

Rising Block Tariffs: A Progressive Social Tariff or Damaging to Vulnerable Consumers?

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Summary

The UK is seeing renewed interest in social energy tariffs as a route to providing more predictable and adequate support to households struggling with high energy costs. As part of a UKERC project on social and flexible tariffs, this brief assesses how different tariff designs, namely direct bill support, unit price discounts and rising block tariffs, can improve affordability while remaining deliverable and aligned with wider energy system goals.

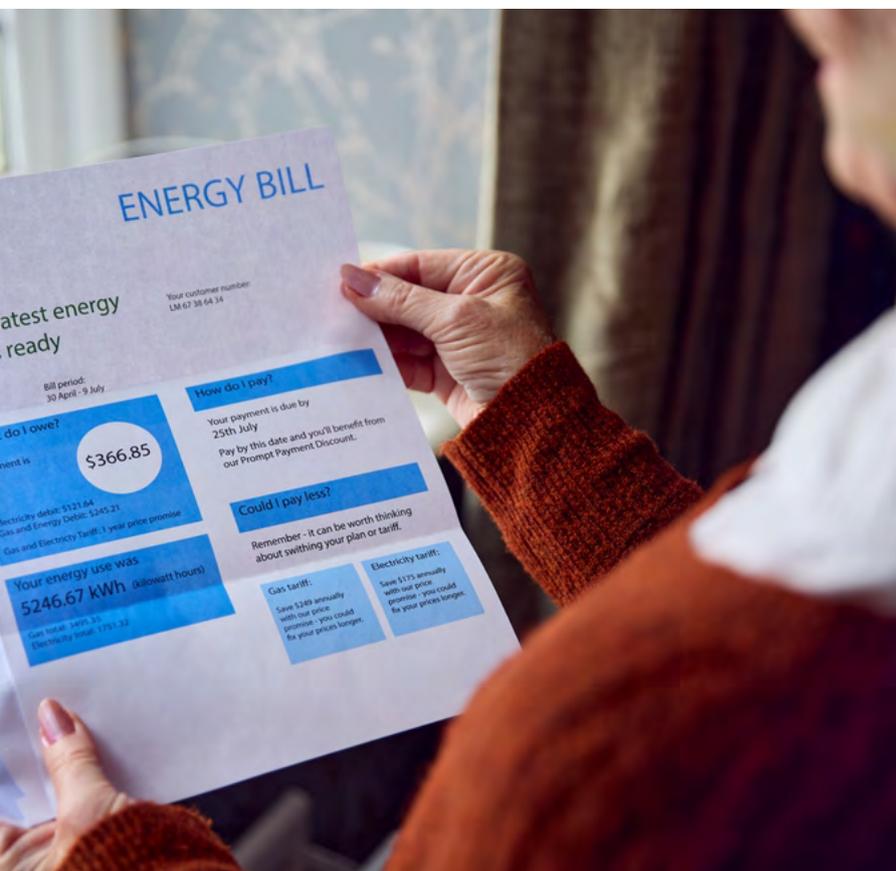
Direct bill support and unit price discounts can be targeted and effective but require ongoing funding, whether from general taxation or through higher bills for other consumers. In contrast, rising block tariffs are often presented as a potentially cost-neutral and progressive option, with low consumption households paying less per unit, and high consumption households paying more, with costs fully covered through energy bill differentials.

Using the English Housing Survey: Fuel Poverty Dataset¹, we model the distributional impacts of a cost-neutral rising block tariff,

calibrated around the October 2024 price cap. At an aggregate level, the tariff appears progressive: average bills fall for lower income quintiles and rise modestly for the highest income quintile, resulting in an overall reduction in average household bills. However, when we look within the lower income groups and distinguish between fuel poor and non-fuel poor households (using the Low-Income Low Energy Efficiency (LILEE) definition), a different picture emerges.

Non-fuel poor households in the bottom two income quintiles see substantial bill reductions, while fuel poor households in the same quintiles face bill increases. This reflects structural factors that drive fuel poverty, such as reliance on inefficient forms of electric heating, poor building energy efficiency and higher essential energy needs, resulting in high energy consumption needs relative to non-fuel poor households, which pushes lots of consumption into higher price blocks.

These findings suggest that policymakers should approach rising block tariffs with caution. Priority should be given to transparently funded, well-targeted discounts or direct bill support, with any block pricing used only as a supplementary tool and underpinned by robust protections for fuel-poor and high-need households. Effective tariff design should be informed by granular distributional analysis, aligned with wider investment in energy efficiency and social policy goals, and shaped through meaningful engagement with consumers and those with lived experience of fuel poverty to ensure that any scheme is both equitable and workable.





Policy Implications

- 1. Prioritise targeted, funded social tariffs over generalised pricing solutions.** Rising block tariffs are not a standalone social tariff solution. Policymakers should treat direct bill support and unit price discounts, adequately funded and well targeted, as the foundation of a social tariff, with rising block tariffs, if used, playing a complementary rather than central role.
- 2. If adopting rising block tariffs, embed protections for high energy need households.** Our results show that block tariffs may lower average bills for lower income groups, they can also worsen outcomes for many fuel poor households within those groups. Any move towards block pricing should include robust protection for fuel poor and other vulnerable households, recognising that high essential consumption is often driven by poor housing and health needs rather than discretionary use.
- 3. Use granular distributional analysis in tariff impact assessments.** Impact assessments should go beyond broad income groups to examine outcomes for

fuel poor households, households with electric heating, and those with known high energy needs which may overlap with other protected characteristics. This could help avoid unintended consequences that could undermine trust in energy policy and hinder public support for wider reforms.

- 4. Align social tariff design with energy efficiency and wider social policy.** Social tariffs should be seen as part of a broader strategy that includes investment in energy efficiency, housing quality and social security, to reduce structural drivers of high energy needs.
- 5. Engage stakeholders, including consumer groups and those with lived experience of fuel poverty.** The design and implementation of social tariffs, including any rising block elements, should involve dialogue with those directly affected to ensure that schemes are understandable, acceptable and responsive to real-world circumstances.

1. Introduction

There is a growing consensus that the UK needs a more sustainable, predictable and fair approach to supporting households with their energy bills, particularly those at risk of fuel poverty. Short-term, ad hoc support schemes introduced in response to recent energy price spikes have helped many households but have also highlighted the limitations of temporary measures and the need for a longer-term strategy. Social tariffs, typically understood as pricing arrangements providing lower energy costs to eligible households (e.g. on low incomes or with high essential energy needs) compared to the standard retail price, are often proposed as a solution.

[UKERC-funded research on social and flexible tariffs](#) examines how tariff design can enhance affordability while remaining deliverable and compatible with wider energy system goals.

On the social tariff side, we focus on three broad approaches: **direct bill support**, **unit price discounts** and **rising block tariffs**. Direct bill support involves reducing electricity bills for eligible households without altering the unit price of energy. Unit price discounts reduce the per unit price of energy for eligible customers, so they pay less per kilowatt hour than under the standard tariff. Rising block tariffs work differently: all customers face a tariff in which

the unit price increases with consumption, usually with a cheaper first block of units, a standard middle block, and a more expensive upper block.

The first two approaches, direct bill support and unit price discounts, are often seen as straightforward ways to target support toward households most in need. However, they create an explicit funding requirement, with other consumers or taxpayers covering the cost of lower bills for eligible households. This typically means higher bills for some (via levies or obligations) or general taxation funding. Amid already high energy bills and



strained public budgets, this raises tough questions about who pays and the long-term sustainability of such support.

Rising block tariffs, by contrast, may appeal to some stakeholders as they can be designed to be cost neutral overall. Higher-use (often high income) households pay more per unit in upper blocks, while lower-use (typically lower income) households benefit from cheaper initial blocks. In principle, this creates a built-in cross-subsidy without additional funding and can appear progressive, as lower income households tend to spend less on energy while wealthier households tend to spend more.

To assess whether rising block tariffs can indeed operate as progressive social tariffs, we undertook a distributional analysis using the English Housing Survey Fuel Poverty dataset². This dataset contains detailed information on household energy expenditure, income, dwelling characteristics, and fuel poverty status, enabling modelling of how different tariff designs would affect annual energy costs across the income distribution. Our analysis compares the impacts of a rising block tariff with a typical flat tariff benchmark and examines outcomes for both income quintiles and fuel poverty status.



2. Direct Bill Support and Unit Price Discounts: Effective but not Cost-free

Direct bill support and unit price discounts are conceptually simple and closely align with existing UK policy tools. Direct bill support provides a lump sum reduction in energy bills for eligible households, without changing the marginal cost of consuming an extra unit of energy.

A current example is the Warm Home Discount³, under which eligible households receive a one-off reduction on their electricity bills (around £150 in 2024). UK Government's decision to extend the Warm Home Discount⁴ scheme in England and Wales for a further five years, demonstrates the relevance of direct bill support for reducing energy costs of low income and fuel poor households. This support can be well targeted towards vulnerable households and can be adjusted over time as conditions change.

To illustrate the scale of funding involved, we consider approximate Warm Home Discount costs in 2024. A payment of £150 to about 2,480,000 households implies a total cost of roughly £372 million. Using our analytical modelling framework, we explore what level of unit price discount could be supported by a similar budget if instead applied as a per unit reduction for lower income households. With funding at this level, a unit price discount of around 4.5% could be provided to the bottom 20% of households by income. This would reduce their per unit cost of energy, lowering their annual bills, with the scale of benefit depending on consumption.

However, there is a strong case that an average 4.5% discount would be insufficient to address fuel poverty at current price levels, particularly for households facing high essential energy needs due to inefficient housing, electric heating or specific health-related requirements. For example, using the October 2024 price cap, the typical household spends around £1,717 per year⁵ on energy, a 4.5% unit price discount would reduce their bill by about £77.26, compared with a £150 Warm Home Discount payment. In addition, limiting eligibility to the bottom income quintile may leave many struggling households in other income groups without adequate support, especially once housing costs and regional price differences are considered. This suggests that an effective social tariff based on unit price discounts would likely need to be more generous and cover a wider eligibility group than the illustrative scenario.





A more generous discount and/or an expanded eligible population would, however, significantly increase the total cost of the scheme. That cost must be financed either through higher bills for other consumers, via levies, supplier obligations or rebalancing of network and policy costs, or through public expenditure funded from general taxation. Decisions about the balance between these funding routes are inherently political and raise questions about fairness between different groups of consumers and taxpayers. Nonetheless, the key point is that direct bill support and unit price discounts, while effective at reducing costs for targeted households, are not cost-free measures.

These considerations motivate the search for tariff designs that can improve distributional outcomes without requiring additional funding. This is where rising block tariffs enter the debate, as a way of embedding cross-subsidy within the tariff structure itself and, in principle, delivering more progressive outcomes in a cost-neutral manner.

3. Rising Block Tariffs: Potentially Cost Neutral but Risky for Vulnerable Consumers

Structure and Assumptions of the Proposed Rising Block Tariff

In our analysis, we design a rising block tariff for electricity that is cost neutral relative to a typical flat tariff benchmark. This means that, when applied across all households in the dataset, the total revenue collected under the block tariff equals that under the flat tariff, holding overall consumption constant. The tariff is structured so that the middle block has a unit price close to the Ofgem default tariff cap level in October 2024, with a lower price for the first block of consumption, intended to cover essential consumption, and a higher price for units consumed above the middle block threshold.

Table 1 summarises the proposed block tariff structure in 2024 pricesⁱ. This pattern is intended to shift some of the cost burden from lower consumption households to higher consumption households, while keeping overall revenue unchanged.



ⁱ Note that the proposed block tariff was designed with cost neutrality in mind, and different structures and pricing levels are likely to give different results. However, the general findings and policy implications still apply.

Proposed social tariffs			
Electricity	Low block	Mid block	High block
Units (kWh/month)	100	200	
Cumulative consumption (kWh/month)	0-100	101-300	301+
Price (£/kWh)	0.12	0.25	0.35
Price change relative to mid-block (%)	-52%	0%	+40%
Gas	Low block	Mid-block	High block
Units (kWh/month)	300	350	
Cumulative consumption (kWh/month)	0-300	301-650	651+
Price (£/kWh)	0.03	0.06	0.12

Table 1. Proposed rising block tariff (2024 prices)

Distributional Impacts by Income Quintile

We first examine the impacts of this tariff across household income quintiles, dividing households into five equally sized groups from the lowest (Q1) to the highest income (Q5). Figure 1 shows the average percentage change in annual electricity costs for each quintile under the rising block tariff relative to the flat tariff benchmark. Households in the lowest income quintile (Q1) face an average cost reduction of around 13%, with the size of the reduction diminishing as income rises. By contrast, households in the highest income quintile (Q5) see an average cost increase of about 3.12%.

Across all households in the dataset, the average annual bill falls by around 5.56% under the rising block structure. At this level of aggregation, the tariff appears to deliver a progressive redistribution of energy costs, with lower income households gaining the most, on average, and higher income households paying somewhat more. This aligns with the intuitive appeal of rising block tariffs as a social tariff mechanism, since energy use tends to increase with income, charging more for higher blocks

of consumption can shift costs towards higher income, higher use households.

These distributional effects suggest that rising block tariffs can be a progressive tool when judged solely by average outcomes across income groups. They demonstrate how, in principle, cross-subsidy from higher to lower income households can be embedded in the tariff design without requiring additional public or consumer funding. Yet, once such tariffs are actually implemented, higher income households may respond by reducing their energy use to avoid higher-priced consumption blocks. If this behavioural shift occurs at scale, the tariff would cease to be cost-neutral, creating a deficit that would require further adjustments to the tariff structure or the identification of new funding sources.

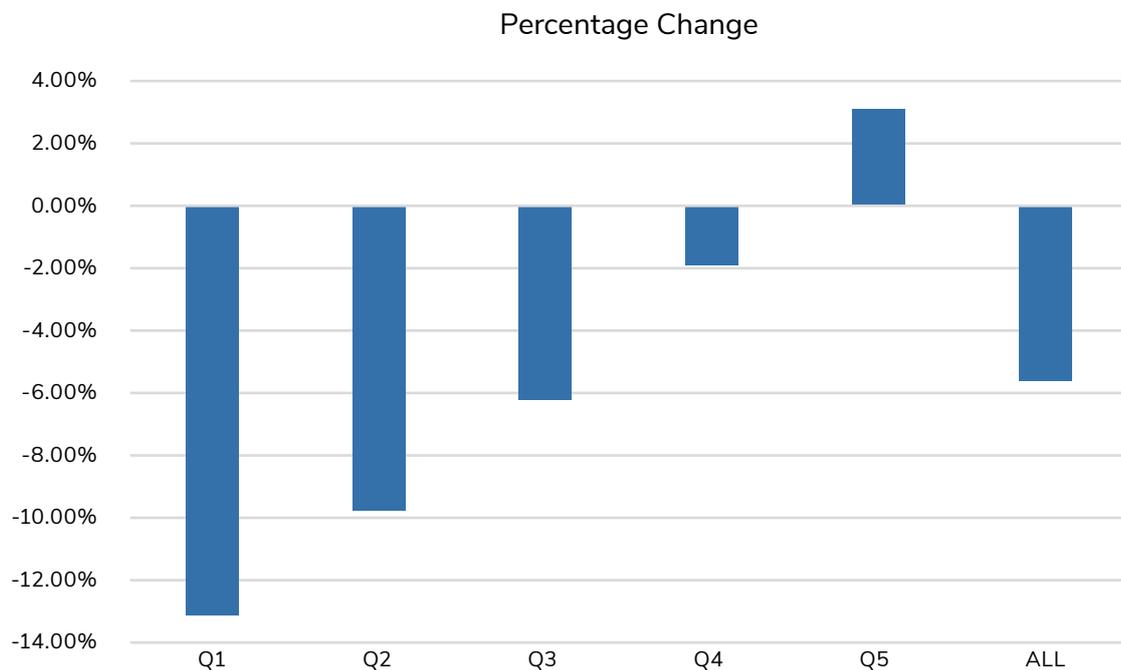


Figure 1. Average percentage change in annual electricity costs by income quintile under the rising block tariff.



Divergent Outcomes Within Low-Income Groups: Fuel Poor compared to Non-Fuel Poor Households

However, analysing only income quintiles hides important differences within each group, especially between fuel poor and non-fuel poor households. To investigate this, we focus on the bottom two income quintiles (Q1 and Q2) and segment households by fuel poverty status using the LILEE⁶ definition. Under LILEE, a household is considered fuel poor if it has a low income and lives in a property with relatively poor energy efficiency. This measure is intended to capture both financial constraints and structural factors affecting energy needs.

When distinguishing between fuel poor (FP) and non-fuel poor (NFP) households within Q1 and Q2, the picture changes significantly. Figure 2 shows that non-fuel poor households in Q1 and Q2 experience significantly larger bill reductions than the average for their quintile. In Q1, non-fuel poor households see average

cost reductions of around 19.60%, and in Q2, around 13.38%. These households typically live in more energy efficient homes and/or have lower essential energy needs, so a larger share of their consumption falls within the cheaper blocks of the tariff.

By contrast, fuel poor households in the same income quintiles often face bill increases under the rising block tariff. In Q1, fuel poor households see an average cost increase of about 0.89%, and in Q2, the increase is around 7.16%. This means that within the lowest income group, households already in fuel poverty can end up worse off, even as many of their non-fuel poor peers see their bills fall. The rising block tariff redistributes not only between income groups but also within them, in ways that can disadvantage the most vulnerable.

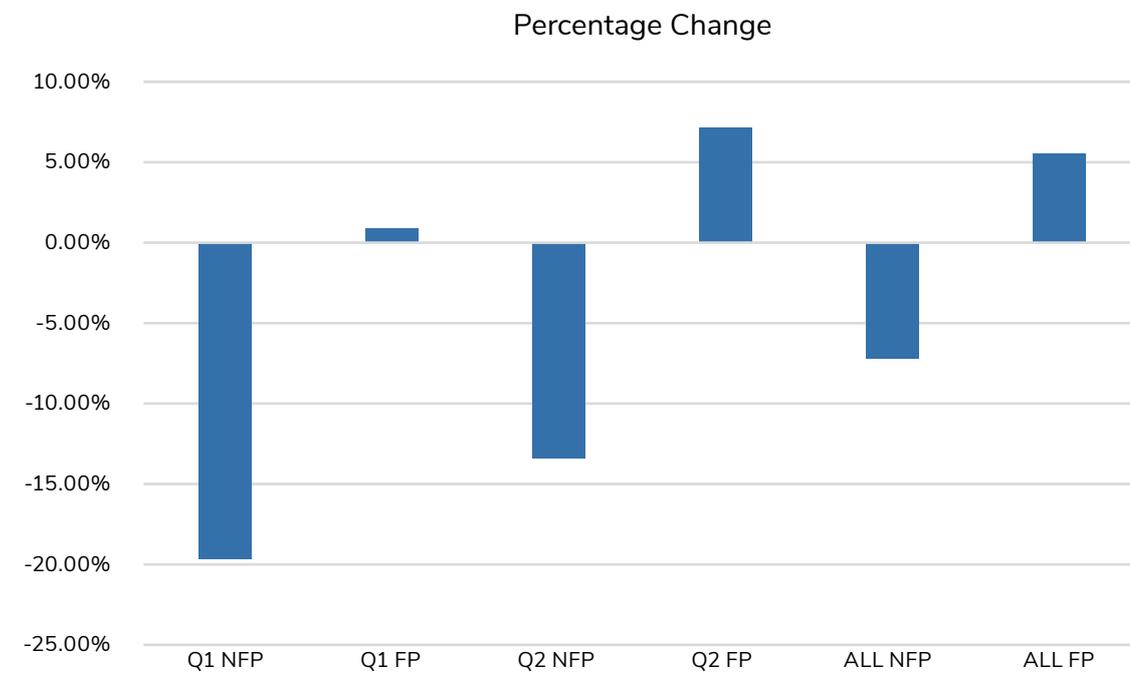


Figure 2. Average percentage change in annual electricity costs for fuel poor and non-fuel poor households in Q1 and Q2 under the rising block tariff.



Why Fuel Poor Households May Lose Out

The underlying reasons for these divergent outcomes lie in the interactions among tariff structure, dwelling characteristics, and energy needs. Fuel poor households are more likely to occupy dwellings with poor energy efficiency, meaning they require more energy to achieve the same level of comfort. They are also more likely to rely on electricity for heating, which can result in higher overall electricity consumption than households with gas heating. In addition, fuel poor households that include people with health conditions or other circumstances requiring higher indoor temperatures, or the use of energy-intensive medical or mobility equipment, may see their energy bills rise even further.

These factors mean that many fuel poor households in the lower income quintiles have higher essential energy consumption than non-fuel poor households on similar incomes. Under a rising block tariff, a larger share of their consumption is charged at higher rates in the

upper blocks. This undermines the intended benefit of lower prices for basic energy consumption, and can leave these households facing a higher overall bill despite being poor and already struggling with energy costs.

This analysis shows that a 'one size fits all' rising block tariff can produce serious unintended consequences. While the tariff may look progressive when viewed through the lens of average impacts by income quintile, it can be regressive within those quintiles for households with structurally higher energy needs. Given that fuel poor households are central to social tariff debates, any option that increases their bills must be approached with considerable caution.

4. Conclusions and Implications for Policy

Relevance of the Analysis

Recent UK government decisions^{7 8} to reduce electricity prices by shifting some policy costs onto general taxation, and to take around £150 off average household energy bills as part of a wider clean heat strategy, underline how questions of who pays for decarbonisation are increasingly being treated as central to fuel poverty policy rather than a separate issue.

The UK debate on social tariffs concerns not just the scale of support, but how it is structured and funded. In this context, rising block tariffs are often proposed as a way to deliver progressivity without additional public spending or higher bills for all consumers. Our analysis challenges this, showing that while such tariffs may lower average bills for lower income groups, they can also worsen outcomes for many fuel poor households within those groups.

This matters because policy decisions based on aggregate distributional metrics risk overlooking the reality of households in fuel poverty. A social tariff that cuts bills for some lower income households but raises them for others already in hardship fails its core objective of protecting the most vulnerable. In the context of a fuel poverty strategy that now explicitly seeks both to reduce electricity costs and to support the adoption of clean heating solutions, such unintended consequences could undermine trust in energy policy and hinder public support for wider reforms, including the transition to a net zero energy system.



Implications for Social Tariff Design

Our findings highlight key implications for policymakers and regulators considering the role of rising block tariffs within a social tariff framework.

First, rising block tariffs are not a standalone social tariff solution. While they can contribute to a more progressive distribution of costs at an aggregate level, they cannot reliably protect households with high essential energy needs. In particular, those in inefficient homes or reliant on electric heating and energy-intensive medical equipment. Our findings show that without additional safeguards, moving to a block structure risks increasing bills for many fuel poor households.

Second, robust protections are essential if block tariffs are adopted. Options should include tailored lower block thresholds, discounted rates for high-need households (e.g., those on priority services registers or receiving disability benefits), or parallel direct support schemes for fuel poor households. Effective design and implementation require close coordination among suppliers, regulators, and government to ensure feasibility and respect for privacy.

Third, direct support must remain a core component of a social tariff strategy. While these approaches require explicit funding, they allow support to be tailored to those most at risk of fuel poverty and can be adjusted as circumstances change. Policymakers should secure stable and fair funding mechanisms via taxation, bill-based levies, or a combination that aligns with wider distributional objectives.

Fourth, housing energy efficiency improvements are critical, especially for low-income and fuel poor households. Many challenges observed under the rising block tariff stem from the need for fuel poor households to consume more energy to achieve basic comfort levels. Investing in insulation, heating system upgrades, and other efficiency measures would reduce these structural needs, improving affordability under any tariff design and supporting wider climate and energy goals.



Endnotes

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