

# **The DEEP Blueprint**

A blueprint for the Design of Energy Efficiency Programmes (DEEP)

May 2023







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# Introduction

This document is an output from the programmewide evaluation of Affordable Warmth Solutions' (AWS) industry funded Warm Homes Fund (WHF). The WHF was one of the largest fuel poverty programmes in Great Britain, administered by AWS CIC and representing private sector investment of £150mn from National Grid. The evaluation was conducted by a consortium comprising Newcastle University, National Energy Action (NEA), and Energy Audit Company.

A key aim of the evaluation was to produce a blueprint model that can be used to inform policymakers, industry actors, and other stakeholders about options for the delivery of future large-scale fuel poverty and energy efficiency programmes. The blueprint is intended to be a practical resource that maps out the likely core elements of future programmes, and provides guidance to stakeholders on different ways of engaging with each element. Put differently, the blueprint aims to answer two questions:

- 1. If we wish to design a fuel poverty and energy efficiency programme, what are the key things that need to be considered and included?
- 2. How exactly should these key things be designed, developed, implemented, and measured?

This blueprint frames and answers these questions, based on the findings of the broader WHF programme evaluation, which has been published separately in long and summary forms. The evidence for, and detailed explanations of, the relevant evaluation findings are not included here; rather,

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this document refers to the long and summary forms where necessary and appropriate. The key themes used to structure this blueprint, and options for operationalising it (Section 6), were identified throughout the evaluation, and were 'tested' with WHF recipient projects representing local authorities, housing associations, and other registered social landlords. Where appropriate, evidence is provided to support the key points made. Readers can follow these references to find and understand the evidence on which the blueprint is based.

This document has two parts. Firstly, it sets out the rationale for the blueprint itself; initially by reviewing previous studies that have engaged with the question of how to design fuel poverty and energy efficiency programmes. Noting the limitations of previous work, it then proceeds to explain the conceptual foundations of the blueprint, detailing how the blueprint is informed by elements of previous critical assessments and evaluations of other fuel poverty programmes and is informed but not limited by other well-established blueprint frameworks (e.g., POTI and PESTEL). This leads to the presentation of the blueprint model itself.

In the second and more substantial part of the document, the core elements and actor types of integral to the blueprint are defined and explained. The relationships between each actor, the core elements, and other actors are described, and examples from the evaluation findings are used to illustrate the different options and relationships discussed – including their potential advantages and disadvantages.

# **1. Framing and constructing** a blueprint

In the broadest sense, programme blueprints are intended to define the actions that are required to transition between a 'present state' and a 'future state'. The starting point for this conceptualisation is the well-established 'Managing Successful Programmes' (MSP<sup>TM</sup>), which was developed by the Office of Government Commerce (OGC)<sup>1</sup>. MSP is widely considered to be a best-practice framework for programme management that disaggregates programmes into smaller constituent parts in order to understand, plan and manage their delivery. However, this way of approaching the future of fuel poverty and energy efficiency programmes has not been identified in any previous work. To set the context for the development of the blueprint, it is useful to review some of this work, which can be grouped into three broad categories.

## 1. Looking to the Past 1: Critical assessments and evaluations

The first body of work is based on critical assessments and evaluations of fuel poverty programmes. For example, the National Audit Office (NAO) has conducted several analyses of fuel poverty and energy efficiency programmes, such as Warm Front and, more recently, the Green Homes Grant<sup>2</sup>. The NAO's analysis typically proposes recommendations for the design of future programmes, but it does not offer a blueprint or framework for the holistic design and development of programmes in the future (doing so would, of course, fall outside its remit). Similarly, several independent evaluations of fuel poverty programmes adopt similar rationales in terms of their proposals and recommendations for programme change<sup>3</sup>.

Two studies have been identified that seek to develop conceptual criteria for the successful design of energy efficiency programmes; the most prominent of these is an analysis of the Energy Company Obligation (ECO) by the Institute for Public Policy Research (IPPR)<sup>4</sup>. In its analysis, the IPPR advances five key questions or criteria for designing an energy efficiency scheme, which relate to: 1) creating an accessible supply chain; 2) stimulating participation from government, consumers, landlords, and industry; 3) enabling more accurate targeting; 4) developing funding mechanisms and more equitable distribution of funds; and 5) future-proofing the scheme, its solutions, and its intended outcomes. The IPPR uses this framework to propose a revamped ECO scheme that centres on enabling local authorities to deliver area-based energy efficiency solutions to fuel poverty<sup>5</sup>.

The IPPR framework is the closest approximation to a blueprint for fuel poverty and energy efficiency programmes that we have identified, but it has limitations. For instance, its analysis and recommendations focus exclusively on ECO and what should replace it, even though its insights are applicable to the design of fuel poverty and energy efficiency programmes as a whole. It also concentrates on the role of government, thus minimising the important role of other actors in shaping programmes. Finally, it does not incorporate the views of those other actors; either in terms of their historical experiences of delivery, or their own assessments of what role they might play in the programmes of the future. Despite these limitations, we borrow much from the IPPR's work in what follows; especially its focus on targeting, funding mechanisms, and futureproofing. This is because these themes align with the findings of our evaluation and provide a helpful way of framing them.

## 2. Looking to the past 2: PESTEL

A second relevant body of work is the PESTEL approach to analysis, which seeks to identify the Political, Economic, Social/Sociological, Technological, Environmental, and Legal contexts



1. Department for Business, Innovation and Skills (2010) Understanding programmes and Programme Management

2. National Audit Office (2003) Warm Front: Helping to Combat Fuel Poverty; National Audit Office (2016) Green Deal and Energy Company Obligation; National Audit Office (2021) Green Homes Grant Voucher Scheme. 3. See, for example: CAG Consultants, Ipsos MORI and the Building Research Establishment (2011) Evaluation of the Community Energy Saving Programme; BEIS (2021) Energy Company Obligation (ECO) Evaluation. 4. IPPR (2018) Beyond ECO: The future of fuel poverty support; Carbon Trust (2017) Available, attractive, too slow? How to accelerate energy efficiency by getting the financing for it right.

5. IPPR (2018) Beyond ECO: The future of fuel poverty support, pp.30-45. 6. For an overview of PESTEL and an example of its application to energy efficiency, see Shilei, L. and Yong, W. (2009) Target-oriented obstacle analysis by PESTEL modeling of energy efficiency retrofit for existing residential buildings in China's northern heating region, Energy Policy 37 (6): 2098-2101.

within which an organisation must operate, and to which it must respond<sup>6</sup>. In other words, PESTEL describes a macro-environment of intersecting factors that must be identified, defined, assessed, and (if necessary) responded to by an organisation.

From the perspective of fuel poverty and energy efficiency programmes, PESTEL provides a potential tool for assessing the wider context that programmes must, at minimum, be cognisant of – because it may either materially affect delivery, or present risks to the programme at different points. However, it has a key weakness in that it is, in effect, a mode of analysis that cleaves the world into two unequal halves. The first half is the organisation, which is presented as subject to and unable to influence the external environment within which it operates. The second half is the macro-environment, which is conceptualised as exerting an inexorable and uncontrollable pressure on the organisation. The relations between the organisation and the environment are in other words conceptualised in the PESTEL approach as entirely one-directional, and PESTEL leaves little space for the ways that an organisation or programme might shape or fundamentally change the macro-environment itself. The findings of the WHF evaluation show that this is not the case, by demonstrating that the WHF has had a material impact on the economy, environment and society, as well as on other organisations that have been involved in its delivery.

It follows that broader aspects relating to the economy, environment and society are required components of a blueprint for the design and delivery of fuel poverty and energy efficiency programmes; however, they need to be viewed as part of the model itself, rather than an external 'invisible hand' that exerts pressure on the model from the outside. They are actors that are subject to change, can influence other actors, and have relationships with other actors - as much as any other elements in the blueprint model.

#### 3. Looking to the past 3: the POTI model

Finally, a third body of work stems directly from the MSP programme itself, and how it defines the organisation and specification of a blueprint. It does so through the POTI model, which provides a framework for identifying the key components that might be considered when defining a large-scale programme orientated towards the realisation of a 'future state''. The POTI framework has four components that together represent the scope of a programme, representing Process, Organisation, Technologies, and Information (POTI).

#### Process



Processes relate to operational delivery and business models.

#### Organisation



Organisation covers personnel and organisational cultures, as well as skills, resources, partnerships and networks

#### **Technologies**

Technologies relate to systems and tools utilised by a programme to deliver its objectives, but also can relate to interventions delivered by the programme.



Information

Information largely encompasses the production and use of data required by a programme to operate successfully, or the data that may be required in the future. It also covers aspects of reporting, performance monitoring and evaluation.

Each of the above components is broken down into further sub-components, as shown below.



The POTI model, and the wider MSP approach it stems from, have been robustly developed, and POTI is frequently applied across national and local government, industry and academia<sup>8</sup>. It is the only suitable pre-existing framework on which a blueprint model for the design of future large-scale energy efficiency programmes could be based. However, it also has limitations. Over the course of the evaluation, we have examined the findings on a continual basis, and appraised the extent to which they fit into different parts of the POTI model. While some fit well, such as the key role of technologies in delivering fuel poverty and energy efficiency programmes, some of the factors we have identified as important do not conform neatly to POTI. Most prominently, POTI lacks a way of specifying the relationships between different actors, focused as it is on one, singular organisation or business. It also lacks an awareness of the wider contexts and environments that interact with its key components, such as those explicated in the PESTEL method of analysis.

# 4. Looking forwards: constructing a blueprint model

Based on this analysis of previous work, a blueprint model for the design and delivery of fuel poverty and energy efficiency programmes needs to adopt the core strengths of critical assessment and evaluation, as well as PESTEL, and the MSP and POTI approaches. MSP and POTI provide a guiding framework for structuring a blueprint model. Critical assessment and evaluation identifies and analyses the key components, elements and actors that need to be considered by the blueprint model, in addition to those fundamental to the POTI model itself. Finally, adopting and adapting insights from **PESTEL** emphasises the co-constitutive relationship between core elements, actors, and the wider economy, society and environment. Together, these form the constituent parts of a blueprint model.





# 2. The blueprint model

Building on the three aforenoted strands of literature, and the findings of the evaluation (as illustrated by the figure above), the blueprint model is designed to specify:

**1. The key actors** involved in the design and delivery of fuel poverty and energy efficiency programmes. 'Actor' is defined here in a broad sense, as an entity or group of entities that has the capacity to influence, and be influenced by, other entities. Actors do not require a specific motivation or desire to influence other actors, or the design and delivery of a programme; they may do so intentionally or unintentionally. For example, a beneficiary household may not intend to influence fund managers or the broader design and delivery of a programme, but may do so through feedback they provide, or through their interactions with a delivery partner.

**2. The core elements** of programme design and delivery. These are partially adapted from the POTI model, based on the findings of the evaluation. They are also not intended to be static and fixed for all time; they can be amended and added to depending on the specific aims and objectives of the blueprint's user.

Based on the findings of critical assessment and evaluation, each core element needs to be designed to follow a set of **guiding principles**. Guiding principles are defined here as the basic ideals, values and goals to which the design of each of the core elements should be orientated. Their definition is discussed in more detail in Section 5.

3. The relationships between each actor and their respective responsibilities. These relationships can

take different forms, such as financial, contractual or social.

The blueprint model can be visually represented in two ways, shown below. The first representation shows the fundamental specifications of the model, designating the relationships between the key actors and the core elements. The second, more detailed representation is a process chart, showing the relationships between the key actors, the core elements, the guiding principles, and the steps involved in programme design and delivery.





Figure 1: The simple blueprint model, showing the relationships between the key actors and the core elements.

Figure 2: Blueprint model flow chart, showing the key actors, core elements, guiding principles of the core elements, and relationship between them.

# 3. Defining the five types of actors

There are five **actor types** included in the blueprint; they are defined in this section. In the blueprint model, each actor type has a distinct relationship with the two actors immediately next to it, which shape and influence how it behaves and operates. Each actor type, as well as the relationships between actors, are specified in turn.

#### 3.1. Governance bodies

Governance bodies are comprised of individuals that collectively make strategic decisions regarding the scale and scope of a programme. They are primarily responsible for specifying and designing the **core** elements of the programme, as well as setting out its aims, objectives and vision, based on their assessment of the 'current state' and desired 'future

state' of the wider economy, society and environment. The governance body appoints the fund managers for the programme, to manage its day-to-day operations.

Importantly, the governance body sets out three governance mechanisms that inform and manage the programme irrespective of the way the core elements are themselves designed. These mechanisms, derived primarily from the MSP programme<sup>3</sup>, are required for and applicable to the governance and management of any programme, not just fuel poverty and energy efficiency programmes. They are therefore included here for completeness, but do not form central components of the programme itself.

#### Governance strategy

Programmes require multiple forms of reporting, monitoring and administration throughout their full life cycles, which together can be defined as a governance strategy. According to the POTI model, this includes at minimum:

- Risk management and issue resolution, setting out the approach to risk and issues management, and how the approach and associated processes will be embedded across the entirety of programme delivery.
- Leadership and stakeholder engagement, setting out how relationships with relevant stakeholders with an interest in the programme will be identified and managed. This might include relevant government departments (e.g. Department for Health and Social Care), industry actors (e.g. distribution network operators and gas distribution networks), and professional trade bodies (e.g. Microgeneration Certification Scheme (MCS)),
- Quality management, setting out how all aspects of the programme (including its projects and their delivery) will be monitored to ensure they are appropriate and fit for purpose. This gives stakeholders confidence that planned outcomes have the greatest possibility of being realised. In fuel poverty and energy efficiency programmes, this is of particular relevance for quality control and quality assurance of interventions, and is likely to include stipulation in funding advertisement, bid assessment, and delivery partner contracts that specific standards (e.g. TrustMark) will be adhered to and that audit will be undertaken periodically to ensure compliance.
- Planning and control, setting out how the various mechanisms described above will be integrated to produce a programme plan and control regime.

These mechanisms are the responsibility of the fund managers to implement and monitor throughout the life of a programme.

#### Value for money appraisal

In the POTI model, value for money appraisals connect to the anticipated benefits of a programme, especially the financial benefits.

Different programmes will have different ways of understanding and measuring value for money. For instance, the UK Government's understanding of value for money is shaped by the guidance issued in the Green Book by HM Treasury. The NAO uses four criteria to assess the value for money of government spending, based on aspects of economy (spending less), efficiency (spending well), effectiveness (spending wisely), and equity (spending fairly). However it is understood and undertaken, the programme will require an understanding of how value for money will be achieved, measured and reported. It should be noted that this exists separately from, but may include, aspects of evaluation and learning included within the core elements of the blueprint (e.g. social return on investment).

#### Vision and vision statement

The blueprint model is orientated towards meeting the desired future state, which is specified in a vision and vision statement. In POTI, the vision statement is treated as a part of the governance strategy, but in fuel poverty and energy efficiency programmes this may be treated as a unique priority in itself.

In the POTI model, the vision statement must:

- Be easily understood by all stakeholders
- Be focused on a desirable future state
- Have implicit benefits that arise from the transition to the future state
- Be compelling and motivating
- Avoid target dates and too many performance targets

Critically, as the second and third of these points state, the vision statement must be orientated towards a desirable future state that, if achieved, generates benefits and impacts that can be easily recognised by different actors. In MSP and the POTI model, a blueprint model is consequently defined as a way of framing and defining the 'current state' and the future state the programme is seeking to reach. Put differently, the blueprint model itself specifies the actors, elements and relationships that are necessary to achieve the envisioned future state.

In the context of fuel poverty and energy efficiency, governance bodies may be comprised of executives and the board of directors of an organisation such as AWS or National Grid. In government, they may consist of directors of government departments, such as the Department for Business, Energy and Industrial Strategy (BEIS).

### 3.2. Fund managers

**Fund managers** oversee the day-to-day operations of the programme, including the management and administration of its **core elements**. They are responsible for reporting on the progress of the programme to the relevant governance bodies, as well as liaising with delivery partners regarding the implementation and delivery of the programme's core elements. In other words, fund managers are the essential pivot between the practical delivery and implementation of the programme 'on the ground', and the governance bodies responsible for the specification and definition of the core elements of the programme.

#### 3.3. Delivery partners

**Delivery partners** are the direct recipients of programme funding and finance, and are responsible for delivering the interventions and technologies specified by the programme to beneficiary households. In the context of fuel poverty and energy efficiency programmes, delivery partners most often (but not always) do this in collaboration with other organisations, such as energy companies, charities, and installation contractors. They are required to report on their delivery to the fund manager at regular intervals, and must ensure that the appropriate interventions and technologies are delivered to beneficiary households in a way that achieves the desired outcomes associated with the future state. In the context of fuel poverty and energy efficiency programmes, delivery partners are typically (but not always) local authorities, housing associations, and other registered social landlords. However, they may also be energy retail suppliers, energy companies, or charities. Ideally, delivery partners will work with collaborators to ensure the quality and timeliness of resource mobilisation and project delivery.

#### 4. Households

Households are the beneficiaries of the interventions and technologies delivered by the programme. Their intervention is delivered and managed by the delivery partner. The types of household that receive interventions and technologies can be defined in different ways: specifically, according to factors related to income (e.g. fuel poor, in receipt of means-tested benefits); tenure (e.g. social housing, owner-occupier, private rental); geography (e.g. urban, rural, remote); or vulnerability (e.g. cold-related health conditions, age).

The interventions and technologies deliver micro-level outcomes for households, which, in aggregate, lead to wider macro-level impacts on the economy, environment and society. These impacts can be measured, modelled, forecast and evaluated.

# 4.1. Wider economy, environment and society

#### Lastly, the wider economy, environment and

**society** is ultimately transformed by the impacts and outcomes of the programme on households; it becomes qualitatively different and takes a form that corresponds to some degree to the desired future state. In turn, the cycle of programme design and delivery begins anew on completion of a prior programme. In other words, the achieved 'future state' across the economy, environment and society becomes a new 'current state' from which a new programme can be developed, drawing on the impacts, evaluation and learnings derived from the prior programme. The wider economy, environment and society are also what the governance actors are responding to in designing the programme.



The effectiveness of the governance actors in understanding, adapting and responding to these circumstances, and their accountability to the wider society, economy and environment, are thus very important.

# 4. Defining the core elements

The **core elements** of the programme are defined in this section.

In addition to specifying these elements, this section incorporates the key relevant findings from the evaluation in relation to each element. The evidence underpinning the evaluation findings can be found in the full evaluation report. These findings are important to include because they point towards the key considerations for designing and delivering each core element. Put differently, the findings of the evaluation can inform how each of the core elements should be approached and designed to achieve the best possible outcomes for households and the wider society, economy and environment. A summary of the structure of the core elements is provided below.



#### 4.1. Funding and finance

Funding and finance comprises the levels of investment that are required to enable the successful delivery of the programme; particularly in a way that provides the best chance of enabling good outcomes

#### Key evaluation findings on funding and finance

The WHF was designed to be supplemented and match-funded by core central government fuel poverty schemes, specifically ECO and FPNES. While FPNES was seen as unproblematic by the majority of delivery partners, the complexities and bureaucracies associated with ECO, as well as periodic changes to its rules, caused considerable challenges to project delivery.

WHF projects were able to match- and gap-fund their projects with funding from alternative sources, including internal capital spending (e.g. for housing associations), funds from health and social care bodies (e.g. CCGs, public health boards), national and devolved government energy-related programmes (e.g. the Renewable Heat Incentive, Green Homes Grant Local Authority Delivery), and a plethora of other sources.

A key enabler for the successful delivery of projects was the level of synchronicity between WHF funding timelines and main match-funding source timelines. Where this synchronicity was present, it enabled the scale, confidence, and forward planning of delivery; but when one key funding stream ceased, which (along with others) underpinned the financial viability and business case of a project, delivery was jeopardised.

Match and gap funding were used in four main ways by projects, each of which was important for securing better outcomes for a larger number of beneficiaries: **ensuring basic project viability** and business case; enabling WHF funding to go further and support a larger number of households than would otherwise have been possible; enhancing the range of products, services and interventions that could be provided to a single household; funding 'enabling works' (e.g. loft clearances, electrical rewiring) and wider support for households, especially during complex and disruptive capital measures installations.

Securing WHF funding often unlocked additional sources of investment for projects that would otherwise not have been accessible. In several cases, delivery partners would not have been able to set up and execute their projects had they not secured WHF funding.

For delivery partners, having access to sufficient funding to offer heating upgrades, insulation, and energy-related advice and support to householders was critical in enabling good outcomes for beneficiaries.

for beneficiary households. Funding and finance can come from multiple sources; they can be provided to different degrees through the governance body, the delivery partners, or in most cases, a combination of both actors.

#### 4.2. Interventions and technologies

Interventions and technologies are the measures, services and products that are delivered to beneficiary households. They may include capital measures such as heating systems, insulation, solar PV, or battery storage, as well as smaller measures such as draughtproofing, smart meters, or hot water tank insulation. In addition, they can involve energy-related advice and support, such as energy efficiency advice, income maximisation services, or facilitating onward referrals to other organisations.

#### Key evaluation findings on interventions and technologies

Heating system upgrades, targeted at households previously without wet central heating systems, was the most successful intervention that enabled beneficiaries to keep their homes warm. First-time gas central heating system installations consistently led to the most optimal self-reported outcomes for beneficiaries across key indicators of thermal comfort, energy affordability, health improvements, and reductions in energy rationing practices; and the installation of heating systems in off-gas homes (primarily air source heat pumps) also led to good outcomes across these indicators.

**Energy advice and support**, delivered through Category 3 WHF projects, **led to less optimal but not insignificant outcomes** for beneficiaries across key outcome indicators. The cost of energy and the energy inefficiency of their homes were the main reasons why some Category 3 beneficiaries continued to live in subjective fuel poverty after their interventions.

Irrespective of the type of measure they received, **the most optimal outcomes were experienced by beneficiaries where they received capital measures installations** (e.g. central heating systems, insulation) **as well as energy-related advice and support** as part of one coordinated intervention.

For beneficiaries still struggling to keep their homes warm after their interventions, the main reasons were the cost of energy and the energy inefficiency of their homes.

Interventions targeted at low-income homes produced a greater modelled economic impact than if the same intervention was provided to a median-income home.

Interventions targeted at energy-inefficient homes generated considerable modelled savings for healthcare services, especially through the elimination of excess cold hazards.

#### 4.3. Partnerships and collaborations

**Partnerships and collaborations** are the relationships between the delivery partners and other organisations that work with them to deliver

#### Key evaluation findings on partnerships and collaborations

**Delivery partners worked with a wide range of collaborators** to deliver their WHF projects, including actors from the energy sector, health and social care sector, charities, social housing providers, installers, and manufacturers.

The majority of WHF partnerships were built on strong historical foundations, especially long-standing personal and professional relationships between specific individuals at relevant partner organisations.

WHF projects were unanimous that that partnership-working added significant value to their work; it unlocked additional match or gap funding, delivered additional financial benefits to beneficiaries through linking first-time central heating system recipients to income maximisation services, and reduced project costs through enabling more efficient working practices, data sharing, and problem resolution.

The core **drivers of effective partnership working** were described by WHF projects as **social relations of trust, friendship, and dedication to shared objectives**, as well as the related qualities of individual staff. The majority of projects felt that all these drivers had to be meticulously established over time and solidified through **shared experiences of project delivery**.

interventions and technologies to beneficiary households. Delivery partners can include a wider range of organisations, each with different strengths, motivations, skills, responsibilities, and qualities.

#### 4.4 Eligibility and targeting

Eligibility and targeting are the means through which beneficiary households are reached and selected for inclusion in a programme. Eligibility criteria for the programme are typically set by the governance body and administered by the fund manager, whereas methods of targeting and recruitment are typically designed and undertaken by delivery partners.

#### Key evaluation findings on eligibility and targeting

The eligibility criteria used by the WHF were designed primarily to mirror criteria used in other government fuel poverty schemes, primarily FPNES and ECO.

The criteria were fourfold, comprised of: Affordable Warmth Benefits, whereby one or more of the household occupants is in receipt of a means-tested benefit; ECO Flex, whereby the household qualifies for assistance through meeting the local authority's flexible eligibility criteria; Fuel Poverty, whereby the household has had a fuel poverty assessment carried out; and Index of Multiple Deprivation (IMD), whereby the household is located in a Lower Super Output Area which is in the top 25% of most deprived areas in the country.

The majority of WHF delivery partners reported that this **fourfold set of eligibility criteria was effective and** worked well. However, projects discussed different opportunities and challenges associated with each criterion, which are relevant for the design and delivery of fuel poverty and energy efficiency programmes.

Affordable Warmth Benefits and Fuel Poverty pathways were the most effective eligibility criteria for targeting homes defined as living in fuel poverty according to the technical LILEE (low income low energy efficiency) definition.

To deliver interventions to eligible households, the most targeted group of households by WHF projects were fuel-poor households in general, and households on low incomes and/or means-tested benefits. Projects also targeted homes with low energy efficiency standards.

WHF projects used analyses of pre-existing data, marketing and outreach, and variegated referral networks and partnerships, to reach eligible households. The majority of projects used all three methods of data analysis, marketing and engagement, and referral networks, to identify, target and process eligible households.

While many WHF projects attempted to engage private sector landlords and the health and social care sector to deliver interventions to eligible households, most experienced significant challenges in doing so - especially the reluctance of landlords to partake in schemes, and difficulties in building consistent referral relationships with health and social care actors.

#### 4.5. Evaluation and learning

Evaluation and learning are the means through which the impacts and outcomes of a programme are defined, understood and communicated. This

#### Key evaluation findings on evaluation and learning

Different practices of evaluation, monitoring and measurement lead to divergent understandings of what a programme has accomplished, and the impact it has had on beneficiaries and delivery partners. **Every** indicator used in the evaluation to measure outcomes has inherent strengths and weaknesses, and tells a different story about the outcomes for beneficiaries and delivery partners.

Delivery partners were able to establish and expand internal resources, processes, delivery mechanisms, and partnerships across the course of their WHF-funded projects. Several delivery partners described this as one of the core outcomes of their work, in addition to the benefits and impacts they had delivered for beneficiaries.

Delivery partners used the experience, insight and knowledge accrued over the course of delivering their WHF project to refine and renew broader organisational policies and strategies; especially those relating to affordable warmth, Net Zero, reducing fuel poverty, improving the energy efficiency of housing stock, and (in projects where private rental properties were included) the enforcement of MEES regulations.

The experience of delivering the WHF enhanced delivery partners' ability to plan and undertake large-scale energy efficiency and fuel poverty projects in the future, especially for organisations with little or no prior track record in delivering such work.

Delivery partners highlighted that undertaking their WHF projects directly shaped their successful or pending applications for further funding to deliver fuel poverty and energy efficiency schemes.

includes impacts and outcomes for all of the key actors included in the blueprint model; especially households, delivery partners, and the wider economy, environment and society.



# 5. The guiding principles of the core elements

Based on the findings of the evaluation, as stated above and in the full evaluation reports, the five core elements should be designed and structured according to the following **guiding principles**; their roles in the blueprint as a whole are shown below.

The development of the guiding principles has also been informed by a survey of WHF project

5.1. Funding and finance

#### Funding and finance

**1. Ensure sufficiency.** Funding and finance should be sufficient to enable delivery partners to provide each beneficiary household with all of the interventions, technologies, products, and services they require to achieve a good outcome (however that is defined), without requiring any financial contributions from the household. This should include sufficient funding to undertake any 'ancillary' or 'enabling' works associated with a heating system or insulation installation, and to provide any wider support to the household that is deemed to be appropriate to their needs and circumstances (e.g. debt write-off, income maximisation).

**2. Provide certainty.** Funding and finance should be designed and structured in a way that provides, to the greatest degree possible, long-term certainty to delivery partners and their wider collaborators, including the supply chain.

#### Projects' views on funding and finance

98% of WHF project representatives said it was fairly or very important to provide funding over a long-term period (e.g. 5+ years)

92% of WHF project representatives said it was fairly or very important to include sufficient revenue funding alongside funding for capital measures interventions.

"Key is providing funding over the long term and include revenue costs. Schemes require time to build confidence in the market and generate steady referrals. Providing revenue allows for time to reduce the barriers stopping residents applying, or dropping out due to the assessment process."

"Generating leads and setting up and delivering insulation measures takes time – lead-in times for external wall insulation are lengthy, including 10 weeks plus for planning permission. Providing a longer period of time for delivery would enable effective delivery of measures and time to target and deliver to more vulnerable customers – e.g. for first-time heating. Some of these customers require more support to engage with schemes."

"Providing funding over a long-term period allows time to establish supply chains and gives time for local authorities to go through the necessary procurement processes. Revenue funding would allow staffing costs to be covered so that project delivery can be properly resourced and managed. Revenue funding also covers the wraparound advice and supports aspects of projects."

representatives. This survey set out the relevant findings from the evaluation, and asked project representatives how important they felt each finding was to the delivery of fuel poverty and energy efficiency schemes in the future. The survey was responded to by 48 project representatives, and the results of the survey have informed the principles; the relevant results are included below.

#### 5.2. Interventions and technologies

#### Interventions and technologies

**3. Enable multiple measures**. A mixture of technologies, measures and services should be included within the scope of the programme (e.g. heating technologies, smart controls, insulation), either directly, or through synchronisation with other programmes (e.g. ECO). This enables the most appropriate intervention according to the needs and requirements of the household and their dwelling. Importantly, while there should be a focus on low-carbon heating technologies and energy efficiency measures (e.g. through 'fabric first' approaches and philosophies), heating technologies that may be seen as incompatible with climate targets should be included within the scope of the programme; for instance, where they are judged to best meet the needs and requirements of specific households.

**4. Mandate and enforce advice and support.** Households should be provided with in-depth advice on how to use and operate any new technologies, products or services that are installed in their home, and where appropriate, energy-related advice and income maximisation services should be delivered in parallel to the installation of any measures as part of one streamlined customer journey. There are different options for the provision of this advice and support; however, it must not be considered optional or of secondary importance,

#### Projects' views on interventions and technologies

100% of WHF project representatives said it was fairly or very important to provide fuel-poor households with in-depth advice on how to use and operate their new heating systems.

100% of WHF project representatives said it was fairly or very important to deliver energy advice and income maximisation services in parallel to the installation of insulation and heating system measures.

96% of WHF project representatives said it was fairly or very important to include a mixture of technologies, measures and services within the scope of the programme (e.g. heating technologies, insulation, smart controls).

"You must make every contact count, so including advice alongside these programmes should be prioritised by funders; too many funding pots pay purely for capex of measures, but this might be the only time this household has an energy intervention for many years."

"Provision of household support increases satisfaction levels and provides the opportunity to identify and address wider health and income issues. To be successful, sufficient resources both in time and staff need to be committed to this, both pre- and post-installation."

"Ongoing advice and support is essential to realising benefits of the measures installed, as well as the benefits to the householder."

#### 5.3. Partnerships and collaborations

#### Partnerships and collaborations

**5. Encourage collaboration.** Fuel poverty and energy efficiency programmes should be designed in a way that acknowledges and incorporates the importance of partnership and collaboration. This should include encouraging collaborative working, understanding the strengths, motivations and responsibilities of different project partners, and supporting their ability to play an active role in delivery, to the greatest degree possible. It should also include helping relevant organisations to cultivate relationships and delivery-partner frameworks that can enhance the quality and timeliness of resource mobilisation and project delivery.

**6. Support winners and future winners.** Fuel poverty and energy efficiency programmes should consider the balance and trade-offs between funding delivery partners and consortiums that have a track record of prior delivery, and funding organisations that have little to no track record of prior delivery, to help them build capacity and establish a foundation for future delivery.

#### Projects' views on partnerships and collaborations

85% of WHF project representatives said it was fairly or very important to encourage collaborative working between different organisations, such as local authorities, housing associations, and energy advice charities.

"There is real power in partnership working and bringing together partners from across the system, including third sector, corporate, statutory and central government."

"There needs to be the opportunity for organisations with little experience to bid for funding; however, this does need to be a blended approach, so that those in a position to accelerate programmes through previous experience can deliver for those in fuel poverty."

"Funding should be split according to organisations that have a track record and those that don't. Big capex to those that do, seed funding to train those that don't. Fuel poverty mitigation is urgently required, so push the boundaries of the local authorities who know what they are doing; encourage them to expand operations to areas without much support."

#### 5.4. Eligibility and targeting

#### **Eligibility and targeting**

7. Achieve a balance. Eligibility criteria should be focused on achieving, to the greatest degree possible, a balance between a) effectively targeting households in the deepest fuel poverty, to meet national/devolved statutory fuel poverty targets and deliver the greatest benefit for those most in need; and b) ensuring that measures can be delivered efficiently and at scale.

8. Keep it simple. Eligibility criteria should be as simple as possible for delivery partners to mobilise and administer, and for fund managers to implement.

#### Projects' views on eligibility and targeting

83% of WHF project representatives agreed that eligibility criteria should be focused on achieving a balance between effectively targeting households in the deepest fuel poverty, and ensuring measures can be delivered efficiently at scale.

92% of WHF project representatives agreed that eligibility criteria should include an element of discretional flexibility, to allow measures to be delivered to households that fall marginally outside scheme eligibility criteria.

"We have undertaken a number of schemes, and simplicity of eligibility criteria is the key. Ideally, if there are different routes to eligibility, this can help to make a scheme viable. Making eligibility criteria overly complicated can put residents off."

"Although the right people need to be targeted, overly complicated criteria hampers delivery significantly, therefore a balance needs to be struck."

## 5.5. Evaluation and learning

#### **Evaluation and learning**

9. Measure outputs and outcomes. Fuel poverty and energy efficiency programmes should include resources to measure and understand the outcomes achieved by delivery partners for households (e.g. impacts on thermal comfort, energy affordability, health), and discrete quantifiable outputs (e.g. EPC changes, match funding secured, financial value of income maximisation gains). This should also include measurement and assessment of the customer journey; its inclusivity and accessibility for multiple vulnerable groups, through application and onboarding processes; the customer experience; and issue identification and resolution.

**10. Enable delivery partners to grow.** Fuel poverty and energy efficiency programmes should be designed in a way that enables continual development, learning and outcomes for delivery partners; especially partners that require support to build the capacity and foundations for future delivery.

#### Project views on evaluation and learning

81% of WHF project representatives agreed that the reporting mechanisms used by funders of fuel poverty and energy efficiency schemes should include processes to gather data on the outcomes achieved by projects (e.g. impacts on thermal comfort, energy affordability, health).

"There is a need to be able to evidence outcomes, but this does not always reflect the outcomes that should matter: improvement to quality of life, reduction in absolute poverty, improved communities, and improved health and wellbeing."

"Understanding outcomes is very important to understanding how to improve and develop funding schemes. But this needs to sit outside the delivery and be implemented either by independent third parties or by a standardised [method] across schemes, to simplify implementation."

# 6. Operationalising the blueprint

Having defined the blueprint, the key actor types, the core elements, and the guiding principles for each of the core elements, this final section identifies different options for how future fuel poverty and energy efficiency schemes can be designed around each of the core elements. The intention here is not to argue that one option is preferred over another. Rather, it is to set out possible approaches, assess the extent to which each option meets the guiding principles, understand the related opportunities and challenges that are associated with each option, and provide examples of each option for further exploration. The different options and examples are partially drawn from the findings of the evaluation, but also utilise insights from other fuel poverty and energy efficiency schemes where necessary, both in the UK and beyond.

The options discussed below are not mutually exclusive. Different options can be bundled together in different ways to meet the guiding principles; for example, it is feasible that all eligibility criteria discussed in Section 6.4. could be bundled together to form the overall eligibility criteria of a programme, such as the WHF's use of four eligibility criteria. However, this itself comes with challenges and trade-offs, which will be noted below where necessary.



## 6.1. Funding and finance

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Option	How it can ensure sufficiency	How it can provide certainty	Opportunities	Challenges	WHF project views	E
Funding the totality of primary and secondary interventions and technologies as eligible measures in the programme.	- Ensures all measures required for tailored whole-house energy efficiency improvements can be accessed for each beneficiary.	- Does not on its own provide certainty; would require bundling with another option to meet the guiding principle.	- Reduces the potential for perceived competition between different energy efficiency schemes.	<ul> <li>Little to no added value leveraged through match or gap funding.</li> <li>Requires significant capital investment and new scheme design, over and above current programmes.</li> </ul>	n/a	N (F ir e c s
Committing to funding over a long-term period (e.g. 5+ years).	- Does not on its own provide sufficiency, although may encourage longer-term co-funding from alternative sources if the programme's future is perceived as stable and secure.	- Long-term funding provides confidence to the supply chain, delivery partners, and other stakeholders that the scheme will be sustained.	- Significant advantages for staff retention, delivery planning (e.g. procurement), supply chain confidence, upskilling (e.g. training new workforce), referral partner confidence.	<ul> <li>Politically difficult to guarantee funding over multiple parliaments; would at minimum need unwavering cross-party consensus.</li> <li>Scheme is less responsive to external changes (e.g. innovation and technology disruption).</li> </ul>	98% of WHF project representatives said this was fairly or very important.	N (F e to
Including within the programme sufficient revenue funding, alongside funding for capital measures interventions.	- Does not on its own provide sufficiency, but does enable financial support for elements of delivery that are often under-resourced (e.g. staff time for vulnerable resident engagement, data analysis).	- Does not on its own provide certainty; would require bundling with another option to meet the guiding principle.	- Helps delivery partners to train and retain experienced project delivery staff.	- Revenue funding for advice and support may impede partnerships with external energy advice organisations.	92% of WHF project r epresentatives said this was fairly or very important.	n
Ensuring, to the greatest degree possible, that delivery timelines for the programme are synchronised with delivery timelines for other match-funding programmes.	- Does not on its own provide sufficiency, but does enable delivery partners' confidence in planning internal strategies and programmes if scheme funding horizons are synchro- nised.	- Can provide partial certainty, but only if match-funded programmes themselves have reasonable degrees of certainty, to prevent funding cliff-edges.	- May enable more effective delivery of measures, and allow time to target and deliver to more vulnerable households.	<ul> <li>Requires a degree of alignment and agreement across funding streams that may have different aims and objectives.</li> <li>May threaten sufficiency if some schemes reduce funding in relation to presence of other funding sources.</li> </ul>	77% of WHF project representatives said this was fairly or very important.	n
Ensuring, to the greatest degree possible, that eligibility criteria for the programme match those of other match-funding programmes.	- Does not on its own provide sufficiency, but increases the possibility that different schemes can together provide sufficient measures to each individual household.	- Does not on its own provide certainty; would require bundling with another option to meet the guiding principle.	- Enables simplicity of delivery and increases scope of measures that can be delivered to individual households in one intervention.	<ul> <li>May need to be dependent on measures offered; if schemes offer different measures, synchronisation may be more effective.</li> <li>Increases probability that some households will fall through all eligibility cracks and be ineligible for any</li> </ul>	81% of WHF project representatives said this was fairly or very important.	V

#### Example

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support.

National Retrofitting Scheme (Republic of Ireland), which includes a large number of eligible measures and links to 'one-stop shop' energy advice services.

National Retrofitting Scheme (Republic of Ireland), which entails a funding commitment to 2030.

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Narm Homes Fund

## 6.2. Interventions and technologies

Option	How it can provide multiple measures	How it can include advice and support	Opportunities	Challenges	WHF project views	E
Including a mixture of technologies, measures and services within the scope of the programme (e.g. heating technologies, insulation, smart controls).	- Provides multiple measures by design through one large energy efficiency programme.	- Provides advice and support by design through one large energy efficiency programme.	<ul> <li>Allows measures, technologies and services to be tailored to the specific needs and requirements of individual households.</li> <li>Can install all needed improvements in one customer journey, minimising disruption.</li> </ul>	<ul> <li>Requires significantly large scheme scope, with associated large cost.</li> <li>May require complex processes of procurement and QA for delivery partners, to install and deliver a large range of measures properly and in correct order.</li> </ul>	96% of WHF project representatives said this was fairly or very important.	V H A H F
Focusing on low-carbon heating technologies (e.g. air source heat pumps, solar thermal).	- Does not on its own provide multiple measures; would require bundling with another option to meet the guiding principle.	- Does not on its own provide advice and support; would require bundling with another option to meet the guiding principle.	- Supports broader domestic priorities of reducing carbon emissions, while delivering significant benefits to households in terms of thermal comfort and health.	- May not improve energy affordability without parallel insulation improvements and advice.	73% of WHF project representatives said this was fairly or very important.	В
Including heating technologies that may be seen as incompatible with climate targets, for instances where they are judged to best meet the needs and requirements of specific households.	- Does not on its own provide multiple measures; would require bundling with another option to meet the guiding principle.	- Does not on its own provide advice and support; would require bundling with another option to meet the guiding principle.	<ul> <li>May be the only feasible heating option to bring specific households out of fuel poverty.</li> <li>Can be installed with 'heat pump ready' appliances, such as large radiators, to minimise any future cost of retrofitting.</li> </ul>	-Homes receiving measures may need to be retrofitted again in future -Incompatibility with climate targets may become politically difficult, even if benefits to some householders are demonstrated	71% of WHF project representatives said this was fairly or very important.	V
Focusing on insulation and energy efficiency measures (e.g. solid wall insulation, windows and doors).	- Does not on its own provide multiple measures; would require bundling with another option to meet the guiding principle.	- Does not on its own provide advice and support; would require bundling with another option to meet the guiding principle.	<ul> <li>Lowest-regret option that improves energy efficiency, lowers carbon emissions, and reduces fuel poverty in tandem.</li> <li>Meets 'fabric first' approaches and philosophies.</li> </ul>	- May not improve energy affordability without parallel heating technology. improvements and advice - May not be deemed as cost-effective as other solutions in some circumstances, especially wall insulation.	n/a	E
Focusing on energy advice and support and allied services (e.g. income maximisation, debt advice).	- Does not on its own provide multiple measures; would require bundling with another option to meet the guiding principle.	- Provides advice and support by programme design.	- Enables funding of a service most frequently missing in fuel poverty and energy efficiency schemes, but which evidence shows is vital to optimal outcomes.	- Achieves sub-optimal although not insignificant impacts on fuel poverty, espe- cially when delivered without capital measures interventions (i.e. fabric improvements, heating system upgrades).	<ul> <li>100% of WHF project representatives said this was fairly or very important.</li> <li>100% also said it was fairly or very important to provide fuel poor-households with in-depth advice on how to use and operate their new heating systems.</li> </ul>	E

#### Example

Warm Homes Fund, Green Homes Grant (Local Authority Delivery), Social Housing Decarbonisation Fund

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Boiler Upgrade Scheme

Narm Homes Fund, ECO

ECO

Energy Redress Fund

## 6.3. Partnerships and collaboration

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Option	How it can encourage collaboration	How it can support winners and future winners	Opportunities	Challenges	WHF project views	E:
Stipulating that direct recipients of funding are local authorities, housing associations, or other registered social landlords.	- Does not necessarily encourage collaboration, but widespread recognition that collaboration is implicit in successful delivery.	- Does not necessarily support winners and future winners; the scheme would need to actively embed and deliver on this principle in bid evaluation.	<ul> <li>Governance procedures are well-established and transparent.</li> <li>No underlying profit motive of organisations.</li> </ul>	- Time taken to set up project (e.g. procurement, staff recruitment) may lead to delays in delivery.	n/a	V
Including the private sector (e.g. energy suppliers, energy consultancies) as eligible to bid for and deliver fuel poverty and energy efficiency programmes.	- Would encourage the private sector to proactively seek collaboration opportunities with social landlords, local authorities, and similar delivery partner organisations.	- Experienced private sector organisations can support inexperienced delivery partners (e.g. RSLs) in development of delivery processes (e.g. procurement), building a foundation for the future.	<ul> <li>May be able to deliver over wider geographical areas than local authorities or RSLs.</li> <li>Procurement processes may be more advanced and effective.</li> <li>Can leverage value from other funded schemes.</li> </ul>	- Private sector may be perceived by other organisations as being motivated primarily by profit, not by householder outcomes.	52% of WHF project representatives said this was fairly or very important.	N aı tr
Including the third sector (e.g. charities, not-for-profits, and community energy groups) as eligible to bid for and deliver fuel poverty and energy efficiency programmes.	- Would encourage the third sector to proactively seek collaboration opportunities with social landlords, local authorities, and similar delivery partner organisations.	- Experienced third-sector organisations can support inexperienced delivery partners (e.g. RSLs) in development of delivery processes (e.g. procurement), thus building a foundation for the future.	<ul> <li>Could enable swifter delivery, due to shorter approval processes, and fewer barriers (regarding e.g. procurement) than local authorities.</li> <li>May have a deeper understanding of vulnerability and fuel poverty.</li> </ul>	- May require new governance processes and operating procedures to deliver programmes at scale.	87% of WHF project representatives said this was fairly or very important.	E
Funding organisations that have a track record of prior delivery, and/or organisations with pre-existing partnerships, procurement frameworks, and governance procedures, to deliver quickly and efficiently.	- May not encourage collaboration on its own; experienced delivery partners tend to have well-established partnerships that are well oiled and resistant to fundamental partnership change.	- Funds only winners; would require bundling with another option to meet the guiding principle.	- Large capex provided to these organisations can enable impactful delivery quickly and at scale.	- Risks deepening the postcode lottery of provision by excluding areas in need of support because they do not have a well-established history of delivery.	<ul> <li>73% of WHF project representatives said a proven track record was fairly or very important.</li> <li>69% also said the presence of pre-existing procedures, frameworks and partnerships was fairly or very important.</li> </ul>	V
Funding organisations with little to no track record in delivery.	<ul> <li>Enables smaller, less experienced organisations to begin delivering fuel poverty and energy efficiency measures.</li> <li>Encourages other organisations to work with inexperienced organisations to bid for and deliver projects.</li> </ul>	- Funds only future winners; would require bundling with another option to meet the guiding principle.	<ul> <li>Establishes a platform for organisations to grow procurement, staff expertise, and delivery experience, leading to larger-scale future delivery.</li> <li>Seed funding can enable organisations without risking significant capex.</li> </ul>	- Increased risks that delivery will be delayed while processes are established and refined.	54% of WHF project representatives said a proven track record was fairly or very important.	V
Supporting energy networks to play a more active role in programme delivery, to ensure efficient provision of network upgrades, either directly or through a com- missioned third party (e.g. Communitas).	- Would encourage energy networks to proactively seek collaboration opportunities with social landlords, local authorities, and similar delivery partner organisations.	- Enables delivery partner organisations without significant experience of connections to be better supported in bid development and project delivery phases of the project.	<ul> <li>Active network involvement could reduce delays in installation completion, thus improving household experience and preventing withdrawals.</li> <li>Improved efficiencies and working practices.</li> </ul>	<ul> <li>Would potentially need changes to licence conditions (e.g. through future iterations of RIIO), to be properly incentivised and enforced.</li> <li>Challenges regarding networks participating in programmes they would financially benefit from (e.g. through new metered network</li> </ul>	73% of WHF project representatives said this was fairly or very important.	N ai N [M th

connection charges).

#### Example

Narm Homes Fund

None identified (although arguably, ECO could fall under this category)

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Energy Redress Fund

Narm Homes Fund

Narm Homes Fund

None identified (although arguably, elements of Network Innovation Allowance (NIA] projects could fall under this category)

## 6.4. Eligibility and targeting

Option	How it achieves a balance	How it keeps things simple	Opportunities	Challenges	WHF project views	Example
Means-tested benefits (e.g. Affordable Warmth Benefits)	<ul> <li>Accurately targets</li> <li>households defined as fuel</li> <li>poor under the LILEE metric,</li> <li>based on evaluation findings.</li> <li>But misses a significant</li> <li>proportion of fuel-poor house-</li> <li>holds when used in isolation.</li> </ul>	- Simple for delivery partners to use and implement.	<ul> <li>Enables delivery partners to market outwardly with criteria that are easily understood by the local population.</li> <li>Pre-existing data or data sharing can be used to identify eligible households.</li> </ul>	<ul> <li>Can allow households with large annual incomes to enter programmes.</li> <li>Often requires verification of documentation, which can be a challenge for certain households.</li> <li>The focus on benefits can restrict targeting of fuel-poor households outside the social security system.</li> </ul>	81% of WHF project representatives said this was fairly or very important.	Warm Homes Fund
Local government derived criteria (e.g. ECO Flex)	- Relatively inaccurate at targeting households defined as fuel poor under the LILEE metric, based on evaluation findings.	- Simple for delivery partners to use and implement.	<ul> <li>Allows eligibility criteria to be flexible and adapted based on local and regional need.</li> <li>Can confer eligibility across a range of programmes, making match funding easier.</li> </ul>	- Requires governance body and fund manager oversight to ensure balance is maintained.	73% of WHF project representatives said this was fairly or very important.	Warm Homes Fund
Fuel poverty	- Accurately targets households defined as fuel poor under the LILEE metric, based on evaluation findings.	- Difficult for delivery partners to use and implement, and would require simplification or a consistent methodology to meet the guiding principle.	- Formal calculation is the greatest possible indication that a beneficiary household is definitely living in fuel poverty.	<ul> <li>Different definitions of fuel poverty complicates conferral of eligibility and audit.</li> <li>Often requires external consultancy to be used by delivery partners, adding cost.</li> </ul>	60% of WHF project r epresentatives said this was fairly or very important.	Warm Homes Fund
Area-based criteria (e.g. based on IMD)	<ul> <li>Relatively inaccurate at targeting households defined as fuel poor under the LILEE metric, based on evaluation findings.</li> <li>Enables economies of scale and delivery of area-based schemes.</li> </ul>	- Simple for delivery partners to use and implement, especially when based on publicly available data (e.g. IMD).	- Possibilities for refinement to enable a larger proportion of programme funds to be spent on fuel-poor households (e.g. contributions from households in the area that can afford it).	<ul> <li>Wide disagreement on appropriateness of method.</li> <li>Often not used across wider fuel poverty and energy efficiency schemes, making match funding a challenge.</li> </ul>	71% of WHF project representatives said this was fairly or very important.	Warm Homes Fund
Health-based criteria	<ul> <li>Targets households at most risk of coming to harm through living in a cold home.</li> <li>But may present practical delivery obstacles, especially coordination between delivery partners and NHS.</li> </ul>	- Can be challenging to easily implement, often requiring collaboration with health and social care bodies to reach high proportions of eligible households.	<ul> <li>Can contribute significantly to broader societal priorities regarding health, including demand for healthcare services.</li> <li>Can build collaboration with health and social care actors for joined-up future work.</li> </ul>	- Establishing consistent and reliable relationships with health and social care bodies is challenging for delivery partners.	87% of WHF project representatives said this was fairly or very important.	Warmth on Prescription
Energy efficiency-based criteria (e.g. SAP band)	<ul> <li>Targets households in the least energy-efficient properties, and who are therefore likely to be in fuel poverty under the LILEE metric.</li> <li>Least energy-efficient properties are challenging to identify.</li> </ul>	- Simple for delivery partners to use and implement, especially if based on publicly available or pre-existing data.	- Contributes directly to fuel poverty targets in the UK, as measured under the LILEE definition.	- Wide disagreements on appropriateness of energy efficiency ratings (especially SAP methodology) for t argeting improvements.	83% of WHF project representatives said this was fairly or very important.	ECO, Green Homes Grant Local Authority Delivery
Heating type-based criteria (e.g. storage heaters, solid fuel)	<ul> <li>May not reach the house- holds in deepest fuel poverty if household circumstances are not also considered.</li> <li>Can be delivered at scale and practically, especially for social housing providers.</li> </ul>	- Simplicity varies widely depending on delivery partners' access to up-to-date data.	<ul> <li>Enables futureproofing of national housing stock for current and future household occupants, at scale.</li> <li>Contributes to broader housing market priorities concerning Decent Homes.</li> </ul>	- Requires detailed asset data on housing stock to enable targeting.	85% of WHF project representatives said this was fairly or very important.	Social housing capital improvement programmes

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## 6.5. Evaluation and learning

Option	How it measures outputs and outcomes	How it enables delivery partner growth and learning	Opportunities	Challenges	WHF project views
Independent evaluation	- Deploys mixed-methods research and evaluation tools (e.g. questionnaires, interviews, modelling) to identify and measure key programme outputs and outcomes, including the customer journey and experience.	- Engages with delivery partners during research (e.g. through project surveys, interviews), and gives feedback on evaluation findings at regular intervals to allow delivery partner progression.	<ul> <li>Independent, reducing possibility of conflicts of interest.</li> <li>Conducted by expert third parties, enhancing quality.</li> <li>Can include wider dissemination of findings.</li> <li>Can design methods to quantify the programme's impact on wider society, economy and environment.</li> </ul>	<ul> <li>Can add a significant cost to overall programme delivery.</li> <li>Requires close management and engagement by the governance body, fund managers, delivery partners, and households.</li> </ul>	85% of WHF project representatives agreed with this as a means of measuring the outputs and outcomes of fuel poverty and energy efficiency programmes.
Quantification of programme outputs by fund managers	- Measures outputs but not outcomes; would require bundling with another option to meet the guiding principle.	- Limited ability to enable delivery partner learning on its own; would require bundling with another option to meet the guiding principle.	<ul> <li>Cost-effective, requiring management and reporting by fund managers to the governance body.</li> <li>Streamlined, requiring all delivery partners to use identical reporting templates.</li> </ul>	<ul> <li>Requires robust decision-making on choice of outputs to quantify, and will necessarily exclude some outputs that could be measured.</li> <li>Reliant on delivery partners' data collection and recording practices, which may be inexact.</li> </ul>	77% of WHF project representatives agreed with this as a means of measuring the outputs and outcomes of fuel poverty and energy efficiency programmes.
Self-evaluation of programme outcomes by fund managers (e.g. using Social Return on Investment (SROI) methods)	- Measures outcomes but not outputs; would require bundling with another option to meet the guiding principle.	- Limited ability to enable delivery partner learning on its own; would require bundling with another option to meet the guiding principle.	<ul> <li>Enables a consistent framework of outcome measurement to be applied across an entire programme.</li> <li>Can demonstrate the programme's impacts on the wider economy, environment and society in a consistent way.</li> </ul>	<ul> <li>Development of robust SROI (or other) methodology would require significant investment.</li> <li>Reliant on consistent implementation of method by all delivery partners.</li> <li>Would require frequent updating to reflect changes in the local economy, society and environment.</li> </ul>	79% of WHF project representatives agreed with this as a means of measuring the outputs and outcomes of fuel poverty and energy efficiency programmes.
Facilitating and funding ways for projects to share knowledge and best practice (e.g. conferences)	- Measures neither outcomes nor outputs; would require bundling with another option to meet the guiding principle.	<ul> <li>Enables sharing of knowledge, experience and best practice among delivery partners, fund managers and the governance body.</li> <li>Provides opportunities for collaboration.</li> </ul>	<ul> <li>Relatively low-cost,</li> <li>representing a small portion of overall programme</li> <li>investment and spend.</li> <li>Can support innovation,</li> <li>collaboration and</li> <li>problem-solving.</li> </ul>	- Risk of duplication of existing events.	81% of WHF project representatives said this was fairly or very important.
Multi-indicator monitoring and reporting	- Measures outcomes and outputs together, through a suite of appropriate quantitative and qualitative indicators (e.g. VfM, number and type of interventions, customer journey and experience, health improvements, regular household interviews).	- Through projects' disaggregated feedback and engagement, delivery partners can learn about their performance relative to project averages and norms.	<ul> <li>Responds to latest best practice academic research on necessity of multi- indicator approaches to accurately understand the scheme's performance and impact.</li> <li>Shares core strengths with independent evaluation, but without additional costs and challenges.</li> </ul>	<ul> <li>Complex to design, pilot and implement.</li> <li>Would require significant investment to design and pilot; is likely to involve commissioning of external consultants and researchers working closely with the governance body, fund manager, and partners.</li> </ul>	n⁄a

## Example

Warm Homes Fund evaluation

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Warm Homes Fund evaluation

Vulnerability and Carbon Monoxide Allowance (VCMA) programme delivered by GDNs

n/a

Development of energy poverty indicators in the Netherlands and EU