Protecting Minority Ethnic Communities Online (PRIME) project – Energy Sector Workshop

12 July 2023, London

Cranfield University

Tackling racial inequalities and discrimination in the design and delivery of digital energy services

By

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August 2023

Please cite as: N. Balta-Ozkan, Z. Aboli, G. Netto, S. Hasan, S. Haben, R. Dobson (2023) Tackling racial inequalities and digital discrimination in the design and delivery of digital energy services, PRIME Project Workshop Report, Cranfield University, August 2023.

Introduction

The aim of the event was to foster a deeper understanding of the challenges faced by minority ethnic (ME) communities in accessing and utilizing digital services in the energy sector, and to develop strategies to address and mitigate digital discrimination risks. More specifically, key objectives of the workshop were:

1. Discuss and provide feedback on the project findings.
2. Contribute to developing the research and policy agenda on making the energy sector more digitally equitable for all participating actors.
3. Identify risks and opportunities that the smart grid interoperability presents for the delivery of digital services to Minority Ethnic communities.
4. Examine what 'best practice' looks like for the energy sector with respect to achieving equitable outcomes.
5. Gather requirements, preferences, wishes and intents to collaborate from participants representing different sectors on the research agenda.

The workshop was attended by 18 participants. This report is a summary of the presentations and discussions during the workshop. The workshop is run under Chatham House rules where none of the viewpoints are attributed to any individuals or organizations. For further details of the project, you may contact Nazmiye Ozkan (n.ozkan@cranfield.ac.uk).

Key messages

Digital data is essential for optimising energy production and consumption, improving stability and resilience of the power grid in a cost-effective way whilst fostering innovation in energy markets.

Yet, to what extent and in what ways **ME communities take part in current digital services is not known,** creating the **'blind spot'** of the sector. Such data isn't collected by the suppliers while DNOs have a better visibility of spatial clustering of ME communities within their regions.

The **practices of suppliers and DNOs vary** in terms of helping customers not able to read or speak English. The development of **standards or best practice guidelines** by Ofgem can help with ensuring ME communities are not left behind in energy transition.

Monitoring ME communities' access to digital services is not merely a social responsibility but also **a missed market opportunity** to build trust, enhance customer satisfaction and enable their active participation in demand side programmes.

Language in the energy sector needs to be free from technical jargon and **communication should be in clear language.** Yet, there is a broader issue about education being more real world oriented so that everyone is equipped with **basic digital literacy skills**.

The diversity between and within ME communities needs to be recognized. Given the pace of technological development, designing customer engagement tools to cater the needs of ME communities can drive innovation and benefit a broader audience.

Greater partnership and working with community leaders and organisations can create trust and address ME households' concerns about privacy, data misuse and potential discrimination in the energy sector.

Definition of vulnerable consumer needs to go beyond Priority Services Registry and cater for causes and **different types of vulnerabilities where suppliers, DNOs and local authorities** jointly work together.

A quote from one of our expert interviews*: "... very little effort to attract, and in fact some effort to avoid, those who are not first English speakers" [E1]*

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Introduction

Professor Nazmiye Ozkan presented the background to the project, its objectives and the progress to date.

The digital exclusion report by the House of Lords (2023)[1] highlights that 2.4 million households do not have the skills to complete a simple online task. It can be argued that one such simple task may involve comparison of tariffs across different suppliers in the in the energy sector. Yet, while 44% of UK households have reported switching their suppliers at least once, only 33% of ME households have switched (Bouzarovski et al., 2022)[2].

Against this background, the PRIME project has the following objectives:

- Increase conceptual and empirical understanding of diverse ME communities' needs and privacy concerns relating to online harm by investigating their current use and experience of digital services in housing, health, and energy, including the challenges they face.
- Increase service providers' awareness of the challenges faced by these communities and work with them to design services which prevent discrimination and ensure responsible data usage, sharing and dissemination while respecting individual privacy.
- Translate this knowledge into the co-design and co-production of novel usable and scalable social and technological solutions.
- Based on results from Objectives 1-3, produce benchmark datasets, tools and models to provide improvements that will lead to better privacy-enhancing technologies that focus on countering discriminatory processes in digitalised services.
- Provide policy recommendations and showcase harm protection good practice and individual, community, and organisational resources, to key actors in housing, health and energy.

The project team have undertaken 100 interviews with ME households and 13 interviews with energy experts. The findings from these interviews are presented and discussed at the workshop.

Keynote presentation

Dr Richard Dobson from Energy Systems Catapult gave an update on the activities of the Energy Digitalisation Taskforce (EDiT).

Richard noted three reasons for the digitalisation of energy system: i) planning and building a net zero energy system, ii) enabling and operation of a flexible, net zero energy system; and ii) developing new products and services that enabled and encouraged net zero. Against UK's 2050 net zero goal, some local authorities like Nottingham have more ambitious targets to become net zero by 2028. It is anticipated that digital data will deliver economic savings beyond a better energy system by improving efficiency and innovation.

To help deliver a digitalised and decarbonised energy system where no one is left behind, the EDiT has published the following six recommendations in early 2023: 1) Unlock value of customer actions and assets, 2) Deliver interoperability, 3) Implement new digital governance approach and entities, 4) Adopt digital security measures, 5) Enable carbon monitoring and accounting, and 6) Embed a digitalisation culture.

Following the presentation, a question on whether the digitalisation is moving fast enough was raised. Richard confirmed that things are progressing well. The general challenge of translating

[1] https://publications.parliament.uk/pa/ld5803/ldselect/ldcomm/219/219.pdf

[2] Bouzarovski, S., Burbidge, M., Sarpotdar, A., & Martiskainen, M. (2022). The diversity penalty: Domestic energy injustice and ethnic minorities in the United Kingdom. Energy Research & Social Science.

innovation activities into business-as-usual persists. More specifically for the implementation of EDiT recommendations, the complexity of shared asset designation is noted. While civil servants have a good grasp of the scale of the challenge, bringing the political leadership along with this change requires further efforts. Increasing the understanding of political leadership is essential to stop it impeding the governance of the energy system.

Session 1: User perspectives

Dr Sacha Hasan from Heriot-Watt University, PRIME project team member, next presented the emerging project findings from interviews with 100 ME households. 60% of the interviewees are female. The interviews took place in Glasgow (28%), Manchester (27%), Tower Hamlets (23%) and Bradford (22%) whereby the participants were asked to self-identify their ethnicity (Figure 1).

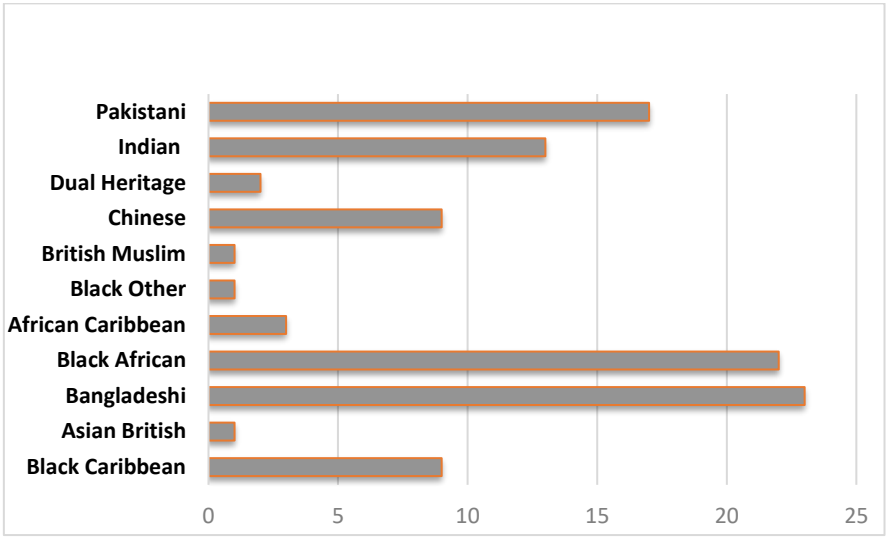

Figure 1. The distribution of interviewees by their ethnicity

The research revealed that many individuals in these communities experience digital poverty in the form of lack of access to adequate digital devices or lack of access to internet or mobile data.

The research identified varying levels of proficiency in English impacting on the ability to use digital services which tended to be provided mainly in English, and where language support was low. Older people were more likely to face such challenges as their levels of proficiency in the language were lower than young or middle-aged adults who had grown up in the UK.

Structural issues also played a role in ME communities' engagement with energy services These included rising energy prices over which participants felt that they had little control. Many also expressed a lack of trust in the energy service providers as they are viewed as a profit-oriented service.

The most commonly used digital offering was a top-up app on the smart phone to control spending (despite awareness of possibly incurring more spending). Many chose to use traditional methods to pay their bills such as by using a post office rather than pay online due to fear of sharing personal data.

The search for cheaper tariffs was challenging for some individuals in ME communities due to difficulties in understanding how the tariffs operate and lack of access to advice. Others lived in the private rented and social rented sector, where it was not possible to change suppliers. It is worth noting the high levels of representation of ME communities in the private rented sector.

Some individuals had smart meters installed while others lived in homes which already had a smart meter installed. Some have requested smart meters but were told that they weren't offered in their area. Yet, individuals had mixed views about their use. While some found them helpful in monitoring energy consumption, others found it stressful to use them as they could see rising levels of consumption, for instance, while they were ironing clothes. Many felt that their ability to cut down on energy consumption was futile due to the essential nature of activities which required energy such as cooking. Levels of awareness of energy-saving schemes was also low, further hindering their ability to cut down on energy consumption.

Following the presentation, the participants were encouraged to discuss the following five questions in break-out groups. Each table had a facilitator from the project team while the participants themselves nominated a rapporteur to report back to the whole group. The discussions are summarised for each research question.

1. **To what extent are the findings of ME users similar to or different from other users?**

There exist challenges with accessing digital technology for most sections of society, but vulnerable sections may face more barriers. There was acknowledgment that the elderly not wanting to use the phone was more of an age-related problem and not necessarily ethnicity induced.

Yet, overlapping vulnerabilities were noted which are under researched. Generally, energy companies come across as profit-oriented ventures and people lack trust in them. Vulnerable sections often face trust issues when it comes to sharing their data as they may have concerns about privacy, data misuse and potential discrimination.

2. **Are there areas of good practice which you would like to highlight in engaging with ME communities?**

Few areas of good practice were identified but providing advice and support across diverse languages was viewed as a priority, for example, through a language helpline. Such provision could be viewed as part of a corporate social responsibility on the part of energy suppliers to serve vulnerable groups.

There is no information or guidance on good practice to engage with ME communities. Learning from network innovation projects and smart meter roll out could be helpful. The sector can identify effective methods, best practices and lessons learned, which can be adapted and applied to the current challenge of engaging with ethnically and linguistically diverse customers.

It was noted that some housing associations provide information and guidance for energy saving schemes while others do not. As high shares of ME households live in privately rented homes, it was raised whether an obligation on landlords may be needed to improve the efficiency of the building stock.

It was noted that digital transition needs to consider people who have low levels of digital literacy, and traditional methods of communication. Sometimes the most effective way to reach vulnerable sections is by engaging directly with them even if it means going door to door.

In an online poll, the participants were asked to indicate their views on whether becoming digital should be made an option for households (Figure 2). Six of the participants think that this should be a choice and that any additional costs to serve non-digital customers should be equally borne by everyone. 33% of the participants felt that everyone should go digital.

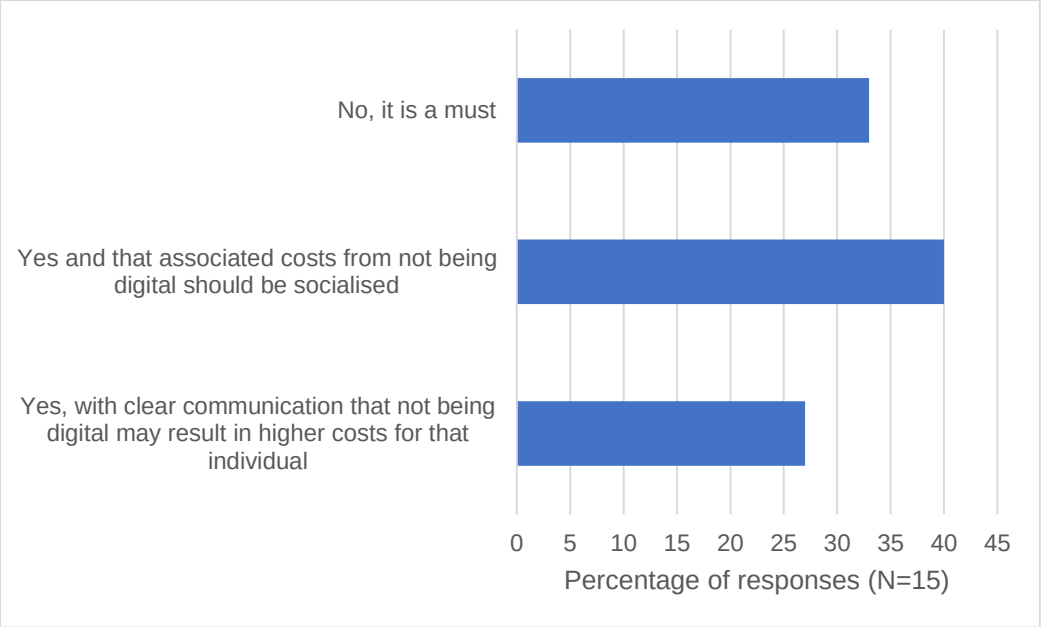

Figure 2. Online poll results: Is going digital an option for households?

To help with consumer trust issues, engagement with various local groups, digital champions, community groups etc., is noted as they can create a powerful network to disseminate information and raise awareness.

Energy Networks Association's role in sharing good practice across DNOs was noted.

3. **Are there specific challenges which you would like to discuss? Engaging with ME communities? Overcoming language barriers? Building trust?**

It was pointed out that despite there being several schemes for vulnerable customers, uptake is poor among this group. An example is the offer of social tariffs that mobile phone companies offer[3] where the uptake is around 20%. Besides the language barrier, there are trust and credibility issues as individuals may have concerns about the legitimacy and reliability of the schemes. Moreover, potential participants may be unsure if they meet eligibility criteria for such schemes.

The expectation that all households should acquire 'digital skills' is beyond the energy sector. For example, the benefit system is being digitalised. Obtaining benefits requires engaging with online services which in turn requires digital skills. The digitalisation of the process introduces additional layers that can make it difficult for individuals who may not be familiar with or have easy access to digital platforms. In this sense, education needs to be more real world oriented (eg. how to read bank statements). Consumers need to have the skills to read tariffs and schools need to embed the acquisition of such skills in the education system.

The diversity between and within ME groups was highlighted. Moreover, it was noted that technology is advancing at a rapid pace and keeping up with these advancements is challenging. Focusing on the needs and perspectives of the ME communities can drive innovation and create solutions that can benefit a broader audience.

4. **Are there specific areas which would benefit from greater support from government? Guidance/Investment/Training?**

Language in the energy sector often involves technical jargon and industry specific terms that may be unfamiliar to those who are not from the sector. 'Energy has its own language'. Clear articulation

[3] Social tariffs: Cheaper broadband and phone packages - Ofcom (Accessed on 15/8/2023)

is crucial to bridge the language gap and ensure that energy information is easily accessible and comprehensible for all.

The provision of support in a variety of languages should be mandatory for all essential services, despite being possibly viewed as expensive. Some experts argued that this should be made a condition for the licensing of services.

It is anticipated that future digital services and tariffs are going to be much more complex and nuanced than those we have now. Given that tariff switching has already been observed to be lower in ME communities compared to the general population, it is not clear how they can make use of more complex products and services in the future. If these services are designed in ways which are accessible to the most vulnerable segment of the society, then we may be on the path for a fair transition.

Also, finding novel solutions to deal with the reported anxiety caused by smart meter data is essential.

Digital skills highlighted the role of young people in this process. When living with their parents, it was noted that digital skills of young people may not be used for engaging with suppliers or looking for cheaper tariffs. While some younger population do things for their parents', it was noted how this may become a burden or a duty.

5. **Who do we need to engage with in the supply chain to help improve outcomes for minority ethnic communities?**

There are problems across a centralized system of regulation operating across geographical areas; data governance and availability of data at different spatial levels should be made accessible.

DNOS have a better understanding of vulnerability through the Priority Service Register (PRS) than suppliers. However, they may not know people who are experiencing multiple or overlapping vulnerabilities due to data collection issues. Further, this knowledge can only be applied during outages. PSR needs to be further nuanced to cater to the ME communities.

Better data can help us understand diverse customer behaviours, including along the lines of ethnicity. There is the potential to benefit from better quality information as it can help develop more targeted marketing strategies for diverse ethnic groups (more affluent as well as low income).

Session 2: Service provider perspectives

Prof Nazmiye Ozkan and Dr Zinat Aboli, both of whom are PRIME project team members at Cranfield University, presented the project findings from 13 interviews with different actors (Figure 3) along the supply chain.

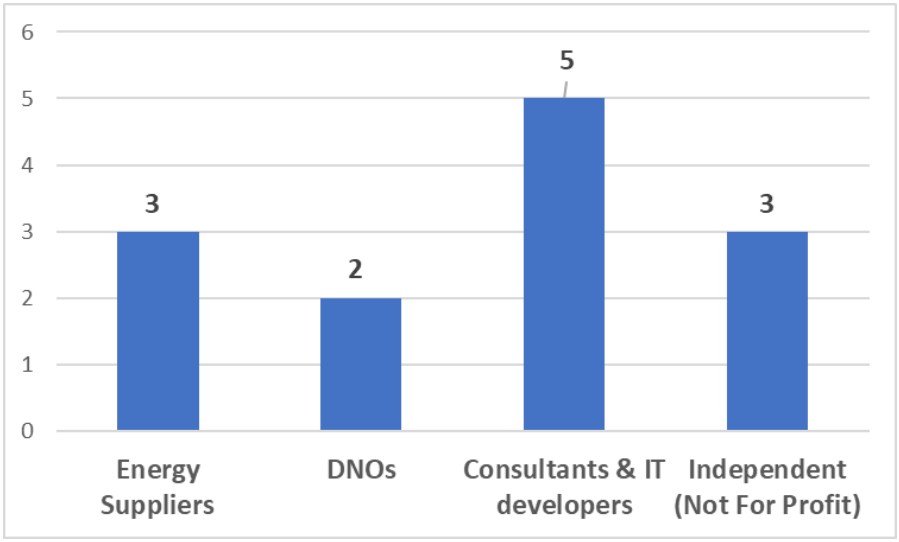

Figure 3. The distribution of expert interviewees by their sector

While DNOs respond to regulation, suppliers are driven by operational savings that digitisation can offer. The race to attract 'digital consumers' through targeted marketing campaigns using postcode level Experian data carries the risk of digitisation becoming 'wild west' where those who cannot afford and not interested in becoming 'digital' are left on their own.

ME individual energy consumption patterns aren't known as such data isn't collected by the suppliers. To what extent and in what ways ME communities take part in current digital services is not known either, creating the 'blind spot' of the sector. DNOs on the other hand have a better visibility of spatial clustering of ME communities within their regions.

It is recognised that ME communities may have language barriers and limited digital literacy. Ofgem's Priority Services Register recognises not being able to read or speak English well as an eligibility criterion. Yet, the **practices of suppliers and DNOs vary** where some companies do not openly list this criterion. As DNOs don't have direct links with the customers, they collaborate with community organisations. In ED2, DNOs are required to provide fuel poverty and home decarbonisation support. The ECO4 places onus on suppliers to install energy efficiency measures in low income and vulnerable homes. In order to identify eligible consumers, it was reported that suppliers, at some point, offered £1,000 for referrals. Currently, both these companies may be approaching the same household which is detected only when MPAN number is provided to Ofgem. Suppliers and DNOs need to work together to jointly identify customers, whether a high energy consumer, eligible for ECO or financially a vulnerable one. This variation in practices is not compatible with the goal of a 'fair transition'. There are no **standards or best practice guidelines** in the sector to ensure that ME communities are not left behind in energy transition.

It is noted the proliferation of future services and adoption of low carbon technologies is likely to widen these current inequalities.

The definition of vulnerability and how it relates to ethnicity is not clear.

Digital data governance is the missing gap.

The analysis of smart meter roll-out data at local level seems to indicate a positive correlation between high penetration rates and a high share of white population (Figure 4) in England and Wales.

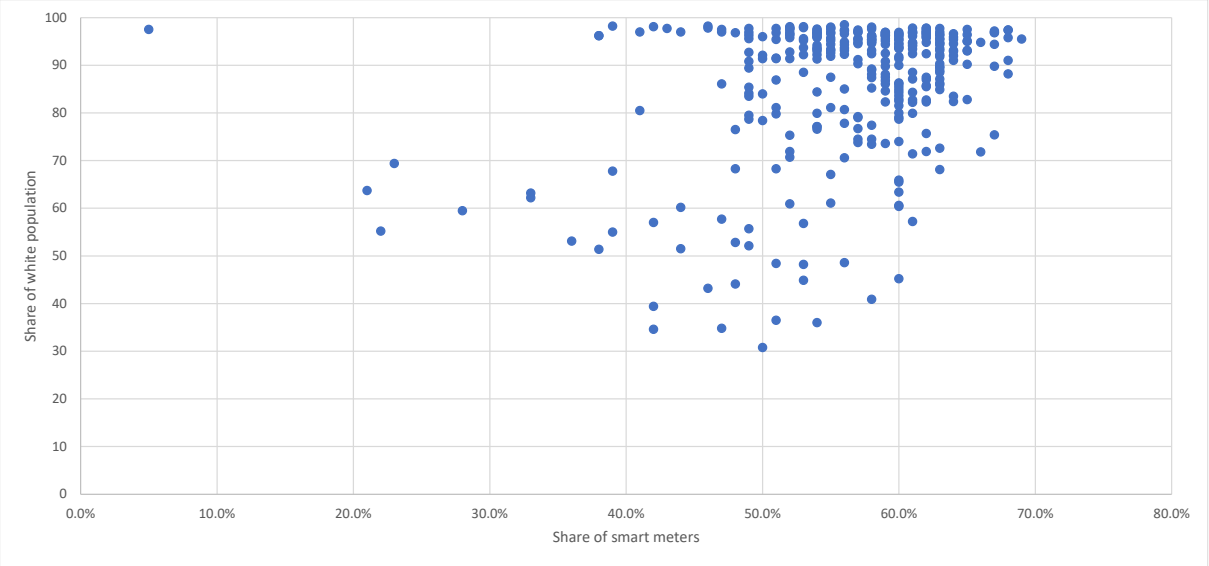

Figure 4. Smart meter roll-out and ethnicity at local level for England and Wales

Source: Own analysis (Smart meters in Great Britain, quarterly update March 2023)

Following the presentation, like the session 1 format, the participants were encouraged to discuss the following questions in break-out groups. The discussions are summarised for each research question.

1. **What does an 'inclusive' energy system look like?**

An inclusive energy system where every individual and community have equal access to affordable and sustainable energy seems like a distant dream due to the numerous challenges it faces.

2. **What actions need be taken in the short term (within current price period) and by whom?**

It was discussed that the regulator has an important role to play. Ofgem's role in promoting an inclusive energy system can involve both carrot and stick approaches. On the one hand, the regulator can incentivize energy companies to adopt inclusive practises by offering rewards, subsidies, or tax benefits for implementing programmes that benefit underserved communities. On the other hand, the regulator can use its authority to set standards or impose penalties on companies that fail to meet inclusive energy targets or engage in discriminatory practises. A combination of these approaches can encourage companies to prioritise inclusivity for a fair and equitable energy system for all.

It was noted that ethnically disaggregated data on fuel poverty is lacking. Currently available government data is disaggregated into 'white' and 'non-white' groups. This is a serious limitation which needs to be tackled as it does not capture the diversity which exists between and within ethnic groups, including income inequalities.

3. **What are the medium and long-term actions?**

Clarity on different types of vulnerability was highlighted as an area for action. Priority Services Register is an operational metric even though it is commonly regarded as an indicator of vulnerability. A distinction needs to be made for different types of vulnerability (e.g. financial or energy market) and its link to PSR. For example, home decarbonisation support that DNOs are

expected to offer may include different types of services depending on the building fabric, socio-demographic characteristics of the household, location of the building etc.

It was discussed that sharing and accessing data in the sector is essential for optimising energy production and consumption, improving grid management and fostering innovation in renewable energy technologies. The availability of data will enable stakeholders to make informed decisions promote energy efficiency and drive the transition towards a more sustainable and resilient energy system.

A cross-sectoral and inclusive approach is essential to address systemic racial inequalities across housing, energy, and health sectors.

4. **Are there tensions between organisational drivers vs 'inclusive' energy system?**

It was noted that this does not necessarily have to be the case. Energy companies are commercially driven. They need to be oriented to believe that engaging with diverse audiences and vulnerable sections not only fulfils a social responsibility but also presents a significant business opportunity by understanding and meeting the unique needs of these communities. They can build trust to enhance customer satisfaction and tap into new market segments, leading to long term profitability and sustainable growth.

5. **How to target ME communities to take part in a smart energy system?**

To enable ME communities' participation in a smart energy system, a comprehensive approach is essential. This includes developing culturally sensitive marketing campaigns, providing information in multiple languages, collaborating with community leaders and organisations to grain trust. Financial incentives can be offered to address unique needs. User friendly platforms and robust data privacy measures are crucial for easy access and security.

The energy market is becoming more complex. Automation for user centred design is highlighted as an opportunity. The development of good design principles from ground up is a useful avenue to follow. The current SIF funding for example is ringfenced for inclusive innovation approach. So, it is good to see the sector is heading that way. Yet, such a change cannot be achieved without an inclusive work force. There is a role for the companies to diversify their work force and co-design and co-produce by working with diverse communities. The Scottish Government's pro-diversity stance in service procurement was mentioned as a good practice where if two contractors are equally competitive, the one that facilitates more equitable outcomes is favored.

Panel debate

Prof Ozkan started the panel discussion with the following question: What are the trade-offs between benefits and risks of the granularity of locational market pricing (post code versus DNO level) and its impact on ME communities?

Locational marginal pricing is a pricing mechanism used in the energy sector to set electricity prices based on the location of generation and consumption. It considers the variations in electricity supply and demand across different regions resulting in more accurate and efficient pricing for consumers and producers.

Locational marginal pricing is complex and may be challenging for households. Existing network charges impact disproportionally different regions (e.g. Liverpool vs South East). This means future potential disparities in energy costs for consumers living in different regions. It may result in higher prices for those located further away from energy generation sources, potentially impacting

vulnerable communities and low-income households disproportionately. Additionally, it could create challenges in grid stability and planning as the price fluctuations may incentivise energy consumption in certain areas, leading to imbalances in the overall energy distribution. At a minimum, distributional impact assessments are needed. Resources are needed to make sense of what is needed for each community at both national and local level. To avoid unintended consequences, the introduction of a social tariff as a backstop may be needed.

To address the challenges posed by locational marginal pricing and ensure equitable outcomes, a more proactive approach involving communities and local authorities is crucial. As was observed with recent hydrogen village trials, a local community needed to be engaged on behalf of the whole country. The companies need to dedicate adequate resources to facilitate meaningful interaction and communication. It is vital to convey to the public the importance of such efforts to foster inclusivity as only a limited number of people will benefit from projects like the tidal or wind farms. It is crucial to enhance public understanding regarding the benefits and drawbacks of the tidal or wind farms projects. Transparent and accessible information should be provided highlighting the potential positive impact of renewable energy generation, job creation and environmental sustainability whilst addressing their concerns and involving the community in decision-making processes. Only such genuine engagement activities can help build trust and demonstrate that the project aims to benefit society as a whole, even if only a limited number of individuals directly benefit from it.

The understanding between DNOs and consumers is essential to align interests and drive decarbonization efforts effectively. Although significant funds are invested in decarbonization initiatives, the lack of strategic leadership can hinder progress. A cohesive and coordinated approach is required wherein local authorities, suppliers and network operators work together to achieve common goals and prioritise consumer needs.

It was noted that decarbonisation is seen as a challenge from an engineering perspective rather than a user perspective. What does decarbonisation mean for an individual household? While households may seek advice from companies, there are concerns that they may be biased and targeted towards selling a particular product. The Scottish Government funds an independent advisor which isn't available in England and Wales. Such independent and strategic advice may help with bringing the consumer along the decarbonisation journey so that a systemic transformation for net zero is achieved.

It was further pointed out that decarbonisation calls for a whole system view. It is a societal decision where to put hydrogen- people can't make optimal decisions. Flexibility has significant opportunities for ME communities, otherwise it is a bigger risk. There may be benefits to being a multigenerational household as they may sustain their energy demand throughout a day.

The landlords may also play a more active role. Currently, they aren't invested in decarbonisation. There is a need to hold landlords accountable for meeting decarbonisation standards in homes. As tenants now make up 37% of households, they are the group least open to low carbon technologies as they are concerned that costs may be passed onto them. The limited hours of operation by agents managing these rented dwellings (as short as 10:00-14:00) pose further constraints on the tenants. The introduction of EPC rating from 2035 is a good step, so will be the green finance such as low interest loans.

The financial and banking sector is another important actor that needs to be included in this debate. Some initiatives like low interest loans for small businesses that have smart meters are in progress.

In response to a question on how quantum computing can support transition to net zero, it was noted that it can help with simulating things (e.g. chemical level interactions in a battery), optimisation and machine learning.

The final poll question collated the participants' views on whether selective offer of different tariffs in different postcodes by energy suppliers was aligned with equitable digital access. 70% of the participants disagreed with this practice (Figure 5).

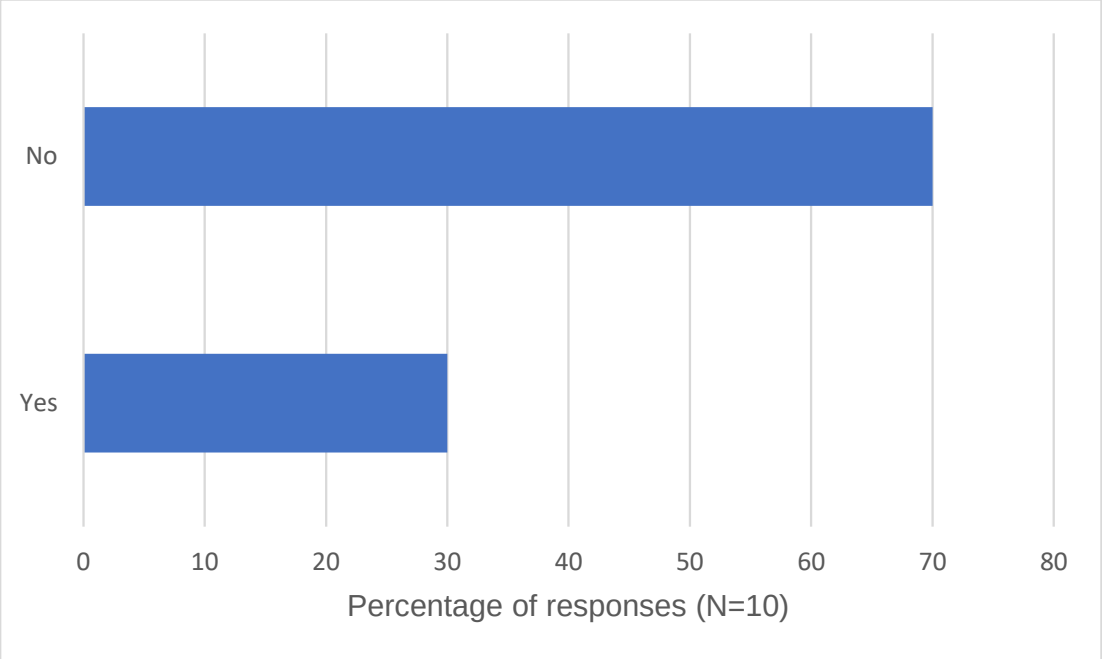

Figure 5. Online poll results: Is selective offer of different tariffs at different postcodes compatible with equitable digital access?

Next steps

PRIME project's next phase includes:

- The ongoing collection and analysis of responses from an online survey of 1000 participants from ME communities in England and 240 responses in Scotland
- The collection and analysis of visual and other data from follow-up interviews with up to thirty users from ME communities
- The planning and delivery of workshops which explore issues related to digitalisation in the health sector (to complement the workshops already undertaken in the energy and housing sector)
- The planning and delivery of an intersectoral workshop which brings together stakeholders from the energy, housing and health sectors
- The planning and delivery of co-design and co-production workshops in England and Scotland. These will inform a) policy guidance and leadership, b) the development of guidelines for 'what good looks like' on the ground for service providers in three sectors, c) the development of resources for community organisations to support users of their services in engaging safely and effectively with online services. Detailed design workshops will enable the design and development of privacy enhancing technologies and their testing with community organisations and the individuals.

If you want to find our more or engage with the project team, feel free to get in touch with the project manager, Laura Whyte at l.whyte@hw.ac.uk. For energy sector related queries, you can reach out to Prof Nazmiye Ozkan at n.ozkan@cranfield.ac.uk and overall project related aspects with Prof Gina Netto at g.netto@hw.ac.uk.