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RESEARCH ARTICLE **OPEN ACCESS**

For the Few, Not the Many: Tracing the Residualist and Compensatory Nature of British Energy Support

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ABSTRACT

Drawing on extensive documentary analysis, this article traces the evolution of British energy policy support since World War II. It analyses shifts in policy design through two interpretive lenses: eligibility (residualist vs. universalist) and function (compensatory vs. preventive). While the UK was once a global leader in preventive, relatively broad-based energy efficiency investments, since the 1980s it has moved increasingly towards reactive, narrowly targeted schemes, mostly delivered through energy supplier obligations and providing means-tested relief. Moments of crisis, such as the oil shocks of the 1970s and the recent energy price surge, prompted temporary shifts to universalism, but such measures have proved short-lived. While successive governments emphasised the many co-benefits of energy efficiency schemes, they remain inconsistently implemented and underfunded. We argue that the persistence of residualist-compensatory models is driven by political, institutional, and ideational factors. To make sense of these developments, we introduce a typology of four models - residualist compensatory, residualist-preventive, universalist-compensatory, and universalist-preventive- which is used to map key policy shifts and assess their implications. We conclude by explaining that a transition towards a universalist-preventive approach must be grounded in a rights-based framework.

1 | Introduction

In the 1970s and 1980s, the UK was a global leader in energy efficiency, launching the world's first dedicated Energy Efficiency Office, nationwide awareness campaigns, and coordinated government support for households and industry (Leach 1991; Mallaburn and Eyre 2013). In stark contrast, the UK government today is one of the few high-income European countries without a comprehensive, universally accessible scheme for retrofitting grants or loans that goes beyond heating system replacement.¹ Instead, it relies on a fragmented patchwork of policies, mostly financed through consumer levies and limited to low-income households, despite an ageing and relatively inefficient housing stock and the pressing challenges of climate change and the cost-of-living crisis (Figus et al. 2017; Roberts 2008).

This article offers a comprehensive analysis of how this shift occurred, tracing the evolution of UK energy support policy

from the energy crisis of the 1970s to the latest announced 2025 reforms. It argues that while the UK has increasingly moved towards a residualist and compensatory model, relying heavily on narrowly targeted, short-term assistance for a subset of 'deserving' households, often delivered through market-based instruments such as energy supplier obligations (Katris and Turner 2021; Rosenow 2012; Rosenow et al. 2013), this trajectory has not been linear or absolute. Elements of more universal, preventive, and investment-oriented support have persisted or re-emerged at various points, reflecting political, economic, and institutional tensions that continue to shape the policy landscape.

Against this background, fuel poverty emerged as an increasingly prominent reference point in UK household energy policy. The Warm Homes and Energy Conservation Act (2000), which established an official definition of fuel poverty as "living on a lower income in a home which cannot be kept warm

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at reasonable cost”, was a breakthrough in compelling the government to formulate concrete strategies for fuel poverty alleviation. However, it may also have contributed to framing the issue primarily as a technical challenge of energy inefficiency, sidelining structural factors such as income inequality and rising energy prices (Middlemiss 2016). In doing so, it arguably marked the beginning of an austerity-driven governmentality in which state responsibility became increasingly confined to targeted retrofit measures and energy relief without looking at broader energy efficiency subsidies or tax reform (Galvin 2024), especially after the Warm Front programme was scrapped in 2013 (Bridgen and Robinson 2023; Sovacool 2015). This trajectory has implications beyond the UK, given its early role in defining fuel poverty as a discrete policy concern, an issue now gaining recognition in Canada, the United States, and across continental Europe (Bednar and Reames 2020; Kyrianiou et al. 2019; Riva et al. 2021).

To make sense of these policy shifts, and contribute a novel, long-term perspective that integrates both energy efficiency and energy bill support, rarely addressed together in existing literature, this article adopts two interpretive lenses that help explain the underlying logic of change. The first traces a shift along a residualist-universalist spectrum, capturing changes in *who* is targeted by energy policy. Here, ‘residualisation’ refers to the retreat of the state from broad-based welfare provision towards narrowly targeted, means-tested assistance, offered only to those deemed most in need (Esping-Andersen 1990; Wilensky and Lebeaux 1958). The second perspective examines a movement from compensatory to preventive models of support, focusing on *how* and *when* help is delivered. While compensatory policies are reactive, offering relief after harm has occurred (e.g., energy bill rebates), preventive approaches aim to reduce vulnerability before crises emerge (e.g., housing insulation). This shift aligns with the broader paradigm of ‘social investment’, which treats welfare spending not merely as expenditure but as a long-term strategy to enhance capabilities, reducing future risks, promoting well-being, and enabling societal participation (Hemerijck 2002). While both lenses are prominent in British energy discourse, the residual shift appears to have materialised, whereas the preventive turn remains largely rhetorical.

The remainder of this article is structured in three main sections. First, it lays out the theoretical framework underpinning the analysis, focusing on the dual shifts from universalist to residualist models of welfare, and from preventive to compensatory forms of government spending. Second, drawing on a wide range of policy documents and official sources, we trace the historical trajectory of UK energy support from the 1970s to the current reforms, highlighting key shifts, contradictions, and continuities in the policymaking landscape. Finally, we assess these developments through a typology of four ideal-typical approaches to energy support: residualist-compensatory, residualist-preventive, universalist-compensatory, and universalist-preventive. This typology provides a basis for critically examining the strengths and limitations of each model in addressing fuel poverty, enhancing energy efficiency, and balancing short-term relief with long-term resilience in the context of overlapping ecological, economic, and social crises.

1.1 | Shifting Governance Objectives

This article adopts a theory-informed analytical framework to examine long-term shifts in the design of energy support policies. Rather than treating eligibility and policy function as merely descriptive attributes, the analysis draws on two well-established strands of policy and welfare state scholarship: debates on residualisation versus universalism, and work on compensatory versus preventive (or social investment) approaches to social policy (Bernard and Boucher 2007; Esping-Andersen 1990; Hemerijck 2015). These strands address complementary questions of governance. The former concerns *who* is entitled to public support and on what basis, while the latter concerns *how* and *when* social risks are addressed: reactively through income or price compensation, or proactively through measures aimed at reducing future vulnerability.

Although these literatures have often developed in parallel, a growing body of research has shown that distributive scope and functional orientation are closely intertwined in processes of institutional change. Comparative studies of welfare reform demonstrate that shifts towards social investment are frequently accompanied by changes in eligibility design, while patterns of targeting and residualisation shape the feasibility and reach of preventive interventions (Andersson 2020; Jacques and Noël 2021; Morel et al. 2012). Rather than treating universalism, residualism, compensation, and prevention as isolated policy choices, this work highlights their co-evolution as part of broader transformations in governing logics, fiscal rationales, and conceptions of social responsibility.

Building on this literature, the two-dimensional framework developed here brings these perspectives together to analyse energy support policies and other instruments of environmental governance. Applied as a heuristic device, it captures both the distributive scope of interventions and their temporal orientation, enabling a systematic assessment of how these policies balance short-term affordability, long-term efficiency, and social equity across changing institutional and political contexts.

1.2 | Residualist Paradigm

Residualisation of social policy in Europe, and particularly in Britain, refers to a structural shift in welfare provision whereby universal or broad-based entitlements are increasingly replaced with selective, means-tested benefits that serve only those in acute ‘need’ or those deemed most ‘deserving’ (Hoekstra 2009; Spicker 2005). In contrast, universal welfare approaches provide entitlements broadly across a population, based primarily on citizenship or broad demographic categories (e.g., pensioners, the unemployed) rather than financial or other narrowly defined criteria or specific criteria such as age, income, or household composition (Van Lancker et al. 2015). Unlike ‘targeting’, which refers to the distributive direction of public spending (Jacques and Noël 2021), residualisation represents a more fundamental shift in the logic of welfare states, redefining social protection as a last resort rather than a universal right.

Eligibility is treated here as a core analytical dimension because it captures how responsibility for social risks is allocated between the state, the market, and households. A shift towards residualism signals not merely narrower coverage, but a redefinition of social protection as conditional, temporary, and exceptional rather than a universal social right. In the context of energy policy, this distinction is particularly consequential, as eligibility rules determine whether affordability and efficiency are treated as collective infrastructure concerns or as individualised problems experienced only by a subset of ‘deserving’ households. As scholarship in environmental policy has long emphasised, such design choices are inherently normative: frameworks that prioritise efficiency without making distributional implications explicit risk obscuring questions of equity and responsibility (Aakre and Rübhelke 2010). By foregrounding eligibility, the analysis makes these distributive assumptions visible rather than implicit.

Residualisation has been particularly pronounced in liberal welfare states such as the UK, where successive governments have moved away from Beveridgean principles of comprehensive welfare coverage towards a more conditional and minimalist model (Edmiston 2017). Policies such as the replacement of universal child benefits with income-contingent payments and the tightening of eligibility for unemployment support illustrate this trend (Heins and Bennett 2018; Ridge 2013). In contrast, social-democratic welfare regimes such as Scandinavian countries have largely preserved more universalist approaches, maintaining broad-based entitlements and inclusive welfare structures that emphasise collective well-being and shared responsibility (Esping-Andersen 1990; Frederiksen 2018).² These cross-national differences highlight the extent to which residualisation is not only a product of fiscal constraint but also of political ideology and institutional legacies.

At a deeper level, residualisation signals a redefinition of the welfare state’s role, moving away from principles of collective provision towards a more conditional and selective logic. It is closely associated with neoliberal modes of governance in which social protection is reimagined not as a shared right but as a cost to be minimised, a safety net activated only when market solutions fail (Clasen 1999; Kaneko 1998). In this context, state intervention is increasingly framed as a form of conditional relief, subject to individual conditions and behavioural obligations. Proponents often justify this model on the grounds of fiscal efficiency, ensuring that limited public resources are directed towards those most in need (MacLeavy 2016). However, critics point to the broader social consequences of this shift, arguing that it introduces administrative burdens and reinforces stigma (Sen 1998). It is also said to deepen inequalities, foster a moral hierarchy between those deemed self-reliant and those portrayed as dependent or failing, and erode the solidarity that underpins collective welfare provision (Van Oorschot and Roosma 2017).

The residualist logic extends beyond the confines of traditional income support mechanism, such as unemployment benefits, family allowances, and sick leave entitlements, to increasingly shape sectoral domains like housing, health, and, as explored in this article, energy policy. In housing, for example, the retreat of

the state from mass social housing has coincided with the rise of selective housing benefits and strict eligibility criteria (Elsinga and Wassenberg 2014; Pearce and Vine 2013). Especially in countries where social housing sectors have shrunk or been re-oriented towards only the most economically vulnerable, this has resulted in spatial segregation and diminishing affordability across the housing system (Burrows 1999; Hoekstra 2017). In health care, too, residualisation is evident in areas like prescription charges, dental treatment, mental health services, and social care, where access is increasingly means-tested or only available to those in greatest need while others face rising costs, longer waits, or exclusion altogether (Bambra 2005; Cummins 2018; O’Brien 1989).

Residualisation in the provision of energy services has followed a similar trajectory. Historically, energy provision in many advanced economies was managed through publicly owned utilities that ensured broad-based affordability and system-wide stability (Helm 2003). However, following the liberalisation of energy markets in the 1990s and 2000s, particularly across Europe and North America, affordability concerns were increasingly reframed either as matters of overall market price levels or as individualised hardship, defined as fuel poverty or energy poverty (Boardman 2010; Dubois 2012). In response, several European countries introduced means-tested ‘social tariffs’ alongside market liberalisation, offering targeted support only to narrowly defined groups considered most in need.³ Residual approaches are also evident in the domain of energy efficiency. In the United States, for instance, the *Weatherization Assistance Program* (WAP), established in 1976, has long operated on a residualist logic, providing retrofitting subsidies solely to low-income households (Fowlie et al. 2018; Hernández and Bird 2010). More recently, similar patterns have emerged in the UK, where energy efficiency support has become increasingly selective, as this article explores in detail.

1.3 | Preventive Paradigm

Parallel to residualisation, the rise of the preventive paradigm, often discussed under the label of ‘social investment’, marks a significant evolution in contemporary governance arrangements (Hemerijck 2015). In contrast to compensatory approaches, which provide relief after harm or disadvantage has occurred, preventive policies seek to address the root causes of vulnerability in advance (Morel et al. 2012). As such, they embody a shift from *repair* to *prepare*, and from passive income maintenance towards anticipatory forms of intervention that prioritise capacity building, resilience, and future-oriented policy design (Giddens 1998; Hemerijck 2017).

Initiatives such as accessible childcare and early childhood education, vocational training schemes, and active labour market policies exemplify this investment-oriented ethos. They do so by promising cognitive and emotional development during critical years, equipping individuals with skills aligned to evolving labour market demands, and intervening early in periods of joblessness to prevent long-term detachment from the workforce (Hemerijck 2002; Jenson 2009).

These policies reflect a broader commitment to ‘life course thinking’, which emphasises timely interventions to prevent the accumulation of disadvantage across an individual’s lifespan (Esping-Andersen 2002).

Beyond social policy, the preventive paradigm also resonates with broader debates in sustainability and environmental governance, where long-termism, anticipation, and upstream intervention are widely recognised as core governance principles. Research highlights that sustainability-oriented governance requires public administrations to move beyond short-term problem solving towards anticipatory and reflexive modes of action that address structural causes rather than symptoms (Bornemann and Christen 2018). At the same time, such approaches are often politically and institutionally challenging, as they involve short-term costs while their benefits accrue only over longer time horizons (Teng et al. 2013). From this perspective, preventive social policies can be understood as part of a wider shift towards governance arrangements that prioritise long-term societal resilience.

Empirically, countries differ markedly in how this preventive orientation is institutionalised. Scandinavian welfare states such as Sweden, Denmark, and Finland have embedded service-oriented preventive measures within largely universal social protection systems, whereas countries like the UK and Germany have tended to layer more selective and fragmented preventive initiatives onto increasingly residual welfare arrangements (Hemerijck and Vandenbroucke 2012). These differences underscore that preventive governance is not value-neutral: its effectiveness and distributive consequences depend strongly on how it is combined with eligibility rules and broader institutional contexts.

Within the preventive paradigm, two distinct normative rationales often underpin the push for early and proactive interventions: a ‘productivist’ logic centred on economic efficiency and labour market performance, and a justice- or capability-based perspective that emphasises individual dignity, autonomy, and well-being (Laruffa 2020; Morel and Palme 2017). From the productivist standpoint, social investment policies reconceptualise welfare from being a cost or burden to a productive factor, and they are expected to yield returns through higher employment, productivity, and reduced welfare dependency (Midgley 1999; Smyth and Deeming 2016). In contrast, capability-based approaches, drawing on thinkers like Sen (1999) and Nussbaum (2000), frame some of these same interventions as intrinsic goods, means of expanding people’s real freedoms and enabling them to flourish on their own terms (see e.g., Laruffa 2018). These perspectives are not necessarily in conflict; in many cases, policies justified on economic grounds can also support broader social and ethical aims. Yet the emphasis matters: a productivist lens tends to prioritise those deemed ‘economically active’, potentially sidelining individuals whose contributions are less visible in market terms, such as carers, disabled people, or the long-term unemployed. As critics warn, this productivist orientation can risk reinforcing existing inequalities by overlooking or undervaluing those less able to engage in paid employment (Cantillon and Van Lancker 2013).

While traditional applications of the social investment paradigm primarily focus on human capital, education, and employment, it can also be extended to address the domains introduced in Section 2.1. In housing provision, models like *Housing First*, as pioneered in Finland, exemplify preventive investment by addressing homelessness through immediate access to stable housing, on the premise that a secure home is a prerequisite for tackling other forms of social and economic exclusion (Baker et al. 2020). This approach has demonstrated that securing housing upfront not only improves individual outcomes in health, employment, and well-being but also reduces long-term public expenditure by minimising reliance on emergency and crisis services (Busch-Geertsema 2013; Haffner and Elsinga 2018; Woodhall-Melnik and Dunn 2016). Similarly, preventive care is emphasised in the health sector—arguably even more prominently due to the substantial public expenditure associated with healthcare in welfare states—through early interventions such as lifestyle education, routine screenings, and vaccinations (Eisner et al. 2011). These measures not only reduce the onset of chronic illness and help lower long-term healthcare costs but also improve individuals’ capabilities by supporting healthier, more autonomous lives (Maciosek et al. 2010; Mitchell et al. 2017; Warner 1979).

In the context of energy services, the preventive paradigm represents a strategic shift from short-term compensatory measures towards structural, long-term solutions. Reactive interventions, such as direct energy bill subsidies, typically fail to address underlying structural issues, whereas preventive approaches based on energy efficiency prioritise long-term solutions (Somestad 2011; Zimmermann and Gengnagel 2023). Galvin et al. (2024), analysing the elasticity of heating expenditure in England, demonstrate that energy efficiency upgrades offer the most substantial and lasting relief from fuel poverty, outperforming direct income support. From a fiscal standpoint, this approach is also far more cost-effective. Rüdinger (2023) highlights the opportunity costs of compensation: reallocating just a quarter of the €45 billion France spent in 2023 on its energy ‘tariff shield’ could increase funding for energy retrofits five-fold. Beyond economic logic, energy efficiency is also framed as a means of expanding individual capabilities. Day et al. (2016), drawing on a capabilities-based perspective, argue that structural interventions like retrofitting not only improve thermal comfort and health but also enable fuller social participation and restore a sense of dignity. However, unlike other areas of social investment, energy efficiency measures are typically embedded in dwellings rather than individuals, complicating efforts to target and sustain preventive support, since benefits do not follow people as they move and may even end up capitalising landlords rather than empowering vulnerable tenants (Croon et al. 2024; Fernández et al. 2024).

Combining eligibility and function as analytical dimensions offers several advantages for comparative policy analysis. It enables policies to be assessed not only in terms of whom they target, but also in terms of how they address social risks over time, thereby revealing hybrid configurations, such as targeted preventive interventions or universal compensatory schemes, that may be obscured in one-dimensional typologies (Howlett and Rayner 2007; Jacques and Noël 2021). At the same time,

applying this framework involves interpretive challenges. Eligibility and policy function are best understood as gradational rather than binary categories, and many interventions combine preventive and compensatory elements to varying degrees, making precise classification inherently nuanced and context-dependent (Bouma et al. 2019; Suykens et al. 2016). For this reason, the framework is applied here as a heuristic rather than a normative ranking device, with classifications interpreted contextually and comparatively rather than mechanically.

1.3.1 | Analytical Approach and Methodology

This article adopts a qualitative, interpretive approach to trace the evolution of UK energy support policy, focusing on the shifting logics of eligibility and policy function. The two-dimensional framework introduced in Section 2 is used as an organising lens throughout the documentary analysis, structuring how policy instruments are compared and positioned over time. Each policy is systematically analysed and categorised along the two analytical dimensions explored above: eligibility coverage, ranging from residual (targeted and conditional) to universal (broad-based), and primary function, distinguishing between compensation (financial support to offset high fuel costs) and prevention (energy efficiency improvements and energy-demand reduction incentives). In practice, rather than from policy framing alone, eligibility is inferred from formal access rules, while function is inferred from the dominant mechanism of intervention.

This analysis is based on a structured review of documentary sources, including legislative texts, consultation papers,

parliamentary briefings, budget announcements, White and Green Papers, government impact assessments, and evaluations by relevant governmental bodies and external organisations. In total, the analysis examines 19 distinct UK domestic energy support policies and programmes, drawing on 97 documentary sources. The typological mapping presented in Figure 1 focuses on 16 schemes that were operational at some point from 2010 onwards, allowing for direct comparison of contemporary policy design logics; where schemes were substantially reformed, these changes are reflected through multiple positions on the typology (see Appendix Tables A1 and A2). The analysis combined deductive coding based on predefined eligibility and function categories with inductive interpretive judgement in positioning schemes along the scales.

Crucially, the two analytical dimensions are not conceived as binary categories, but as continuous spectrums along which policies can exhibit hybrid characteristics. For instance, a scheme may offer universal access to basic energy-efficiency vouchers while reserving fully funded retrofits for low-income households. Similarly, not all compensatory measures are equally direct: a lump-sum transfer to a vulnerable group is less responsive to actual energy needs than one calibrated to expected energy bills or triggered by freezing temperatures. As such, and given the political incentive for governments to frame even narrowly targeted interventions as broad, game-changing solutions, classification required a nuanced interpretive process, grounded in triangulation across multiple sources (Roe 1998). Where political statements diverged from operational rules and mechanisms documented in legislation, implementation guidance, and evaluations, the latter were prioritised when positioning schemes along the scales.

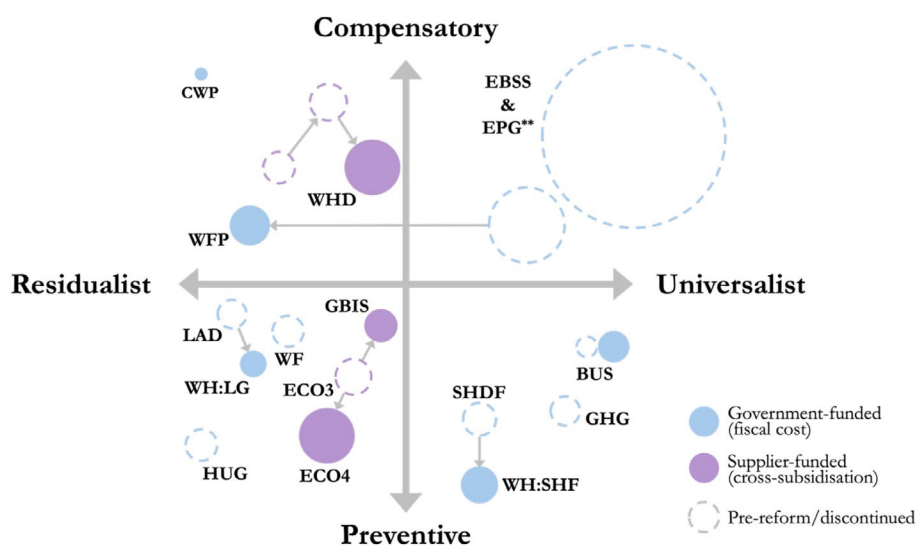


FIGURE 1 | Shifts in the design of UK energy support schemes* since 2010 along the residualist-universalist and compensation-prevention axes, with arrows indicating directional change from pre-reform to post-reform positions, circle size showing relative annual expenditure, fill status distinguishing active or reformed from discontinued schemes, and colour differentiating funding sources with purple for general taxation and blue for supplier obligations passed on to consumers (see Appendix for substantiation). *BUS (Boiler Upgrade Scheme), CWP (Cold Weather Payment), EBSS (Energy Bills Support Scheme), ECO4 (Energy Company Obligation, Phase 4), EPG (Energy Price Guarantee), GBIS (Great British Insulation Scheme), HUG (Home Upgrade Grant), LAD (Local Authority Delivery), SHDF (Social Housing Decarbonisation Fund), WF (Warm Front), WFP (Winter Fuel Payment), WHD (Warm Home Discount), WH: LG (Warm Homes: Local Grant), WH:SHF (Warm Homes: Social Housing Fund). **This circle represents an annual cost of approximately £11.7 billion, equivalent to one year of either the Energy Bills Support Scheme or the Energy Price Guarantee (see Appendix for substantiation).

While the article traces the broader historical trajectory of UK energy support policy from the 1970s energy crises onward, the typological mapping itself focuses on more recent developments. Specifically, it includes policies that have been operational since the enactment of the Warm Homes and Energy Conservation Act (2000). Where schemes have evolved significantly, such as through reforms to eligibility or funding, these shifts are reflected in their changing position on the typology. A visual mapping (Figure 1) illustrates this evolution: arrows in the figure indicate direction of change; circle size reflects relative expenditure; filled versus unfilled circles distinguish between active, reformed, and discontinued schemes; and colour differentiates between policies funded through general taxation and those financed via energy supplier obligations, which pass costs on to consumers. The mapping is intended not as an exhaustive inventory, but as a focused analytical tool to examine shifts in design logic, targeting scope, and strategic orientation over the past two decades. To support transparency, the appendix provides a codebook (Table A1) and scheme-by-scheme substantiation (Table A2) alongside the figure's placements.

2 | Mapping the Shifts in UK Energy Support Policy

This section examines the evolution of British energy support policy over recent decades, using a two-dimensional framework that considers: (1) the extent to which policies are residual (targeted and conditional) as opposed to universal (broad-based), and (2) the degree to which they emphasise compensation (reactive financial support to alleviate high energy costs) versus prevention (proactive measures to improve energy efficiency and reduce demand).

2.1 | Universalism and Residualism in Flux (1948–2008)

While the foundational Beveridge Report outlined a universalist, contributory vision for the British welfare state, it also recognised that some individuals would be excluded from insurance benefits, recommending a residual safety net that materialised in 1948 as National Assistance (C. Walker 2011). The scheme offered limited, discretionary relief, including for heating costs, but was criticised for inconsistency, stigma, and reliance on caseworker judgement, amid growing awareness of poor housing conditions across the country and the vulnerability of older, disabled, and chronically ill people in cold homes. In 1966, the Supplementary Benefit system was introduced, formally incorporating Heating Additions for these claimants. Over time, categories like 'ordinary' and 'discretionary' heating additions were introduced, and the amount of money was regularly updated to respond to inflation and rising energy costs, especially during the oil crises (Lowe 1993).

The oil crises of the 1970s were a seismic moment for UK energy policy, triggering an unprecedented shift in governmental logic from residual, discretionary relief to more universalist and preventive approaches. As oil prices quadrupled and coal

strikes compounded the crisis, energy insecurity became a national concern affecting all households, not just the vulnerable.⁴ In response, the UK adopted a broad-based approach to managing energy demand and curbing energy waste at its source, marking what some view as a brief but golden era of energy efficiency policy grounded in long-term investment logic (Schumacher 1985). Government interventions included public awareness campaigns, mandatory reductions in speed limits, temperature caps in non-domestic buildings, stricter building regulations, industrial energy surveys, and large-scale retrofit programmes (Mallaburn and Eyre 2013). A key example of this shift was the Home Insulation Scheme (HIS), launched in 1978, which marked a major turning point as the first nationally coordinated retrofit programme backed by significant public funding, offering material energy efficiency improvements - primarily loft insulation and draught-proofing - with full grants for low-income households and partial subsidies available to all, hence blending targeted and universalist elements (Leach 1991).⁵

Following the broad-based urgency of the 1970s, the 1980s witnessed a clear residualisation of UK energy support. The HIS was gradually narrowed in its focus: by the late 1980s, the broadly accessible partial subsidies were eliminated, and eligibility was restricted "solely for those on a low income and without capital" (Boardman 1991b, 69). This shift reflected both fiscal restraint and a political reorientation under Thatcher's Conservative government, which dismantled Heating Additions in 1987, causing Britain's poorest households to lose an estimated £100 million in annual support (Boardman 1991a). Although the government did not formally recognise fuel poverty as a distinct welfare category, the introduction of the Cold Weather Payment (Her Majesty's Government 1988) signalled an implicit acknowledgment of the issue. This scheme, triggered only when sub-zero temperatures were sustained for seven consecutive days, offered £25 to recipients of means-tested benefits, setting an early precedent for highly conditional energy bill support. The trend towards residual interventions was cemented in the 1990s: in 1991, the HIS was replaced by the Home Energy Efficiency Scheme (HEES), which was limited to basic insulation measures and targeted only poorer households (Boardman 1991b; Mallaburn and Eyre 2013). This was followed in 1994 by the Energy Efficiency Standards of Performance (EESoP), the first energy supplier obligation to support low-income households with energy efficiency upgrades, though at a much smaller scale than later supplier-led schemes introduced in the 2000s (Rosenow et al. 2013).

Blair's Labour government significantly reshaped energy support policies, recognising fuel poverty for the first time as a distinct and urgent policy issue and adopting a mix of universalist and targeted approaches. The Winter Fuel Payment, directly introduced upon taking office in 1997, exemplified its compensatory logic: a politically popular, universalist scheme offering £200 annually to all pensioners to help cover winter heating costs (Ginn 2008). Building on this momentum, the Warm Homes and Energy Conservation Act (2000) legally defined fuel poverty and placed a statutory duty on future governments to implement strategies aimed at its eradication. As the flagship policy, the Warm Front programme (2000–2013) provided grants to low-income households for insulation,

draught-proofing, and heating system replacements, explicitly aligning social welfare with emerging environmental and climate goals. Initially well-funded, Warm Front assisted 2.3 million households that saved an average of £1895 per year in potential energy cost reductions (Sovacool 2015), but scope narrowed over time due to budget cuts. In sum, the Blair government adopted the most fiscally ambitious model to date. While earlier decades saw shifts between residual and universalist approaches, this administration pursued a deliberately mixed strategy by pairing the rather universalist, compensatory Winter Fuel Payment with the more residual, preventive Warm Front scheme. Table 1 summarises the key policy instruments introduced since 2000, highlighting their target groups and core mechanisms.

2.2 | Austerity and Supplier Obligations (2008–2020)

The late 2000s saw sharp increases in energy prices alongside significant spending constraints resulting from the 2008 financial crisis, prompting significant policy shifts. With the Winter Fuel Payment and Warm Front increasingly costly but still inadequate to resolve persistent fuel poverty (Dresner and Ekins 2006), Brown's Labour government decided to supplement these schemes while scaling back Warm Front with targeted, supplier-funded initiatives (Guertler 2012; Rosenow 2012). These included the Carbon Emissions Reduction Target (CERT) and Community Energy Saving Programme (CESP), operating between 2008 and 2012, which required energy suppliers to offer subsidised or free insulation, prioritising low-income households and deprived areas. Furthermore, the Energy Act 2010, enacted shortly before Labour left office, mandated a supplier-funded bill support scheme. This was later implemented by Cameron's coalition government as the Warm Home Discount (WHD), initially providing a £140 rebate directly reducing bills for low-income pensioners and households on certain benefits. This marked a notable transition from broadly targeted, government-funded programmes to narrowly targeted, supplier-funded schemes.

The subsequent replacement of Warm Front by the Energy Company Obligation (ECO) further intensified this trend towards residualisation, with narrower targeting and the transfer of both costs and responsibilities onto energy suppliers. Although ECO aimed to prioritise low-income and vulnerable households, it drew criticism due to the regressive impacts of increased energy prices resulting from supplier obligations (Rosenow et al. 2013). Critics also highlighted ECO's limited scope, focusing exclusively on smaller-scale energy efficiency improvements (Bergman and Foxon 2020). While ECO was not the first scheme to involve energy suppliers in preventive measures, it marked a significant turning point: for the first time since the 1970s, all major government-backed preventive energy efficiency efforts were delivered solely through supplier obligations. This shift away from publicly funded, more universalist approaches led to a marked reduction in insulation projects, significantly slowing energy efficiency improvements, generating uncertainty, and reducing long-term investment and skill development within the sector (Adam et al. 2022).

In 2015, Cameron's Conservative government revised the British fuel poverty strategy, introducing a formal target to upgrade all fuel-poor homes to at least Energy Efficiency Band C by 2030 (DECC 2015). Although this rhetorically prioritised prevention through energy efficiency, critics argued that actual financial commitment and implementation did not match government ambitions (Hamilton et al. 2015; Kearns et al. 2023). Funding remained heavily constrained, and ECO, positioned as the primary delivery mechanism, suffered repeated budget reductions and eligibility tightening, ultimately limiting its effectiveness and narrowing its reach. This had the effect that despite a stated preventive agenda—even coining it the UK's 'Green Deal'—substantive policy remained predominantly reactive and inadequately resourced (Middlemiss and Gillard 2015; Owen et al. 2023). The 2019 introduction of Ofgem's Energy Price Cap further illustrated the continued reliance on compensatory approaches, attempting short-term mitigation of affordability pressures rather than investing systematically in preventive solutions (Ioannidou and Mantzari 2019). Although the cap aimed to curb excessive charges from energy suppliers, analysts argued it was at best a stop-gap measure, only mitigating short-term affordability issues (Hardy et al. 2019).

2.3 | Universal Energy Bill Support and Preventive Ambitions (2020 Onwards)

In 2020, Johnson's Conservative government positioned the Green Homes Grant (GHG) and Local Authority Delivery (LAD) schemes as key to a post-pandemic 'green recovery', simultaneously addressing fuel poverty, boosting the economy, and accelerating decarbonisation (Putnam and Brown 2021). The GHG was intended to be broad-based and accessible to all homeowners and residential landlords in England, offering vouchers covering up to two-thirds of energy-efficiency upgrades and full funding for low-income households, but administrative hurdles and low uptake resulted in only £314 million of the £1.5 billion budget being spent before the scheme's early closure in 2021 (Carter and Pearson 2022; National Audit Office 2021). LAD continued to provide funding at a reduced scale directly to local authorities to deliver small-scale energy efficiency upgrades specifically for low-income and vulnerable households following GHG's termination (Georgiadou et al. 2024). The 2021 fuel poverty strategy deepened alignment with decarbonisation, launching further targeted residual programmes: the Social Housing Decarbonisation Fund (SHDF), was aimed exclusively at social housing residents, and the Home Upgrade Grant (HUG), narrowly focused on low-income households off the gas grid. However, reliant on competitive bidding processes and insufficiently scaled, these have so far not delivered the extensive improvements needed (McCarthy et al. 2024).

In response to the global energy crisis triggered by the Russian invasion of Ukraine, the UK government implemented two of the most universal energy affordability measures in its history: the Energy Bills Support Scheme (EBSS) and the Energy Price Guarantee (EPG). EBSS provided a flat-rate, automatic discount of £400 on electricity bills to all domestic electricity customers across Great Britain during winter 2022–23, regardless of income, energy usage, or need (Fawcett et al. 2024). Similarly, the

TABLE 1 | Key characteristics of British energy efficiency and energy bill support policies since 2000.

Year(s)	Policy	Target group(s)	Key measures
1988-ongoing	Cold Weather Payment (CWP)	Low-income individuals on certain income-related benefits	Automatic £25 payment per week (when $\leq 0^{\circ}\text{C}$ for 7 consecutive days)
1997-ongoing	Winter Fuel Payment (WFP)	Pensioner households (2024: only low-income pensioners)	Automatic tax-free payment (£200, since 2003 £300 for over-80s)
2000–2013	Warm Front Scheme (WFS)	Low-income homeowners and private renters on benefits	Government-funded grants for insulation and heating system repairs
2008–2012	Carbon Emissions Reduction Target (CERT)	All households (at least 40% of saving had to benefit low-income, elderly, disabled, and families with young children)	Supplier obligation funding insulation (loft, cavity wall), LED, glazing improvements, and heating upgrades
2008–2012	Community Energy Saving Programme (CESP)	Low-income households in the most deprived areas (bottom 10% per Indices of Multiple Deprivation)	Area-based supplier obligation funding whole-house retrofits (solid wall insulation, heating system upgrades, glazing improvements)
2011-ongoing	Warm Homes Discount (WHD)	Low-income pensioners and certain income-related benefit recipients (2022: additional high-cost-dwelling criterion)	Annual rebate on electricity bills (initially £140, since 2022 £150), funded via a levy on energy companies
2013-ongoing	Energy Company Obligation (ECO)	Low-income and vulnerable households (2022: increased focus on worst-rated homes in low-income areas)	Supplier obligation to fund insulation (loft, cavity, solid wall), boiler replacements, heating controls, and heat pumps
2017-ongoing	Energy Price Cap (Ofgem)	Consumers on standard variable tariffs (default)	Caps on unit rates gas/electricity, updated by Ofgem
2020–2021	Green Homes Grant (GHG)	Homeowners and private landlords	Vouchers for insulation and heat pumps/solar thermal
2020–2025	Local Authority Delivery (LAD)	Low-income households (in homes with EPC bands E-G)	Council-led, small-scale improvements (basic insulation, draught-proofing)
2021–2025	Social Housing Decarbonisation Fund (SHDF)	Social housing providers and tenants (EPC bands D-G)	Grants supporting targeted retrofits (insulation, glazing, heat pumps)
2021–2025	Home Upgrade Grant (HUG)	Low-income, rural/off-grid households (EPC bands D-G)	Grants covering insulation and installing low-carbon heating
2022–2023	Energy Bills Support Scheme (EBSS)	All domestic electricity customers	Monthly discounts totalling £400 across 6 months, applied automatically to electricity bills

(Continues)

TABLE 1 | (Continued)

Year(s)	Policy	Target group(s)	Key measures
2022–2024	Energy Price Guarantee (EPG)	All domestic energy consumers	Government subsidy limiting average household energy bills (unit rates capped, overriding the Ofgem price cap temporarily)
2022-ongoing	Boiler Upgrade Scheme (BUS)	Homeowners and small landlords	Vouchers towards air-source or ground-source heat pumps or biomass boilers
2023-ongoing	Great British Insulation Scheme (GBIS)	Low-income households or dwellings in areas with council Tax bands (A–D and EPC ≤ D)	Free/subsidised basic insulation measures (loft, cavity wall, roof) funded by energy suppliers
2025—	Warm Homes Plan (Local Grant)	Extension of LAD, through broader local criteria (income and deprivation metrics)	Direct grants for comprehensive upgrades (high-quality insulation, glazing, efficient heating systems)
2025—	Warm Homes Plan (Social Housing Fund)	Social housing providers (replaces SHDF, same eligibility)	Expanded grants supporting systematic, whole-stock retrofits (comprehensive insulation, glazing, low-carbon heating upgrades)
2018–2023 (2025-)	Minimum Energy Efficiency Standards	Private and social landlords renting worst-rated homes	Legal requirement raising minimum EPC ratings (targeting EPC band C)

EPG, introduced in October 2022, effectively capped the price of energy per unit, with the government covering the difference between the market rate and the capped rate, thereby limiting average household energy bills (Hick and Collins 2023). These measures marked a radical return to universalism and compensatory logic, reflecting the scale and urgency of the affordability crisis. However, both schemes were costly, together costing almost £35 billion (National Audit Office 2024), highlighting the tension between emergency universalism and long-term fiscal sustainability.

The subsequent introduction of the Boiler Upgrade Scheme (BUS) in 2022 and Great British Insulation Scheme (GBIS) in 2023 represents new incremental preventive measures. The BUS provides universal grants (£5000–£7500) to all homeowners in England and Wales to replace fossil fuel heating with low-carbon systems, but uptake remains modest (around 100,000 in 2024, significantly below the government's target of 600,000 a year by 2028) due to limited homeowner awareness, high remaining costs, and limited installer capacity (Lamb and Elmes 2024). Likewise, the GBIS' overall impact remains limited, also due to the incremental nature of its insulation interventions, but its targeting is noteworthy, combining support for low-income and vulnerable households with assistance extended to a broader range of households in energy-inefficient homes and lower council tax bands (Holligan 2024).

Thus, despite these five new initiatives (LAD, SHDF, HUG, BUS, and GBIS) signalling strategic realignment towards proactive preventive measures, funding remains limited and fragmented, while delivery continues to lag behind stated policy objectives. Figure 1 visualises this ongoing shift, mapping changes in scheme design since 2010 along universalist/residualist and compensatory/preventive axes, alongside their funding sources and relative expenditure.

Looking ahead, the February 2025 fuel poverty strategy published by Starmer's Labour government indicates both continuity and change in British fuel poverty policy. A significant step forward is the reinstatement of energy efficiency standards, particularly the Minimum Energy Efficiency Standard (MEES) for private landlords, with a revised compliance target of 2030, reinforcing preventive policy ambitions. Nevertheless, the strategy continues to emphasise residualisation, maintaining targeted support specifically for households most in need. Although the government has announced more funding for energy efficiency measures as part of its Warm Homes Plan, this remains modest compared to international benchmarks, highlighting ongoing limitations in scale and ambition. Recognising persistent gaps in current targeting approaches, given only about 63% of fuel-poor households currently receive support through conventional means-tested criteria, the strategy commits to exploring innovative methods of verifying eligibility, such as data-sharing between government agencies and health sector referrals.

3 | Discussion

This section reflects on the broader implications of the British evolving energy support landscape. It examines the dominant policy trajectories, the structural and political factors shaping

them, and assesses the strengths and limitations of the four identified support typologies.

3.1 | British Energy Support: Residual by Default, Preventive in Promise

A dominant trend in British energy support policy has been a steady shift from universalism towards residualisation, typically justified by fiscal constraints and concerns over efficiency. This shift is also reflected in the evolving funding model, with support increasingly delivered through obligations on energy suppliers rather than direct government expenditure. However, major energy crises have disrupted this trajectory at key points. In response to the oil shocks of the 1970s, for example, the government briefly embraced universalist measures, notably through the Home Insulation Scheme, which adopted a two-tier approach by offering full funding for low-income households and partial subsidies for the wider population. Similarly, the energy crisis of the 2020s prompted a temporary reversion to universalist logic, following decades of residualisation since the 1980s, briefly interrupted only by the broadly distributed Winter Fuel Payment. As Blyth (2013) argues, while fiscal discipline is typically upheld in liberal political economies, crises create political space for deficit spending, allowing governments to temporarily reverse course and adopt more universalist measures.

The function of support, and the balance between compensatory and preventive approaches, has also shifted significantly, driven by a range of factors. In the post-war period, energy support followed a classically compensatory model, typically delivered through means-tested income supplements or emergency payments. This model was briefly disrupted by the 1970s energy crises, prompting a preventive turn primarily motivated by energy security concerns (Mallaburn and Eyre 2013). Britain responded by pioneering large-scale energy efficiency measures through the Home Insulation Scheme. However, this preventive momentum gradually declined in the following decades until a mixed approach under Blair emerged. The Warm Front programme reflected a preventive logic, framed not only by energy security but increasingly by the imperative of climate change mitigation, signalling a shift in policy rationale (Kern et al. 2017). Meanwhile, the Winter Fuel Payment was politically framed as a compensatory energy support measure targeting elderly households perceived as most vulnerable (Walker and Day 2012), though in practice it functioned as a universal lump-sum transfer until it became means-tested in mid-2024.⁶

The Warm Front programme experienced progressive reductions in funding and scope, and by the 2010s, energy efficiency policy in the UK had become increasingly fragmented, reliant on supplier obligations, and limited in resources (Webb 2018). Although successive Conservative-led governments (2010–2024) promoted initiatives under banners such as the ‘Green Deal’ and ‘green recovery’, these programmes were generally characterised by low participation rates (Carter and Pearson 2022). The 2020s energy crisis prompted a temporary return to compensatory logic through large-scale, short-lived compensatory schemes, mirroring trends in ‘frugal’ EU countries like Germany and the Netherlands, which spent billions to curb energy prices (Croon and Sokolowski 2025). Further research is needed to explain

why public spending far exceeded that of the more interventionist 1970s, though it may reflect institutional learning about the political instability that energy crises tend to provoke (Carlisle et al. 2017; Jacobs 2016). Moreover, Labour’s 2025 strategy signals renewed preventive ambition, particularly through minimum energy performance standards in the rental sector which is a policy lever shown to effectively accelerate retrofit activity (Müller et al. 2024), yet the scale of public investment remains modest and tightly targeted. Thus, while prevention continues to feature prominently in UK energy discourse, it remains more of a rhetorical commitment than a governing principle and is effectively overshadowed by fiscal commitment to short-term compensatory measures.

Overall, analysing eligibility and policy function as separate but related dimensions proved analytically useful in tracing how residualisation and compensatory support have tended to co-evolve in British energy policy, though primarily at the level of governing logics rather than detailed distributive outcomes. These patterns, and the inherent tensions involved, would have been less visible through a one-dimensional analytical lens.

3.2 | Structural Political Economy Constraints

A key reason for the persistence of residualism and the limited materialisation of preventive energy policy lies in political and cognitive dynamics. For instance, while capped and means-tested schemes are often framed as technocratic tools, they also serve as political instruments for ‘selling restraint’, enabling both conservative and at times even more so progressive governments to signal fiscal discipline and responsible stewardship of taxpayer money (Whiteside et al. 2021). Moreover, compensatory schemes, particularly those narrowly targeted at visibly vulnerable groups, generate immediate, tangible benefits that are easier for politicians to frame as moral imperatives (Graham 2010). At the cognitive level, politicians may have a bias towards crisis management, and are more likely to respond to visible, pressing issues such as rising energy bills than to invest in solutions for abstract or long-term problems like energy inefficiency in homes (Carlisle et al. 2017). Preventive strategies, such as large-scale retrofitting, lack this sense of narrative urgency, as their benefits are diffuse, long-term, and often invisible to the public (Bevan et al. 2020; Stern 2015). This creates a ‘structural myopia’ within political systems governed by short electoral cycles, incentivising short-term relief over long-term resilience. As Ferrera (2017) notes, preventive strategies may offer greater social returns over time, but they require upfront investment and political patience, qualities often lacking in a political culture shaped by electoral volatility and the pursuit of immediate voter appeal (Goodwin 2023).

Moreover, institutional factors deeply entrench these policy logics. The UK’s energy support mechanisms have evolved through incremental layering over several decades, with each new scheme typically building on, and rarely replacing, what came before (Kern et al. 2017; Thelen 2004). Energy supplier obligations exemplify this dynamic: introduced by the Conservative government in the 1990s, revived by the Brown administration in the aftermath of the global financial crisis, significantly expanded under Cameron’s austerity politics, and still maintained

by the current Labour administration. Though shaped by government targets, these schemes are delivered by suppliers with considerable discretion, and have generally produced fragmented, means-tested support, as market intermediaries have limited incentive to implement broad, preventive interventions (Moser 2017; Rohde et al. 2015). Fundamentally designed for means-tested interventions, they embed residualist logics that are difficult to unwind (Owen et al. 2023). Universalist prevention requires advanced levels of bureaucratic coordination, planning, and regulatory oversight that the UK's hollowed-out post-austerity government increasingly lacks (Bergman and Foxon 2020).

Finally, ideational frameworks, aligned with a constructivist understanding of political economy, reinforce this pattern by shaping not only how policies are evaluated, but also which are deemed legitimate or politically viable in the first place (Blyth 2002). Dominant assessment tools in HM Treasury and policy evaluation bodies prioritise short-term cost-effectiveness, often using narrow cost-benefit metrics such as projected energy savings or productivity gains that undervalue the broader, cross-sectoral benefits of preventive investment in energy efficiency: improved mental health, reduced strain on the NHS, enhanced educational outcomes for children, greater energy security, and progress towards climate goals (Jennings et al. 2020; MacNaughton et al. 2018). This reflects what the literature refers to as a 'fiscal lens', which reduces complex, long-term investments to short-run budgetary calculations (Hemerijck and Matsaganis 2024; Morel et al. 2012; Sloman 2024). Therefore, while emphasising co-benefits is important for building support, ensuring the long-term political durability of universal approaches requires grounding them not just instrumentally, but in a rights-based justification (Hesselman 2022; G. Walker 2015). This approach reduces the likelihood of governments cutting or diverting funds if the stated co-benefits take time to materialise or are difficult to quantify.

3.3 | Weighing the Trade-Offs of Four Energy Support Typologies

As British energy support policy remains an outlier among high-income European countries in lacking a structural, universal energy efficiency programme, the question arises: what exactly is lost in this policy gap? What are the comparative strengths and weaknesses of universal prevention versus other typologies—residualist-compensatory, residualist-preventive, and universalist-compensatory—and how might their effectiveness vary by context? This subsection offers a higher-level comparative discussion of these four ideal-typical approaches.

The core rationale for universalist-preventive approaches lies in their potential to drive systemic decarbonisation, especially in contexts where energy inefficiency is widespread (Figus et al. 2017). By providing incentives to the so-called 'middle majority', households neither affluent nor poor, yet often lacking the means or motivation to retrofit, such schemes promise the greatest emissions reductions across the board (Katris and Turner 2021). Furthermore, broad adoption of these incentives can drive economies of scale and predictable demand, thereby lowering long-term costs of retrofits (Michelsen et al. 2015). At

the same time, their political appeal increases the likelihood that such schemes will endure through political cycles. However, retrofitting is capital-intensive, and blanket coverage risks subsidising wealthier households who could otherwise afford upgrades, potentially diverting scarce resources away from those in greatest need (Figus et al. 2017). If poorly designed, such schemes can produce limited impact, as seen with the Green Homes Grant. In Italy, the *Superbonus 110%* initially offered universal tax credits that exceeded the cost of renovations, which drove up prices, encouraged fraudulent claims, and contributed significantly to national debt (Padoan 2023). Without appropriate safeguards, universal subsidies risk exacerbating inequalities by delivering renovation-induced premiums to already wealthy property owners (Fernández et al. 2024). To counter these effects, especially in the rental sector, policy design should include rent controls and protections against 'renovictions' (Busà 2024).

Residualist-preventive models, by contrast, prioritise those most in need. Croon et al. (2025) demonstrate that even if energy conservation interventions benefit everyone, they provide significantly greater welfare gains for those experiencing fuel poverty, therefore representing the greatest value for money. Under fiscal constraint, they could therefore offer a defensible and pragmatic political route: especially if the skilled workforce and implementation capacity are limited, it may seem fair to begin with households facing the greatest hardship. Moreover, it is an approach that makes more sense in a context where the energy efficiency of the housing stock varies greatly (Rosenow et al. 2017). However, this approach also comes with trade-offs. Means-testing adds bureaucratic complexity, often delaying delivery and deterring take-up, particularly where there is low institutional trust. Many households just above eligibility thresholds remain unsupported, despite facing similar vulnerabilities. Targeting energy efficiency schemes can also reinforce stigma, whereby people may feel 'embarrassed' or 'ashamed' to be singled out for help, reinforcing perceptions of dependency or failure (Reid et al. 2015). Another challenge lies in the fact that such interventions are embedded in dwellings rather than individuals, meaning their benefits do not necessarily follow vulnerable households over time, particularly as people move or tenancies change. Moreover, by limiting intervention to a narrow subset of the population, residualist-preventive strategies miss the opportunity to drive broader market transformation or shift aggregate energy demand. Nonetheless, residualist-preventive strategies may be well-suited to specific contexts, such as during an energy crisis that demands swift action, or when a social housing provider seeks to offer interim relief to vulnerable tenants ahead of a full retrofit (Croon et al. 2025).

Residualist-compensatory approaches offer notable strengths. During periods of constrained energy supply, they avoid inflating energy prices by refraining from subsidising excessive demand (Bajo-Buenestado 2017; Dao et al. 2023), while preserving incentives for conservation and efficiency investments (Garcia and Stacchetti 2009). When costs are recovered through progressive taxation, such models can also enhance redistribution, directing resources from higher- to lower-income households (Arregui et al. 2022). As Hick and Collins (2023) observe, targeted one-off payments via social security, so-called 'passporting', produced more progressive outcomes than universal measures like across-the-board energy bill credits or tax rebates, by directing greater

support to households on the lowest incomes. However, while administratively simpler, using means-tested benefit eligibility inevitably excludes many vulnerable or struggling households, one of the central criticisms raised by Simcock (2022). This may be especially problematic in the case of fuel poverty, where dwelling quality and energy efficiency vary widely even among low-income groups, meaning that income alone may not reflect the severity of need. In this light, Starmer administration's new commitment to developing more refined eligibility frameworks is a welcome shift. Drawing on data and criteria from healthcare and local government, and incorporating wider deprivation indicators beyond income, could improve coverage (Kodoušková et al. 2023). Palmer et al. (2023) also stress that using information already available to energy suppliers, such as prepayment meter status or registration on the Priority Services Register, could further support more effective and timely targeting.

Universalist-compensatory approaches, by contrast, offer distinct advantages in terms of speed, simplicity, and political viability. Their administrative ease enables rapid deployment during crises, as seen in schemes across Europe (Croon and Sokołowski 2025), which required limited infrastructure and reached households swiftly. Universality also minimises the risk of exclusion, especially in contexts where means-testing mechanisms are fragmented or distrusted, while ensuring that lower-middle-income households also receive support (Poppe et al. 2024).⁷ Moreover, in times of geopolitical or economic instability, the broad and visible nature of universal support can help pre-empt political backlash and show that government is attuned to everyday hardship (Grin 2025). However, the drawbacks of this model are not insignificant. By insulating all consumers from price signals and limiting the competitive advantage of renewable energy, price caps on fossil fuels risk net zero ambitions (Caine 2023). Universality also entails considerable fiscal costs and can have regressive effects, as higher-income households, who typically consume significantly more energy, stand to receive greater financial benefits from a universal price cap unless these are explicitly offset through progressive taxation (Galvin et al. 2024; Schulte and Heindl 2017).

Of course, these typologies are not mutually exclusive, and hybrid models offer promising pathways. One example is large-scale, broad-based retrofitting of social housing, a form of 'targeting within universalism'. This approach captures the economies of scale and demand predictability of universal schemes, while concentrating benefits in the housing segment most affected by fuel poverty, thus maximising social impact (Croon et al. 2024). Other hybrid strategies include Germany's nearly fare-free public transport initiative during the energy crisis—nominally universal, but with disproportionate benefits for lower-income households (Rozynek 2024)—and targeted public investment in grid infrastructure in areas facing frequent outages, often rural and lower-income (Lin et al. 2022).

The trade-offs identified across these four typologies also have implications beyond the UK case and beyond high-income settings. In low- and middle-income countries, universal energy subsidies have historically served as a key mechanism for managing affordability and political legitimacy (Skovgaard and Van Asselt 2018), and reform efforts that simply withdraw or narrowly target such compensation have repeatedly proven

politically fragile (Rentschler and Bazilian 2016). While immediate needs are often even more acute in these contexts, making preventive and long-term policy logics more difficult to sustain, the analysis points to the importance of understanding subsidy reform not only as a technical exercise but as a political economy process shaped by how alternative forms of protection are perceived and sequenced.

4 | Conclusion

The trajectory of British energy support policy over the past five decades reveals a complex interplay between changing political priorities, bureaucratic path dependencies, budgetary pressures, and reactive policymaking in times of crisis. Once a global leader in universalist, preventive energy policy, the UK has gradually shifted towards residualist, compensatory models that target narrowly defined 'deserving' groups through means-tested benefits and supplier obligations.

However, moments of crisis—most notably the oil shocks of the 1970s and the energy crisis of the early 2020s—have temporarily reversed this trend, prompting more universalist measures; such interventions have largely proven short-lived and reactive. Recent energy efficiency schemes have tended to suffer from fragmented funding, low uptake, and narrow eligibility. Despite its rhetorical commitments, the UK's preventive approach to energy efficiency remains underdeveloped, making it one of the few high-income European countries without a comprehensive scheme that goes beyond heating system replacement and leaving three million households in fuel poverty. To that end, embedding energy efficiency as a right rather than a discretionary benefit could offer a path to overcoming the political short-termism, institutional fragmentation, and narrow cost-benefit framing that have long constrained the UK's energy support policy.

The typological framework used in this article—residualist-compensatory, residualist-preventive, universalist-compensatory, and universalist-preventive—highlights the trade-offs embedded in each policy model. While residualist-compensatory models may minimise public spending and maintain conservation incentives, they tend to exclude households in need of support. Universalist-compensatory approaches, though broadly popular and administratively efficient, entail high fiscal costs, risk regressive distributional effects, and run counter to climate objectives. Preventive interventions, particularly those grounded in a universalist logic, offer the greatest long-term return in terms of decarbonisation, cost-of-living, and various co-benefits, but require significant upfront investment, political patience, and strong institutional coordination.

Beyond the UK case, this analytical framework offers a systematic way to compare energy support regimes across different institutional contexts by shifting attention from individual policy instruments to the governing logics that underpin them. By distinguishing eligibility design from policy function, the framework helps to clarify why certain policy configurations persist despite their economic or environmental shortcomings, why reform efforts often prove politically fragile, and how tensions between short-term affordability and long-term objectives

are managed differently across contexts. As such, it provides a transparent and transferable basis for comparative research on energy policy and subsidy reform in both high-income and lower-income settings, while recognising that the effectiveness and political durability of any given typology remain strongly conditioned by institutional, fiscal, and socio-political context.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that supports the findings of this study are available in the supplementary material of this article.

Endnotes

¹ Since devolution in 1999, energy policy has been largely devolved within the UK, leading to distinct approaches across the nations. While Scotland offers a broadly accessible scheme via *Home Energy Scotland*, England lacks a comprehensive, universal energy efficiency programme, unlike France (*MaPrimeRénov'*), Germany (*KfW*), Italy (*Superbonus*, though increasingly means-tested), Ireland (*Home Energy Grants*), the Netherlands (*ISDE*), and Spain (*PREE*).

² However, even in Nordic countries, universalist welfare policies have come under increasing pressure in recent decades (Johansson, 2001). The energy crisis and broader inflation shock in recent years again highlighted this, with Nordic governments introducing targeted measures for vulnerable households, though on a more modest scale than elsewhere (Croon and Sokołowski 2025; Greve et al. 2024).

³ Notable examples include the introduction of social energy tariffs in Belgium (2004), Romania (2005), and France (2005), followed by Cyprus (2006), Italy (2008–2009), Spain (2009), Portugal (2010), and Greece (2010). In contrast, several Central and Eastern European countries continued to maintain broader household energy price regulations even after joining the EU.

⁴ While the oil crises affected the population broadly, this period also revealed stark inequalities in household experiences, largely determined by income levels and the energy efficiency of their homes. Isherwood and Hancock (1979) were the first to attempt a formal quantification of what be known as 'fuel poverty', a concept that gained significant political and academic attention in subsequent years (Boardman 1991b; Bradshaw and Hutton 1983).

⁵ Alongside the HIS, *Community Insulation Projects* (CIPs) emerged in the late 1970s as locally delivered schemes employing young and unemployed people to insulate low-income homes, funded through job creation programmes (Boardman 1993; Williams 1983).

⁶ Interestingly, despite it being a lump-sum transfer, Beatty et al. (2014) found that its framing as an energy support measure did lead many recipients to use the Winter Fuel Payment primarily for energy costs.

⁷ However, as Palmer et al. (2023) note, broad coverage does not guarantee adequacy: while EBSS successfully reduced electricity

disconnections, it had limited impact on gas disconnections, highlighting the challenges of calibrating universal schemes to diverse household needs.

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Appendix A

TABLE A1 | Codebook and operational indicators for eligibility and policy function.

Scale position	Code	Label	Operational indicator in documents
1. Eligibility coverage codes ^a			
Strongly residualist	E1	Direct means-testing	Explicit income thresholds
	E2	Benefit passporting	Eligibility via receipt of specified benefits
	E3	Vulnerability category	Conditional on formal categorisation as ‘fuel poor’, ‘vulnerable’, or ‘at risk’, as defined in policy documents
Moderately residualist	E4	Discretionary gatekeeping	Case-by-case allocation by Local Authorities/suppliers
	E5	Compliance requirements	For example, audits, proofs, landlord consent, co-funding, installer restrictions
Intermediate/hybrid	E6	Dwelling-based proxy targeting	EPC bands or housing condition thresholds
	E7	Tenure targeting	Owner-occupiers, private renters, or social housing tenants only
	E8	Geographic targeting	Area-based programmes (postcode, Local Authority, etc.)
Moderately universalist	E9	Demographic entitlement	Age without means testing (e.g., pensioners)
Strongly universalist	E10	Universal household eligibility	Applies to all domestic customers or residents without screening
2. Policy function codes ^b			
Strongly compensatory	F1	Weather-triggered compensation	Payments activated by temperature thresholds or extreme weather conditions
	F2	Crisis price cap	Temporary caps on unit rates or standing charges to shield households from price shocks
	F3	Social tariff	Regulated discounts on energy bills for eligible groups
Moderately compensatory	F4	Flat-rate bill rebate	Fixed bill credits applied to accounts
	F5	Lump-sum transfer	One-off or periodic cash payments not directly linked to energy use
Moderately preventive	F6	Information and advice	Energy advice, audits, or one-stop-shops
	F7	Heating system upgrades ^c	Boiler replacement, heat pumps, heating controls
	F8	On-site renewables ^c	Solar PV, solar thermal, or household-scale renewable generation
	F9	Fabric insulation measures ^c	Insulation, glazing, and draught-proofing measures
Strongly preventive	F10	Whole-house/deep retrofit	Integrated multi-measure retrofits targeting long-term demand reduction

^aClassification also took account of cross-cutting design features, such as automatic enrolment versus application-based access, which affect effective access and were used to refine relative placement along the eligibility scale.

^bRegulatory approaches (e.g., minimum energy performance standards) are widely regarded as best practice for achieving durable demand reduction but operate through compliance rather than household support.

^cThese measures vary in scope and impact depending on technology choice, dwelling characteristics, and depth of intervention. Placement along the scale reflects specific policy design assessment.

TABLE A2 | Substantiation of UK domestic energy policy landscape by policy function, eligibility, and budget allocation.

Policy (→ reform)	Compensatory/preventive	Residualist/universalist	Budget
Boiler Upgrade Scheme (BUS)	Narrow preventive focus (low-carbon heating only)	Broadly universal (open to homeowners/private tenants with consent)	£150M/yr. (2022–2025); £295M allocated for 2025–2026
Cold Weather Payment (CWP)	Highly compensatory; triggered only in periods of vulnerability (extreme cold)	Strongly residualist; limited to eligible benefits recipients in cold areas	Avg. ~£40M/yr. (fluctuating: £27.5K in 2013–14, £118.7M in 2017–18)
Energy Bills Support Scheme (EBSS)	Highly compensatory; direct flat-rate payment in response to crisis	Strongly universalist; applied automatically to all domestic electricity customers	£11.7B (2022–2023)
Energy Company Obligation (ECO3) → ECO4 and Great British Insulation Scheme (GBIS)	ECO3 moderately preventive; ECO4 more preventive (holistic); GBIS less preventive (insulation-focused)	ECO3 residual (low-income/vulnerable); ECO4 narrower targeting; GBIS broader eligibility	ECO3 £450M/yr. (2018–2022); ECO4 £1B/yr. (2022–2026); GBIS £333M/yr. (2023–2026)
Energy Price Guarantee (EPG)	Highly compensatory; short-term cap on unit prices to limit household exposure to price surges	Highly compensatory; short-term cap on unit prices to limit household exposure to price surges	£11.7B/yr. (in total £23.4B from 2022–March 2024)
Green Homes Grant (GHG)	Strong preventive intent (primary insulation/low-carbon measures; secondary available)	Broadly universal (homeowners/private landlords), higher subsidies for benefit recipients	Intended £1.5B (~9 months); £314M actually spent
Home Upgrades Grant (HUG)	Broad, comprehensive and integrated range of energy efficiency upgrades	Strongly residualist; targeted to low-income, off-grid, EPC D-G dwellings	£350M/yr. (£700M total for 2023–2025)
Local Authority Delivery (LAD) → Warm Homes: Local Grant (WH:LG)	Limited prevention pre-2025 (minor upgrades); expanded deeper measures thereafter	Strongly residual until 2025 (low-income, inefficient homes); since then broader local criteria	LAD £287M/yr. (2022–2023); WH:LG £206M/yr. (total £412M for 2026–2028)
Social Housing Decarbonisation Fund (SHDF) → Warm Homes: Social Housing Fund (WH:SHF)	SHDF preventive ('fabric-first' insulation/heating measures); WH:SHF expanding scope (renewable generation, heating)	Targeted universalism; all inefficient social housing (EPC D-G)	SHDF £380M/yr. (£3.8B total over 10 years from 2021); WH:SHF £433M/yr. (£1.3B total for 2024–2027)
Warm Front (WF)	Preventive focus primarily on heating and basic insulation upgrades	Increasingly residual (low-income, vulnerable households targeted)	Varied annually; peak £345M in 2010–2011
Warm Home Discount (WHD)	Moderately compensatory (rebate-based); increasing in compensation 2022–2025 due to high-cost threshold	Residual but expanding: ~2.3M households pre-2022; ~3M (2022–2025); ~6M from 2025	~£350M/yr. pre-2022, £475M/yr. (2022–2025), £1B/yr. from 2025
Winter Fuel Payment (WFP)	Limited compensation; general lump-sum transfers rather than bill support	Highly universal until 2024 (all pensioners); residual from 2024 (~1.3M low-income pensioners)	~£2B/yr. until 2024, ~£500M/yr. thereafter