance.

### 3.17 Windows and Double Glazing

Planning issues frequently arose with replacing windows and installing double glazing in listed buildings and in conservation areas. As one interviewee explained:

> 'Getting any conservation area officer to allow you to install a new double glazed unit or even double glazing into an existing frame is difficult'.

Highly thermally efficient replacement sash hung windows with fixed top sashes and inward opening tilt turn bottom look very little different to traditional sashes. However, another interviewee explained that he had found planners reluctant to accept them 'even where the backs of houses were a riot of different things already'. In other instances, conservation officers had refused to accept replacing the glazing in existing sashes with ultra slim evacuated cavity double glazing. However, there were some indications that conservation officers in some areas were becoming more open to these innovations.

### 3.18 Heat pumps

Although the installation of air source heat pumps is classified as permitted development subject to certain conditions (UK Government, 2015), in practice, planning permission was frequently required, because the installation was within one metre of the boundary, in a conservation area or the grounds of a listed building, or did not comply with the Microgeneration Certification Scheme (MCS, 2019). This frequently involved significant delays and additional expenses, as acoustic tests were required to prove that the noise made by the heat pumps did not exceed the level of background noise, which involved employing acoustic engineers. However, several interviewees made the point that such tests were unnecessary in the context of recent improvements in the technology. As one interviewee commented:

> 'I think that in the past heat pumps had a higher noise level, but now they don't. The new ones are around 35 decibels. That is the noisiness of a fridge'.

On social housing projects, particular problems arose when more than one heat pump or larger communal heat pumps were needed. This sometimes resulted in planners requiring screens to dampen the noise output or requiring the pumps to be located some distance away from the property making the system less efficient.

The renewable energy manager of a large housing association, which had been installing air source heat pumps for 20 years, had a problem with planning permission being required for replacement ones, because the replacement installation did not comply with the current Microgeneration Certification Scheme guidance. He explained that

> 'We have to go for full planning and then by the time you eventually get it through planning, it can take three to six months. That whole time, I've got a customer out of heating and hot water'.

### 3.19 Solar Panels

The installation of solar panels (solar photovoltaics and solar thermal equipment) is permitted development subject to certain conditions (UK Government, 2015). The conditions include siting them to minimise the impact on the external appearance of the building. These permitted development rights do not apply to listed buildings and street frontages in conservation areas. Local authority Article 4 directions frequently further restrict development rights in conservation areas. Although planning permission for solar panels on street facing roof slopes continues to be resisted, several interviewees thought that planners' attitudes were changing. One architect whose projects were mainly in conservation areas recounted his experience:

> ‘I think councils are much more receptive. We're not even really having to go down the fake tile route[8]. Although they definitely have their place and they are becoming possible on listed buildings, where previously nothing was possible’.

3.20 Suggestions for streamlining planning to facilitate retrofit

There was a strong consensus amongst interviewees that there was a need for clearer and more consistent policy on retrofit. As one interviewee explained:

> ‘We deal with so many different councils, so for us really there needs to be some sort of nationwide policy on retrofit.’

It was argued that in order to scale up the delivery of domestic retrofit projects, there needed to be an extension of permitted development rights, as one architect suggested:

> ‘It would be possible to establish a series of design rules, specifically around retrofit, so that then if you comply with them, it's deemed to be permitted’.

Interviewees also recognised that there was a need for local policy on retrofit. As one interviewee explained:

> ‘The nuances and specificities of different sort of vernaculars can be developed at more of a local level.’

As planning application forms are designed for new build, it was proposed that a new application form, specifically for retrofits, should be introduced and that this should allow for an application to be based on archetypes where appropriate. As current national planning policy gives great weight to preserving historic buildings, those involved in retrofitting historic buildings advocated energy efficiency being given greater weight to allow more flexibility in upgrading them.

Many interviewees highlighted the need for planners to receive training on retrofit. As well as focussing on design issues relating to energy efficiency, it was thought that this should also cover the design process and cost constraints. Some suggested that it should be the role of planners to actively promote energy efficiency.

Other recommendations were the appointment of a dedicated officer to deal with planning for retrofits or of a retrofit champion who could work to ensure a joined-up approach across council departments.

## 4.0 Emerging Good Practice

A number of local authorities are introducing new policies including some of those suggested by interviewees. Some local authorities are now actively promoting domestic retrofits. For example, Stockport Core Planning Strategy requires planning applications for changes to existing dwellings, where possible and practical, to include improvements to energy efficiency; applicants are required to submit an energy efficiency statement and to complete an energy efficiency checklist[9]. Other local authorities have produced guidance on how to retrofit. Brighton and Hove City Council (2016) produced a planning advice note on energy efficiency for historic houses in conservation areas, which indicates that external insulation and standard double glazed windows may be acceptable on elevations not visible from the street. A number

[8] Solar roof tiles incorporating thin film photovoltaic cells are now commercially available but are more expensive than conventional roofs and solar panels.
[9] https://www.stockport.gov.uk/energy-efficiency-statements

of local authorities have produced Special Planning Documents which provide advice on retrofitting existing buildings (see for example, Bath and North East Somerset, 2022). These documents generally clarify how policy will be implemented, but do not extend permitted development rights.

Westminster City Council has set up a retrofit task force to investigate solutions to the challenge of retrofitting existing buildings. Its initial focus is historic buildings due to the number of conservation areas and listed buildings in the borough. A number of industry experts as well as officers from different council departments are members of the task force. It is developing an action plan following workshops involving local property owners and residents. It is producing guidance for householders on how to retrofit. The first of the series provides detailed advice on making windows energy efficient and explains what changes require planning permission (Westminster Council, 2022).

Local Development Orders and Local Listed Buildings Consent Orders can be used to remove the need for planning permission by specifying when development is deemed to be appropriate (Historic England, 2015; Planning Advisory Service, 2019). They can make the process simpler, less expensive and quicker for applicants, and reduce the workload of planners. These orders have the potential to facilitate the implementation of retrofit projects, but to date have largely been used for other purposes. In 2015 Wirral Council passed a Listed Buildings Consent Order for Port Sunlight, which has a high concentration of Grade II listed buildings. Replacement rear doors, rear windows and yard gates, which comply with the order do not need listed building consent; a simple notice form is submitted to the Council, which confirms compliance (Port Sunlight Village Trust and Wirral Council, undated). In 2017 Dudley Metropolitan Borough Council introduced a Local Development Order, which allowed certain householder extensions to be built without planning permission. As in Port Sunlight, a simple application form needs to be submitted to confirm compliance. In 2022 the Royal Borough of Kensington and Chelsea was the first in the country to introduce a Local Listed Buildings Consent Order for the installation of solar panels on Grade II listed buildings[10] and it is now consulting on another order for windows.

The Architects Climate Action Network's Climate Emergency Conservation Areas Toolkit (2023) provides guidance on how historic buildings can be made more energy efficient whilst respecting the fabric of historic buildings. It provides detailed information on how to insulate walls and roofs, and how to improve the energy performance of windows. while also maintaining or improving the heritage value of the conservation area.

## 5.0 Conclusion and Recommendations

This research has identified several areas in which the planning system in England currently hinders the implementation of domestic retrofit projects. These include a lack of clarity or inconsistency in the implementation of policy, conservation policy being given greater weight than energy efficiency policy, planning officers' lack of knowledge about retrofit, application forms being unsuited to retrofit projects, delays resulting from

[10] https://www.rbkc.gov.uk/newsroom/solar-power-more-homes-kensington-and-chelsea

an under resourced planning system as well as problems relating to the retrofit of specific building elements.

In order to achieve the target of net zero the planning system needs to change from obstructing the implementation of retrofit projects to actively promoting domestic energy efficiency. This will involve changes in both national and local policies and practice, speeding up the decision making process and ensuring that planning departments are better resourced.

Based on this research the following recommendations for changes to the planning system and to local authority practice are made.

a) The regulations on permitted development in England should be revised with a view to promoting a fabric first approach to retrofit and facilitating the installation of heat pumps and solar panels. Improvements to the energy efficiency of homes which are not visible from the public realm should be considered permitted development unless this would negatively impact on features of historic interest.

b) The guidance on noise level requirements for air source heat pumps is a particular topic which needs to be revisited; in the context of improvements in the technology their installation should be permitted provided the noise output is below a maximum decibel level.

c) The NPPF should require local English planning authorities to provide guidance on implementing domestic retrofit projects. The Government should produce national model guidance on retrofit. In a similar way to the National Model Design Code (MHLG, 2021), this would set out principles for achieving high quality design, which could then be adapted by local planning authorities to provide guidance reflecting local character.

d) The NPPF should be amended to provide clearer and more positive guidance on how to consider the impact of proposed energy efficiency improvements on the conservation of a designated heritage asset, so that, when making decisions on applications, significant (ie equal) weight should be given to both improving energy efficiency and the protection of heritage assets.

e) Local retrofit guidance should clearly set out what retrofit measures will be permitted. This should include details of where external insulation can be installed, an acceptable range of finishes to external insulation, acceptable changes in roof line to accommodate insulation, where chimneys can be removed and what replacement windows and glazing are acceptable. Such guidance could take the form of Supplementary Planning Documents, Local Development Orders and Local Listed Building Consent Orders. All development complying with the guidance should be permitted. Householders should have the option of applying for certificates of permitted development if they wish to have confirmation of compliance. Extending permitted development rights in this way would offer greater certainty to householders planning to retrofit their homes, and also has the potential to reduce the workload of local authority planners.

f) Local planning authorities need to ensure that they have planning officers who have a good understanding of the technical issues involved in retrofit. As well as providing training for all planners on retrofit, this might involve appointing a retrofit lead planner who could advise colleagues. In addition to providing local guidance on retrofit, local planning authorities need to review how they can actively promote retrofit. This might include amending the local plan to include energy impact statements in planning applications and providing energy checklists.

g) Local authorities need to review how they can develop joined up policy on retrofit. One way to do this would be set up a cross departmental task force to ensure effective liaison between their planning, building control and housing departments to engage with industry and community representatives. It would also be helpful to have retrofit champions within local authorities.

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