



Department for  
Business, Energy  
& Industrial Strategy

# Social Housing Decarbonisation Fund Demonstrator

Question and answers

Withdrawn

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The questions covered by this document reflect questions raised:

- During a Supplier webinar for the Social Housing Decarbonisation Fund
- (SHDF) Demonstrator held by the Department for Business, Energy and Industrial Strategy (BEIS) on 28th September 2020.
- Between competition launch on 30th September and the 16th October 2020 which was the clarification question window.

The answers should be used in conjunction with the guidance document found on the SHDF Demonstrator [website](#).

Deadline for applying to the fund is 17:00 Thursday 12th November 2020.

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# Funding

## **How Many Projects Do You Expect to Fund?**

We expect to fund between 7 and 16 projects across the UK. Local Authorities, or consortia led by them, will bid, through a competition process.

## **What Cost Reductions Can Consumers Expect to Make?**

Tenants in Social Housing can expect an average reduction of between £300 - £500 in fuel bills per year following their home being retrofitted.

Reductions will depend on A) the work carried out and B) the current energy rating of the house.

Where appropriate, projects should include appropriate familiarization and training for occupants on the new indoor environment (i.e. heating, cooling and ventilation systems)

## **How Does the Main Scheme/ Fund Relate to the Demonstrator?**

The main Scheme/Fund, which is subject to the autumn Spending Review, aims to deliver transformational change in the social housing sector, by upgrading the energy performance of a much larger number of poorer performing homes.

Delivery of the Main Scheme/Fund will be developed based on insights from the SHDF Demonstrator.

We anticipate that the main fund will begin in the Financial Year 21/22.

## **Will the Main Scheme only be open to Local Authorities?**

We anticipate the main scheme will be open to all Social Housing Landlords.

## **Are you still committed to funding the £9.2bn of manifesto commitments?**

The government remains committed to decarbonising buildings to keep us on track to reach Net Zero emissions by 2050.

The £50m SHDF Demonstrator is being delivered alongside the £2bn Green Homes Grant and the £1bn being spent to make public buildings more energy efficient.

Funding for future energy efficiency initiatives will be determined through the Spending Review in the autumn.

**When will you announce the full scheme?**

Allocations for future years will be determined at the forthcoming Spending Review in the Autumn.

**How will you decide who gets the SHDF Demonstrator money?**

Funding will be awarded to Local Authorities (or Consortia led by Local Authorities) through a competition (against the criteria we have laid out in the guidance documentation), building on the experience of the Whole House Retrofit (WHR) programme.

**For clarity, is £13.5M per borough or project in the case of a consortium bid or is it £13.5M in total per application?**

Please refer to the Guidance Document Section 5 on State Aid.

**Is there a minimum amount of grant funding that can be applied for?**

There is no minimum value of grant funding. However, an appropriate number of dwellings must be included in the bid in order to deliver the required economies of scale.

**What costs are eligible to be covered by the scheme?**

Please refer to the Guidance Document Section 5a. on Eligible Costs

**We are a Local Authority but have no social stock and would be applying on behalf of our ex-Council housing RP. We would simply be a conduit for the funding - is this allowed?**

Yes, a Local Authority can apply on behalf of their Registered Providers. As the lead applicant, the Local Authority will be responsible for assuring they are compliant with the funding measures and the arrangement laid out in the Memorandum of Understanding and the SHDF Demonstrator Guidance document.

Version 2 questions below

**What happens to funding if the project, or part of it, is not completed to agreed standards and objectives or is not delivered on time?**

It is the responsibility of the bidding Authority/ Authorities/ Registered Providers to ensure they have adequate and appropriate project controls and risk management in place to ensure all proposed project activities and outcomes are met within the time frame allowed. At the end of the project, there will be an evaluation to assess performance. This will be based on the agreed project outcomes and the "Performance" section of the Memorandum of Understanding. If after this assessment it is deemed that a recovery plan needs to be established, this will be done in discussion between BEIS and the Lead Authority and in exceptional circumstances may involve the repayment of grant funding. BEIS is committed to ensuring this scheme succeeds and will work with participants to drive a mutually successful outcome.

**Who will the funding be allocated to?**

The funding will be awarded to the lead Local Authority (LA). It is the responsibility of the lead LA to establish the mechanism for ensuring money is used to carry out the relevant work across the consortia, and ensuring it is compliant with the Memorandum of Understanding with BEIS and the stipulations laid out in the spending power, Section 31 of Local Government Act 2003 (England and Wales)/Industrial Development Act (Scotland and Northern Ireland), and in line with Managing Public Money.

**In an area with several Districts, would the Demonstrator fund one retrofit co-ordinator for the whole County, or would there be one retrofit co-ordinator for each District?**

In compliance with PAS2035, the project must have a Retrofit Coordinator engaged with the work. It is up to applicants to justify the number of Retrofit Coordinators needed.

**Are we eligible to apply for LAD funding in addition to the SHDF Demonstrator?**

A Local Authority is welcome to apply for LAD funding, but you cannot use it for the same measures. The Local Authority is responsible for carrying out any due diligence and understanding the legal requirement for receiving funding from BEIS in line with State Aid Requirements.

**What level of contribution to costs will be required if we have received advice that a grant from BEIS would not be state aid?**

State Aid compliance is a legal requirement and the risk of non-compliance rests with the grant recipient, in this case the lead Local Authority. If you deem that a grant from BEIS for this purpose would not be State Aid, then there is no defined level of costs that need to be provided by bidders. However, please note that any bid submitted will be assessed against value for money criteria as defined by Section 8.d in the Guidance Document. Note also that you would need to be able to provide evidence as to why a grant from BEIS for this purpose would not be State Aid.

**What is the cap on our bid if we have received advice that a grant from BEIS would not be state aid?**

In the case that your application is not subject to State Aid regulation, the maximum bid value will remain at the same maximum level given by State Aid, £13.5 million. This value will be set at the exchange rate of €15m at the point of grant award. The figure of €15m per undertaking per project comes from the General Block Exemption Regulation, set out in section 5.

You will also be responsible for providing evidence as to why a grant from BEIS for this purpose would not be State Aid.

**Can match funding be done with in kind contributions?**



It is the responsibility of the Local Authority to ascertain their responsibilities with regards to State Aid and the provision laid out in Section 5 of the Guidance Document. This includes what can be used to provide the remaining percentage of funding.

**Would the GHG scheme be counted as match funding for leaseholders? Or just as additional funding?**

Please refer to the Guidance Document Section 5 on Competition Scope and the position on leaseholders.

## Project Scope

**Why are Properties Over 18m Excluded from the Demonstrator?**

The difficulties in gaining resident approvals & consents, especially from leaseholders, in the very tight timeframes involved in the demonstrator.

There are significant changes occurring to building safety and fire safety regulations for high rise buildings which we consider should be implemented before we tackle these properties through delivery of the main fund.

The criteria for the main fund are yet to be confirmed and will be partly influenced by the outcomes of the SHDF Demonstrator but we anticipate buildings over 18 metres will be included.

**How Long is the Delivery Window?**

The delivery window for the project will be from December 2020 – December 2021, at which point a final installation report will need to be submitted.

A period of performance monitoring will continue beyond this to ensure we learn as much as we can from the Demonstrator Scheme.

**Do we have to complete works within 12 months, or can we start work within 12 months and complete within a larger timeframe?**

No, the completion date (final installation report) for the project is December 2021.

In the event of a National or Local Lockdown due to COVID-19, that affects the delivery of the project, will timescales be extended?

In the event of a national or local lockdown that requires works on site to be paused, BEIS will engage with projects to discuss the implications to timescales.

**With quality being driven higher via new PAS, how can costs reduce by 50% without compromising this requirement?**

The aim of the SHDF Demonstrator is to demonstrate how, by adopting a Whole House Retrofit approach on an appropriate number of dwellings, an overall project cost reduction of 5-30% is achieved. The cost reductions must be achieved in compliance with PAS2035 through innovation in the retrofitting process and through economies of scale in the supply chain. Our longer-term ambition is to achieve a 50% reduction in the cost of a Whole House Retrofit.

Please refer to the Guidance Document Section 4.f on Innovation for more information.

**Please can you clarify your thinking on leaseholders? Is there a limit to what proportion of dwellings can be leaseholders? Our LA has a 50/50 split between tenants and leaseholders so it will be difficult to carry out works without including a high % of leaseholders**

The focus must be on social housing. We will not set a maximum limit of leaseholders which can be included but the focus of the project must be on social housing. Where leaseholder or freeholder (right to buy) properties are a component of an application, SHDF Demonstrator grant funding and match funding must be used on those properties, without costs being passed on to leaseholders/freeholders.

Applicants can work with leaseholders and freeholders to access Government funding, such as the Green Homes Grant scheme, or leveraged match funding to contribute to the costs of the demonstrator project if they wish.

**Can you include a few private houses as fill in?**

Focus for the fund should be on social housing. If, in identifying an appropriate set of dwellings to test the whole house retrofit approach, a small proportion of the dwellings are not social housing they can be included in the overall project.

SHDF Demonstrator grant funding and match funding must be used on those properties, without costs being passed on to leaseholders/freeholders.

Version 2 questions below

### **How can we engage with LAs?**

A private LinkedIn networking group has been set up and all registered stakeholders have been invited to join. The LinkedIn group can be found [here](#). Additionally, do reach out to your areas Energy Hub manager as they are willing to facilitate introductions where appropriate.

### **Will consortium members such as Registered Social Landlords be required or expected to be active within the lead LA(s) geographical area, or can they represent a more diverse spread of areas?**

The RSL will be expected to be putting forward housing stock that is in a Local Authority included in the consortium. This does not need to be the lead one and the local authority does not need to put forward any housing stock of their own. Ultimately the Lead Local Authority is responsible for ensuring the right controls are in place to maintain the integrity of the scheme and that it achieves the right outcomes, including Value for Money.

For RSL's with LA's in multiple areas, they can either form a consortium or place bids with multiple LA's.

### **Can solutions differ for each property in the same bid?**

There is no limit on the amount of solutions that can be put forward in each bid, noting that every building is different and will require a level of tailoring to achieve the right outcomes. Accurate surveys in accordance with PAS 2035 and appropriate decision-making will determine the suite of measures appropriate to each building. However, we would remind applicants that this project is outcomes driven and therefore any bidder should refer to the Guidance Document Section 4, Competition

Scope, which includes cost reduction and scale to be addressed.

**Can we use the money to subsidise new build social housing?**

No, this funding is only for retrofitting the existing housing stock.

**Can the project start later if still completed on time?**

You can start at which ever point you wish; however, we would expect completion by Dec 21, and if you plan on starting later, we would expect your shorter timeline justified and explained in the bid, noting that one of the outcomes of the scheme is to provide economic stimulus.

**What types of properties can I include in my bid? And is there a minimum number of dwellings per application?**

There is no minimum number of dwellings nor is there a specification on the archetype of the building, including a requirement for all dwellings in a bid to be the same archetype. However, we would remind applicants that this project is outcomes driven and therefore any bidder should refer to the Guidance Document Section 4, Competition Scope, which includes cost reduction and scale to be addressed.

**Can temporary accommodation be included in the bid?**

The focus of this fund is on social housing. Provided this accommodation is defined as social housing by the Local Authority or Registered Provider then it can be included.

## Policy

**Who Will Be Responsible for the Respective Projects?**

Local Authorities will be responsible for developing schemes, either in consortia with other LAs and Housing Associations or individually and in doing so will need to identify an appropriate supply chain and recruit eligible households.

BEIS will monitor, alongside its Delivery Partner (Ricardo Energy & Environment), the projects to ensure they are meeting the competition criteria.

### **Why is the SHDF Demonstrator UK Wide?**

Whilst Energy Efficiency is devolved, the demonstrator is an innovation project, and is therefore a UK wide scheme. We expect bids from across the UK and will ensure there is a distribution of benefits across the regions through the bidding process.

Successful applicants will benefit from the opportunity to improve their housing stock, and to learn valuable lessons on how to employ the whole house retrofit approach at scale in the future.

### **Does That Mean the Main Scheme Will Exclude the Devolved Administrations?**

The main scheme will be England only as Social Housing and Energy Efficiency are devolved issues, however lessons from the Demonstrator scheme will be shared with all the Devolved Administrations.

### **What Differentiates the SHDF Demonstrator from the Other Schemes?**

The SHDF Demonstrator is concentrating on the housing stock that is most similar as there is more opportunity for economies of scale and process innovation.

The Demonstrator focusses on driving innovation around more complex “whole house retrofit” involving a range of measures delivered together, with significant grant funding per property.

The Green Homes Grant schemes are expected to deliver no more than one or two measures per property, with a smaller amount of funding.

The aim of this competition is to demonstrate cost reduction in deep retrofitting homes through innovation in the retrofitting process and economies of scale.

### **What Is Whole House Retrofit?**

Whole House Retrofit is a complete approach to making homes more energy efficient. The approach requires consideration of insulation, ventilation, efficient heating, and the potential for renewables on a home-by-home basis, whilst actively

mitigating any risks associated with condensation, the livelihood of the tenants, and the heritage of the building. As such, the scope of a whole house retrofit will be different in every instance, given the current state of the building at hand.

### **Why Whole House Retrofit?**

The majority of retrofits to date have followed a measure-by-measure approach. Examples include installing loft or wall insulation, upgrading heating controls, etc. By taking a Whole House Retrofit approach, suppliers are able to benefit from greater economies of scale, tenants are able to avoid piecemeal disruption, and we are able to progress towards our net zero target.

### **What Was/Is the Whole House Retrofit Competition?**

The Whole House Retrofit Competition was launched in May 2019, a total of £7.7 million has been awarded to the first 3 winning organisations from the London Borough of Sutton, Nottingham City Council and Cornwall Council.

### **Why Social Housing?**

Due to its economies of scale and repeating archetypes, investing in the retrofit of social housing is likely to lead to a significant decrease in the cost of retrofit for other tenure types.

Investment in social housing is likely to facilitate greater carbon and energy savings, at lower cost, and lead to a healthier and more sustainable retrofit market.

Approximately 9% of households in the social housing sector are in fuel poverty, which jumps to 19% in properties below a Fuel Poverty Energy Efficiency Rating (FPEER)<sup>1</sup> Band C compared to just 2% in those at FPEER Band C or above.

### **Many social housing properties are already at EPC C. Would the expectation be that a similar target is set but at a better EPC score than the threshold of C (high C or B)?**

We believe achieving a minimum of EPC C through a fabric first approach to installing improvements is a good level of energy performance that supports homes

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<sup>1</sup> FPEER is similar to EPC, but includes the Warm Home Discount when calculating the cost of energy for the household

for future heat decarbonisation, and tackles fuel poverty at the same time. We are happy to hear thoughts on this, and are working closely with MHCLG on the standard for the social rented sector.

**Will there be consideration for older properties in relation to the kWh/m<sup>2</sup> requirements, where air tightness is harder to achieve? Furthermore, in some cases solid floors etc cause expensive consequential building works, that can contribute to overheating?**

We have set an end use energy demand target of at least 50 kWh/m<sup>2</sup>. This has been slightly relaxed compared to the WHR fund and we believe is an appropriate level for projects that receive grants under this fund.

**As previously mentioned in the GHG discussions, Band C is not an ambitious target for 2050. C is acceptable for 2030, but we must be aiming for Cat B/A by 2050 if we are serious about reaching Net Zero. Will BEIS acknowledge that a more ambitious set of solutions are required and set a national strategy to reach Net Zero?**

The Government is planning to publish a Heat and Buildings Strategy in due course, which will set out the immediate actions we will take for reducing emissions from buildings. These actions include the deployment of energy efficiency measures and low carbon heating as part of an ambitious programme of work required to enable key strategic decisions on how we achieve the mass transition to low-carbon heat and set us on a path to decarbonising all homes and buildings.

**Why only band C if the goal is zero carbon?**

A minimum of EPC Band C, taking a fabric first approach to improvements, helps prepare homes for heat decarbonisation and tackles fuel poverty. Some properties will be able to go further than this level of energy performance economically. We recognise that in order to reach net zero, the decarbonisation of heating will be required.

**For electric only areas, we could possibly have EPC ratings of C, so to confirm these properties would be excluded from funding, despite having an electric**

**heating system & fuel poverty indicators. Or other cases where we have already invested to keep such home at band C, despite resident still being vulnerable to fuel?**

Focus should be on dwellings with an existing EPC rating below C. Where a small number of properties in a block or street are at C or above, they can be included where it makes sense to do so. Applicants should justify this approach in the application including the % of properties at EPC C or above. There would need to be a significant reason for inclusion of a greater number of properties already at EPC C, but we would consider such applications on an exceptional basis.

**£15k-£30k is still considerably less than deep retrofits carried out under Energiesprong and other UK leaders in whole-house retrofit. Why this limit?**

The value given is reflective of the BEIS contribution to the overall retrofit cost, not the total cost for retrofitting the property. The value is reflective of the median price range, recognising some properties will require higher costs per property.

**There are 2.45m homes in fuel poverty, how many of those are in Social Housing?**

15.1% of the 2.4m fuel poor households in England live in social housing, which equates to approximately 360,000 homes<sup>2</sup>.

**RSLs have had economies of scale, homogenous stock etc for many years, why do BEIS think that this is new way of getting reductions? Prices are as low as they can be already.**

The aim of the SHDF Demonstrator is to demonstrate how, by adopting a Whole House Retrofit approach on an appropriate number of dwellings, an overall project cost reduction of 5-30% is achieved. The cost reductions must be achieved in compliance with PAS2035 through innovation in the retrofitting process and economies of scale.

Whilst the costs of delivering single measures to multiple social rented properties may already be relatively low, new approaches to more innovative whole house

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<sup>2</sup> Data from 2018, as published in the [Annual Fuel Poverty Statistics Report 2020](#)



retrofit has the potential to deliver cost reductions. Experience in other markets has shown that significant cost reductions can be achieved.

**Demonstrating supply chain job creation could be quite difficult. How do you propose this is achieved?**

Please refer to the Guidance Document Section 10 on Key Performance Indicators.

Version 2 questions below

**Will the ECO framework be suitable for the demonstrator?**

ECO funding can be leveraged for this project.

**If part of a consortium bid with multiple social landlords, can the 5-30% cost savings be across all houses in the project or must they be broken down per landlord?**

The cost reduction relates to project cost. It is at your discretion if you represent that across all the parties or break this down per landlord. The key is to be able to demonstrate how innovation and scale will help drive down the costs of interventions.

**If including leaseholders as infills, do these have to be EPC D and below? If not, is there a limit on band C inclusion for leaseholders?**

Focus should be on dwellings with an existing EPC rating below C. Where a small number of properties in a block or street are at C or above, they can be included where it makes sense to do so. Applicants should justify this approach in the application including the % of properties at EPC C or above. There would need to be a significant reason for inclusion of a greater number of properties already at EPC C, but we would consider such applications on an exceptional basis.

**Do we recommend any commercial frameworks?**

No, this is at the discretion of the bidding parties. BEIS is keen to understand the commercial approaches taken and their relative benefits to shape the future scheme.

**Is there a limit regarding price per m<sup>2</sup>, or are the costs purely focused on cost reduction?**

The cost reduction target relates to capital project costs, not the reduction in energy bills. However, projects should seek to reduce tenants' energy bills in line with our statutory fuel poverty targets.

**Can we include heat pumps or other clean heat measures?**

The buildings fabric must be considered and addressed first, noting that projects should seek to reduce tenants' energy bills in line with our statutory fuel poverty targets. Where funding allows, additional measures that support homes to move towards net zero (e.g. installation of low carbon heating, smart controls & systems, on-site generation, etc) would also be beneficial; the approach and methodology that underpins their selection, within the value for money criteria should be articulated in the scheme response.

**Can we retain existing heat systems if they are already installed, such as A rated gas boilers?**

The buildings fabric must be considered and addressed first and there is no obligation to replace existing heat systems. Where funding allows, additional measures that support homes to move towards net zero (e.g. installation of low carbon heating, smart controls & systems, on-site generation, etc) would also be beneficial; the approach and methodology that underpins their selection, within the value for money criteria should be articulated in the scheme response.

**We have properties that are rated EPC C or higher due to the SAP assessment, but their thermal energy demand is in the high 200's kWh/m<sup>2</sup>. Can these properties be included?**

The criteria for this fund are set at below EPC C as per the Guidance Document section 4, Competition Scope.

# Application

## **What are the Criteria?**

Please refer to the Guidance Document for more information on Eligibility (Section 3.a) and Assessment Criteria (Section 7.c)

## **Can a Combined Authority apply?**

Yes, a Combined Authority can be the lead applicant.

## **Who is the Scheme For?**

The SHDF will benefit Local Authorities, Housing Providers, Industry and Social Tenants.

## **How Long is the Grant Application Window Open For?**

The grant application window will be from 30th September – 12th November, the assessment period will follow the closure of the application window.

## **Can stock from outside my Local or Combined Authority area be included in the application?**

Where proposals cross LA boundaries a consortium bid should be submitted.

Where a bid is from a consortium, a lead LA should be agreed, and this LA should submit the proposal on behalf of the consortium

Please see the Guidance Document for information on placing a consortium bid.

## **I am housing association, why can't I apply?**

Given the focus of the SHDF demonstrator on supporting green jobs as part of the COVID-19 Economic Recovery Plan, it is vital that the programme moves at pace.

The funding mechanism that best allows for this to happen requires local authorities to lead bids.

The future Social Housing Decarbonisation Fund is intended to be open to all social housing landlords to directly access funding.

**I am a housing association with properties in multiple local authorities, how can I apply?**

You can put bids in with multiple different LAs. You can get all the LAs where you have housing to form a consortium, with a nominated lead LA.

Alternatively, you could identify one partner (e.g. a Combined Authority) who may cover a larger area.

**Can social housing landlords be part of bids or is it only ALMOs and Local Authority properties that can benefit?**

Social housing landlords can be part of bids, provided it is led by a Local Authority.

**At which point do specific technologies/solutions need to be spec-d during the process? Before the application stage (bid deadline is Nov)? Or once the grants are allocated?**

General retrofit strategies should be outlined at the application stage, however, as PAS2035 requires detailed assessments and building-specific plans for each home (and we would not expect these could be undertaken on all homes during the next month), we would anticipate some adaptation of the strategy after the grant had been awarded, as detailed assessments of the properties are undertaken to account for various potential issues of discovery.

These changes should be reported to the project monitoring officer so that BEIS can keep track of any changes of scope and ensure that the general thrust of the project remains uncompromised.

We would expect that the applicants have reasonable and feasible contingency plans to account for potential issues of discovery and potential changes in scope of the anticipated technologies such that the retrofits can achieve the intended targets.

**In what ways do you see existing WHR participants being able to use SHDF funding? Could this be as simple as extending the number of homes being treated under WHR?**

SHDF Demonstrator is a competition in its own right. Consortia members of existing WHR projects are welcome to apply if they have the capacity to deliver new projects on top of delivering existing WHR projects.

**Are there any preferred or restricted procurement routes? Can existing frameworks we used, including the "Whole House Retrofit" framework?**

It is the responsibility of the Local Authority to ensure the procurement route chosen is compliant with the funding mechanism, the Memorandum of Understanding and Managing Public Money.

**What process does a Local Authority need to go through to establish the supply chain for this project?**

It is the responsibility of the Local Authority to ensure they establish their supply chain in a way that is compliant with the funding mechanism, the Memorandum of Understanding and Managing Public Money.

**What is required from bidders with regards to a retrofit contractor?**

A Retrofit Coordinators will need to be appointed to oversee the assessment, strategy, design, installation, commissioning, and handover, and claim compliance of the project with TrustMark.

Given the timescales for this project we recommend that during the application period, the Local Authority ensures it has identified and has access to the resourcing required, including being able to meet the PAS2035 compliance required on all projects.

We have not specified the number of retrofit coordinators per consortium. It is the responsibility of the Lead Applicant to ensure they have adequate resourcing to deliver the project and meet be PAS2035 compliant.

Version 2 questions below

**Are we able to apply for multiple bids? And if we were to apply for the maximum amount, or close to this, would there be a chance of part of this bid being accepted even if not all of it is?**

We would anticipate one bid per Local Authority. However, if the reason for bidding multiple times is due to different consortia this is something that could be considered but we would not expect to see the same homes appearing in multiple applications.

It is the Local Authorities responsibility to ensure any funding received is compliant with State Aid Requirements. BEIS reserves the right to award less than the maximum depending on the specific project requirements and the volume of bids received. Should this situation arise, BEIS will aim to engage with the Local Authority to agree a revised approach.

**Are “for profit” housing companies allowed to apply for SHDF as part of a consortium?**

They would not be in scope for the SHDF Demonstrator Project. They may be eligible for vouchers under the Green Homes Grant Fund.

**Does a consortium have to be from a fixed geographical region?**

No, a consortium can be made up of any interested parties provided the bid addresses all the outcomes outlined in the Guidance Document Section 4, Competition Scope.

**If we did not submit an EOI, can we still apply to the fund?**

Yes, you would still be eligible to apply

# Technical

## **What is the Energy Efficiency Target for Retrofitted Homes?**

The energy efficiency target is for retrofitted homes achieving an end use energy demand target of 50kwh/m<sup>2</sup> or below by December 2021.

## **Why has the Energy Efficiency Target of 50Kwh/m<sup>2</sup> been chosen, noting this is relaxation of the target set by the Whole House Retrofit Competition?**

We have set an end use energy demand target of at least 50 kWh/m<sup>2</sup>. This has been slightly relaxed compared to the WHR fund and we believe is an appropriate level for projects that receive grants under this fund.

## **How big is the WHR Market in the UK?**

The number of whole home retrofits (WHR) in the UK is still relatively small, and therefore the costs per home are currently high.

International evidence shows there is potential for significant cost reduction through economies of scale, and innovation in construction methods and business models, particularly where combined with wider home refurbishment improvement.

## **Will there be enough companies registered and certified to carry out this work?**

We have undertaken early market engagement through an Industry Engagement Event and a supplier day before the launch, we are confident that the supply chain will be able to respond to the demand.

## **Does BEIS know how many approved installers there are in the UK who are qualified to perform Whole House Retrofit?**

BEIS are working closely with TrustMark and wider actors in the supply chain to market the scheme and encourage suppliers who could become TrustMark registered and appropriately certified to do so.

More and more installer firms are becoming TrustMark registered each week in order to meet demand across the Energy Efficiency portfolio.

**When referring to cost reduction of 5-30%, does this refer to the cost of capital delivery or to the cost of heating the property?**

The cost reduction refers to cost of capital delivery.

**Is there an overall carbon reduction target for each project?**

No, the project focus is on energy demand reduction with projects required to obtain a 50 kWh/m<sup>2</sup> performance figure, which must be achieved in compliance with PAS2035.

**Typically, what number of dwellings are in successful applications?**

We have not set a required number of dwellings for applications. The application must demonstrate how the number of dwellings is appropriate for demonstrating the economies of scale required for this project.

**Would you consider battery storage as part of the whole retrofit?**

The focus of the competition should be on a fabric-first retrofit approach but beyond this the competition does not prescribe or favour any one solution, and there are no preconceptions on what successful approaches will look like – indeed we welcome a range of different technical approaches and solutions from bidders.

Battery storage can be included if it makes sense for the approach being taken for those properties.

**If individual measures could be considered rather than WHR, would retrofitting smart charging in social housing homes with electric storage heating and hot water systems be eligible?**

The focus of the competition should be a fabric-first whole house retrofit approach.



**How will the pre-retrofit monitoring be brought into the programme? Is that included in the 12 months?**

Please refer to the Guidance Document Section 10 on Monitoring.

**Is there any allowance being made for monitoring these deep retrofits with sensors to test the outcomes and monitor the true energy efficiency improvements?**

This is an innovation project. If technologies exist to improve the monitoring of energy efficiency, we would be interested to see these included in an application.

**Will consideration and merit be given to those that have less embedded carbon in the manufacture and sourcing, ie goods flown from 1000s of miles away.**

The project focus is on energy demand reduction with projects required to obtain a 50 kWh/m<sup>2</sup> performance figure, which must be achieved in compliance with PAS2035. Please refer to the Guidance Document Section 7.c on Assessment Criteria for more information.

**With focus on energy, where is the monitoring for Internal Air Quality (IAQ) as ventilation might become an issue, - despite the PAS2035 requirements, as Part F is not very robust in retrofit, nor is Air Tightness testing cost efficient?**

PAS2035 requires air pressure testing on Path C projects, thus any project which is Path C under PAS2035 will need to budget for air tightness testing both before and after the retrofits as required by the standard. In regards to ventilation requirements of PAS2035 and Part F, PAS2035 requires that homes be brought up to better than the new build standard for ventilation in homes as part of its Appendix C requirements (it has higher requirements for assumptions around occupancy than Part F does).

For Path B and A projects that include airtightness and insulation measures, the ventilation must be assessed and upgraded in compliance with Appendix C of PAS2035 with or without undertaking an airtightness test. If an air tightness test is NOT undertaken on a Path A or B project, the only way to demonstrate full compliance with PAS2035 Appendix C is to specify and install a continuous ventilation system (dMEV, cMEV or MVHR), because there is an airtightness

threshold of 5m<sup>3</sup>/m<sup>2</sup> at 50Pa at which continuous ventilation becomes a requirement.

If the project fails to demonstrate the air tightness of the home is worse than a test level of 5, then they would need to install a continuous ventilation system to demonstrate they have provided a ventilation system which accounts for a potential "worst case scenario" (i.e. they've pushed the envelope below the designated continuous ventilation threshold).

It is at the project's discretion whether they plan to spend money on air pressure testing and specify/install a lower-level ventilation system (IEV, for example), or whether they plan to spend the money on a higher quality ventilation system and forego testing on Path A or B projects.

### **Can assessments use the full version of SAP, to show cold bridging reductions?**

That would be an acceptable modelling methodology as it would demonstrate the applicant fully understands the technical challenge they are undertaking. PHPP would alternatively be an acceptable method of modelling the design intent.

We do not believe that RdSAP would either meet the requirements of PAS2035 nor account for the full scale of a whole-house retrofit, thus we would prefer a higher level of modelling and more accurate level of energy demand estimation than RdSAP for the purposes of setting performance targets for this project.

We would expect that the applicants propose a method of verifying post-construction quality and in-use demand reductions - if possible. We appreciate that in the case of fuel poor households that savings in energy costs may not be demonstrable due to the residents significantly underheating the home before the retrofit.

Therefore, we would expect that any post-construction performance review include both some empirical validation of the building performance, as well as occupant/resident feedback in regards to improved comfort and any reduced stress around heating the home or other metrics if the homes include residents who are fuel poor or claiming benefits. PAS2035 requires that the retrofit projects set out its key objectives at the outset of the project, and measure and evaluate against those outcomes at the conclusion.

### **While the green homes voucher allow work to be completed under PAS2030, why is this PAS2035, despite the same time frame?**

The delivery timescale for this project is longer than the Green Homes Grant scheme where work has to be completed by March 2021. PAS2035 compliance will be required for the demonstrator given the nature of the whole house retrofit approach. As such, Retrofit Coordinators will need to be appointed to oversee the assessment, strategy, design, installation, commissioning and handover, and claim compliance of the project with TrustMark. The whole house retrofit approach requires consideration of insulation, ventilation, efficient heating, and the potential for renewable technologies on a home-by-home basis, whilst actively mitigating any risks associated with condensation, the livelihood of the tenants, and the heritage of the building.

**We have a current ESWI scheme that we would like to use as our application. This 1 measure will bring the properties from a D to a C rated. It is not in the current contract for the contractor to provide any other measures, is it ok to have just one measure, would ESWI be classed as a whole house measure and be acceptable?**

No. It does not qualify as a whole house retrofit on its own, nor would it comply with PAS2035 without ventilation being installed as well.

**You said the competition is looking for process innovation and not technology innovation. Is there an expectation on what technologies can be used? Or is anything eligible as long as it is 'off the shelf' / on the market?**

We are technology agnostic. We are looking to see the art of the possible in bringing together technologies that can deliver for the Demonstrators aims and objectives.

Version 2 questions below

**Are pre- and post- measurements of heat loss coefficient and U-values needed?**

The teams should follow PAS2035 in regards to carrying out a basic level of evaluation on all homes (looking at comfort, utility consumption and process as a minimum), and then escalating homes which show the most significant performance gaps for doing more detailed intermediate and advanced investigations. The intermediate and advanced evaluation measures may include empirical testing of u-values, in-situ whole house heat loss testing, air pressure testing (if not already required as a Path C project), thermal imaging, or other forensic tests as appropriate to the nature of the performance gap. We do not expect intermediate level

investigations to be carried out on every single home receiving works, but investigations into the worst performing homes is expected. We will undertake monitoring and evaluation after the completion of the retrofit to get a comprehensive view of performance and the impact of the works. Please see section 4 on Competition Scope in the Guidance Document for information on Performance Gap Methodology.

### **What does the 50 kWh/m<sup>2</sup> relate to?**

The thermal demand target of 50kWh/m<sup>2</sup> relates to space heating only and is the demand value defined in the SAP modelling box 98 (or 99 for /m<sup>2</sup> value). Recognising it may not be possible to meet this target in some cases for practical, cost-effectiveness or affordability reasons, where this is the case your proposal should make it clear.

### **Can we project EPC ratings for unknown properties within a block?**

Yes, provided a clear and rational argument can be made to explain the projected ratings of the other properties. However it should be noted that the monitoring requirements once awarded will require you to be able to baseline the energy efficiency of the properties in order to show how the interventions have led to improvements and delivered on the objectives of the fund.

### **What is the requirement for the Retrofit Coordinator?**

The retrofit coordinator is responsible for ensuring and claiming compliance with PAS2035 and should also be registered with a TrustMark scheme at the time of claiming compliance. There are currently a number of Retrofit Coordinator TrustMark schemes operating, however these have only just started accepting and registering RCs with TrustMark in the last ~6 months, some with significant delays in starting up their schemes and recruiting RCs, due to the COVID disruption. It is for the LA to determine an RC's suitability and professional competence, however they should look to be working with RCs who have a clear route to registration with a TrustMark approved scheme before the point at which compliance will need to be claimed. Installers should be certified to PAS2030. PAS2035 sets out the competency requirements for Retrofit Assessors and Designers and other professionals in Appendix A.

**Our understanding is that PAS 2030 & 2035 compliance is not possible as the QA processes for off-site manufacture are not addressed in PAS2035. Can you confirm your understanding/expectation in this regard?**

The QA processes of off-site manufacturing are not explicitly accounted for as part of PAS2035, however it is the Retrofit Coordinator's responsibility to ensure that any off-site fabrication process is satisfactory in terms of technical competence, compliance, quality and risk management in regards to the elemental make-up of the off-site fabricated constructions, and ensuring that the off-site fabricated elements are correctly installed on site, and coordinated properly with the existing building. Nothing about off-site fabrication should prevent compliance with the PAS

Withdrawn

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