Exploring modes of incentivising cooperative energy use in the shared office environment

Exploratory Briefing Note

Digital Society and Economy Interdisciplinary Research Theme

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Introduction

Over the past three years, global energy prices have undergone large increases across the board. This has plunged many people and organisations into fuel poverty, and energy-saving measures have become a key concern for individuals, businesses and organisations managing homes and buildings (UNEP, 2022; Stewart and Bolton 2024; BloombergNEF, 2022). The shared office is a unique environment where the users of the space are not always directly impacted by raised energy prices, and so efforts to reduce energy use need to go beyond individual financial and climate concerns.

Incentivising prosocial behaviour is a key focus of research in the social sciences. Disciplines such as behavioural economics have been successfully applied to optimise the creation, maintenance and usage of public goods and shared commons. Public health, environmental and socioeconomic problems are popular targets for behavioural economic researchers owing to the significant leverage small changes can have on aggregate level changes.

This Cooperative Energy Usage exploratory briefing note is concerned with different methods for incentivising voluntary energy efficiency in the shared office and community environments. We are interested in research opportunities to unearth and test different ways of incentivising cooperative energy use along with gathering insights on types of communities, user personas, and environments in which different schemes work best.

This briefing paper is based on an exploratory study in collaboration with the Crichton Trust.

Key Questions

To address the issues raised above, the following questions are important to address:

- What are some of the most successful modes of incentivising cooperative behaviour and collective decision-making in shared energy network environments?
- What challenges and opportunities arise as shared energy efficiency and incentivisation plans are introduced (e.g., free riding, tragedy of the commons etc)?
- What are the specific local concerns which need to be taken into account when implementing new incentivisation initiatives with respect to shared energy usage?
- How can the levers and drivers for altruistic behaviour, specific to climate topics, be effective in a shared office environment?
- What role can a shared office / community space manager play, as opposed to company leadership and individual line-management, in promoting and encouraging climate-friendly energy behaviour?

This kind of cooperative energy usage research allows for deeper insight for organisations managing rising costs – both financially and environmentally – with a view to implementing more effective incentivisation programmes for money-saving and positive climate impact.

Outline of literature to support future research

The study with the Crichton Trust has identified the following areas and insights from research literature to guide research projects:

- Individual thermal comfort and health concerns in shared energy environments can supersede collective financial and climate concerns (Amasyali and El-Gohary, 2016), particularly when strong energy-saving beliefs and norms don't already exist (Xu et al., 2017; Kotsopoulos, Bardaki and Papaioannou, 2023).

- Perceived expectation of others (e.g. 'most of my coworkers expect me to turn off lights when leaving the office') as well as ascription of responsibility (e.g. 'I feel personally / jointly responsible for saving energy at work') has strong positive influence on individual behaviour in shared office environments (Tverskoi et al., 2021).

- Sense of community has a positive influence on behavioural intentions and self-reported energy-saving behaviours in workplaces (Dixon et al., 2015).

- Perceived access to environmental controls increases shared space occupants' motivation to take, and knowledge to perform, energy-saving action, which has implications for technological interventions and modern building design and maintenance (Paiho, Saastamoinen and Karjalainen, 2021; Weerasinghe, Rotimi and Rasheed, 2023)

- Social practices which exist in situ are important to investigate and understand in terms of how they operate, as well as individual norms and values, when it comes to incentivising certain behaviours in shared environments (Hargreaves, 2011).

- Lack of knowledge about operational efficiency and methods to conserve energy in buildings can result in energy waste in employees, which has implications for messaging and information sharing in interventions (Nisiforou, Poullis and Charalambides, 2012).

Future research recommendations

Future research could focus on four areas, to define and shape the future of energy efficiency in shared environments:

1. The appropriateness of behavioural techniques in shared energy networks

Research could be undertaken which pilot-tests different behavioural interventions already proven in other areas (e.g. in public health, advertising and education settings), and adapting them for shared energy network environments. Understanding the specific considerations with respect to energy usage would be key to driving successful efficiency campaigns, as well as enhancing knowledge about these behavioural interventions across different contexts.

2. Collaborative versus individualistic energy-use incentivisation

Research could be undertaken which explores what kinds of interventions specifically encourage collaborative behaviour versus that which is more individualistic, and which interventions are geared towards collaborative approaches and attitudes to energy usage versus that which focuses more on individual energy needs in everyday life. The specific shared office and community environment context is key to understand in terms of where and when collaborative energy attitudes thrive and are easily incentivised versus those which are treated more like spaces to be used by individuals in their own personal ways.

3. User sentiment towards energy usage outside residential environment

Research could be undertaken which explores issues such as autonomy, 'Nanny state' concerns, the sense of ownership employees have over their work environment versus their home environment, attitudes employees have towards their employers / landlords, and attitudes people have towards the community and neighbourhood environments they operate in outside their home. Understanding how individuals view environments which are shared and/or operated and owned by others (who may or may not have significantly more financial and social power) is crucial in understanding how requests for prosocial behaviour change may be interpreted by those being asked to adapt at a potential personal cost.

4. Local implementation of collective action programmes and interventions

Research could be undertaken in situ by testing different interventions and tracking both their impact in terms of energy usage over time, as well as the response by the tenants and community members in specific spaces. By getting reactions and insights from stakeholders who form part of specific shared energy networks, user archetypes can be established, user sentiment can be understood and material and contextual factors that promote and prevent energy efficiency behaviours can be identified. It is crucial to understand what the local concerns are and how impactful these are alongside more general insights about cooperative behaviour in shared environments.

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