The diversity penalty: domestic energy injustice and ethnic minorities in the United Kingdom

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The diversity penalty: Domestic energy injustice and ethnic minorities in the United Kingdom

Stefan Bouzarovski a,*, Manon Burbidge a, Amish Sarpotdar a, Mari Martiskainen b

a Department of Geography, Manchester Urban Institute, School of Environment, Education and Development, University of Manchester, United Kingdom of Great Britain and Northern Ireland
b Science Policy Research Unit, University of Sussex, United Kingdom of Great Britain and Northern Ireland

A B S T R A C T

This paper examines the relationships between ethnicity and end-use energy injustices in the United Kingdom, focusing on the drivers and experiences of fuel poverty and energy vulnerability among ethnic minorities. In response to a systematic lack of research, evidence and debate, we use evidence from a combination of sources: online open-ended interviews with professionals in the energy and housing sectors, the Ethnicity Boost survey on energy market engagement undertaken by Citizens Advice, and secondary data from think tanks and government bodies in the energy and housing sectors. Building on conceptual approaches from energy justice scholarship – in terms of recognition, spatial, procedural and distributional aspects – we provide insights into how inequalities are manifested, how they persist, and how place-based patterns of deprivation arise through practices of marginalization, precarization and exclusion. We find evidence to suggest that Black African communities, in particular, are affected across multiple axes of vulnerability. We propose directions for future research and policy, foregrounding the need for considering differentiated, intersectional and compounding energy vulnerabilities among ethnic minorities in the UK.

1. Introduction

It is well established that race- and ethnicity-based inequalities determine how sociotechnical infrastructures are built and experienced. Energy systems are a case in point: the recovery, transport and consumption of energy have all been shown to be deeply connected to racialised and colonial governmentalities embedded in historical and contemporary practices [1–3]. While there is a rich debate on, and extensive policy awareness of, the interdependencies between racial discrimination and energy insecurity in the United States, the links between energy, racial and ethnic inequalities have rarely been considered elsewhere in the Global North. Equivalent research in the European context is almost non-existent; this is equally the case in the United Kingdom (UK), where the underpinnings and implications of fuel poverty – a condition that is also understood as ‘energy poverty’, occurring when a household is unable to meet its domestic energy needs [4] – have yet to be connected with difference along ethnic and racial lines.

The gap in knowledge on the specific relationship between ethnicity and energy poverty in the UK context has transpired despite the existence of a wide body of knowledge on patterns of social exclusion and deprivation along ethnic and racial lines [5]. For example, it is known that there is an above average incidence of overcrowding, low quality housing and fuel poverty among ethnic minorities [6]. More broadly, race and ethnicity are closely intertwined with socio-economic status, housing, and experiences of energy injustice, which are in turn linked to other forms of insecurity and health inequality [7,8]. Pathways, impacts and articulations of energy poverty also vary in line with wider cultural, ethnic and social contexts [9]. In order to achieve more just outcomes in the energy sphere, it therefore becomes necessary to acknowledge how institutions and processes associated with energy provision have rendered some social and ethnic groups invisible, misrecognized or stereotyped [10].

Drawing on a mixed-methods approach involving three sets of data – a review of documentary evidence, the quantitative ‘Ethnicity Boost survey’, and 16 qualitative interviews this paper seeks to provide framing insights and a research agenda for understanding the relationship between ethnicity and energy inequalities the UK, and Europe more

* Corresponding author.
E-mail addresses: stefan.bouzarovski@manchester.ac.uk (S. Bouzarovski), manon.burbidge@manchester.ac.uk (M. Burbidge), amish.sarpotdar@manchester.ac.uk (A. Sarpotdar), m.martiskainen@sussex.ac.uk (M. Martiskainen).

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widely. There are three aims within our overarching objective: First, we examine the how the intersections or ethnicity, housing and energy use are understood and approached in dominant discourses and debates on the topic – within the UK and beyond. Second, we illuminate the drivers and characteristics of ethnicity-based energy inequalities of energy exclusion in relation to the decision-making processes and procedures operating at the interface between citizens and consumers. Third, we examine their relationships with socio-economic patterns of injustice, arguing in favour of a broader distributional lens to uncover the circumstances under which ethnicity becomes a factor of material deprivation in energy transition processes. Here, and based on the notion of an ethnic premium [11] we foreground the idea of a ‘diversity penalty’ to encapsulate how patterns of deprivation are produced through spatially-contingent practices of marginalization, precarization and exclusion [12]. In that sense, we advocate in favour of a multi-scalar and trans-local approach on energy inequalities, incorporating structural injustices [10] that occur at a variety of material sites: from the micro-scale of the everyday, to national and international levels of governance.

We articulate our arguments across three thematic strands, based on an interpretive analysis of the three data sets noted above. The three sections following this introduction (and the methods section) are organized in line with the basic tenets of energy justice in relation to fuel poverty [13], and the three aims of the paper. The first part of the article is an examination of recognition-based injustices around ethnicity,1 exploring how mainstream academic and policy knowledge has tended to side-line ethnic minority-based inequalities in energy provision and demand. Second, we turn to procedural justice questions around access to energy services and markets, emphasizing differences among ethnic groups in relation to institutional modalities of energy provision. The third part of the paper investigates compounding socio-spatial dynamics of ethnic minority exclusion in terms of both existing patterns of energy demand, and low-carbon transitions more broadly. The conclusion brings the three threads together so as to trace the contours of a future research and policy agenda relevant to developments both within and beyond the UK.

2. Methods and data analysis

In, order to address the three aims outlined above, we relied on a mixed-methods approach involving the collection, analysis and juxtaposition of evidence from three sources. First, we examined previous academic and grey literature from several interconnected strands of research and debate: housing inequalities, energy use practices, and fuel poverty.2 We explored the interlinkages of these factors with both racial disparities and practices of exclusion experienced by people from ethnic minorities in the UK, reflecting also on the differences between the UK and other countries where this issue has been previously studied, to draw out useful understandings that can be applied in the UK context.

Second, we sourced data from the 2021 ‘Ethnicity Boost’ survey [16] undertaken by Citizens Advice.3 The Ethnicity Boost survey consists of a ‘boost’ sample of 300 ethnic minority participants within a wider sample of 3200. In the survey, quotas were used so as achieve a sample representative of Great Britain’s energy bill-paying population. The data provided by the survey is disaggregated in detail according to numerous ethnic minority subgroups for each individual country of the UK, and therefore required significant pre-processing for the purposes of our analysis. Following the processing of data, a basket of thematic indicators that demonstrated the relationship between ethnicity and energy use was curated (in line with the three aims of our research outlined above). Basic descriptive statistical analyses, in particular frequency calculations for each individual indicator, were then undertaken to summarize relevant relationships. In addition to analysing the source data directly, our paper also cites the results of data analyses undertaken by the the Office of Gas and Electricity Markets (or Ofgem - Great Britain’s gas and electricity market regulator) through its own reporting of survey outcomes.

Third, we used insights from open-ended online interviews of 16 UK professionals – experts, practitioners, and policy-makers – to investigate how relevant institutional stakeholders evaluate and perceive challenges around ethnic minority inclusion and equity as they relate to energy demand. The interviews were undertaken via a fully anonymized online survey between the 1st of September 2021 and 25th of January 2022, and using the EU survey tool [17], and included three sets of open ended questions about the role of the given stakeholder in vis-à-vis end-use energy inequality issues as they relate to people from ethnic minorities in the UK, as well as their views on these challenges and associated solutions. The questions were derived from the documentary analysis in step 1, and based on the authors’ participation in a number of workshops and discussions within three international research projects: Fuel and Transport Poverty in the UK’s Energy Transition (FAIR), Energy Poor Households in the Private Rented Sector (ENPOR) and Renewable Energies for Vulnerable Groups (POWERETY). Each interviewee was assigned a number for coding purposes, and they have been cited as such in this paper.

Data from all three strands was brought together with the aid of interpretive thematic analysis [18], using key energy justice principles as a guiding framework. Thematic analysis originates in the epistemological tradition of grounded theory [19], emphasizing the development of concepts and ideas based on the data itself. Thematic interpretive analysis is iterative, allowing for continuous refinement and reflection with the evidence and concepts generated by the researchers [18]. In terms of the relationship between paper aims and methods, we principally addressed the first aim (on recognition, knowledge and discourse) with the aid of documentary analyses, while for the second and third aims (on procedural and distributional aspects), evidence from the survey and interviews were collated and amalgamated via thematic analysis methods.

3. Fuel poverty among people from ethnic minorities in the UK and beyond: Fragmented landscapes of knowledge and mis-recognition

We now turn to a review of energy justice issues faced by ethnic minorities in the UK, covering questions of i) housing quality; ii) housing provision; iii) energy use and health; iv) private rented housing and segregation; v) energy market liberalization and vi) knowledge from international experiences more broadly. Conceptually, energy justice illuminates the (re)production of unfairness and inequity, and as such is commonly applied across different aspects of recognition, procedure, distribution and space [13,20–22]. Recognition justice highlights that individuals must be fairly represented, with equal political rights and

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1 In line with the UK Government’s recommendation, we use the term ‘ethnic minorities’ to refer to all ethnic groups except the white British group [14]. Even if 18 ethnic groups have been officially recommended for use when asking for someone’s ethnicity in England and Wales, more broadly across the UK there is a lack of consistency in both research and policy regarding the designations of specific minority communities. The nomenclatures used in the paper are in line with the terminologies and categories employed by the sources from which evidence was collected. In the paper, the term ‘race’ is used to denote a wider system of social hierarchy and disadvantage, constructed historically via practices of oppression, slavery and conquest [15]. As ‘race’ is not defined or employed within current official nomenclatures in the UK, we do not use it in the direct interpretation of our findings. Yet we do refer to the broader literature on race-based discrimination, developed primarily outside the UK.

2 (We used the terms ‘Ethnic’ OR Race OR Immig* AND Housing/Energy/ Energy Poverty/Fuel Poverty’ in Google Scholar and Scopus to source material and literature).

3 The survey was funded by Citizens Advice as an add-on to the quarterly Consumer Perceptions of the Energy Market survey, conducted by Accent Research.
without the fear of them facing threats or degradation [23]. This means acknowledging that people have different needs that depend on their social, cultural, ethnic, racial and gender differences [21]. Fuel poverty policy in the UK has a particular issue with the misrecognition of such differences, whereby the needs of certain vulnerable groups (such as the chronically ill and disabled) have been ignored in past policymaking [24]. The energy challenges faced by people from ethnic minority groups in the UK (who represent an estimated 14.4 % of the population [25]) can be seen as another non- or mis-recognition issue in light of higher-than-average fuel poverty risks. In England, an estimated 17.7 % of ethnic minority households (defined as groups other than ‘White’, where ‘White’ is understood as comprising both White British and White ethnic minority groups) suffered from fuel poverty in 2019, up by 3.2 percentage points from 2003 [26]. This was against a population average of 10.3 %, and a fuel poverty rate of 9.3 % among all ‘White’ households [26]. The COVID-19 pandemic is likely to have further exacerbated such inequalities, with housing issues likely to have played a key role in this context. People from ethnic minorities are disproportionately exposed to overcrowded or poor-quality housing, while often living in densely populated, more deprived, and lower-income areas [27]. This in turn may explain the higher mortality (between 2 and 2.7 times the average) and transmission rates among minority communities [28]. In addition, COVID-19 may have exerted longer-lasting impacts, with preliminary statistics showing that there could be significant effects on school results, income, pay, and mental health on these groups, which in turn can have knock-on impacts on future fuel poverty levels [28]. Several factors explain the lack of recognition and poor distributional outcomes experienced by ethnic minorities in relation to energy use. First, in terms of housing issues, there is extensive evidence to suggest that end-use energy injustices are invariably linked to the poor efficiency of the built fabric, appliances and heating systems of homes, which in turn can be connected to wider challenges around the age, quality and structure of the housing stock as a whole [8]. In the UK, the housing dimension of ethnic minority exclusion is relatively well known and researched [29]. Among ethnic minority communities, challenges of housing scarcity and instability are often intertwined with popular and political discourse on migration, whereby contemporary urban poverty, or advanced marginality – denoted by market rule, shifting allocation decisions from governments to markets and demonizing benefit and welfare recipients – coalesces around the housing system [30]. In mainstream debates, ethnic minority communities, and in particular migrants, are constructed as being the cause of housing problems, rather than victims of housing marginality more broadly [31]. Second, the UK’s persistent housing crisis is a key factor influencing energy inequality issues among ethnic minorities. Major shifts in housing since the 1970s have seen large parts of the UK housing market becoming financialized and commodified [32]. A key element of the process was the government’s ‘Right to Buy’ scheme which saw many local authority provided housing units being sold at heavily discounted prices in the 1980s [33]. This was followed by a decrease in government funding for maintaining local authority housing stock and an increase in the provision of housing to vulnerable groups supplied by private actors, such as private landlords or associations [34–36]. There has since been a trend of decreasing housing affordability, particularly for renters and low-income households, alongside increased inequality and greater segregation of people along socio-economic lines – including race, class and migrant status [37]. People who are more susceptible to housing inequality are more likely to be also affected by other forms of inequality, with increased exposure to challenges such as poor housing standards and homelessness [38]. For Powell and Robinson [31], the housing crisis can be attributed to the insufficient access to ‘secure, decent and affordable accommodation for a growing number of households’ (p. 195), rather than narrower patterns of supply and demand – a rhetoric used in many dominant discourses, and frequently linked to migration in particular. In such debates, people from ethnic minorities – particularly migrants and asylum seekers – are discursively portrayed as increasing housing competition, driving up house prices and rents, and having priority in access to social housing. Yet many recent migrants lack the financial resources and negotiating power to purchase a home, and experience restricted access to social housing provision [39]. They are thus more likely to be housed in the low-quality end of the private rented sector (PRS), often living in ‘Houses in Multiple Occupancy’ (HMOs) with poor conditions and overcrowding [40]. A third driver relates to energy consumption patterns as they relate to wider patterns of infrastructure use and demand. Lymperopoulos and Finney [41] suggest that socio-spatial inequalities in the housing stock are created in part by a ‘mis-match between the needs of different minority groups and service provision’ (p. 2556). In relation to energy, this line of thinking is supported by Forster et al. [11], who find that many schemes that offer advice and affordable warmth in the north of England do not account for the needs of the Traveller community for example, and thus are not relevant to their specific circumstances. For example, support schemes do not apply to caravans, despite Travellers being at greater risk of fuel poverty than the general population. The situation, as a whole, occurs as a result of the high cost of energy, low household incomes, and the poor energy efficiency of homes. Key underlying factors are the high level of mistrust and poor communication between Traveller communities and local authorities. Fourth, an important element of the housing and energy challenges faced by people from ethnic minorities is the broader state of the PRS in the UK. Over the past 20 years, the proportion of people living in poverty in the PRS has increased from 8 to 19 % [42]. In 2010, 38 % of private tenants in England lived in poverty after housing costs were paid, compared to 18 % in poverty before housing costs were taken into account [42]. Indeed, across the EU, more than 1 in 10 people on average spend over 40 % of their income on housing costs, including energy, rent and utilities [43]. Analyses of the UK’s 2011 census by the Race Equality Foundation found that private renting had increased among all groups since 1991, with tenure insecurity particularly pronounced among young people and ethnic minority groups [44]. This report also found large geographical differences in overcrowding in the PRS, particularly concentrated in London and the Midlands. It should be noted that 41 % of people born outside the UK reside in the PRS, compared with 15 % of UK-born inhabitants, with homeownership falling between 1991 and 2011 for many ethnic groups [45]. In line with this decline, the depth of fuel poverty has increased, and is indeed the highest in the PRS, with the rate of reduction in poverty also recording the lowest values in this sector. Recent migrants overwhelmingly rely on the PRS for housing, with approximately 75 % of those who have been in the country for less than five years living in private lets [46]. As a result of income and housing cost disparities, they are often concentrated in cheaper, poorer quality, and less professionally managed housing; the same parts of the sector that are under increasing pressure as greater numbers of people come to rely on the bottom end of the PRS – in terms of quality and cost alike [40]. This can place migrant communities in some neighbourhoods in competition with other vulnerable groups for housing, while seeing a rise in HMOs to deal with housing pressure, alongside associated physical, mental and environmental health problems. To compound the issue, Government-funded integration support for refugees and approved asylum seekers ended in 2012. Considering that the scheme...
included loans for rent deposits, this cut has further forced these already disadvantaged groups into precarious renting situations where they may be unable to afford suitable homes [46]. The North East Child Poverty Commission’s [47] report on asylum seekers and refugees, for example, found that many families live in poorly maintained, overcrowded accommodation characterized by quality and safety concerns, including cold, damp and unsanitary conditions. In addition, before being granted refugee status or leave to remain, utilities – including energy – are handled by the housing providers. Once people move out of this accommodation, they often have no experience or knowledge of dealing with bills, energy companies or energy-saving practices, meaning that they can quickly get into debt [47].

Fifth, challenges in relation to energy utilities – and the liberalized energy market as a whole – are also of relevance. These issues are not limited to asylum seekers and refugees. With regards to attitudes to supplier switching, a London-based study carried out by Lorenc et al. [48] found a high level of mistrust and disengagement with energy companies, particularly among vulnerable people. Ethnic minority participants were more likely to experience issues paying their energy bills and were less likely to switch. Reasons included a lack of time, confidence and trust, as well as the complexity of the switching process and preoccupation with other household matters. This suggests that understanding different values surrounding energy, knowledge and behaviours can generate an opportunity to build on existing energy policy and create alternatives to the status quo [49]. However, there is a limited understanding of how social groups and individuals from different cultural and ethnic backgrounds use energy in the home. Policies and programmes are often designed around the ‘average’ consumer, which misses layers of nuance and complexity within energy usage [50]. Ethnic minority groups are often characterized as ‘hard to reach’ and lacking engagement with energy issues, with current UK policy identifying the issue as stemming from an “information deficit” on the side of the consumer [51].

Sixth, although the relationship between ethnicity and energy use has remained largely unstudied in the UK, scholarship from other countries can help illuminate the wider intersections and drivers between race, housing and energy poverty, taking into consideration varying socio-historical contexts and racial histories. Among First Nations in Canada, for example, experiences and articulations of energy (in)security are intertwined with variegated practices of energy governance at multiple scales, as well as community priorities, aspirations and perceptions of energy development [52]. Deficiencies in state-based energy planning in such contexts are underpinned by a disconnection between theory and practice, as well as a lack of culturally-appropriate policy engagement against the background of a history of colonialism and marginalization [53]. For example, in Australia, energy poverty-related challenges surrounding the provision of public goods, weaker collective action, and fewer labour market opportunities have all been associated with lack of trust among ethnically diverse communities [54]. Energy inequalities can also be affected by culturally-induced behaviours and practices; for example, in Japan, higher proportions of energy are used for bathing, in comparison with Norway, where more is used for lighting and heating [55].

In the US, race-based housing segregation remains pervasive, as do persistent strong correlations between race and household income [56]. A study by Hernández et al. [57], on housing and energy insecurities among low-income families, found that although income-poor households are more likely to experience hardship with housing and energy costs than the general population, particular social groups were impacted differently. High rent burdens, whereby households spend more than 30% of household income on rent costs [58], were experienced by 59% of renters with children and 75% of low-income renters. Immigrants were more likely to find themselves in such circumstances, but were less likely to experience energy insecurity, whereas native-born African Americans were more likely to be subjected to a ‘double burden’, spending disproportionately high amounts on energy and housing relative to income. Hernández et al. [57] suggest that this trend may occur due to continuing racial segregation and concentrated poverty, the quality of housing available to low-income households, and energy conservation practices among non-native born communities. In terms of households with children, 50% of those experiencing economic energy insecurity were Black, compared with 33 per cent White [59]. Other research has also found that low-income ethnic minorities (here meaning African-American and Hispanic households) were more likely to live in areas where homes were less energy efficient, as a result of historic and contemporary racial housing segregation confining these social groups to worse quality homes [1,60].

4. Energy market participation and access to support: Exploring procedural injustices

Procedural justice calls for equal access for decision-making, together with equitable procedures in which all stakeholders are able to take part without being discriminated [23]. The functioning of the liberalized UK energy market is predicated upon active participation from stakeholders when it comes to accessing the most appropriate prices in relation to energy demand dynamics, communicating with energy suppliers, and obtaining support for people who find themselves in vulnerable circumstances. A key element of the system is of consumers’ ability to switch tariffs between different suppliers; a somewhat complex process that is predicated upon knowledge of energy bills, usage patterns and energy needs, as well as the use of intermediary agents – most often price comparison websites – to facilitate the switch. There is evidence of the existence of a diversity penalty in this context, leading to higher energy costs for people from ethnic minorities. Our interviews with energy professionals indicated that ethnic minority households are overrepresented among those who seek help in dealing with billing queries, tariff checks, fuel debt and arrears, disconnections, price comparisons and government support. Secondary evidence further confirms these findings: a study by Citizens Advice Newcastle showed that out of the 1227 households who received assistance from their advice service between the 1st of April 2019 and 3rd of March 2020 [61], over 20% were of an ethnic minority background, against a figure of 5% in the North East of England belonging to an ethnic minority group. Still, comprehensive statistics about the use of intermediary-based energy advice at the level of the entire UK are lacking, as ethnicity data is either not collected or not available publicly.

In the Ethnicity Boost data that we analysed, a majority of respondents reported being ‘satisfied’ or ‘very satisfied’ with their energy supplier. However, there was significant variation between ethnic minority sub-groups in this context (see Fig. 1). Respondents of an Arabic (45%) and Chinese (17%) ethnic background, reported, respectively, the highest and lowest rates of ‘very satisfied’ responses. The Caribbean and Chinese communities were clear outliers among ‘satisfied’ respondents, with around 59% and 66% of their respective members reporting satisfaction with their energy suppliers. At the same time, there was a greater degree of variation in dissatisfaction levels within the ethnic minority corpus. For example, around 5% of the overall respondents said they were ‘very dissatisfied’ with their existing energy supplier, as opposed to more than 18% of respondents of a Mixed White and Black African background. In contrast, in most of the groups, fewer than 10% of the respondents were ‘very dissatisfied’ with their provider. It is important to note that an overwhelmingly large number of respondents chose to answer this question; and just under 20% of respondents stated that they were ‘neither satisfied nor dissatisfied’.

As a whole, the patterns were relatively more homogeneous among satisfaction levels, while there was a vast difference in dissatisfaction levels with energy suppliers among ethnic groups. But we note a clear variation of customer satisfaction between different ethnic minority communities, especially when they were further disaggregated into multiple smaller groups. As a whole, Black ethnic minority participants recorded the smallest levels of satisfaction. This overall trend and
perception was also mirrored across the answers provided in the interviews with professionals, albeit the specific reasons remain difficult to ascertain. Moreover, while 22% of White respondents expressed concern over being unable to get through to their energy supplier if they needed to contact them, the equivalent figures in the case of Mixed Race (a term used by the survey itself), Black and Asian households were 31, 32 and 32% respectively. A disproportionately high number of ethnic minority participants were unclear on how their bill was calculated—the relevant percentage share of dissatisfied respondents stood at 18% in the case of people from ethnic minorities, compared to 30% of the overall sample. Households who were with a mixed ethnic background were also more likely to be dissatisfied or neutral about the ease of understanding the bill—at 11%, this figure was higher than the analogous share of ‘White’ ethnicity households, which stood at 6%. In terms of the accuracy of bills, all ethnic minority respondents expressed an elevated degree of dissatisfaction, reaching up to 18% in the case of people with mixed ethnic backgrounds; only 6% of White ethnicity respondents responded affirmatively to this question. The supplier and tariff switching patterns exhibited by different income groups and people ethnic minorities are also indicative of wider disparities in the energy system. In the Ethnicity Boost survey, the switching behaviours of ethnic minority participants were most closely related to the switching behaviours of respondents with the lowest incomes in the sample. At the same time, respondents with an income above £45,000 significantly differed from ethnic minority groups (Fig. 2). This indicates that the switching behaviours of ethnic minority and deprived income groups are similar, though further research is needed to explore this relationship. On the whole, ethnic minority groups were less likely to switch compared to the overall population (Fig. 3). Only 33% of ethnic minority respondents had switched energy suppliers in the past, relative to 44% of the overall sample. Similarly, a larger proportion of ethnic minority households (28%) stated that they had never considered switching, as opposed to the overall sample (22%). The percentage of respondents who considered switching but had never switched was similar between ethnic minorities (33%) and the overall sample (31%). This indicates that there is a possible reluctance to switch suppliers among ethnic minority respondents, despite considering a switch. Elsewhere in the survey, it was established that tariff and price remained the top reasons for switching energy supplier across all groups, even if ethnic minority respondents were much more concerned with customer service and incentives compared to overall figures. Also, ethnic minority participants in the survey were characterized by an elevated tendency to switch using an automated switching service (12% in the Ethnicity Boost sample, vs. 4% in the overall sample) or through a supplier salesperson who knocked at their door (12% in the ethnic minority sample, vs. 4% in the overall sample).

Variation in tariff types also provides insights into the circumstances faced by different ethnic groups. The use of a standard variable gas tariff was higher among people from ethnic minorities overall, even though the differences were small (Fig. 4). Within the group of White respondents, 66% of the surveyed households were on a fixed rate tariff, while 22% were on a standard variable rate. At the same time, 62% of the Black, African, Caribbean and Black British groups were connected to the gas network via a fixed rate tariff, and 35% were on a standard...
variable tariff. A significantly larger-than-average percentage (33 %) of Asian and Asian British groups utilized standard variable gas tariffs. Across the entire sample, the number of respondents who relied on a standard variable gas tariff was lower (24 %) than the equivalent figure for ethnic minority communities (between 26 % to 35 %). It is notable that even though 40 % of the ‘Other’ ethnic groups were on a standard variable tariff, a large number of respondents from that group were unsure or preferred to not describe the type of tariff they were on. In the case of electricity, a larger percentage of mixed ethnic minority respondents used a standard variable tariff, as compared to both white and the overall figure (see Fig. 5). But approximately 39 % of the Black, African, Caribbean and Black British groups were on a fixed rate tariff, as compared to the 24 % of total of respondents. As a whole, therefore, the prevalence of less affordable variable tariffs was more common among ethnic minority respondents, pointing to yet another potential vulnerability pathway. What is more, the Ethnicity Boost data showed that ethnic minority groups were, as a whole, slightly less reliant on large energy suppliers (defined by Ofgem as suppliers whose whose market share exceeds 5% in at least one fuel [80]) than the rest of the population. In the context of the recent energy crisis, this may have placed ethnic minority consumers at a greater risk of supplier default and increased energy prices.
Our interviews with energy professionals highlighted how the energy justice-related challenges experienced by ethnic minority communities are mediated by a wide range of structural factors stemming from wider social, economic, and political inequalities. In dealing with energy suppliers and government services, people from ethnic minorities face a series of obstacles around language skills, particularly around the ability to communicate with providers in a manner that is seen as socio-culturally appropriate – and yet sufficiently assertive – as well as trusting, understanding, identifying and acting upon the various kinds of support that may be available. One of our interviewees – a housing association employee – focused on the participation challenge in their comments:

‘A lot of the ethnic minority communities in our area are not aware of the various services and forms of energy bill support that are available through utilities, council and the government – e.g. even by being on the Priority Services Register … they are reluctant to engage with assistance services provided in an official capacity, as they may have experienced discrimination and exclusion in the past’.

At the same time, there was evidence to suggest that the very design of low-carbon investment, energy bill support and consumer redress mechanisms often lacks the cultural sensitivity and accessibility that are essential for interfacing with a diverse range of consumers and households. This includes both the formal requirements of the schemes (e.g. around residency, citizenship etc.), the digital nature of the engagement that is required, as well as the lack of communal forms of participation: ‘It is easiest to reach many of our ethnic minority clients via community-based networks and structures, rather than the individualized logic of energy evaluation, assessment and support that is currently embedded in the past’ (Interviewee 3, local authority). These statements were supported by the findings of the Ethnicity Boost survey, which found that ethnic minority customers required greater ‘assistance with paying [bills] and escalating complaints’ [62].

Relatively little is known about how people from ethnic minorities respond to technological interventions aimed at regulating energy demand in the home. Uses of, and attitudes towards, smart meters were relatively equally distributed across the Ethnicity Boost survey sample, with roughly similar percentages of affirmative and negative responses linked to different ethnic groups across all relevant categories. Black, African, Caribbean and Black British groups were a notable exception to this overall trend, as almost half (48 %) of respondents from such groups had both an electricity and gas smart meter. This is significantly higher than the 39 % of the total number of respondents who had both meters installed. Moreover, there was a notably higher proportion of ethnic minority customers who had a smart meter installed in the 3 to 6 months preceding the survey; this figure stood at 14 % of ethnic minority respondents, vs. 8 % in the overall sample.

5. The socio-spatial distribution of demand-side energy injustices affecting people from ethnic minorities

The social, spatial and economic determinants of fuel poverty among ethnic minorities can be linked to the wider drivers of energy injustice. Poor housing, in particular, is a key determinant of domestic energy deprivation through its effect on household energy costs, material infrastructures, and living conditions [63,64]. The 2017 English Housing Survey Headline Report found that 19 % of England’s 24 million dwellings were classed as ‘non-decent’, with 11 % having a specific hazard that posed a threat to occupants’ health or safety; the top two hazards were identified as risks of falls or excessive cold [65]. What is more, ethnic minority groups are overrepresented in deprived neighbourhoods across the UK, often across several generations [41,66]. This can be partially explained by historical discrimination within housing, which saw large numbers of migrants forced into declining inner-city areas. Across all ethnic groups, 17 % of households lived in a non-decent home; Mixed White and Black African households were the most likely to live in non-decent homes (33 %), followed by Bangladeshi (24 %) and Black Caribbeans (20 %). In contrast, 18 % of White British households lived in a non-decent home, as did only 5 % of Chinese households and 11 % of Indian households [65]. On average, 3 % of UK households had damp in at least one room; yet when broken down by ethnicity, 13 % of Mixed White or Black Caribbean, 11 % of Mixed White or Black African, and 10 % of Bangladeshi households reported the occurrence of damp in their homes.

There were also disparities between ethnic groups with regards to overcrowding, a situation defined as living in a house with fewer
bedrooms than is required to avoid undesirable sharing [65]. At 24 %, Bangladesh households experienced the highest levels of overcrowding, closely followed by Pakistani (18 %), Black African (16 %), Arab (15 %) and Mixed White or Black African (14 %) communities. White British households were the least likely to live in overcrowded conditions than all other ethnic groups combined, a statistic which held true across all age and socio-economic, regional and income groups, as well as in rented or privately-owned housing. Over the 2001–2011 period, overcrowding in poor housing increased among non-British white migrant groups; this is particularly true in coastal and rural areas, which feature a disproportionately high share of such communities working in agriculture, food-processing and hospitality [67].

Beyond housing, national statistics point to significant disparities in household income and energy in relation to ethnicity. On average, households with the lowest 60 % of incomes where the household reference person (HRP) was of Asian, Black, Mixed or Other ethnic origin had an approximately 10 per cent higher energy expenditure compared to households with an HRP of ‘White’ ethnicity [16]. The lowest equalized disposable incomes and highest relatively energy expenditures (5 % of income) were found in households where the HRP was of Black ethnicity (ibid). Households where the HRP was reported of ‘White’ or ‘Other’ ethnicity had, on average, the highest equalized incomes and lowest energy costs. It therefore comes as little surprise that, according to the Race Equality Foundation [68,69], more than 20 % of Black African, Bangladeshi, and Pakistani households, and more than 15 % of Black Caribbean households, were experiencing arrears on energy bills. This was against fewer than 5 % of White households. At the same time, our analysis of the Ethnicity Boost survey indicated that 38, 37 and 33 % of Mixed Race, Asian and Black respondents, respectively, were concerned about paying their bills, compared to 30 % among White respondents. The same survey also showed that Black and Mixed Race customers – at 41 and 39 % of respondents, respectively – were most likely to have been disconnected from their energy supply as a result of running out of credit on a prepayment meter (the equivalent figure for households identifying as ‘White’ was 32 %). Ethnic minority groups were disproportionately exposed into energy bill arrears (24 % of Black, 20 % of Mixed Race and 18 % of Asian respondents, vs. 11 % of White respondents). As pointed out by a housing charity worker from London:

‘Many of the people who we work with in the East African community in particular, struggle with paying bills on time. Their bills are often very large as they tend to live in larger households, in poor housing, and a large part of their incomes are spent on rent. They are not always aware of the support they can get and their experiences and challenges are not widely known’.

Difficulties associated with energy payment, arrears and disconnections only paint a partial picture. As was pointed out by one of our professional stakeholder interviewees: ‘We often approach fuel poverty through the standard lens of incomes, prices, energy efficiency … this does not capture the complex and compounding vulnerabilities that ethnic minorities face. We need to start bringing in wider housing and urban contexts into the picture, especially in terms of availability of services, and everyday experiences of discrimination’ (Interviewee 6, energy advisor). While the idea that energy and transport vulnerabilities may intersect for particular groups of households is starting to gain traction in the literature [70], our expert interviews pointed to the existence of a differentiated and nuanced picture of intersectional vulnerabilities that remain outside the purview of existing debates and policy. This involves a wide range of infrastructures and amenities, while extending across both the drivers and impacts of fuel poverty. As stated by a fuel poverty charity worker:

“The energy issues faced by the communities we work with are vastly different and cannot be easily summarized under the ‘BAME’ [Black or Minority Ethnic] or ‘ethnic minority’ heading … there are vastly different cultural practices, different experiences of exclusion, different forms of social cohesion … energy challenges are experienced very differently e.g. by the Pakistani, Chinese, Black Caribbean and East European communities we work with … because of their societal positions, perceptions, and different types of prejudices that may operate against them”.

In this context, there is extensive evidence that the coronavirus pandemic has disproportionately impacted ethnic minorities, people on low incomes, and people living in inadequate housing, among others. These factors are interconnected among vulnerable groups, and were further exacerbated by the frontline occupations that many people from ethnic minority members undertook during the pandemic. According to a report by the Financial Conduct Authority (FCA) the pandemic has interacted with incumbent labour inequalities that characterize ethnic minority groups [71]. Davies and Collings [72] explain such disparities by referring to ethnic minorities’ position in the labour market, as members of such groups are disproportionately engaged in low-income and insecure work, alongside experiencing higher rates of unemployment. Thus, by the end of July 2020, it was reported that the earnings of ethnic minority groups had dropped by an average of 14 % since the beginning of the pandemic, compared to an equivalent figure of 5 % among White workers. The drop in income was felt most prominently by the Asian community. Members of ethnic minority groups who had been employed in February 2020 were much more likely to have become unemployed at some point during the pandemic, at 15.8 % of people from ethnic minorities, relative to 7.8 % among ‘White’ people [71]. A housing support charity worker from London stated that:

‘Few people appreciate how challenging the pandemic has been for ethnic minority communities in urban areas. It has been a “perfect storm” in every sense – from the nature of their jobs, which renders many people disproportionately vulnerable, to the falls in incomes, and not to mention higher energy prices and increased energy demand. Many people have also experienced temporary or long-term loss of employment and income due to redundancies, closure of businesses, sickness etc.’

It is widely known that the deleterious effects of the pandemic also include energy use patterns – beyond health, income and employment [73]. However, the intersections among multiple pandemic-related vulnerabilities have rarely been considered jointly. Data from the Ethnicity Boost survey shows that the coronavirus pandemic had a significant impact on the energy circumstances experienced by ethnic minorities (see Fig. 6). At 48 % of respondents, a disproportionately high number of Black, African and Caribbean community members stated that the pandemic affected both their electricity and gas use; the analogous share of White respondents stood at 39 %. The same ethnic minority groups were especially vulnerable when it came to electricity bills only (at 16 % of respondents against an equivalent figure 10 % for White households). Asian and Asian British households experienced even higher levels of hardship in managing their electricity use in particular, at 17 % of respondents in the survey. High electricity bills, as a whole, seemed to have an incommensurately high effect on all ethnic minority groups. During the pandemic, people from ethnic minorities were also shown to be much more likely to worry about being in arrears. When asked if they were concerned about struggling to pay their energy bills, agreement or strong agreement was expressed by 31 % of ethnic minority participants in the survey [16]. But only 21 % of households identifying as ‘White’ either agreed or strongly agreed with the same statement (ibid).

6. Conclusion

In this paper, we have interrogated a series of interlocking end-use vulnerabilities that affect ethnic minority communities in the UK. Based on insights from professional stakeholder interviews, national statistics and secondary sources – and in response to the first research
aim around the drivers and characteristics of energy injustices among ethnic minorities—we find extensive evidence to show that people from ethnic minorities face a higher risk of fuel poverty than the rest of the population in the UK. This situation can be connected to recognition-based energy injustices, particularly in terms of the limited policy understanding of the specific positionalities of ethnic minority communities in relation to broader systems of provision. Here, a large part of the challenge stems from the fact that the inclusion of diverse ethnic groups under undifferentiated socio-demographic headings does not give an accurate representation of independent trends that affect specific communities.

With regard to the second aim of the paper, it is clear that procedural energy injustices also play a role, subjecting people from ethnic minorities to an array of inequities and challenges in relation to issues such as communicating with energy companies, changing their energy supplier, paying their energy bills, accessing support and installing low-carbon measures. This form of inequality is underpinned by significant disparities in terms of income, employment, energy bill structures, housing, amenities, as well the impacts of the pandemic. More broadly, the persistence of unfair and unjust practices towards the inclusion of ethnic minorities in the energy market can be attributed to an array of historically-embedded social, spatial and infrastructural injustices in the organization of energy, housing, transport, and social support systems—both within the UK and internationally [74]. Such inequalities have been worsened by the reduction of supplier switching opportunities, and rapid price rises as a result of the global energy crisis [75].

As for the third research aim—on the socio-economic embeddedness of ethnic minority exclusion—one of the principal conclusions is that structural disadvantages in access to safe, affordable and healthy housing are one of the key drivers of fuel poverty among different ethnic groups living in the UK. The spatiality of this axis of difference extends beyond the home to include wider patterns of socio-spatial segregation in urban areas in particular. The high rate of ethnic minority residents in precarious or rented housing (whether with private, social or local authority landlords) is of particular concern. The disproportionate concentration of energy inefficient homes at the lowest-income end of the private rented sector has further repercussions for residents in the form of higher energy bills, and greater housing retrofit costs [76]. As the number of private and social renters among people from ethnic minorities continues to climb, and homeownership among young people continues to stagnate, it can be asked whether young people from ethnic minorities will pay the price for the current lack of foresight in the provision of future-proof homes. The operation of diversity penalties and ethnic premiums across a variety of spatial and temporal scales will continue to pose an ever-greater challenge for decarbonizing the UK housing stock to hit net-zero targets.

Our study has been undertaken against the background of largely uncharted waters, and as such there are significant limitations to the conclusions and recommendations we can make. Conceptually, we have found a lack of theorization and evidence to extend beyond the triad of distribution, recognition and procedure onto wider issues of restorative, reparative and cosmopolitan justice. The paucity of good quality data also limits the depth of inferences that can be made about the individualized experiences and circumstances of particular ethnic groups—even though the high degree of inter-group differentiation we have uncovered suggests that scholarly work on fuel poverty and energy justice should be wary of making generalizations about the domestic energy-related conditions of ethnic minority communities as a single group single. The need for small-area and intra-community com data in this context is particularly important given the close, yet largely unexplored links between energy vulnerability and wider patterns of socio-economic difference across generational, educational, gender, neighbourhood and other divides [77]. An additional challenge—and a specific limitation of our study, in relation to the Ethnicity Boost survey—is that perceived levels of utility satisfaction, decision-making participation and thermal comfort in the home are
deeply socially and culturally contingent [51], and as such may potentially be associated with vastly different meanings and practices among different groups.

Future research agendas, and policy, therefore, need to unpack the specific needs of different communities in allowing for the equitable provision, creation and delivery of energy and housing services [11], while also allowing for the voices of researchers and stakeholders from ethnic minority backgrounds to be represented and heard more centrally in the debate [78]. This is particularly important in terms of enabling and promoting better energy market engagement across different ethnic or socio-economic backgrounds. Also deserving of attention is the relationship between low-carbon transitions and socio-spatial exclusion along ethnic lines, especially in terms of developing inclusive local energy planning and engagement policies [2,7,79], and ensuring that an increasingly flexible and decentralized energy system can work for groups with varying cultural, geographic and economic positionalities.

Declaration of competing interest

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Data availability

The authors do not have permission to share data.

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