

Ensuring a just transition for consumers in the GB retail market

Overview paper

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1. Overview

Overview

1.1 Consumer Scotland is the statutory body for consumers in Scotland. Established by the Consumer Scotland Act 2020, we are accountable to the Scottish Parliament. The Act defines consumers as individuals and small businesses. We have a particular focus on three consumer challenges: affordability, climate change mitigation and adaptation, and consumers in vulnerable circumstances.

1.2 Energy is a key part of our remit which crosses all of the above themes, ranging from work on retail issues, through access to energy efficiency and low carbon technologies, to presenting consumer perspectives on electricity generation and associated grid upgrade investments.

1.3 The retail energy market is a supplier hub model - suppliers sell electricity and gas to their consumers after they have purchased the commodity from wholesale markets.^{1,2} Suppliers are also responsible for paying for or delivering other aspects of services and costs (such as policy costs, delivery of social and environmental schemes and balancing services). Suppliers have a responsibility to provide high levels of customer service, and to ensure customers are advised if their supplier provides a cheaper tariff for them.

1.4 For the majority of dual fuel consumers, the best tariff was and will continue to be the one with the lowest gas and electricity unit rates. Looking ahead, however, the retail market will undergo significant change to meet the demands of the transition to net zero emissions ('Net Zero') as energy services are increasingly delivered by electricity, powered primarily by renewable generation.

1.5 Consumer Scotland commissioned Regen to undertake a rapid evidence assessment on the impacts, challenges and opportunities for consumers in Scotland within these expected changes to the GB energy retail market. The aim is to understand how different groups of consumers in Scotland, particularly those already experiencing problems paying for energy, or in vulnerable circumstances, may be impacted by future reforms and to inform our advocacy for a fair and sustainable energy market for current and future consumers.

1.6 This paper:

- Provides a summary of the context for the research review

¹ National Grid ESO (n.d) [Electricity markets explained](#)

² Energy UK (n.d) [How the retail market works](#)

- Highlights key findings from the review
- Considers gaps identified in the current research
- Presents a high level framework to advance the interests of energy consumers across the issues highlighted in the rapid evidence assessment

Context

1.7 There is clear evidence that the existing retail energy market does not meet all consumers' needs. Both our own and other work highlight the current challenges consumers in Scotland are experiencing, particularly around debt and arrears,³ as well as continuing high levels of fuel poverty⁴ and complaints.⁵

1.8 At the same time, the Scottish Government has an overarching target to reduce climate change emissions with an eventual target of reaching Net Zero by 2045.⁶

1.9 The transition to Net Zero offers both opportunities and challenges for consumers:

- smart meters can improve service standards for consumers, as well as offering access to innovative time and type of use tariffs which can cut bills, if consumers are empowered to play a greater role in responding to wholesale market prices^{7 8}
- low carbon technologies such as solar panels, home batteries, electric heating and electric vehicles can and do deliver benefits to consumers through providing energy services for some consumers at significantly lower costs than fossil fuel alternatives and in doing so can help to bring down overall system costs by, for instance, reducing the need for new network build; but
- there are capital costs associated with the deployment of these technologies, their operation can be more complex than traditional approaches for some consumers, and not all consumers will be able to engage with all measures.

1.10 Over time, the successful deployment of these technologies in ways which benefit consumers will require reforms to the retail energy market.⁹ For the benefits of

³ Consumer Scotland (2025) [Insights from the 2025 Energy Affordability Tracker](#)

⁴ Scottish Government (2025) [Scottish House Condition Survey: 2023 Key Findings](#)

⁵ Consumer Scotland (2025) [Response to DESNZ review of Ofgem: call for evidence](#)

⁶ Scottish Government [Climate change policy](#)

⁷ Carbon Trust (2021) [Flexibility in Great Britain](#)

⁸ Cornwall Insight (2023) [The power of flex: Rewarding smarter energy usage](#)

⁹ Ofgem (2022) [Net Zero Britain: developing an energy system fit for the future](#)

a decarbonised energy system to be shared fairly with consumers, approaches are required to support safe, meaningful, and consenting engagement by all.^{10 11}

1.11 This will have consequences for consumer bills, how consumers use energy, and the range of products and services available to them. It will require a diversification of offerings from service providers to match energy system requirements with varying consumer needs and aspirations in a way that works for both.^{12 13}

1.12 However, it is important to emphasise that, from a consumer perspective, the transition remains at an early stage. While the smart meter rollout is advancing, it remains behind the pathway originally envisaged – the research review highlights, in particular, that smart meter deployment in the North of Scotland was only 18% in 2024, compared to a GB figure of 63%.¹⁴ Furthermore, the vast majority of homes are still heated by mains gas, and use electricity tariffs with standard pricing. Time of use electricity tariffs remain concentrated among those using traditional storage heating, although with some signs of an expanding market linked to electric vehicle adoption.¹⁵

1.13 There is already a large gap in experience between different groups of consumers, many of whom are not able to meet their essential energy needs under today's market arrangements, and significant barriers exist to bridging that gap.

1.14 Given this starting point, existing retail energy market design is unlikely either to result in a fair and inclusive energy market for future consumers, or to support the widespread changes needed to enable the transition to Net Zero.¹⁶ If future markets are to meet increasingly diverse consumer needs, the retail energy market will need to incorporate more heterogeneous and specialised consumer offers.¹⁷

1.15 Currently, retail energy competition focuses largely on price but with little other variation, other than at the margins. There is a question as to whether there are sufficient incentives within existing market regulations to facilitate and incentivise customer service improvements and innovation.

1.16 The UK Government's ongoing Review of Electricity Market Arrangements (REMA) programme and the introduction of Market-Wide Half Hourly Settlement (MHHS) present opportunities to reverse this trend. However, there is as yet insufficient clarity on what the future retail market will look like; how it will complement wholesale market reform; or how the UK Government, Ofgem, the energy industry and others might tackle the scale of changes needed to transition to a low carbon energy system which is accessible and affordable for all.¹⁸

¹⁰ Poudineh (2019) [Liberalized retail electricity markets: what have we learned after two decades of experience?](#)

¹¹ Consumer Scotland (2024) [Response to UK Government Review of electricity market arrangements \(REMA\): second consultation](#)

¹² Citizens Advice (2023) [Ripping off the band-aids](#)

¹³ UK Government (2023) [Towards a more innovative energy retail market: a call for evidence](#)

¹⁴ DESNZ (2025) [Smart meter statistics](#)

¹⁵ Ofgem (2025) [State of the energy market report: retail](#)

¹⁶ Citizens Advice (2023) [The future of retail](#)

¹⁷ Citizens Advice (2023) [Ripping off the band-aids](#)

¹⁸ Resolution Foundation (2024) [Electric dreams](#)

1.17 Existing unmet consumer needs in the current energy system risk being transferred into, and exacerbated by, future retail market design. There are many areas in which certain groups of consumers may not be as able to engage with changes needed to access the benefits of smart technology and flexibility: disability, digital capacity, cost of technologies, house type, tenure or location and the intersection between these will all influence take up.^{19 20}

1.18 The ongoing transition presents significant opportunities to improve outcomes for consumers. Moving away from a one-size-fits-all model can lead to greater choice and flexibility, which is a positive development. However, increased variety also brings added complexity - both for consumers trying to navigate their options and for regulators and policy-makers tasked with ensuring fair outcomes. Now is the time for careful, collective thinking about how different consumer groups will be affected. It is crucial to ensure that appropriate protections and support mechanisms are in place for those who need them, without unduly limiting the choice and ability to flex that some may have.

Rapid Research Review: Key Points

1.19 Building on the background above, Regen's rapid evidence review for Consumer Scotland identified key points under different headings.

Energy market impacts on different consumers

1.20 The review found that the potential impacts of the net zero transition on different groups are well documented, using a range of robust analytical techniques, qualitative and quantitative approaches, conceptual frameworks and lived experience research.

1.21 However, less covered in the literature are the real world impacts of net zero interventions for specific groups – that is, how the transition is playing out for consumers who are interacting with smart or low-carbon retail services, and what their experiences and impacts are, particularly in low-income or vulnerable situations.

1.22 Although some user experience cases do exist, these are usually with a small participant group, with limited synthesis of low-income user experience research or data.

Tariffs and services for the future

1.23 There is strong survey evidence on people's perspectives of time-of-use tariffs. There is likewise useful insight from small-scale innovation studies into how users view and interact with new models, such as Heat-as-a-Service and flexibility.

1.24 However, there is less experiential data, particularly for consumers in vulnerable circumstances or in Scotland who are already using smarter tariffs and

¹⁹ Centre for Sustainable Energy (2024) [Smart and fair: working with the smart energy capabilities lens](#)

²⁰ Middlemiss (2023) [Conceptualising socially inclusive environmental policy: a just transition to Net Zero](#)

technologies today, partly because some are innovative and not widely deployed yet. Linked to the above, existing experiential studies tend to have limited numbers of participants.

1.25 Social tariff options, including those linked to time of use electricity tariffs, have been modelled and draw on useful case studies from other countries to illustrate potential effects. This research has tended to come from thinktank and advocacy organisations, with less present in the academic literature in a UK context, reflecting that this is a more recent 'live' discussion.

Data and digitalisation

1.26 From the evidence reviewed, there is strong coverage of consumer perspectives on data, digitalisation and artificial intelligence in the energy system. This is particularly strong on small-scale qualitative data, such as focus group research. Small-scale innovation trials and lived experience research have also provided direct consumer insights into some data uses for smart offerings, and advocacy organisations such as Citizen's Advice have included insights from consumers directly to inform these discussions in various consultation and call-for-evidence responses.

1.27 However, there is less research in two key areas.

- First, there is limited large-scale consumer attitudinal data on digitalisation and artificial intelligence in UK energy. This makes it challenging to identify wider trends or identify geographic, social and economic differences in perspectives
- Secondly, there is likewise a lack of analysis of how algorithms and AI are currently being used in the energy market and real-world impacts on different consumers

Consumer protection

1.28 The vast majority of evidence relating to consumer protection comes from advocacy organisations such as Citizens Advice and research organisations such as the Energy Systems Catapult. These are typically based on case study and qualitative research, either with consumers or expert stakeholders, which is to be expected given the nature of consumer protections and difficulty modelling, analysing or quantifying new ideas.

1.29 Some comparisons have been made across regulatory regimes, particularly on customer engagement strategies, although these stop short of identifying potential solutions or testing new protections with affected consumers. Consumer perspectives on consumer protections in general are lacking, with proposed solutions often critically (and in good faith) extrapolated from consumer experiences by different organisations to arrive at policy positions. No research was identified in this review which spoke to different enforcement regimes for consumer protection, representing a significant gap in the energy retail space.

1.30 There are some innovation insights into various codes of conduct around new services, such as flexibility. However, there remains a lack of understanding or demonstration for how codes of conduct can be effectively unified, reformed or scaled to meet the dynamic challenge of the energy transition.

1.31 In relation to identifying consumers to target support, there is a clear gap around understanding different vulnerabilities through the net zero transition and how to identify and target those potentially most in need of additional support. There are also gaps in discussion of how to develop and embed appropriate support in supplier and utility activities. While some approaches are being developed, there is limited engagement as yet on how processes such as the PSR can be better shaped and promoted. There is also a gap around the role of the Scottish third sector to understand their perspectives and current activities within the net zero transition.

Inclusive energy market design

1.32 There is strong evidence, largely based on case study and interview research, from different energy innovation projects which have (or have not) embedded citizen engagement and inclusivity in their activities.

1.33 However, there is less understanding of inclusive innovation within the wider retail market specifically. Outside of Ofgem literature and some innovation strategies, there is no synthesis of suppliers' innovation activities or insights into consumer experiences, which may make it challenging to raise the standard across the sector either in regulation or best practice guidance.

Addressing gaps to better inform future policy

1.34 Following from the above, the review and workshop discussions with Consumer Scotland staff facilitated by Regen highlighted some gaps in the current evidence, in relation to availability of literature:

- **There is a gap in understanding real world, current user experience of new tariffs, services and technologies**, particularly for low-income and vulnerable households
 - **This gap includes a lack of Scottish-specific research**, recognising that Scotland has its own challenges, consumer perspectives and experiences of new tariffs and services that are currently underrepresented in the literature outside of Scottish Government, Consumer Scotland, Citizen's Advice Scotland, and limited academic publications
 - **Scottish-specific data is also needed**, particularly on bills and costs that are aggregated to regional and local authority levels, to support more accurate understanding of current consumer challenges and more informed development of new models, services and reforms
- **Demonstration of more innovative models such as Energy-as-a-Service or dynamic social tariffs is needed**; these are yet to permeate the market,

particularly in Scotland, although synthesis of the evidence from other regions or countries where these models have become more commonplace would be helpful

- **Understanding consumer perspectives on trade-offs and ‘fairness’ in the retail energy market**, as well as views on which outcomes should be prioritised for any changes to consumer protections and wider regulation

Addressing Research Gaps

1.35 Given the current scale of roll out of low carbon technologies and tariffs, case study research is likely to be the most appropriate method of addressing the real world experience gaps. Workshop discussion also highlighted the potential to explore the experience of consumers, including those in the social rented sector, of measures and support delivered through different strands of recent and current Scottish Government funding programmes.

1.36 A further point was the need for research to expand consideration of the influence of support needed by different groups of consumers to maximise benefits in relation to different technologies.

1.37 Related to the final point, there are wider questions around the approach of current research, which tends to consider the barriers to participation faced by different groups of consumers to all changes and in doing so, to assume implicitly that similar actions will be required by all consumers under current circumstances. Workshop discussion highlighted three, linked questions in relation to this, given the scale of take-up of low carbon technologies and associated innovative tariffs is currently very low:

- Firstly, how do anticipated future actions relate to consumer participation – to what extent could engagement and behaviour change by some consumers reduce or remove the need for others, particularly those who would face barriers in altering behaviour, to have to do so? How might this pattern change over time under different scenarios?
- Secondly, would there be value in research which seeks to identify groups of consumers likely to benefit the energy system from certain (not necessarily all) actions or technologies, and target support accordingly, to encourage take up, and reduce emissions?
- Thirdly and closely related, there may also be an opportunity for research which starts from the perspective of consumers currently experiencing disadvantage and / or affordability challenges in the market and seeks to identify both the technologies which would most benefit those groups, and the most appropriate means of their deployment. Are there no / low regret options on which fuel poverty and net zero aims may overlap?

1.38 Consumer Scotland will explore opportunities to clarify and if necessary address these possible gaps, and would welcome discussion with stakeholders on how this might best be taken forward.

Looking Ahead: Foundations for Future Retail

1.39 Drawing on the findings from the research review, Regen also set out possible foundations for a just transition for consumers in this context.

Foundation 1: Reshape retail market incentives to focus on consumer outcomes and inclusive innovation. Delivering retail innovation that meets the needs of different groups will require inclusive innovation processes across the board, built on more dedicated consumer-centric outcomes driving retail market activity (rather than cost competition).

Consumer Scotland will shortly be publishing a paper on the key challenges and opportunities from the REMA programme and how it could support better consumer outcomes in the energy market. .

We recently published a report on consumers' access to low carbon technology.²¹ In this report we recommend a number of actions that government should take to reduce the barriers that consumers currently experience in accessing these technologies. This includes the need for more financial support for consumers, specific support for those without high levels of capacity, agency or motivation and action to tackle myths, misconceptions and misinformation.

Foundation 2: Future-proof energy support mechanisms for the net zero context.

As UK and Scottish governments refresh their fuel poverty and other bill support schemes, doing so in a way that also enables consumers in vulnerable circumstances to participate in and benefit from the changing energy system will need to ensure that support is designed with this changing energy system in mind, lowering bills while enabling access to new services, technologies and dynamic pricing.

Consumer Scotland has published a range of outputs on how energy support mechanisms could better support consumers. This includes an overarching set of principles to inform energy affordability policy²² and specific work focused

²¹ Consumer Scotland (2025) [Heat in Buildings - supporting the rollout of heat pumps and solar PV in Scotland](#)

²² Consumer Scotland (2024) [Energy Affordability Policy](#)

on improving energy affordability for disabled consumers and those with health conditions.²³

Our report on energy affordability recommends a more holistic and cross market review of energy support, for the Scottish Government to commit to data improvements, and for support measures to be fully tested, costed and supported by distributional analysis.

Our report on disabled consumers and those with health conditions sets out the need for policymakers to factor in high essential energy needs when designing energy support mechanisms, alongside consideration of income. We also recommended that better affordability measures and interventions are developed for these consumers groups, particularly those who are terminally ill.

Foundation 3: Embed and consolidate consumer protections across new and emerging services. While different technologies have different opportunities and challenges, there is a need to clarify and consolidate consumer protections, making it easier for consumers to understand their rights and take action should things go wrong. For consumers in vulnerable circumstances, this should also include an explicit ‘no detriment’ commitment to ensure bills do not rise and adverse impacts are mitigated.

Consumer Scotland will work with stakeholders/other consumer advocacy bodies across Great Britain to support the development and coherency of consumer protections across new and emerging market.

Low-carbon technologies and insulation markets are complex, have low consumer awareness, and are characterised by patchworks of self-regulation bodies. This sector, amongst others, would benefit from a holistic review of consumer protection.

Foundation 4: Tackle digital literacy and inclusion to enable more people to benefit from smarter services and offerings, while ensuring those who cannot participate are not penalised. One of the key barriers to accessing new technologies and services, and maximising their benefits, is digital literacy and inclusion. This must be a priority for all levels of government, retail and regulation, with protections for those who cannot or prefer not to flex their energy demand.

Consumer Scotland will continue to work across its policy teams to examine how digital exclusion creates barriers to markets for consumers in Scotland. Additionally, energy literacy will be a crucial element to ensuring consumers

²³ Consumer Scotland (2025) [Designing energy support for disabled consumers](#)

can benefit from new digitally focused products in the energy market. We will explore how energy literacy could be improved in Scotland.

The Scottish Government is reviewing its digital strategy which Consumer Scotland is currently engaging in. We will consider the impacts of the new strategy and how it will impact energy consumers.

1.40 Consumer Scotland will engage with stakeholders across the sector on how these foundations could be considered and embedded into the future design of the energy retail market.

1.41 Consumer Scotland will consider how we can contribute to these evidence gaps through a combination of conducting our own research, collaborating with other stakeholders, and advocating for access to better data and evidence to inform decision making.

Concluding remarks

1.42 It is our intention that the outputs from this research will provide useful insight into the needs of consumers in Scotland from the retail energy market and the gaps in understanding that should be addressed.

1.43 The evidence and issues highlighted in the rapid evidence review will continue to inform Consumer Scotland's work on behalf of energy consumers. In particular, we will use the insights from this review, alongside other analysis and research, to support the recommendations and advice we provide to government, regulators, and businesses across the range of topics outlined in this paper.