

Warm Homes Fund:
Call for Evidence
Department for Energy Security & Net Zero

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This submission is from UK100 which is a network of 123 strategic and local authorities and the only network of ambitious councils led by all political parties working together to tackle climate change. We help local leaders overcome challenges and turn innovation into solutions that work everywhere. We build the case for the powers needed to make change happen. From cities to villages, we help communities across the UK create thriving places powered by clean energy – with fresh air to breathe, warm homes to live in, and a healthy natural environment.

Please get in touch if you would like to know more or explore our response in more detail. We would be happy to provide a UK100 representative or member for any follow up discussions.

Section 1: Warm Homes Fund strategic case, aims and scope

Question 1: Do you agree with our assessment of the strategic opportunities, challenges and risks presented by warm homes financial transactions? Please provide evidence to support your response.

- **Supporting market growth:** Government-backed loans and equity investment can play an important role in accelerating retrofit deployment, reducing upfront cost barriers and leveraging significantly greater levels of private and other investments into the market. Long-term public finance signals can help scale supply chains, workforce capacity, manufacturing investment and innovation while reducing costs over time.
- **Need for government to absorb early-stage risk:** Government will likely need to hold a higher proportion of financial and delivery risk during the early phases of scaling area-based retrofit models in order to de-risk projects and create the confidence needed to attract private capital over time. Early-stage programmes may not initially meet conventional commercial investment criteria due to uncertainty around delivery models, consumer participation and long-term returns. This creates a tension between minimising fiscal and classification risk for government and accepting sufficient delivery risk to enable market development, which will

need to be carefully managed through the design of the Warm Homes Fund.

- **Recognising place-based delivery:** The assessment would benefit from stronger recognition of the role local authorities, combined authorities and strategic authorities can play in coordinating area-based retrofit delivery. Local government is well placed to aggregate demand, align investment with local plans and Local Area Energy Plans and wider regeneration and growth priorities, target support towards fuel poor households and attract private investment into local retrofit programmes.
- **Building consumer confidence and simplifying delivery:** Consumer confidence, trusted advice, high-quality installations, clear redress mechanisms and strong consumer protections will be critical to increasing uptake and avoiding the quality failures associated with previous retrofit schemes. Individual households cannot be expected to independently manage complex retrofit projects involving technology selection, supplier procurement, contractor coordination and quality assurance. Area-based neighbourhood delivery models can address this by removing complexity from households through collective programme management, trusted local delivery and consistent quality oversight, leaving households to make a simpler decision about participation.
- **Supporting multi-tenure and area-based delivery models:** A multi-tenure approach will be important for building community engagement and enabling more efficient delivery across neighbourhoods. Aggregating demand across owner-occupiers, social housing and private rented homes can improve access to finance, reduce delivery costs and support shared funding models that lower the burden on individual households. This is particularly important for households that are not eligible for grant support but are unable or unwilling to take on significant upfront retrofit costs or consumer debt.
- **Providing long-term certainty:** Long-term policy and funding certainty will be critical to unlocking investment at scale. Previous stop-start approaches to retrofit policy and funding have undermined national and local market confidence, weakened supply chains and reduced consumer trust. Stable multi-year funding settlements and clear long-term regulation are essential to support sustainable market growth.
- **Recognising affordability challenges:** The assessment should place greater emphasis on the continuing affordability challenges associated with clean heat, particularly the high relative cost of electricity compared to gas. Without further action to rebalance energy prices and reduce running cost concerns, the financial case for electrified heating will remain difficult for many households.
- **Strengthening delivery capacity** The assessment would benefit from greater recognition of the delivery and capacity challenges facing local government and the retrofit sector. Successful deployment of finance at scale will require investment in local supply chains and delivery capability,

installer skills, technical expertise, planning capacity and grid coordination alongside financial support mechanisms.

Question 2: What evidence is there on the factors that most significantly limit the uptake of green finance?

- **High upfront costs:** High upfront costs remain one of the most significant barriers to retrofit and low carbon technology uptake, particularly where households and landlords are expected to contribute substantial capital even alongside grant funding. This is especially challenging for low and middle-income households without access to savings.
- **Lack of consumer confidence:** Low consumer confidence continues to limit demand for retrofit finance and low carbon technologies. Concerns around installation quality, performance gaps, disruption, poor previous experiences and weak redress mechanisms have undermined trust in the market and reduced willingness to take on finance products.
- **Complex consumer journey:** The retrofit process remains fragmented and difficult for many households to navigate. Consumers often face multiple assessments, installers, finance providers and approval processes without clear trusted guidance or support throughout the journey.
- **Electricity and gas price imbalance:** The continued imbalance between electricity and gas prices weakens the economic case for heat pumps and other electrified technologies. Many households remain concerned about operational costs and uncertain about future bill savings.
- **Limited awareness and understanding:** Many households remain unaware of available finance products, grants or retrofit options. There is also limited public understanding of how technologies such as heat pumps, batteries and solar can work together to reduce bills and improve comfort. There is a need for a national campaign, alongside new funding and delivery models, to drive uptake.
- **Greater reliance on place-based delivery:** Evidence from local authority retrofit programmes demonstrates that trusted local delivery and community engagement can significantly improve uptake. Local authorities and combined authorities are often better placed to engage residents, coordinate delivery and target support towards priority households and neighbourhoods. They can also work across all housing tenures.
- **Weak market maturity:** The green finance market for retrofit remains relatively immature. Lenders continue to perceive retrofit finance as complex and higher risk compared to more established financial products. This is an area that could benefit from government support and funding to de-risk this space and make it a viable proposition for lenders as well to create products that would work for this segment.
- **Limits of finance-only approaches:** For some low-income households and harder-to-treat properties, even highly concessional finance may not be sufficient to make retrofit affordable if repayment costs outweigh expected

bill savings. In these cases, grant support or blended funding models may still be necessary to avoid creating financial hardship and to ensure those most in need can benefit from warm homes improvements.

Question 3: What wider loan or equity-based interventions in the warm homes market could unlock demand at scale?

- **Supporting area-based retrofit programmes:** Government-backed finance should support large-scale area-based retrofit programmes led by local authorities and combined/ strategic authorities. Aggregating demand across neighbourhoods can reduce costs, simplify delivery and create more attractive investment opportunities for private finance.
- **Scaling low-interest public lending:** Long-term low-interest lending models similar to Germany's KfW programme could help create a more stable and accessible retrofit finance market. This should also include support for whole-house retrofit packages where relevant.
- **Blending grants with finance:** Blended finance approaches combining grants, low-interest loans and private investment are likely to be more effective than standalone lending products. Grants will continue to play an important role in making retrofit affordable while finance can help households spread remaining costs over time.
- **Supporting supply chains and manufacturing:** Equity investment and concessional finance should also support domestic manufacturing, installer training, supply chain development and innovation. Expanding market capacity will help reduce installation costs and improve resilience across the retrofit sector.
- **Supporting community energy and collective models:** Government should explore financing models that support community energy schemes, shared infrastructure and collective purchasing approaches. Community-led and cooperative delivery models can improve public trust and widen access to low carbon technologies.
- **Creating innovative repayment models:** More flexible repayment structures, including energy-as-a-service models, on-bill finance, subscription models and shared savings approaches, could help reduce upfront barriers and improve accessibility for a wider range of households.

Question 4: How should the Warm Homes Fund ensure that it includes an offer suitable for those on low incomes? Any information on specific models is encouraged.

- **Prioritising grant-led support:** Grant funding will remain essential for many low-income and fuel poor households, particularly where households are unable to take on additional debt. The Warm Homes Fund should prioritise grant-led and blended finance approaches for financially vulnerable households.
- **Supporting place-based delivery:** Local authorities, combined authorities and social housing providers should play a central role in identifying eligible

households, coordinating delivery and targeting support towards communities most at risk of fuel poverty and poor housing conditions. Area-based delivery models can improve trust, reduce costs and increase uptake. The Net Zero Neighbourhood model helps ensure retrofit remains affordable by offering upgrades with no upfront cost and repayments linked to energy bill savings across all housing tenures, helping avoid additional financial pressure on households during the transition to net zero.

- **Addressing tenant-landlord split incentives:** The Fund should recognise the particular barriers affecting low-income tenants in both the private rented and social housing sectors, where residents often face high energy costs but do not have control over investment decisions. Support for landlords through blended finance, grant incentives and area-based retrofit programmes will be important to help overcome the challenge and ensure low-income tenants can benefit from warmer homes, lower bills and improved living conditions without facing higher housing costs.
- **Blending finance with wider public benefits:** Government should explore models that capture wider societal benefits from retrofit, including reduced NHS costs, improved public health outcomes and lower energy system costs. These wider savings could help support investment into low-income households without relying solely on household repayments. Retrofit examples on co-benefits are covered in our report - [Beyond Targets: The wider benefits of local climate action](#).
- **Using finance to de-risk private investment** The Warm Homes Fund should also be used strategically to de-risk blended private finance models targeted at low-income and financially vulnerable households. Government-backed capital, guarantees and first-loss mechanisms could help attract institutional and private investment into segments currently perceived as too high risk, while supporting the development of long-term sustainable financing products that can continue beyond the lifespan of direct government grant funding. UK100's report - [End the Wait Insulate](#) showcases a plan to first roll out a social housing energy efficiency programme to reduce energy bills and kick-start a nationwide domestic energy efficiency drive.
- **Developing third-party ownership models:** Third-party ownership and energy-as-a-service models may provide more suitable pathways for some low-income households by removing upfront costs and reducing financial risk to residents. These approaches could support access to solar, batteries and clean heating technologies without requiring households to take on unaffordable debt.
- **Ensuring trusted local support:** Low-income households often require more intensive engagement and support throughout the retrofit journey. Trusted local intermediaries, advice services and community organisations will be critical to ensuring households can access schemes confidently and safely.

- **Protecting financially vulnerable households:** Strong affordability protections and safeguards will be essential to ensure retrofit finance does not worsen financial vulnerability or household debt. Government should avoid approaches that rely heavily on unsecured consumer lending for households already struggling with energy or household costs.
- **Aligning retrofit with health and housing objectives:** The Warm Homes Fund should support greater integration between retrofit, public health, housing and social care strategies. Evidence from pilots such as Warm Home Prescription demonstrates the significant health and wellbeing benefits associated with improving cold and inefficient homes.
- **Targeting the worst-performing homes:** Funding should prioritise homes with the highest energy costs, poorest thermal comfort and greatest health risks, including homes with direct electric heating, poor insulation and households vulnerable to cold, damp and overheating.

Question 5: Do you agree with the proposed overarching aims of the Warm Homes Fund?

- **Recognising place-based delivery:** The aims would be strengthened through clearer recognition of the role of local authorities, combined authorities and strategic authorities in delivering place-based retrofit programmes. Local government has a critical role in coordinating delivery, targeting support, aligning retrofit with wider housing and regeneration priorities, and leveraging private investment into local areas.
- **Embedding fuel poverty and health outcomes:** The aims should place greater emphasis on tackling fuel poverty, improving public health and reducing inequalities alongside decarbonisation objectives. Retrofit programmes can deliver significant co-benefits including improved thermal comfort, reduced damp and mould, better health outcomes and lower pressure on health and social care services.
- **Supporting long-term market transformation:** The Fund should aim not only to accelerate deployment in the short term, but also to create a stable, self-sustaining retrofit market over the long term and a scalable delivery model. This will require policy certainty, long-term funding settlements, market confidence and support for sustainable financing models that continue beyond direct government subsidy.

Question 6: Do you agree with the proposed technology scope and are there any technologies missing that you think the Fund should focus on? Please provide evidence to support your response.

- **Supporting a broad technology mix:** The broad technology scope is important to reflect the diversity of housing stock, local energy systems and consumer needs across different places and property types.
- **Recognising the importance of fabric first measures:** Energy efficiency and fabric improvement measures should remain central to the Fund, particularly for poorly insulated homes and households in fuel poverty.

Appropriate insulation and ventilation improvements are critical to reducing energy demand, improving comfort and ensuring clean heating systems operate effectively.

- **Including ventilation and indoor air quality:** The technology scope should explicitly recognise the importance of ventilation and indoor air quality measures alongside insulation upgrades. Lessons from previous retrofit programmes demonstrate the importance of balancing energy efficiency improvements with healthy indoor environments, and the risks in terms of lower air quality and increased damp and mould if this isn't built in.
- **Ensuring flexibility for future technologies:** The technology scope should remain flexible and responsive to innovation over time. The Fund should be able to support emerging technologies and new delivery models where they can demonstrate consumer benefit, emissions reduction and value for money.
- **Recognising local and regional variation:** Different technologies and delivery models will be more appropriate in different places depending on housing stock, geography, grid constraints and local energy infrastructure. Local authorities and combined authorities should therefore have flexibility to tailor technology choices to local circumstances and strategic energy plans.
- **Considering electric cooking technologies:** The Fund should also consider support for efficient electric cooking technologies where appropriate, particularly as part of wider home electrification and whole-home retrofit approaches.
- **Clarifying the role of network funding:** While support for local network upgrades may help address grid constraints and accelerate electrification, the Warm Homes Fund should not be used to replace or offset core investment responsibilities already expected through Distribution Network Operator business plans (through the ED3 process) and Regional Energy Strategic Plans. Any use of Warm Homes Fund financing for network upgrades should demonstrate clear additional public value for the Fund's objectives.

Question 7: What is the extent to which the Warm Homes Fund could support additional measures in new build social and affordable housing? Please describe how the resulting benefits could be realised from Warm Homes Fund investment?

The Warm Homes Fund could play a limited but important role in supporting additional measures in new-build social and affordable housing where viability challenges risk developments falling short of expected standards. Targeted support may help bridge specific viability gaps and avoid creating future retrofit liabilities for residents and government, particularly in affordable housing developments. However, the Fund should not replace the core responsibility of developers to deliver high-quality, energy-efficient homes through existing planning and building standards frameworks. Given the finite nature of public

funding, priority should remain focused on upgrading existing homes in fuel poverty and poor condition, while any support for new build should demonstrate clear additionality, protect future residents from high energy costs and reduce the need for more expensive retrofit interventions later.

Question 8: Do you agree with the proposed list of activities the Warm Homes Fund could support and are there any other types of activities that should be supported?

- **Strengthening support for local authority-led delivery:** Local authorities and combined authorities should be recognised more explicitly within the activity scope as key delivery partners. Many authorities own and manage their own housing stock, and/or are already coordinating retrofit programmes, area-based delivery, local energy planning, housing decarbonisation, and community engagement. Funding should support programme development, pipeline creation, procurement coordination, technical capacity, and long-term delivery capability within local government.
- **Improving consumer trust and engagement:** In addition to technical delivery activities, greater emphasis should be placed on consumer advice, engagement, and retrofit coordination services. Consumer confidence, understanding, and trust remain major barriers to uptake. Supporting trusted local intermediaries, one-stop-shop models, and clear quality assurance frameworks could help improve participation and delivery outcomes at scale. There are national (Wales and Scotland) and international examples (France) that could be useful to develop such programmes.

Question 9: What barriers in the current finance landscape prevent non-domestic and mixed-use buildings from investing in low carbon technologies?

- **High upfront costs and long payback periods:** Many SMEs, VCSEs and mixed-use property owners lack access to affordable upfront capital, particularly where payback periods are uncertain or longer-term. Existing green finance products are often designed for larger commercial assets and do not reflect the scale, complexity or risk profile of smaller buildings and mixed-use properties.
- **Complex ownership and leasehold arrangements:** Split incentives between freeholders, leaseholders, tenants and commercial occupiers can make investment decisions difficult and delay retrofit activity.
- **Lack of technical and delivery capacity:** Smaller organisations often lack in-house expertise to assess technologies, develop projects, procure installers, or navigate financing and regulatory requirements.
- **Fragmented and small-scale projects:** Smaller retrofit projects are harder to aggregate and are often viewed as too small or administratively complex for mainstream lenders and institutional investors.

- **Limited consumer and business awareness:** Many organisations remain unaware of available technologies, financing options, and the operational benefits of retrofit and energy flexibility measures.
- **Poor suitability of traditional lending criteria:** Conventional affordability assessments may not adequately account for operational savings, resilience benefits, or long-term asset value improvements.
- **Challenges for local authorities and combined authorities:** Combined and local authorities are increasingly supporting place-based retrofit but often lack long-term funding certainty and development capacity to scale projects. Many stock holding local authorities and other landlords will manage housing that has mixed uses on the ground floors, sometimes this will be traditional retail units, but it can also include community uses and office space. Previous funding schemes, such as Decent Homes, often excluded investment in these parts of buildings leading to gaps in retrofit and challenges for asset management plans and delivery.
- **Public sector funding constraints:** The Public Sector Decarbonisation Scheme (PSDS) has been one of the most effective drivers of public estate decarbonisation. While low-cost finance through the Warm Homes Fund could complement this, their constrained financial headroom means that even low-interest loans may remain unaffordable without ongoing grant support. The closure of the £3.5 billion Public Sector Decarbonisation Scheme without a replacement risks slowing progress across the public estate and weakening local retrofit pipelines, supply chains and delivery capacity.

Question 10: How could the Warm Homes Fund address these gaps with repayable finance where the government makes a return?

- **Providing blended finance to reduce risk:** The Fund could use concessional or first-loss capital to de-risk private investment and improve access to affordable finance for underserved sectors and building types.
- **Supporting larger retrofit portfolios:** Government should combine Warm Homes Fund investment with wider net zero funding programmes to support larger local and regional retrofit portfolios. Bringing projects together across different building types would reduce fragmentation and make delivery more attractive to private investors.
- **Reducing high transaction costs:** The current approach is often based on small individual projects, which creates high delivery and financing costs and makes it difficult to scale investment. Supporting aggregated programmes would improve efficiency, strengthen investor confidence, and help local and combined authorities build long-term retrofit pipelines.
- **Supporting local delivery partnerships:** Local and combined authorities could play a key role in coordinating pipelines, convening partners, and supporting area-based retrofit programmes.
- **Supporting project development and technical assistance:** Many organisations require early-stage support to assess buildings, develop

business cases and structure investable projects before finance can be deployed.

- **Using public funding to crowd in private capital:** Government investment should prioritise models capable of leveraging additional private finance and becoming financially sustainable over time.
- **Backing trusted intermediaries and delivery bodies:** The Fund could support community lenders, development finance institutions, housing providers and local energy organisations already working with hard-to-reach groups.
- **Supporting long-term and revolving funding models:** Finance structures should aim to create enduring delivery models that continue operating after initial public funding or grant support ends.
- **Grant scheme experiences and challenges:** Our members highlighted cases where they received Social Housing or Warm Homes Local Grants funding, but most received far less than requested (including when Government has asked them to be more ambitious when making application), limiting impact to a small number of homes. They also mentioned heavy administrative burdens, particularly around fraud checks and compliance (e.g., PAS 2035), which consume significant time and resources.

Q12: Do you agree with the proposed list of groups that the Warm Homes Fund may support and are there any other groups which should be supported?

The proposed eligibility list is broadly comprehensive and appropriately recognises the range of actors needed to deliver warm home upgrades at scale. Additional consideration should be given to including public sector anchor institutions such as schools, NHS organisations and higher education institutions where projects can support wider community energy, heat network or area-based retrofit approaches. Government should also consider the role of intermediary and delivery organisations, including local energy hubs, development finance providers, retrofit coordinators and not-for-profit aggregators, which can help smaller projects become investment-ready and support delivery across harder-to-reach communities.

Alongside LCT installers, support should also extend to existing trades and contractors transitioning into low carbon retrofit and clean heat work, including electricians, heating engineers, builders and maintenance contractors. Supporting workforce transition and upskilling will be important to address skills shortages and expand delivery capacity across the retrofit sector. Nesta has done some interesting work in this area with plumbers and gas engineers.

Section 2A: Owner-occupiers

Q13: How do you think the Warm Homes Fund could best support owner-occupiers to invest in home upgrades?

- **Reducing upfront costs:** Low and zero-interest finance can help overcome one of the main barriers to retrofit by spreading costs over time and making upgrades more affordable for households.
- **Combining grants with finance:** Blended models combining grants and loans are likely to be most effective, particularly for lower-income households and harder-to-treat homes where payback periods may be longer.
- **Supporting area-based retrofit programmes:** Street-by-street and neighbourhood-based approaches can make it easier to communicate, advise and engage with residents, while also reducing costs, improving delivery efficiency and creating stronger local supply chains.
- **Simplifying the customer journey:** Many households are discouraged by the complexity of retrofit decisions. One-stop-shop models combining advice, assessment, finance and installation support could improve uptake.
- **Supporting trusted local delivery:** Local authorities, combined authorities and community organisations can play an important role in building trust, coordinating delivery and helping households navigate retrofit options.
- **Improving consumer confidence:** Strong consumer protections, accredited installers and clear quality assurance frameworks will be important to increase trust in retrofit and financing products.
- **Supporting innovative financing models:** The Fund should support alternative approaches such as energy-as-a-service, solar leasing, flexibility services and third-party ownership models which reduce upfront consumer risk.
- **Recognising different housing types and tenures:** Finance products should reflect the differing needs of freeholders, leaseholders, park homes, flats and mixed-tenure properties where retrofit barriers vary significantly.
- **Supporting workforce and supply chain growth:** Expanding installer capacity and supporting existing trades to transition into retrofit and clean heat work will be essential to scale delivery and reduce costs over time.

Question 15: How could the loans scheme be designed to encourage new products or entrants into the market?

- **Reducing market risk for new entrants:** Government-backed guarantees, first-loss mechanisms, or blended finance models could help reduce risk for lenders and encourage new providers to enter the retrofit finance market.
- **Supporting innovation in finance products:** The scheme should encourage flexible products such as pay-as-you-save models,

property-linked finance, subscription-style energy services, and blended grant-loan offers suited to different household circumstances.

- **Creating long-term market certainty:** Multi-year funding commitments and a clear long-term policy framework would help lenders and investors develop products with confidence and support sustained market growth beyond short-term government programmes.
- **Simplifying consumer journeys:** Simple application processes, standardised products, and integration with trusted advice services and accredited installers would help reduce complexity for households and improve uptake.
- **Supporting smaller and regional lenders:** Community development finance institutions, local lenders, building societies, and regional finance providers may require technical support or co-investment structures to participate effectively.
- **Linking finance with trusted supply chains:** Consumer confidence will depend on strong installer standards, quality assurance, and clear consumer protections. Finance offers should be integrated with accredited delivery networks and robust oversight arrangements.
- **Enabling innovation for low-income households:** Funding should help test and scale blended finance approaches that combine grants, private capital, and public investment to support households who may not be able to access conventional lending.

Question 16: What loan attributes (e.g. lower interest rates, stronger consumer protection, an easier customer journey, more innovative finance products) would be most valuable to expand in the market?

- **Affordable interest rates:** Low or zero-interest loans are likely to be essential for driving uptake, particularly given current borrowing costs and the long payback periods associated with some retrofit measures.
- **Flexible repayment models:** Products should allow repayments to reflect expected bill savings, household circumstances, and technology lifecycles. Flexibility around repayment holidays or early repayment would also help improve accessibility.
- **Strong consumer protection:** Clear standards, accredited installers, dispute resolution mechanisms, and protections against poor-quality installations will be critical to building consumer confidence in the market.
- **Simpler customer journeys:** Consumers need straightforward and trusted routes from advice through to finance and installation. Fragmented processes remain a major barrier to uptake.
- **Blended finance offers:** Combining grants with low-cost loans will be particularly important for low-income households, hard-to-treat properties, and more complex retrofit projects where costs remain high.
- **Support for area-based delivery:** Loan products should be capable of supporting neighbourhood-scale retrofit programmes led by local

authorities, combined authorities, social landlords, and community energy organisations.

- **Better integration with local advice and delivery:** Local authorities and combined authorities can play an important role in connecting finance products with trusted local delivery programmes, community engagement, and area-based retrofit planning.

Question 17: Would Property Linked Finance (PLF) support the draft Warm Homes Fund aims, when could benefits be realised, and what risks need to be considered? Please give evidence to support your answer. Please specifically consider:

- How it could increase solar, battery and heat pump deployment into domestic, community and small business settings and reduce energy bills for consumers.
- The potential risks and unintended consequences for consumers, government and industry, such as friction in the property market.
- **Supporting long-term retrofit investment:** PLF could support the aims of the Warm Homes Fund by helping households and small businesses overcome upfront cost barriers for solar, batteries, heat pumps, and wider retrofit measures.
- **Aligning repayment with long-term benefits:** Linking repayment obligations to the property rather than the individual better reflects the long-term nature of retrofit investments and the fact that future occupiers benefit from lower bills and improved building performance.
- **Addressing payback period barriers:** PLF may be particularly useful for technologies with longer payback periods where households are reluctant to invest if they may move before costs are recovered.
- **Enabling greater private investment:** If designed effectively, PLF could help create a more stable and investable retrofit market capable of attracting institutional and private finance at scale.
- **Learning from previous schemes:** Under the Net Zero Neighbourhoods, the comfort fee recovery is linked to the property as opposed to the individual. Any future PLF model must learn from earlier schemes in terms of what works but also avoid the challenges experienced particularly around complexity, consumer confidence, poor communication of benefits, and concerns linked to property sales.
- **Avoiding impacts on property transactions:** There is a risk that repayment obligations attached to properties could create uncertainty during property sales, affect mortgage affordability assessments, or discourage buyers if arrangements are unclear. The government should provide a framework and clarity to avoid this.
- **Ensuring strong consumer protections:** Robust consumer safeguards, transparent terms, independent advice, and clear disclosure requirements will be essential to avoid consumer harm and support trust in the model.

Question 18: Is there a need for finance here, and what are the barriers that prevent the private sector from filling it?

- **Addressing a clear market gap:** There is a clear need for long-term retrofit finance products that better align repayment periods with the lifetime of low carbon technologies and expected bill savings.
- **Overcoming upfront cost barriers:** High upfront costs remain one of the biggest barriers preventing households and small businesses from investing in retrofit and clean energy technologies.
- **Private sector caution around risk:** Private lenders may view PLF as complex or higher risk due to uncertainty around repayment security, property transactions, default risk, and consumer demand.
- **Lack of enabling regulation:** The absence of a clear legal and regulatory framework for property-linked charges in the UK limits market development and investor confidence.
- **Limited consumer awareness and demand:** Consumer understanding of retrofit finance remains low, while concerns around complexity, trust, disruption, and long payback periods continue to suppress demand.

Question 19: How could government finance address this gap with repayable finance where government earns a return? Where possible, please describe how this model could work.

- **De-risking the market:** Government could use guarantees, first-loss capital, or blended finance structures to reduce risk for private lenders and encourage market participation.
- **Supporting pilot programmes:** Initial government-backed pilots could help test delivery models, consumer protections, repayment structures, and interactions with mortgage markets before wider rollout.
- **Enabling aggregation at scale:** Public funding should support aggregation of retrofit projects into larger portfolios to reduce transaction costs and attract institutional investment.
- **Creating long-term market certainty:** Stable multi-year funding and policy certainty would help lenders and investors develop products capable of scaling over time.
- **Supporting local delivery models:** Local authorities and combined authorities could help identify suitable properties, aggregate demand, coordinate engagement, and support delivery through place-based retrofit programmes.
- **Providing independent consumer support:** Consumers should have access to trusted, independent advice throughout the process, including support on technology choices, finance options, repayment obligations, and expected savings. Clear complaints and redress mechanisms will also be important to build confidence and trust in PLF products.

Question 20: What are the wider policy barriers that may need to be overcome to realise the benefits from PLF? Please consider any specific areas

of law, regulation or other policy which may need to change. Please also consider barriers that could limit take-up, and whether this might vary depending on whether the model was administered by a local authority, a green bank or other lender, a financial regulator, or a third party.

- **Need for enabling legislation:** Primary legislation would likely be required to establish property-linked repayment mechanisms and clarify how charges are attached to properties.
- **Clarifying interactions with mortgages:** Government, regulators, lenders, and the conveyancing sector will need clear rules on how PLF interacts with mortgages, remortgaging, valuation processes, and property sales.
- **Strengthening consumer protections:** Clear protections, transparent disclosure requirements, dispute resolution processes, and independent advice will be essential to support consumer confidence.
- **Recognising local delivery capacity:** If local authorities are expected to play a delivery or administrative role, this must be supported with adequate funding, technical expertise, and long-term capacity support.
- **Supporting public understanding and trust:** Consumer awareness and understanding of retrofit finance remains limited. Government and delivery partners will need to provide clear and trusted information to support uptake.

Section 2B: Landlords and tenants

Question 21: What barriers and opportunities do private landlords encounter when accessing loans or investing in warm homes upgrades for their properties and how could the Warm Homes Fund help them overcome these barriers?

- **High upfront costs remain a major barrier:** Many landlords, particularly smaller landlords with limited capital, struggle to finance retrofit upgrades despite tightening EPC requirements and growing regulatory expectations.
- **Split incentives continue to limit investment:** In many cases tenants benefit from lower energy bills while landlords bear the upfront upgrade costs, reducing incentives for landlords to invest.
- **Complexity and lack of trusted advice:** Landlords can face challenges understanding changing EPC requirements, identifying suitable measures, navigating financial products, and managing installation processes.
- **Limited awareness and accessibility of existing schemes:** Landlords also have low awareness of available grants and support schemes, while eligibility criteria linked to tenant circumstances can limit access.
- **Concerns around borrowing and returns:** Some landlords remain uncertain about whether retrofit investments will deliver sufficient rental value, property value uplift, or long-term returns to justify additional borrowing.
- **Financial institutions face market uncertainty:** Lenders may perceive retrofit lending in the private rented sector as complex due to fragmented

property ownership, uncertainty around returns, varying property conditions, and evolving regulation.

- **Supporting long-term regulatory certainty:** Clear and stable long-term policy signals around EPC standards and retrofit requirements are important to encourage investment and give lenders greater confidence to develop products.
- **Supporting smaller landlords:** Smaller landlords may particularly benefit from simplified products, trusted advice services, and area-based delivery programmes coordinated through local authorities or combined authorities.
- **Linking finance with trusted delivery:** Finance products should be integrated with accredited installers, quality assurance frameworks, and strong consumer protections to build confidence in retrofit delivery.
- **Clarifying the role of local government:** Local authorities have an important role in supporting engagement with landlords, coordinating area-based delivery, providing trusted advice and enforcing minimum energy efficiency standards in the private rented sector. The Warm Homes Fund should recognise and resource this role appropriately, including funding for local authority capacity, communication, compliance and enforcement activity, to help create clearer market signals and improve uptake of retrofit measures across the sector.

Question 22: What are the barriers that affect the ability for social housing providers to invest in warm homes upgrades? And how could the Warm Homes Fund support?

- **Financial pressures on social landlords:** Social housing providers face major pressure on Housing Revenue Accounts, asset management plans and investment budgets due to building safety, repairs, maintenance and wider statutory obligations, limiting their ability to plan for and self-fund retrofit at scale.
 - **Upfront capital constraints:** Social landlords face significant pressure on borrowing capacity and long-term investment budgets, particularly alongside competing demands such as building safety, repairs and new housing delivery. The Warm Homes Fund could help by providing long-term, low-cost finance alongside grant funding to reduce upfront costs and improve project viability.
 - **Limits on rental income growth:** historic rent caps and regulated rents constrain the ability of providers to recover retrofit costs through rental income, particularly for deep retrofit or heat decarbonisation projects. Flexible finance models with longer repayment periods and blended grant-loan approaches may therefore be required.
- **Challenges of retrofit at scale:** Retrofit programmes are often delivered building-by-building, creating high transaction and procurement costs and limiting economies of scale. The Fund should support aggregated,

place-based retrofit programmes that enable providers, local authorities and regional partners to bundle projects into investable portfolios.

- **Supply chain and skills shortages:** Limited installer capacity, skills gaps and supply chain constraints continue to slow deployment of heat pumps, solar, batteries and fabric improvements. The Fund should support workforce development, local supply chains and manufacturing capacity alongside capital deployment.
- **Complex ownership and delivery models:** Housing associations operate through a variety of ownership, partnership and joint venture structures, which can complicate borrowing and investment decisions. Funding mechanisms should therefore be flexible enough to support different delivery and ownership arrangements.
- **Need to align retrofit with asset investment cycles:** Providers typically plan upgrades around the natural replacement cycle of building components to maximise value for money. Funding and finance that cannot align with these long-term asset management programmes is often harder to deploy effectively.
- **Mixed-tenure and leaseholder barriers:** Retrofit delivery in mixed-tenure blocks can stall where local authority and housing association leaseholders face high upfront contributions or only have access to short-term or unaffordable finance products. More flexible and longer-term financing approaches are needed to support delivery across different tenures.
- **Need for long-term funding certainty:** Short-term and competitive retrofit funding programmes can make it difficult for social landlords to plan long-term investment pipelines, retain delivery capacity and coordinate programmes efficiently. Greater clarity and continuity across existing and future funding schemes would help providers develop more strategic and scalable retrofit programmes.
- **Reducing transaction costs through aggregation:** Current delivery models are fragmented into smaller projects with high transaction costs and limited scalability. Supporting aggregated regional or local retrofit portfolios would improve investability and support long-term market growth.

Question 23: What risks or unintended impacts should government consider if using public finance to incentivise above-minimum warm homes standards in new-build social and affordable housing?

Supporting above-minimum warm homes standards in new-build social and affordable housing could deliver significant long-term benefits, including lower energy bills for tenants, reduced future retrofit costs, improved health and comfort outcomes, and greater resilience to future energy price volatility and climate impacts. Higher standards at the point of construction are generally more cost-effective than retrofitting homes later and can help future-proof social housing stock while supporting wider net zero and energy security objectives. The Warm Homes Fund could also help accelerate the deployment of technologies

such as batteries, smart systems and flexibility measures that are not yet consistently delivered through minimum regulatory requirements.

However, government should consider the risk that additional financing requirements or higher standards could affect the viability of affordable housing delivery if not supported appropriately. Support should also align with local energy infrastructure and place-based planning to ensure investment delivers system-wide benefits and avoids fragmented or inconsistent delivery.

Question 24: Would revenue and savings sharing models support the draft Warm Homes Fund aims, when could benefits be realised, and what risks need to be considered? Please give evidence to support your answer. Please specifically consider:

- How it would increase solar, battery and heat pump deployment into domestic, community and small business settings and reduce energy bills for consumers.
- The potential risks and unintended consequences for consumers, government and industry.
- **Supporting lower energy bills:** Revenue and savings sharing models could help reduce household electricity costs by enabling tenants and residents to directly benefit from locally generated renewable energy and battery storage.
- **Reducing upfront cost barriers:** These models can enable deployment without requiring tenants or landlords to fully fund installation costs upfront, helping accelerate uptake of solar, batteries and smart energy technologies.
- **Creating long-term revenue streams:** Revenue generated through flexibility services, export tariffs and energy savings can help support financially sustainable retrofit and clean energy investment over time.
- **Supporting social housing deployment:** Social landlords may be particularly well suited to these models due to their long-term ownership horizons and ability to aggregate projects across housing portfolios.
- **Potential to support wider system benefits:** Local generation and storage could help reduce pressure on electricity networks and support local flexibility, although these wider system benefits should be assessed carefully.
- **Need for consumer protections:** Strong safeguards will be required to ensure tenants understand agreements, benefit fairly from savings and are protected from poor contractual arrangements or unexpected costs.
- **Risk of unequal access:** Without targeted support, these models may primarily benefit larger landlords or areas with stronger delivery capacity, leaving smaller providers or low-income communities behind.
- **Complexity of delivery models:** Revenue sharing arrangements can involve multiple actors, including landlords, suppliers, investors and

technology providers, creating legal, operational and governance complexity.

- **Importance of trusted intermediaries:** Local authorities, Combined and Strategic authorities and community energy organisations could play an important role in supporting delivery, consumer confidence and place-based coordination.

Question 25: Is there a need for finance here, and what are the barriers that prevent the private sector from filling it?

- **Clear need for long-term finance:** Revenue and savings sharing models require significant upfront capital investment and depend on access to long-term, low-cost finance to become viable at scale.
- **Pressure on social landlord borrowing capacity:** Many local authority Housing Revenue Accounts and housing providers already face limited borrowing headroom and cannot take on significant additional debt, even at relatively low interest rates.
- **Need for off-balance-sheet or blended models:** There is strong value in financing approaches that reduce reliance on rental income or traditional borrowing structures, particularly for financially constrained providers.
- **Immature and complex delivery models:** Many Energy-as-a-Service and revenue sharing arrangements remain relatively new and lack standardised commercial, procurement and governance frameworks, making them difficult to scale.
- **Uncertain and variable revenue streams:** Investor confidence is constrained by operational risks, fluctuating electricity prices, uncertain flexibility revenues and reliance on resident participation rates to generate stable returns.
- **High transaction and delivery costs:** Fragmented projects, mixed-tenure arrangements and complex procurement processes increase costs and reduce the attractiveness of smaller schemes to private investors.
- **Lack of long-term policy certainty:** Short-term funding cycles and evolving market rules reduce confidence for investors and technology providers seeking to build scalable business models.
- **Uncertain and variable revenue streams:** Investor confidence is constrained by operational risks, fluctuating electricity prices, different approaches to utility billing and non-payment, and reliance on resident participation rates to generate stable returns.
- **Challenges around contract structures:** Contract lengths can vary significantly, often between 10 and 30 years, creating trade-offs between affordability, investor certainty, financing costs and long-term flexibility for landlords and residents.
- **Procurement and organisational barriers:** Public sector procurement requirements and internal governance processes can make it difficult to

approve or procure innovative models where there are few providers and limited comparable pricing data.

Question 26: How could government finance address this gap for revenue and savings sharing schemes, with repayable finance where government earns a return? Where possible, please describe how this model could work.

- **Acting as a co-investor to reduce risk:** Government could use the Warm Homes Fund to co-invest alongside social landlords and private finance providers, helping reduce financing costs and lowering the level of revenue sharing required from residents or landlords while models mature.
- **Supporting long-term market confidence:** A public co-investment role could provide greater stability and confidence for investors and delivery partners, particularly given the long-term nature of these schemes and concerns around future market exit or repricing by private providers.
- **Reducing costs through blended finance:** Blending public and private finance could help make projects commercially viable at scale, particularly for social landlords and local authorities with limited borrowing capacity. This could also help unlock investment into harder-to-treat buildings and lower-income communities.
- **Standardising contracts and delivery models:** Government should work with industry to support more standardised legal agreements, procurement approaches and risk-sharing frameworks. This would reduce complexity, lower transaction costs and make schemes easier to scale.
- **Providing expert technical and consumer support:** Independent technical advice, business support and consumer guidance will be important to build confidence in emerging delivery models. Government-backed support and professional indemnity arrangements could help organisations and households navigate complex agreements more safely.
- **Supporting aggregation and place-based delivery:** Funding should support larger aggregated portfolios and area-based deployment models rather than fragmented single projects. This would improve investability, reduce transaction costs and better align delivery with regional energy planning and infrastructure priorities.

Section 2C: Local government

Question 29: Would area-based investment funds support the draft Warm Homes Fund aims, when could benefits be realised, and what risks need to be considered? Please give evidence to support your answer.

- **Supporting place-based retrofit at scale:** Area-based investment funds could help accelerate the deployment of solar, heat pumps, batteries and energy efficiency measures by aggregating projects across neighbourhoods and regions. This can reduce delivery costs, improve investor confidence and support more coordinated local energy planning.

- **Reducing fragmentation and transaction costs:** Local investment funds can help move away from fragmented, short-term retrofit delivery towards larger, investable pipelines. Aggregated programmes are more likely to attract private capital and support long-term market development.
- **Enabling long-term recycling of investment:** Recycling savings and returns into future retrofit activity could help create more sustainable local funding models over time. This could strengthen local delivery capacity and support ongoing investment beyond individual funding rounds.
- **Supporting local economic and social outcomes:** Area-based approaches can help align retrofit delivery with wider local priorities such as fuel poverty reduction, housing renewal, reducing health inequality, green jobs, skills development and regional economic growth.
- **Need for long-term funding certainty:** Benefits are unlikely to be fully realised through short-term competitive funding cycles alone. Local authorities and strategic authorities need longer-term certainty to build pipelines, establish partnerships and develop investable programmes.

Question 30: Is there a need for finance here, and what are the barriers that prevent the private sector from filling it?

- **Clear financing gap for place-based retrofit:** There is a strong need for finance that supports aggregated, area-based retrofit programmes, particularly where projects deliver long-term public value but may not generate sufficiently high or immediate commercial returns.
- **Private finance struggles with fragmented pipelines:** Retrofit projects are often delivered at small scale and through short-term funding programmes, creating high transaction costs and making investment opportunities less attractive to private capital.
- **Long payback periods and policy uncertainty:** Investors may be deterred by uncertain policy frameworks, changing funding programmes and long-term payback periods associated with housing retrofit and local energy infrastructure.
- **Limited local authority financial capacity:** Although councils can access PWLB borrowing, many authorities face significant financial pressures and limited borrowing headroom, restricting their ability to take on additional debt for large-scale retrofit programmes.
- **Need for de-risking innovative models:** Private investors are often cautious about newer delivery approaches involving blended finance, energy savings models or local energy systems where commercial structures are still emerging.
- **Challenges coordinating across sectors and geographies:** Area-based retrofit requires coordination across housing, infrastructure, energy networks and local services. These complex delivery arrangements can increase perceived risk and slow investment decisions.

Question 31: How could government finance address this gap with repayable finance where government earns a return? Where possible, please describe how this model could work. Please also consider whether financing for retrofit could be meaningfully combined with existing local investment funds.

- **Using public finance to de-risk investment:** Government capital could help de-risk innovative delivery models and blended finance structures, enabling local authorities and strategic authorities to test approaches that may later become commercially self-sustaining.
- **Providing long-term certainty for local delivery:** Multi-year funding arrangements would help local authorities and strategic authorities build delivery capacity, develop partnerships and create stable pipelines capable of attracting institutional investment.
- **Supporting technical and commercial capability:** Many authorities will require support to structure investable projects, manage procurement and engage private finance partners. Government-backed technical assistance and advisory support will therefore be important.
- **Supporting blended finance approaches:** Government finance could help crowd in private investment by taking on a proportion of early-stage risk or offering lower-cost capital for area-based retrofit and clean energy programmes.
- **Enabling aggregated project pipelines:** The Warm Homes Fund should support local and strategic authorities to develop larger, coordinated retrofit portfolios that reduce transaction costs and improve investability across housing and infrastructure assets.
- **Building on existing local investment structures:** Government should seek to align Warm Homes Fund finance with existing local investment funds and regional growth structures where possible, helping accelerate deployment through established delivery mechanisms.
- **Creating revolving local investment models:** Government finance could support revolving local investment funds where a portion of the savings generated through retrofit and clean energy measures is reinvested into a central fund. Similar approaches proposed through Net Zero Neighbourhoods models show how savings from household energy improvements could be recycled to support ongoing maintenance, future asset replacement and repayment of long-term finance, helping create more financially sustainable local delivery models over time.

Question 32: What are the wider policy barriers that may need to be overcome to realise the benefits of local investment funds? Please consider any specific areas of law, regulation or other policy which may need to change.

- **Short-term funding cycles:** Competitive short-term funding programmes, within what is now the Warm Homes Plan envelope and wider government funding streams, make it difficult for local authorities and investors to build long-term retrofit pipelines and delivery partnerships.

- **Lack of alignment across programmes:** Greater coordination is needed between retrofit funding, local growth funding, energy planning and infrastructure investment programmes to reduce fragmentation and duplication.
- **Local authority financial constraints:** Wider pressures on local government finances, borrowing limits and statutory service demands can restrict the ability of councils to participate fully in large-scale investment approaches.
- **Planning and regulatory complexity:** Complex planning rules, procurement requirements and differing local governance arrangements can slow delivery and increase costs for area-based retrofit programmes.
- **Uneven local delivery capacity:** Authorities are operating at different levels of institutional maturity and capability, particularly in areas undergoing devolution or local government reorganisation. Support frameworks will therefore need to remain flexible and proportionate.
- **Support for local authorities:** Many councils and strategic authorities face shortages in specialist commercial, procurement and retrofit expertise needed to develop and manage complex investment programmes at scale.
- **Need for clearer national policy signals:** Greater long-term clarity on retrofit standards, energy policy and future funding frameworks would help improve investor confidence and support market growth.

Question 33: Would blended financing support draft Warm Homes Fund aims, when could benefits be realised, and what risks need to be considered?

Please give evidence to support your answer.

- **Supports place-based delivery at scale:** By enabling multiple projects, tenure types and technologies to be delivered through coordinated regional programmes rather than fragmented single-building schemes. This can accelerate deployment, reduce transaction costs and create investable pipelines. It could also help financially balance the investment cases and costs associated with different retrofit interventions between those that do and don't have revenue generating potential.
- **Can crowd-in private capital and de-risk investment:** Public funding can support early-stage development and commercially marginal projects, particularly in lower-income communities, mixed-use buildings and community-led schemes where private finance alone is unlikely to invest at scale.
- **Strengthens the role of local and combined authorities:** Local and combined authorities are well placed to coordinate retrofit pipelines, housing strategies, energy planning and local supply chains. However, many authorities will require long-term project development funding, technical expertise and commercial support to fulfil this role effectively.
- **Could deliver wider economic and social benefits:** Blended finance models could support lower energy bills, green job creation, local supply chain growth and reinvestment into communities. Regional delivery

models are likely to be most effective as they can respond to local housing stock, grid constraints and market conditions.

- **There are risks around complexity and uneven local capacity:** Blended finance structures can be difficult to develop, procure and manage without standardised frameworks and long-term policy certainty. Inconsistent regional approaches could also make it harder for investors and suppliers to scale nationally.
- **Consumer protection and community benefit must remain central:** Financial returns should not override affordability, fairness or resident outcomes, particularly for low-income households. Clear governance and accountability arrangements will therefore be essential.

Question 34: Is there a need for finance here, and what are the barriers that prevent the private sector from filling it?

- **Short-term funding cycles:** Competitive short-term funding programmes make it difficult for local authorities and investors to build long-term retrofit pipelines and delivery partnerships.
- **Lack of alignment across programmes:** Greater coordination is needed between retrofit funding, local growth funding, energy planning and infrastructure investment programmes to reduce fragmentation and duplication.
- **Need to mobilise private investment at scale:** The scale of investment required to decarbonise and retrofit the UK's building stock is unlikely to be achievable through public funding alone, particularly given wider pressures on national and local government finances. Public finance should therefore be used strategically to leverage and de-risk significantly greater levels of private investment while ensuring delivery remains aligned with public policy objectives and affordability outcomes.

Question 35: How could government finance address this gap with repayable finance where government earns a return? Where possible, please describe how this model could work.

- **There is a clear need for blended finance:** Many retrofit and local energy projects deliver strong public value but do not yet meet private sector risk-return expectations, particularly in lower-income or mixed-tenure areas.
- **Projects remain too fragmented and small-scale:** This creates high transaction costs and weak investor confidence. Without aggregation into larger regional pipelines, many projects will continue to struggle to reach investment stage.
- **Early-stage project development is significantly underfunded:** Activities such as feasibility work, resident engagement, business case development and procurement support are essential to creating investable projects but are often not commercially attractive for private finance.

- **Private investors are reluctant to take long-term place-based risks:** Returns can depend on resident participation, energy savings and evolving policy frameworks. Uncertainty around regulation, retrofit standards and future funding also weakens market confidence.
- **Local and combined authorities often lack sufficient commercial and technical capacity:** Despite being best placed to coordinate delivery locally, many authorities do not currently have the internal resource needed to structure complex blended finance models at pace and scale.
- **Social and community value is not adequately reflected in investment models:** Projects that reduce fuel poverty, improve health outcomes or support local economic regeneration may still struggle to secure finance despite delivering wider public benefit.

Question 36: What are the wider policy barriers that may need to be overcome to realise the benefits of blended finance? Please consider any specific areas of law, regulation or other policy which may need to change.

- **Government could act as an anchor investor:** Concessional or patient capital could de-risk regional blended finance vehicles and crowd-in greater private investment. This would help support projects that are strategically important but not yet commercially viable at scale.
- **Funding should support aggregated regional portfolios:** Local and combined authorities should be enabled to bundle housing, energy and infrastructure opportunities into investable pipelines with lower transaction costs and stronger long-term returns.
- **Blended models should combine grants, low-cost loans and equity-style investment:** This would allow projects with high public value but weaker commercial returns to proceed, while also reducing pressure on constrained local authority budgets and Housing Revenue Accounts.
- **Government-backed revolving funds could recycle savings and revenues:** Savings from retrofit, local energy generation or flexibility services could be reinvested into future upgrades and repayment of long-term finance. The Net Zero Neighbourhoods approach demonstrates how local savings could help sustain investment over time.
- **Support should include project development funding and technical assistance:** Local authorities will require support to build commercially credible pipelines and manage procurement, engagement and delivery risks. Standardised commercial frameworks could also reduce complexity and improve investor confidence.
- **Finance structures should be long-term and aligned with asset lifecycles:** Even though the current Warm Homes Plan budget at £15bn+ is significant and multi-year, it is still confined to this Parliament and Spending Review period/ An even longer term approach, would help ensure programmes remain viable beyond relatively short-term government funding cycles while supporting stable local supply chain growth and investor confidence.

Section 2D: Electricity market participants

Question 37: What are the barriers and constraints on distribution network operators receiving finance and how could they use the Warm Homes Fund to help deliver the draft aims?

The Warm Homes Fund should not duplicate existing investment routes. Instead, the Fund could play a targeted role in supporting place-based and coordinated projects that fall outside traditional regulatory mechanisms, particularly where there is a wider public benefit such as accelerating connections for social housing retrofit, enabling flexibility infrastructure, or supporting low-income and vulnerable households. From a local authority perspective, stronger coordination between DNO investment planning and local retrofit delivery programmes will be essential to avoid delays, reduce disruption and ensure network upgrades align with regional decarbonisation priorities. We have separately responded to Ofgem's wider consultation on the role of DNOs in supporting the delivery of low carbon technologies.

Question 40: Would the energy as a service models outlined (or any others, including those emphasising consumer-led flexibility) support the draft Warm Homes Fund aims, when could benefits be realised, and what risks need to be considered? Please give evidence to support your answer.

- **Reducing upfront cost barriers:** Energy as a Service (EaaS) models can support rapid deployment of solar, batteries and heat pumps by removing high upfront costs for households, SMEs and social landlords through subscription or service-based arrangements.
- **Supporting consumer bill savings and flexibility:** Well-designed EaaS models can combine lower energy bills with smart energy management and flexibility services, helping consumers benefit from cheaper tariffs, export revenues and demand-side response markets.
- **Enabling place-based deployment:** EaaS models could support area-based retrofit and clean energy programmes led by local and combined authorities, particularly where delivery is aggregated across housing estates, mixed-use buildings or neighbourhood-scale projects.
- **Creating investable long-term revenue streams:** Subscription and service models can create predictable long-term cashflows that may attract institutional and blended finance, particularly where projects are aggregated into larger portfolios.
- **Consumer protection and trust risks:** Lessons from previous "rent-a-roof" schemes highlight the need for strong consumer protections, transparent contracts, fair exit terms and independent advice to avoid consumer detriment or restrictions on property sales.
- **Risk of market fragmentation and unequal access:** Without standardisation and targeted support, the market may become fragmented, with more affluent or lower-risk households benefiting first while fuel-poor, leasehold and harder-to-treat properties are left behind.

Question 41: Is there a need for finance to support the growth of particular energy as a service models and what are the barriers that prevent the private sector from filling it?

- **Need for early-stage finance:** Many EaaS models remain relatively new and unproven at scale, creating challenges for private investors seeking short-term returns or lower-risk investments. Investor confidence can be constrained by uncertainty around long-term consumer participation, electricity price volatility, flexibility market revenues and customer repayment performance.
- **Complexity and transaction costs:** Bespoke commercial structures, legal agreements and revenue-sharing arrangements increase transaction costs and make projects difficult to standardise, procure and scale.
- **Balance sheet and affordability constraints:** Social landlords and local authorities often lack the financial headroom to take on additional borrowing, even where long-term savings may exist, limiting their ability to act as anchor clients for EaaS models.
- **Consumer protection and regulatory risk:** Existing consumer credit, energy supply and property regulations were not designed for integrated energy service models, creating uncertainty for providers, lenders and consumers.
- **Limited market transparency and competition:** Many current models are commercially sensitive and developed under bespoke arrangements, making it difficult for local authorities, landlords and consumers to benchmark value for money or compare offers.

Question 42: How could government finance address this gap for energy as a service models, with repayable finance where government earns a return? Where possible, please describe how this model could work.

Please refer to Q19 and 35

Question 43: Is there an opportunity for government to buy equity in companies that offer energy as a service including solar subscription services?

- **Supporting innovation and competition:** Strategic investment could help diversify the market beyond a small number of large suppliers and support innovative providers focused on consumer protection, flexibility and place-based delivery.
- **Focus should remain on market development rather than long-term ownership:** Government involvement should primarily aim to de-risk and mature the market, with a clear pathway for private capital to scale delivery over time.

Question 44: What are the wider policy barriers that may need to be overcome to realise the benefits from energy as a service models? Please

consider any specific areas of law, regulation or other policy which may need to change.

- **Licensing and market access barriers:** Asset owners installing more than 2.5MW of solar PV currently require an Ofgem licence to sell electricity. Delays and complexity in obtaining licences can slow deployment and create additional costs for operators seeking to deliver local energy models.
- **Consumer protection and regulation:** Existing frameworks for consumer credit, energy supply and subscriptions may not fully cover integrated EaaS models, creating uncertainty around liability, switching rights and dispute resolution.
- **Property and tenancy barriers:** Long-term subscription agreements can create complications for property sales, leasehold arrangements and tenancy changes, particularly in mixed-tenure or privately rented buildings.

Question 45. Would loans to enable network connections support the draft Warm Homes Fund aims, when could benefits be realised, and what risks need to be considered? Please give evidence to support your answer.

- **Risk of displacing existing regulated investment:** It will be important to evaluate the funding and low-cost finance options available to DNOs to ensure critical funding from the Warm Homes Fund is not diverted unless critically required.
- **Potential consumer and delivery risks:** Without clear coordination and targeting, there is a risk of over or under building infrastructure, misalignment with local demand, disruption to communities, or costs being socialised without delivering timely consumer benefits.

Question 48. What are the wider policy barriers that may need to be overcome to realise the benefits from loans to enable network connections? Please consider any specific areas of law, regulation or other policy which may need to change.

- **Coordination between national and local planning:** Stronger alignment is needed between DNO investment plans (especially in ED3), Regional Energy Strategic Plans, local authority retrofit strategies and wider infrastructure planning.
- **Clarity on funding responsibilities:** Clear boundaries are needed to ensure Warm Homes Fund support does not duplicate or displace investment that should already be funded through regulated DNO business plans.
- **Local delivery capacity:** Local and combined authorities may require additional technical, planning and programme management support to participate effectively in area-based electrification partnerships with DNOs.

Section 2E: Manufacturing and supply chain

Question 49. How could bulk purchasing support the draft Warm Homes Fund aims, when could benefits be realised, and what risks need to be considered? Please give evidence to support your answer.

- **Reducing technology and installation costs:** Aggregated purchasing of heat pumps, batteries and solar panels could lower unit costs, improve supply chain certainty and make warm homes upgrades more affordable for households and landlords.
- **Supporting place-based delivery:** Local and combined authorities could use bulk purchasing to support area-based retrofit programmes, enabling coordinated delivery across social housing, mixed-tenure estates and community buildings.
- **Strengthening UK supply chains and skills:** Long-term demand visibility could encourage investment in UK manufacturing, installer capacity and workforce development, helping reduce supply chain bottlenecks over time.
- **Improving consistency and consumer confidence:** Standardised procurement frameworks and approved product lists could improve quality assurance, simplify delivery and strengthen trust in retrofit programmes.
- **Risk of locking in outdated technologies:** Large-scale procurement programmes must remain flexible to avoid technological obsolescence, particularly in rapidly evolving battery, solar and smart energy markets.
- **Potential market distortion and exclusion risks:** If poorly designed, bulk purchasing schemes could favour larger suppliers, reduce local market diversity or limit opportunities for SMEs and community-led delivery models.

Question 50: Is there a need for finance here, and what are the barriers that prevent the private sector from filling it?

- **Upfront capital requirements remain a barrier:** Large-scale procurement requires significant upfront capital for purchasing, warehousing and logistics, which many local authorities, social landlords and smaller suppliers cannot easily access.
- **Demand uncertainty limits private investment:** Stop-start policy and short-term funding cycles reduce confidence for manufacturers and suppliers to invest in scaling production, training and inventory capacity.
- **Fragmented delivery reduces economies of scale:** Retrofit delivery is often procured through small, disconnected projects, making it difficult to aggregate demand and secure meaningful purchasing discounts.
- **Storage and operational risks:** Holding large inventories creates risks around warehousing costs, technology changes and fluctuating demand, which private actors may be unwilling to absorb alone.
- **Limited coordination across local areas:** Many local authorities and social landlords lack the procurement capacity, technical expertise or scale individually to negotiate effectively with manufacturers and suppliers.

- **Skills and supply chain constraints:** Financing alone will not solve shortages in installers, retrofit coordinators and skilled trades unless procurement is linked to long-term workforce and supply chain development.

Question 52: What are the wider policy barriers that may need to be overcome to realise the benefits of bulk purchasing? Please consider any specific areas of law, regulation or other policy which may need to change.

- **Need for long-term policy certainty:** Manufacturers and suppliers require confidence in long-term retrofit and electrification demand to justify investment in UK production capacity and workforce expansion.
- **Procurement and state aid complexity:** Existing procurement rules can make it difficult for local authorities and public bodies to aggregate purchasing quickly or prioritise wider social and economic value outcomes.
- **Fragmented funding and delivery structures:** Short-term and siloed funding programmes limit the ability to coordinate procurement across regions, sectors and delivery partners.
- **Insufficient local delivery capacity:** Local and combined authorities may require additional commercial, technical and programme management support to coordinate large-scale procurement activity effectively.

Question 57: How could loans for skills and training support the draft Warm Homes Fund aims, when could benefits be realised, and what risks need to be considered? Please give evidence to support your answer.

- **Loans are unlikely to drive participation at the scale required:** Many existing workers and new entrants are reluctant to take on personal debt for retrofit training, particularly in a market still seen as uncertain and dependent on short-term policy and funding cycles. This risks limiting uptake to higher-income groups and undermining a fair and inclusive transition.
- **Employer demand and market confidence remain the bigger barriers:** SMEs dominate the retrofit sector and often lack the financial capacity, certainty or incentive to invest in workforce development where retrofit is not yet viewed as a stable long-term revenue stream. More consistent deployment funding and long-term market certainty are likely to be more effective than loans in stimulating employer-led training investment.
- **Grant and blended support models may be more effective than individual loans:** Retrofit skills deliver wider public benefits including carbon reduction, energy security and public health, meaning the case for public investment is stronger than for traditional private lending models. Government support should prioritise grant funding, blended finance and employer-linked training models that reduce barriers to participation and align training directly with local delivery pipelines and job opportunities.
- **Supporting local authority delivery plans:** Local and combined authorities are well placed to coordinate labour market needs with retrofit

pipelines, but would require long-term funding certainty and capacity support to align training, procurement and delivery.

- **Helping SMEs expand training provision:** Smaller contractors often struggle to fund apprenticeships, accreditation and staff release for training. Flexible finance could help businesses embed training into their operating models while expanding supply chains.
- **Risk of training without jobs:** Skills programmes may have limited impact if not aligned with long-term deployment funding and stable market demand, leading to low retention in the sector.

Question 58: Is there a need for finance here, and what are the barriers that prevent the private sector from filling it?

- **Case study from Cambridgeshire:** The Cambridgeshire Energy Retrofit Partnership (CERP), led by Cambridge City Council, shows how retrofit programmes can deliver far-reaching local benefits beyond home upgrades. The case study is covered in UK100's [Beyond Targets: The wider benefits of local climate action](#) report. The HUG 2 grant funding acted as a catalyst for private sector investment and capacity-building in the local retrofit market. One of the delivery partners expanded its workforce between 2022-2025 by 48 FTEs. They identified a market opportunity to invest in a retrofit training facility. Their training facility will build local retrofit capacity. Over four years, it is forecast that 2,000 tradespeople will be trained. Clear multi-year commitments are needed to give delivery partners the confidence to invest in skills, staff, and supply chains, key foundations for scaling retrofit.
- **Upfront cost barriers for SMEs and trainees:** Smaller businesses and individual workers often lack the financial capacity to invest in training, accreditation and equipment without support.
- **Uncertain long-term demand:** Stop-start retrofit programmes and policy uncertainty reduce confidence for employers and training providers to invest in workforce expansion.
- **Limited access to affordable finance:** Commercial lending for training and workforce development is often limited, particularly for smaller contractors, social enterprises and early-stage training providers.
- **Capacity challenges for local authorities:** Local and combined authorities could play a stronger coordination role across skills, procurement and retrofit delivery, but often lack dedicated long-term funding and staffing capacity.

Question 59: How could government finance address this gap with repayable finance where government earns a return? Where possible, please describe how this model could work.

- **Blended finance models:** Loans could be combined with grant funding for priority groups, early-stage programmes or areas with weaker labour markets, reducing risk while supporting long-term sustainability.

- **Place-based delivery partnerships:** Local and combined authorities could coordinate regional skills partnerships between employers, colleges and delivery bodies, ensuring finance aligns with local labour market needs and investment plans.
- **Recycling repayments into future skills programmes:** Returns and repayments could be reinvested into future workforce development and training programmes, helping create a long-term, self-sustaining skills pipeline.

Question 60: What are the wider policy barriers that may need to be overcome to realise the benefits of skills loans? Please consider any specific areas of law, regulation or other policy which may need to change.

- **Lack of long-term policy certainty:** Employers and providers are unlikely to invest in workforce expansion without confidence in long-term retrofit demand and stable funding programmes.
- **Fragmented skills and retrofit systems:** Poor coordination between education providers, local authorities, employers and national retrofit schemes can lead to mismatches between training and labour market demand.
- **Complex accreditation requirements:** Current accreditation and compliance systems can be costly and difficult for smaller businesses and new entrants to navigate.
- **Limited local coordination capacity:** Local and combined authorities are increasingly expected to coordinate retrofit and skills delivery but often lack the sustained funding and institutional capacity needed to do so effectively.
- **Consumer confidence and quality assurance:** Skills investment must be accompanied by strong quality standards and consumer protections to avoid poor installation practices undermining trust in the sector.

Section 2F: Heat networks

Question 61: How could the Warm Homes Fund support the market growth of heat networks as set out in the Warm Homes Plan?

- **Supporting upgrades to existing heat networks:** Investment is needed to improve the efficiency and performance of existing networks to reduce costs for consumers, improve reliability and build public confidence in heat networks as a long-term low carbon solution.
- **Reducing upfront development risk for new networks:** Heat networks require significant upfront capital and long development timelines. The Warm Homes Fund could help de-risk early-stage development, connections and infrastructure investment to unlock faster deployment.
- **Aligning funding with heat network zoning:** The Fund should support area-based approaches that align with local heat network zoning and wider local heat decarbonisation plans, enabling more coordinated and cost-effective delivery.

- **Supporting local authority leadership and coordination:** Local and combined authorities will play a critical role in planning, coordinating and aggregating demand for heat networks, but many will require long-term funding certainty, technical support and delivery capacity to fulfil this role effectively.
- **Enabling connections for low-income households:** Reliance on individual household loans may not be suitable for lower-income residents. Blended finance and area-based delivery models could help reduce individual debt burdens while ensuring equitable access to lower-cost heating.

Question 62: Would investment in heat networks – whether for connection costs, compliance with heat network technical assurance scheme requirements, capital support – contribute to the draft Warm Homes Fund aims? When could benefits be realised, and what risks or unintended consequences should be considered? Please give evidence to support your answer.

- **Reducing connection cost barriers:** Low-cost loans or blended finance for connection costs could significantly improve uptake of heat networks by reducing the upfront financial burden on households, leaseholders, businesses and public sector buildings. This would help unlock network viability by giving developers and local authorities greater certainty that buildings will connect.
- **Supporting area-based delivery and zoning:** Investment aligned with heat network zoning and place-based retrofit programmes would allow local authorities to coordinate connections street-by-street or estate-by-estate, reducing disruption and lowering unit costs. This would also support strategic local heat planning and more efficient deployment of low-carbon infrastructure.
- **Improving existing heat networks and consumer trust:** Financial support for existing networks to meet HNTAS requirements could improve efficiency, reliability and affordability, particularly in older communal systems. Better-performing networks would strengthen public confidence in heat networks as a long-term low-carbon heating solution.
- **Unlocking large-scale capital investment:** Government-backed debt or catalytic finance could help reduce the cost of capital for heat network developers and crowd in institutional investment. By lowering financing costs, projects could offer more competitive heat tariffs and connection charges, improving affordability for consumers.
- **Supporting local economic growth and supply chains:** Heat network investment can stimulate local supply chains, skills development and long-term employment opportunities. Local authorities are well placed to coordinate delivery with regeneration programmes, housing renewal and local workforce strategies.
- **Public sector funding constraints:** The Public Sector Decarbonisation Scheme (PSDS) has been one of the most effective drivers of public estate

decarbonisation. While low-cost finance through the Warm Homes Fund could complement this, their constrained financial headroom means that even low-interest loans may remain unaffordable without ongoing grant support.

Question 63: Is there a need for finance here, and what are the barriers that prevent the private sector from filling it?

There is a clear need for finance to support heat network deployment, connections and retrofit, particularly given the high upfront capital costs, long payback periods and ongoing uncertainty around customer connections and heat demand. Private finance alone is often unable to support projects at the scale and pace required because investors perceive heat networks as relatively high risk compared to more established infrastructure sectors. Connection risk is a particularly significant barrier, as projects can become commercially unviable if expected customers withdraw during development. Smaller communal networks, local authorities and social housing providers may also face borrowing constraints or lack the balance sheet strength to fund upgrades and HNTAS compliance works independently. In mixed-tenure buildings, high upfront costs for leaseholders can further delay or prevent projects progressing, while evolving regulation, zoning arrangements and operational uncertainties continue to reduce investor confidence and increase financing costs.

Question 64: How could government finance address this gap with repayable finance where government earns a return? Where possible, please describe how this model could work.

Government finance could help address these barriers by providing long-term, low-cost repayable finance that reduces the overall cost of capital for heat network projects while crowding in private investment. Blended finance models, alongside institutional or commercial lenders, could de-risk projects sufficiently to unlock more affordable debt finance and improve investor confidence. Government-backed loans could support connection costs, HNTAS compliance upgrades and wider network construction, enabling costs to be spread over the lifetime of the asset rather than passed on upfront to consumers. Local authorities could play a central coordinating role by aggregating demand, aligning heat network investment with housing and regeneration programmes, and supporting area-based delivery linked to heat network zoning.

Question 65: What are the wider policy barriers that may need to be overcome to realise the benefits from the outlined investments into heat networks? Please consider any specific areas of law, regulation or other policy which may need to change.

A number of wider policy barriers will need to be addressed to fully realise the benefits of heat network investment. Long-term policy certainty around zoning, regulation and funding will be essential to give investors, developers and local authorities confidence to invest at scale. Heat network delivery also requires

stronger coordination between planning, housing, utilities, regeneration and infrastructure programmes, with local authorities needing sufficient powers, funding and technical capacity to lead place-based delivery effectively. Consumer protection and transparent pricing frameworks will be critical to maintaining public trust and ensuring households are protected from poor service or unaffordable costs.

Section 2G: Community energy

Question 66: How would investments in community energy projects (including generation and flexibility) or community buildings support the draft Warm Homes Fund aims, when could benefits be realised, and what risks need to be considered?

- As a broad snapshot, The UK Community Energy State of the Sector Report 2024, identified 583 community energy organisations with over 69,000 members, operating solar panels, wind turbines, hydro schemes and more, totalling 398 MW of capacity and producing 617 GWh a year. These initiatives attracted £225m in investment and employed around 800 FTE staff.
- **Supporting local deployment and lower bills:** Community energy projects can accelerate deployment of solar, batteries, heat pumps and local flexibility services by aggregating demand across neighbourhoods, community buildings and mixed-tenure housing. Shared infrastructure and local ownership models can reduce installation costs, improve energy resilience and recycle financial benefits back into local economies, while helping households and small businesses reduce energy bills.
- **Enabling place-based and inclusive delivery:** Community organisations are often trusted local actors and can support engagement with households less likely to participate in commercial retrofit schemes, including fuel-poor and vulnerable residents. Linking retrofit, generation and flexibility projects through area-based delivery can improve uptake, build public trust and create more coordinated local energy systems.
- **Unlocking upgrades to community buildings:** Many community organisations operate from inefficient buildings with high energy costs and limited capital reserves. Investment in retrofit, renewable generation and clean heating could reduce operating costs, improve building comfort and resilience, and allow community organisations to expand services and opening hours while supporting local decarbonisation goals.
- **Catalysing wider private and community investment:** Community energy projects often successfully leverage additional finance once early-stage risks are addressed. Blended finance models combining grants with patient, low-cost loans could help community groups aggregate projects to investable scale, attract community share investment and crowd in private capital while retaining local social benefits.

- **Risks and implementation challenges:** Community organisations may lack the financial capacity, technical expertise or revenue certainty needed to manage large-scale infrastructure projects or repay commercial-rate loans. There is also a risk that complex funding arrangements, high borrowing costs or limited long-term policy certainty could deter participation, particularly among smaller voluntary sector organisations and low-income communities.

Question 67: Is there a need for finance in community energy, and what are the barriers that prevent the private sector from filling it? Please also specifically consider how government financing can support building upgrades in the community sector.

- **Supporting area-based delivery and zoning:** Investment aligned with heat network zoning and place-based retrofit programmes would allow local authorities to coordinate connections street-by-street or estate-by-estate, reducing disruption and lowering unit costs. This would also support strategic local heat planning and more efficient deployment of low-carbon infrastructure, including solar and wind.
- **Clear financing gap for community-scale projects:** Community energy organisations often struggle to access upfront capital, particularly for early-stage development, feasibility work and project aggregation. Many projects are too small, locally focused or slow to generate returns to attract conventional private investment despite delivering significant social and environmental value.
- **Revenue uncertainty weakens investment confidence:** The removal of long-term revenue mechanisms for small-scale renewable generation has weakened the financial case for many community energy projects. Without predictable income streams, lenders and investors may perceive projects as too risky or insufficiently profitable.
- **Challenges accessing affordable finance:** Community organisations, charities and voluntary sector groups frequently lack balance sheet strength, collateral or trading income needed to secure commercial loans. Smaller organisations, many of which are volunteer-led, can also struggle to meet eligibility criteria for existing finance schemes.
- **Need for blended and long-term finance models:** Low-cost, long-term finance combined with targeted grant support could help community organisations move from isolated projects towards larger place-based programmes covering solar, retrofit, batteries and heat networks. Government-backed finance could also help de-risk projects sufficiently to crowd in additional community and institutional investment.
- **Capacity and technical support are also needed:** Finance alone is unlikely to be sufficient without stronger local delivery support, technical assistance and partnership working between local authorities, community organisations and delivery agencies. Many groups require support to

develop investable projects and manage procurement, delivery and compliance requirements.

Question 68: How could government finance address this gap with repayable finance where government earns a return? Where possible, please describe how this model could work.

Government finance could help address the funding gap by providing low-cost, long-tenor loans and blended finance models that reduce upfront risk for community energy organisations and community building retrofit projects. Combining grants for early-stage development with patient repayable finance for delivery would help projects become investment-ready while still enabling government to recycle capital over time through repayments. Any repayable finance model should remain affordable and proportionate to the financial capacity of community organisations, many of which operate with limited reserves and uncertain revenue streams.

Question 69: What are the wider policy barriers that may need to be overcome to realise the benefits of community energy? Please consider any specific areas of law, regulation or other policy which may need to change.

A key barrier to scaling community energy is the lack of long-term revenue certainty for local generation and flexibility projects, which weakens investor confidence and project viability. Grid connection delays, network constraints and restrictions on local electricity supply models also limit the ability of communities to directly benefit from local generation. In addition, the fragmented funding and regulatory landscape can make projects difficult to coordinate and scale, particularly for smaller organisations with limited technical capacity. Stronger alignment between community energy policy, retrofit programmes, local area energy planning and network investment will be important to support integrated place-based delivery and unlock wider social and economic benefits.

Greater alignment between the Warm Homes Plan and the Local Power Plan would also help support more integrated neighbourhood-scale delivery models that combine retrofit, local generation, storage and flexibility. Allowing greater flexibility to blend funding and finance across programmes could help community energy organisations and local partners develop larger, more financially viable place-based projects.

Further insights are in our response to the [ESNZ Committee inquiry on unlocking community energy at scale](#) and the [DESNZ call for evidence on barriers to community energy projects](#).

Section 2H: Other use cases

Question 70: What other potential use cases are there for the Warm Homes Fund? Please provide details of how these might work, and evidence to support your suggestion.

We would be grateful if, in addition to considering UK100's response to the consultation, you would also explore opportunities for further engagement. Please get in touch if you would like to know more or explore our response in more detail. We would also be happy to give evidence, convene a discussion with our member local and strategic authorities, and to discuss the themes within this inquiry and our response further.
