Caught in the middle: The role of the Facilities Manager in organisational energy use

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HIGHLIGHTS

- Facilities Managers are increasingly critical node in organisational use of energy.
- Potential for FMs to make significant reductions to organisational energy use.
- Their ability to do so is constrained by the organisational environment.
- Three 'energy rationales' which the shape organisational context are identified.
- Opportunities exist for policy makers to improve organisational energy management.

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ABSTRACT

This study analyses the role of the Facilities Manager [FM] as a key actor in organisational energy management. This builds on the idea that 'middle' agents in networks can be an important lever for socio-technical change. The study demonstrates the considerable impact the FM can have on workplace energy consumption, whilst identifying a number of factors that constrain their agency and capacity to act. These include demands to meet workforce expectations of comfort; a lack of support from senior management; and a shortage of resources. Underlying these challenges, the study identifies three different energy rationales – that is to say conceptual frameworks – which are deployed by different groups of organisational actors. The challenges of reconciling these at-times-contradictory rationales results in a picture of energy management which to the outsider can appear highly irrational. The paper concludes with a consideration of how policy makers can apply these insights to support energy reduction in workplaces.

1. Introduction

The need to pursue energy efficiency in response to climate change and energy insecurity is now well established. The UK, where this research took place, has targeted reductions in carbon emissions of 80% by 2050. From the commercial and public administration sectors, the Department for Energy and Climate Change (DECC) targets electricity reductions of 52 TW h by 2030 (13% of UK total) (DECC, 2012). We analyse the management of energy within organisations from the perspectives of those who directly control it, demonstrating the necessity of understanding energy use as a social process, and its management as an outcome of often complex organisational dynamics. We conclude with a discussion of the policy implications of these findings.

1.1. Energy consumption in the workplace

Previous research into energy consumption within workplaces has largely taken two forms (CSE and ECI, 2012): macro-level studies of strategic decision making (e.g. Anderson and Newell, 2004; Cooremans, 2011), and primarily psychology-based micro-level studies of individual office worker's attitudes and motivations (e.g. Lo et al., 2012; Tudor et al., 2007). Largely neglected has been the middle tiers of organisations who have direct control over much of the energy the workplace consumes. As energy consumption is rationalised in the contemporary office environment, this role is increasingly important. Individual building users' agency is increasingly being curtailed, as room thermostats, radiator valves, light switches and window latches are stripped out, superseded by Building Management Systems (BMS) remotely adjusting vents, heat sources, lighting and air conditioning. This process centralises energy management in the hands of the Facilities Manager (FM).

With the click of a mouse, the FM can achieve significant reductions in gas or electricity. For example, a recent study found that lowering the heating set point from 21.1 °C to 20 °C reduced heating energy use by 34% (Hoyt et al., 2015). The FM interfaces between senior management [SM]; the organisation's energy strategy; employees; and the building's equipment and infrastructure. We argue that despite, or perhaps because of, this central position, the Facilities Manager should not be assumed to be the *energy manager* – that is, an individual whose job is to optimise energy use. FMs face a set of often-contradictory demands in their daily activities and reconciling these demands can result in energy management that, to the outsider, may appear highly irrational.

This perspective challenges existing policy making which often assumes organisations to be homogenous entities free of conflict or contradiction. Indeed research into organisational energy efficiency often ignores the organisational role of participants and potential interactions between key roles (e.g. Carbon Trust and SPA Future Thinking, 2012). Organisations are not single individuals, but rather political systems, composed of multiple actors with inconsistent preferences (March, 1962) and imperfect knowledge (Simon et al., 1991). A cursory understanding of organisations risks misdirecting efforts to better govern energy use (Lutzenhiser, 2014).

1.2. Studying the middle

The FM's role can only be understood with reference to their middle management position, which outside the energy literature has a long history as a subject of research. Two seminal US studies, on the 'man in the middle' (Whyte and Gardner, 1945) and 'marginal men of industry' (Wray, 1949), sought to better understand the troubled labour relations of the time by way of an analysis of the foreman occupying the space between the workforce and senior management. Both studies found that, contrary to assumptions, the foreman was isolated from decision making, being little more than a conduit between superiors and workers. This figure was more a victim of industrial tensions than a source of them. Ultimately "*the foreman's position is peripheral rather than in the middle*" (*ibid.* p301). Executing the foreman role more successfully required better leadership from senior managers, and greater inclusion in decision-making.

These themes, of exclusion from the exercising of power, and suffocation by the implementation of it, recur throughout subsequent organisational literature on middle management (e.g. Fenton-O'Cree, 1998; Sales, 2002; Sims, 2003). Following this pattern, Peschanski (1985) argues that the increasing complexity, fragmentation and regulation of organisations denies the middle manager any room for initiative or creativity. Like Wray (1949), Peschanski's account presents the middle manager as ultimately a pawn in the games played between those above and below. By contrast, other authors stress the effects middle management can have on organisational performance (Floyd and Wooldridge, 1997; Mair, 2005). Some have advanced that the middle manager can exercise agency through acts of resistance to strategies imposed from above (Ashton, 1992; Guth and Macmillan, 1986). Fenton-O'Cree (1998) supports these findings, but locates the cause of much resistance in organisational dysfunction, that is an environment in which the middle manager is unable to implement changes due to lack of resources, communications or training. These questions are given added importance by Balogun and Johnson (2004), who argue that the middle manager is becoming increasingly critical as organisations become more complex and distributed. This claim chimes with what appears to be an increasingly powerful role adopted by the FM as energy control is centralised within the BMS.

Within the energy field the role of the middle has only recently been addressed, through the work of Janda and Parag (2013) and Parag and Janda (2014) and their 'middle out' approach to energy transitions. In keeping with much middle management literature, they argue that the "*middle is more than filler*" (*ibid.* p103), having many qualities and functions not found elsewhere in the system. The middle shapes both supply and consumption of energy within buildings, making it an essential component in any process of transition. Accordingly, Parag and Janda differentiate middle-out from previous energy work on 'intermediaries' (e.g. Van Lente et al., 2003), as the latter describes a conduit between various levels of a system, but not an actor in its own right. Intermediaries are closer to Wray's (1949) description of the foreman.

The work presented here shares a belief in the importance of the middle. From this position the FM can potentially apply influence downwards to building occupants, upwards to senior managers, and sideways through external organisations, such as professional trade bodies, and specialist BMS contractors. We also follow Parag and Janda (2014) in using the concepts of *agency* and *capacity*, being the ability and willingness to make free choices, and the ability to enact those choices respectively. These allow for recognition of individual and structural factors in shaping actions, and are deployed here similarly, though with the caveat that agency and capacity should not read as polar opposites, but rather intertwined dependents. An actor's free choices, and awareness of them, do not emerge *sui generis*, but rather are influenced by the structures in which they act. Similarly, an actor's capacity to act cannot be separated from their agency, they may for example carve out that capacity through the gaining of other actors' trust.

1.3. Current research

Janda and Parag (2013) caution that, for all its centrality, the middle operates with "its own agendas, its own interests" (p. 47), as well as under limitations imposed from elsewhere in the system. In providing a situated understanding of the FM role, this paper is concerned with identifying these elements, and in detailing their consequences for organisational energy management. The paper highlights the contradictory demands placed on FMs from above and below; the necessity of negotiation with other stakeholders; and the constraints of time and skills. Three contrasting, and at times conflicting, rationales which shape the actions of the FM are identified. The first, energy as a *cost*, is likely to be expressed in financial terms, but might alternatively be reputational or environmental. The second, energy as a *utility*, conceives of energy as a background service, necessary for the organisation to carry out its functions. In the third, energy as an *implicit right*, energy actually goes unacknowledged, but the demands made by this rationale have direct consequences on energy consumption. These rationales are applied differently by the various tiers and specialisms of the organisation. Understanding and accounting for these tensions is a challenge to policy makers targeting reductions in organisational energy use, and we conclude with recommendations for doing so.

2. Methods

2.1. Design and participants

The study was conducted using ethnographic methods within four organisations over a period of nine months: one small-medium enterprise (SME), referred to here as 'Create'; two large enterprises, 'Allco' and 'Digitel'; and one county council, 'Dorton CC' (see Table 1). The core of the data took the form of observation of one FM from each organisation within (~3 day) periods incorporating