

Making it viable: exploring the influence of organisational context on efforts to achieve deep carbon emission cuts in existing UK social housing

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Abstract

Over coming decades, deep reductions in carbon emissions will be required from existing social housing as part of the UK's effort to combat climate change. The ability of social landlords to carry out interventions to achieve these emission cuts is strongly influenced by the context in which they operate. This paper reports the results of a 3-year participant observation study of one UK social landlord, undertaken with the aim of identifying contextual factors that either support or hinder its ability to carry out carbon reduction interventions. The results indicate that a lack of funds to finance the required interventions is the most significant barrier to the achievement of deep emission cuts. Other key issues identified include the lack of a strong drive to act from Government, a need for increased internal capacity to enable landlords to deliver and manage carbon reduction interventions, and a low level of interest from residents in achieving emission cuts. These results lead to a number of recommendations for policymakers: to mandate action on the part of social landlords to achieve high levels of energy efficiency in their stock; to intervene in the market to make the required interventions financially viable; to put forward policies and long-term goals that will enable social landlords and householders to view stock refurbishment as part of a society-wide effort to decarbonise existing housing.

Keywords

domestic energy efficiency; existing social housing; carbon emission reduction; organisational context

Introduction

The global effort to combat climate change is likely to require strong action to achieve cuts in carbon emissions from the existing housing stock of industrialised countries such as the UK. The UK Government has set a legally-binding target of achieving at least an 80% cut in the country's greenhouse gas emissions by 2050 relative to 1990 levels (DECC 2009), and expects the housing sector to contribute cuts of at least that magnitude. Social housing makes up around a fifth of UK homes, and differs markedly from other housing sectors in that it is regulated and heavily influenced by Government policy. As a result, social housing providers are likely to be at the forefront of any efforts to comprehensively refurbish existing UK housing to achieve substantial carbon emission cuts.

Whilst a number of assessments of the technical measures required to achieve deep emission cuts in UK housing over the coming decades have been conducted (for example, Boardman 2007; WWF 2008), little research has explored the viability of achieving such cuts for particular housing sectors (e.g. private rented housing, social housing). This paper describes results from an EPSRC-funded research project that explores this issue for the social housing sector, through a case study of one UK social landlord (reported in full in XXXX (2009a)). The case study focuses on Peabody (formerly the Peabody Trust), a housing association that manages 18,000 homes in London. Much of Peabody's stock consists of solid-walled Victorian-era blocks of flats, and nearly half of its stock is in conservation areas, making low-carbon refurbishment both technically and politically challenging.

Prior research has identified that emission cuts of up to 80% can be achieved in UK housing by 2050 through the widespread application of technical interventions, such as solid wall insulation, efficient appliances and micro-generation technologies (Boardman

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2007; WWF 2008). A study of the impacts of technical measures on emissions from Peabody stock in the period up to 2030 produced similar results (XXXX et al. forthcoming). A key finding was that for Peabody stock to achieve the Greater London Authority (GLA) target of a 60% cut in emissions by 2025 (GLA 2007), considerable investment in carbon reduction technologies is likely to be necessary. The required measures include: extensive solid wall insulation and double glazing to improve the thermal efficiency of Peabody's older estates; converting estates to low-carbon sources of communal heating; (if stronger action is required) installations of solar photovoltaics and solar thermal systems (XXXX et al. forthcoming).

Whilst the technical feasibility of achieving deep emission cuts in UK housing over future decades does not appear to be in doubt, the slow progress to date in carrying out carbon reduction refurbishment (Killip 2008) implies that a number of barriers to action exist. Some of the issues identified in literature to date, both for UK housing in general and social housing in particular, include:

- A lack of capacity in UK industry to design and deliver whole-house refurbishments, which incorporate technologies such as solid wall insulation and district heating (Foresight 2008; Killip 2008).
- Concerns to retain the architectural character of heritage dwellings, leading to a trade-off with the goal of achieving carbon emission cuts (Changeworks 2008).
- Social landlords lacking the resources required to fund low carbon refurbishment of their stock (Cooper and Jones 2008). This situation is compounded by the problem of “split incentives”, whereby landlords are unable to recoup the costs of investments in energy saving technologies, as the benefits (in terms of lower fuel bills) accrue to tenants (Housing Corporation 2008; EHA 2009). Rent increases are typically not a viable option for addressing this issue in the UK, due to Government regulations which restrict the extent to which social landlords can

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increase rent levels. This situation that has been identified as a key barrier to the funding of interventions to reduce carbon emissions (UKGBC 2008; EHA 2009).

The existence of such issues provides the motivation for the present study, which sought to identify and document any contextual factors, both internal and external to Peabody, which affect its ability to carry out actions to achieve carbon emission cuts. Through identifying these issues for the particular case of Peabody, the study aims to improve the understanding of the conditions required to enable social landlords to act to achieve deep carbon emission cuts from the homes they manage.

Methodology

The research methodology was developed using a framework for research design put forward by Maxwell (2005), which links the motivations and aims introduced above with the *conceptual background* which informs the study, the *methods* used, and steps taken to ensure the *validity* of findings.

Conceptual background

This research draws upon concepts from four principal fields of enquiry: organisational behaviour, organisational change, innovation, and literature on sustainability in organisations. The key concepts used to inform the study's design and data analysis are introduced below.

The study is founded upon the standard assumption within organisational behaviour literature that the actions of an organisation are greatly influenced by the context (often termed environment) in which it operates (Capon 2000). A useful distinction is often made between external and internal context (ibid). External issues include the broad general environment (such as prevailing economic conditions or trends in technological

1 innovation) and relationships with stakeholders. For a social landlord such as Peabody,
2 key stakeholders include regulators, Government, residents and local authorities. An
3
4 organisation's internal context refers to a number of inter-related issues such as its
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6 structure, culture, resources, processes, history and strategy (Pettigrew et al. 1992; Capon
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8 2000). Whilst the internal-external distinction is of some use, many issues can also be
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10 considered in a way that cuts across the internal-external boundary, an approach taken
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12 where data were analysed thematically (e.g. "Financial issues") in the present study. For
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14 example, even a relatively unambiguously external issue, such as an economic downturn,
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16 must be "enacted" internally by staff choosing to give the issue attention and changing
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18 their behaviour in response (Hendry 1996).
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24 A shift towards carrying out extensive carbon reduction refurbishment could entail a
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26 potentially significant organisational change for a social landlord, due to the scale of
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28 action required, and the new ways of working involved when carrying out measures that
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30 result in energy being supplied directly to residents. Contextual issues play a key role in
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32 explaining change in organisations, with both external and internal context and the
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34 changes in context over time each being crucial issues to consider (Pettigrew 1992).
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37 Literature on organisational change is consistent in terms of classifying contextual issues
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39 as either enabling or constraining the issue of change under consideration (Balogun
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41 1998). The terms "drivers" and "barriers" are commonly-used labels to describe these
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43 factors and are used in the present study.
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48 The take-up of carbon reduction technologies amongst social landlords can be usefully
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50 viewed as a process of diffusion of innovations (Rogers 2003). From this field comes the
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52 insight that the take-up of successful technologies tends to follow an "s-curve" over time,
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54 with a slow initial take-up, led by early adopters, followed by rapid adoption and then
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56 slow take-up by later adopters (ibid). The existence of this pattern implies that the
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58 significance of particular contextual issues (e.g. attitudes towards technologies) is likely
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to relate to the stage of take-up of a technology, making time an important factor in data analysis. Another framework for analysing innovation, put forward by Rouse (2003), suggests that the prospects for an innovation being taken up can be judged in terms of its *viability*, *acceptability* and *validity*. Applied to this study, these concepts usefully focus attention on whether actions are viable for Peabody (i.e. affordable and not requiring unacceptable trade-offs with other goals) and acceptable (for Peabody staff, residents and other stakeholders). The question of validity (for this study, relating to whether interventions lead to emission cuts) is explored in XXXX et al. (forthcoming).

Research on action to improve the environmental sustainability of organisations has identified both external and internal contextual issues as motivating factors for change (Prakash 2001; Bansal 2003). Legislation is a key external driver in many cases, with many organisations categorised as being “*compliance-driven*”, in the sense that they do just enough to meet the demands of legislators. Other organisations can be said to act “*above compliance*”, with stakeholder influences being identified as principal causes of this behaviour (see e.g. Prakash 2001). In an extensive investigation into why corporations “go green”, Bansal and Roth (2000) outlined three independent motivations, which were used to analyse Peabody’s actions in the present study: *Legitimation* (consisting of legislation, stakeholder influences and norms for the sector), *Competitiveness*, and *Ecological Responsibility*. The concept of motivations can be understood as being equivalent to “drivers” for action, and will include factors affecting an organisation that may be external or internal in origin.

Within literature on energy efficiency aimed at UK social landlords, a number of internal contextual factors which support action to reduce carbon emissions have been suggested. These include strategic changes (developing strategies for energy/carbon reduction/etc.), structural changes (creating a dedicated post for work on energy management) and achieving support for these goals from the highest level of management (BRE 2006;

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Housing Corporation 2008). The term “*facilitating action*” is used in this study to describe any organisational intervention that, whilst not leading to potential reductions in stock carbon emissions in itself, is likely to facilitate action within the organisation to achieve this goal (e.g. developing a sustainability strategy).

Methods

To achieve the study’s aims, the over-arching method used was participant observation, through which a researcher simultaneously observes and participates in the social situation being studied. Data collection at Peabody was guided by the framework put forward by Pettigrew et al. (1992) for participant observation studies and sought to identify:

- actions being undertaken or considered
- the process behind action on carbon reduction (how and when actions were undertaken)
- contextual factors affecting actions

The actions studied consisted of 3 types: technical interventions (those carried out during the research period, and the interventions recommended for Peabody stock based upon the technical analysis undertaken in parallel); behavioural interventions; facilitating actions.

Data were collected from June 2006 until April 2009 through a variety of methods: formal interviews, attendance at meetings, attendance at resident events, informal opportunistic conversations with staff and analysis of relevant documents. Interviews were semi-structured so as to address specific issues identified as important, whilst retaining flexibility so that other relevant themes could emerge. Many opportunities for

1 data collection were identified and taken up responsively according to developments at
2 Peabody.
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6 During the research period, the author made 36 visits to Peabody, and on days of visits
7 was based in its Asset Management department. Research issues were discussed in 52
8 semi-structured interviews and informal discussions, involving 25 Peabody staff in all. In
9 addition, the author was invited to participate in 15 internal meetings relevant to this
10 research, 2 events for Peabody residents and at 5 meetings with external organisations.
11 The author also had extensive day to day contact over email and telephone with Peabody
12 staff and was granted full access to relevant internal documents by Peabody.
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24 At the start of the research period, the action being undertaken by Peabody to achieve
25 carbon emission reductions was identified through meetings and interviews with relevant
26 staff. Ongoing action beyond that time was then monitored through regular meetings with
27 six Peabody staff whose responsibilities related to stock energy use, who can be described
28 as “*key informants*” for this study. Whenever action was undertaken, staff were
29 interviewed on how it came to happen, on any contextual issues affecting that action and
30 on its practical outcomes.
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42 As the technical analysis of Peabody stock was developed, interim research findings were
43 presented to Peabody staff and residents on a number of occasions from late 2007 to early
44 2009, and views on the viability and acceptability of the considered refurbishment
45 measures were collected. At the end of the research period, four of the six key informants
46 introduced above were still working at Peabody. Three of these four staff members (those
47 having the most detailed knowledge on relevant issues for this research) were interviewed
48 together in February 2009 to identify contextual issues affecting the recommended
49 actions from the technical study.
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1 All meetings and conversations with Peabody staff were documented through case notes
2 taken during the interaction, and written up as soon as possible afterwards. Meetings were
3 recorded and later transcribed where possible, but in most cases this could not be
4 achieved, either because of permission not being granted or the discussion taking place in
5 an informal context.
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12 The data generated for analysis by the methods described above comprised 4 interview
13 transcripts, notes from 68 meetings and discussions, 11 internal documents, 27 relevant
14 emails and 2 external documents produced by Peabody. These data were analysed by
15 coding into relevant themes, using both a priori codes (based upon the theoretical
16 background discussed above), and codes emerging from the data. Analysis was
17 conducted using King's Template Analysis framework (King 2009).
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27 **Validity**

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29 Two of the key threats to validity for this study relate to: the accuracy of the account of
30 actions undertaken and issues reported by Peabody staff; conclusions on the relative
31 importance of issues identified. A number of the strategies put forward by Maxwell
32 (2005) to mitigate specific validity threats were employed to address these issues,
33 including intensive long-term involvement in the research setting (allowing ideas to be
34 developed and tested over time), triangulation (involving the use of multiple data sources
35 and respondents) and respondent validation (soliciting feedback on data and conclusions).
36 The latter step involved the account presented in this paper being checked by two
37 members of Peabody staff for accuracy prior to publication.
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52 Maxwell (2005) also identifies reactivity (the influence of the researcher on the research
53 environment) as a potential threat to validity, affecting the ability to generalise from the
54 Peabody experience. For this study, researcher influence on Peabody was a necessary and
55 desirable part of the research process, due to the need for a reciprocal relationship in
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order to secure and maintain the support of the case-study organisation. This influence creates a need for an honest account of its impact on the behaviour of the case-study organisation, so these influences were recorded throughout the study and are reported here.

The scope of the research, being a case study of a single organisation, potentially limits the validity of generalising findings more widely (Yin 2003). Case study research can however provide “generalisations to theory”, meaning theoretical explanations of the data observed which may also be applicable in similar cases where similar conditions prevail (ibid). Such generalisations are likely to be possible for the wider UK social housing sector from this study, due to the similar conditions under which social landlords operate, and the broadly similar demographic profile of UK social housing tenants. Although a single case study design is typically viewed as inferior to using multiple cases from the perspective of identifying findings that can be generalised, it can be of great value where the case in question is “unique”, “typical”, or “revelatory” due to the researcher having access to a previously inaccessible situation (ibid). The latter rationale is of particular relevance for this research, where rare and extensive access was granted to the staff, documents and internal processes of a social landlord over a three-year period.

A further benefit of studying Peabody comes from its status as an early adopter of action to reduce carbon emissions from its existing stock (evidenced by the findings from the present study). Early adopter social landlords are more likely to encounter institutional barriers which may need to be removed to make interventions viable (Egmond et al. 2006). This creates a motivation to study the barriers they encounter, in order to identify issues that may be equally applicable to the whole sector.

Results

The results presented here start with a summary of Peabody’s broad context, its recent history and the actions it took during the research period, in order to contextualise the discussion on other issues identified that follows. Contextual factors affecting action to reduce stock carbon emissions are then described, starting with drivers (“Motivation”) followed by a number of issues that potentially act as barriers to action. Peabody staff are quoted throughout to provide support for the account put forward. Where this is done the date of the statement is given in italics (for example “*March 2008*”), but the name or role of staff is not given to ensure anonymity.

The structure used here to report the results is based upon the principal codes that arose out of data analysis, and is shown in Table 1 (see XXXX (2009a) for a complete listing of the codes and sub-codes identified). It was found that a thematic data analysis (using themes such as “residents”) provided a better fit with the data than employing a strict external/internal context split, so the reporting of results here reflects that approach.

Table 1 Structure of Results section

Subheadings used in Results section	Top level code(s) addressed under each subheading^a
Broad context and recent history	Strategy and management External context
Actions undertaken Facilitating actions Technical interventions Behavioural interventions	Facilitating actions Technical interventions Behavioural interventions
Motivation Legitimation Ecological and social responsibility Competitiveness	Motivation
Financial issues Financial viability Capital and risk Funding approaches	Financial issues
Residents Priorities Acceptability of interventions Leaseholders	Residents

Resources, internal processes and staff views Skills, internal capacity and partnerships Internal processes and prioritisation of goals Staff attitudes to interventions	Internal resources Strategy and management Staff attitudes, views and framing
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^a a priori codes are shown in bold

Broad context and recent history

For several years prior to the research period, Peabody played an active and innovative role in efforts to mitigate climate change in housing, both through action and research. The most high-profile action was developing the BedZED estate in 2003, a pioneering attempt to construct zero-carbon new housing (Bioregional 2004). A poor outcome in an Audit Commission inspection in 2003 and the new requirement for Peabody stock to meet the Decent Homes Standard by 2010 brought about a significant shift in Peabody’s organisational focus. The Decent Homes Standard sets minimum standards for the state of repair, services, facilities and thermal comfort of existing housing in England, and must be met by housing associations by 2010. Meeting the Decent Homes Standard represented a considerable financial challenge, and to fund the work required, Peabody reluctantly decided to sell targeted stock as part of a “disposals” programme which will be ongoing to 2010 (Peabody Trust Asset Management Strategy 2006). Reorganisation led to a significant number of redundancies and many of the staff that had driven Peabody’s green agenda in previous years left the organisation.

When the present research commenced in mid-2006, good performance in an ongoing Audit Commission inspection was an over-riding strategic focus for the organisation. Following a successful outcome, in autumn 2006 there was a new focus within Peabody on “blue skies” thinking (*February 2007*), and the Chief Executive initiated new strategic work on sustainability. A key influence supporting this process was a talk given in October 2006 at Peabody by Allan Jones, Chief Executive of the London Climate Change Agency, which mobilised support for action on climate change amongst senior management.

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2 Over the research period, there was a transformation in the internal focus on climate
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4 change and sustainability issues within Peabody, illustrated by the quotes below.
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7 “No-one is discussing energy strategy in the Trust, and no one is responsible.”
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10 *August 2006*

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12 “Peabody chief executive Stephen Howlett takes the lead on sustainability
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14 matters and the SHIFT¹ feedback said that sustainability was ingrained
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16 throughout the organisation.” (Inside Housing 2009)
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21 This shift in internal context was strongly influenced by an external shift, with the profile
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23 of climate change increasing amongst the public and businesses during the research
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25 period. This influence was apparent amongst Peabody staff who explained their action on
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27 climate change as being “because it's in the news every week” (*January 2007*), or as “just
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29 the way things are going... a general zeitgeist” (*February 2009*).
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33 34 **Actions undertaken**

35 36 *Facilitating actions*

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38 The new strategic focus on environmental issues at Peabody led to the creation of a
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40 “Green Task Force” championed by the Chief Executive in early 2007 focussing largely
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42 on environmental issues within Peabody’s business operations. From early 2009 it was
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44 replaced by a “Sustainability Working Group” comprising of departmental heads and
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46 chaired by the Chief Executive, with the aim of providing a forum with greater power and
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48 accountability within the organisation to drive action to meet targets in Peabody’s
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50 sustainability strategy. Following the presentation by Allan Jones in October 2006, a
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61 ¹ SHIFT (Sustainable Homes Index For Tomorrow) is a framework for monitoring work
62 on sustainability by social landlords
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decision was taken to create a full-time Energy Efficiency Coordinator position within the Asset Management department, with the post being filled from January 2008.

In early 2007 the 21st Century Peabody project was initiated by the Chief Executive, with the aims of creating “a vision for the organisation for the next 25 years”, and to “reinvigorate Peabody’s reputation as a leading agency on social policy issues” (from 21st Century Project brief, Peabody Trust 2007). Aspects of the 21st Century Peabody project that addressed carbon reduction were studied by the author, leading to the report XXXX (2009b) and a feature in the Guardian newspaper in March 2009 (Howlett 2009). The 21st Century Peabody project is one example of the increased efforts taken by Peabody during the research period to influence Government policy. Other actions taken include responding to two UK Government consultations (on the Renewable Energy Strategy and the Heat and Energy Saving Strategy) as part of the G15 group of London social landlords, and participating in the Social Housing group of the Energy Efficiency Partnership for Homes (a stakeholder forum for organisations with an interest in improving domestic energy efficiency). Peabody has also sought to influence its residents, by choosing climate change as the major theme of its 2007 residents’ conference.

In 2009, Peabody was one of a small number of social landlords to be assessed using Sustainable Homes’ SHIFT framework (Sustainable Homes 2009), and were positioned in the top category of participating landlords, achieving a silver rating (Inside Housing 2009). Within the G15 group, Peabody was one of the few organisations (in February 2009) to have a dedicated member of staff working on sustainability issues.

Finally, the research project reported in this paper was also an important facilitating action in itself. It led to a number of well-attended presentations being given to Peabody staff (in May and June 2008), alongside extensive collaboration by key informants with

1 the author. This engagement was reported by Peabody staff as playing a significant role in
2 shaping internal discussion on climate change and reinstating the importance of
3 sustainability (*April 2009*).
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9 *Technical interventions*

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11 The vast majority of carbon reduction interventions undertaken by Peabody during the
12 research period were being carried out through works to meet the Decent Homes
13 standard. These comprised the installation of gas central heating systems, cavity wall
14 insulation and loft insulation and a small number of double glazing installations. The
15 Decent Homes work was initially designed to meet but not exceed the minimum standard
16 required, due to financial constraints (Peabody Trust Asset Management Strategy 2006).
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18 The level of improvements carried out was upgraded in 2008, with the Energy Efficiency
19 Coordinator securing grant funding to ensure that all homes would receive cavity wall
20 insulation and loft insulation where possible.
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33 The possible intervention of making low-energy appliances more affordable for tenants
34 through bulk procurement was discussed by staff throughout the research period, but a
35 delivery mechanism has yet to be established. Energy efficient light bulbs have been
36 distributed to residents through tenant welcome packs and estate events throughout the
37 research period.
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47 With regard to the more extensive measures considered (solid wall insulation, district
48 heating, micro-generation), little action has been undertaken. An opportunity to replace a
49 faulty communal heating system with gas-fired combined heat and power (CHP) in 2007
50 was not taken up, due primarily to a need to urgently replace the existing system. A small
51 new development was connected to an existing district heating network in 2008. Due to
52 the use of CHP generation plant to supply this network, it provided a lower-carbon heat
53 supply to the new homes than the considered alternative of providing individual gas
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boilers. It was therefore effective as a carbon reduction measure, but required substantial staff time to assess questions of management of heat supply, billing and maintenance responsibilities. The connection proved to be very expensive and a connection of existing dwellings on the same estate to the network was ruled out on grounds of cost.

Behavioural interventions

In late 2006, the only behavioural intervention being carried out by Peabody was the provision of written energy efficiency advice to new tenants as part of tenant welcome packs. Tenants receiving new heating systems through Decent Homes works were not being given guidance on their efficient use, and property negotiators claimed to lack confidence in giving effective face-to-face energy efficiency advice to tenants. By early 2009, the work of the Energy Efficiency Co-ordinator led to increased action being carried out. A number of frontline staff had been trained as energy advisors (Howlett 2009), and energy monitors providing live feedback on electricity use had been made available for free to all residents from late 2008. With regard to the offer of energy monitors, 30 out of Peabody's 18,000 households had taken up the offer by May 2009, in response to an advertisement in Peabody's newspaper for residents. The reasons for this initial low take-up rate are not clear, but some possible explanatory factors include: many households not seeing the advertisement; the effort required for householders to take the initiative of contacting Peabody to request a monitor; a low interest on the part of tenants in reducing their energy use (see below).

Motivation

The results relating to the motivations identified for carrying out carbon reduction interventions are presented here using an adaptation of the framework put forward by Bansal and Roth (2000). Once the a priori code "Ecological Responsibility" was broadened to "Ecological and Social Responsibility" (so that concerns about fuel poverty could also be included), this framework proved to fit well with the data.

Legitimation

1
2 Of the motivations that relate to legitimation, there was considerable evidence that
3
4 Government regulation was a key motivating factor. This was reflected in what can be
5
6 termed a culture of compliance, with action commonly being framed in terms of what was
7
8 required by regulation, and these requirements being key drivers for the organisation.
9

10
11 “Targets... that's what [the Chief Executive's] interested in. He's, like, when's
12
13 someone going to come and say ‘you're breaking the law’...” *February 2007*
14

15
16
17 “Where is the regulation that’s going to make us do this?” *July 2007*
18

19
20 “On a really basic level, we have to meet Decent Homes... we have to provide
21
22 thermal comfort... and we don't strictly have to do any more than that.” *February*
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This perspective was often coupled with a belief that strong action would be difficult to justify unless it was made compulsory.

“In spite of our best efforts... unless somebody came along and said by 2020 everything has to be so and so... I think it would be really hard to justify dedicated expenditure.” *February 2009*

Decent Homes regulation was by far the strongest existing regulatory influence on Peabody. The use of SAP² ratings as a Key Performance Indicator (KPI) by social housing regulators also created a motivation to show year-on-year energy efficiency improvements, which was achieved through Decent Homes measures. With regard to a more ambitious carbon reduction agenda, Peabody staff did not perceive a strong drive from Government or regulators throughout the research period.

“We’re surprised they’ve said nothing about this so far” *June 2007*

² The “Standard Assessment Procedure”, used to provide energy ratings for UK homes

1 “Not many people externally are pushing us to do anything about it... it would
2 need a drastic sea-change in our KPIs, wouldn't it?” *February 2009*
3

4
5 Despite the lack of regulation mandating strong action to reduce stock emissions, there
6
7 was a widespread expectation amongst Peabody staff throughout the research project that
8
9 such regulation would be brought in soon.
10

11 “External pressures... they're not yet biting. They're evident... it's evident that
12 they'll come.” *February 2007*
13

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15
16
17 “It's the right thing to do and we're going to be made to do it anyway” *June 2007*
18

19
20
21 “It's going to be mandated at some point” *February 2009*
22

23
24 Research by Peabody, including support for the present research, was justified as
25
26 preparation for when such regulation came in.
27

28 “Actually what's likely to happen is that at some point somebody's going to make
29 big changes for existing buildings, and we've got to be on top of that... and
30 unless we start thinking about it now, we'll be off the pace.” *February 2007*
31
32

33
34
35 The perception that future regulation was around the corner was typically coupled with
36
37 strong concerns around its financial impact on Peabody.
38

39
40
41 “It'll be interesting to see what they do for existing buildings, because it could
42 cripple some organisations. It's like the building regs, every time you change
43 them, you've got to be careful that you don't just drive... just stop the economy
44 almost...” *February 2007*
45
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49
50
51 “How do these people think we'll pay for it?” *July 2007*
52

53
54 “If we were forced to do it, it would have catastrophic consequences.” *February*
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1 This concern was alleviated by a belief that regulations would not be brought in that
2 demanded action that was impossible to achieve, or that threatened the financial viability
3 of social landlords.
4

5
6
7 “But then nobody can stick a piece of legislation out there that actually means
8 that 20% of RSLs have to shut as it were.” *February 2009*
9

10 11 12 *Ecological and social responsibility* 13

14 Climate change was reported as a strong motivator for action by many Peabody staff,
15 with the increasing prominence of the issue in the media being cited as the main cause of
16 this. Fuel poverty was not a high priority at Peabody towards the start of the research, but
17 rose up the agenda as fuel prices increased during 2008.
18
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22

23
24 “I’m worried about fuel costs for this winter” *June 2008*
25

26
27 “I guess another driver is fuel poverty, as in, it's not a statutory driver, but if fuel
28 goes up and up and up, the cost of, there'd be a lot of our residents who'd really
29 not be able to switch their heating on” *February 2009*
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33

34 These motivations were driven both with reference to the social values and poverty
35 reduction agenda of Peabody as an organisation and through staff with environmental
36 values driving actions through their own initiative.
37
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41
42 “The other thing is, it's not an external pressure it's an internal pressure. I think
43 there's loads of people in this organisation that are keen to get involved, and that's
44 really a motivating factor as well.” *February 2007*
45
46
47
48

49
50 “As a social business we recognise the responsibility we have to protect the
51 environment for our generation and future generations.” *April 2009*
52
53
54

55 56 *Competitiveness* 57

58 A concern for competitiveness was reflected in two goals put forward by Peabody staff
59 for action on climate change: reducing costs and improving Peabody’s reputation.
60
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1 “What we want to do is make sure we've got an effective strategy, which is
2 innovative, promotes a more efficient, green business... it can contribute to our
3 financial efficiency.” *January 2007*
4
5
6

7 A concern for reputation was framed in terms of Peabody’s recent status as a pioneer,
8 exemplified through the BedZED development, and a desire to maintain and enhance that
9 reputation.
10
11
12

13 “Given the estates that we've got, we've got the biggest opportunity, and if we
14 can, we can achieve what is our vision of being a beacon organisation... but I
15 think the major reason really was the wish to continue this pioneering spirit at
16 Peabody.” *February 2007*
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23 “Peabody in very broad terms, would like... to be seen to be at the forefront,
24 certainly within the RSL movement, of making progressive moves towards
25 meaningful carbon reduction within its stock.” *February 2009*
26
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30

31 Financial arguments for action were rarely put forward, given the concerns about
32 interventions not being affordable for Peabody (detailed below). When they were put
33 forward, it was in terms of the risk that future increases in fuel costs could lead to
34 Peabody homes having very high heating costs, making stock potentially unlettable.
35
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40

41 “One way of looking at the financial case for us is, for example, if fuel prices go
42 up severely, we might have unlettable stock – that’s a financial case for this kind
43 of investment.” *July 2007*
44
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46
47

48 “I think it's also seen as a risk and it's being profiled as a higher risk for the
49 business.” *February 2009*
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Financial issues

Financial viability

Financial viability was an issue that was often raised by Peabody staff, both in terms of the organisation as a whole and for particular interventions. The issue that first and foremost Peabody needs to stay viable as a business was stressed on many occasions.

“Maybe we will spend two million quid on some things, but it's got to be in the context of good business sense for the organisation... we've still got to balance the books.” *February 2007*

“This all must fit with the business plan – with no business plan, there’s no Peabody and no homes to worry about.” *July 2007*

The stock interventions explored in XXXX et al. (forthcoming) were seen as both expensive and unaffordable under current conditions if applied on a large scale to Peabody stock.

“There’s no point externally cladding or putting in double glazing. We can’t afford it and that’s that.” *June 2007*

“Obviously they're shockingly expensive. The pipework you need, the primary pipework is a grand a metre or something, so...” *February 2009*

“Call [our current spending] £30m a year... so if we've got 15 years to do this stuff and it costs £160m, I'm going to say it's £10m a year, so we're adding a third more... it's just not feasible at all, in any way.” *February 2009*

As a result, the current lack of financial viability was seen as the main barrier to substantial stock refurbishment at Peabody.

Author: “What are the big things, the main issues?”

Interviewee 1: “Money.”

1
2
3 Interviewee 2: “Money.”
4

5
6 Interviewee 3: “Money.” *February 2009*
7

8 Despite the many other barriers reported here, Peabody staff felt that if the barrier of
9 financial viability could be overcome through reduced costs, increased grant support or
10 alternative funding mechanisms, the recommended interventions could be carried out.
11

12 *Capital and risk*
13

14 High capital costs of refurbishment options were reported as a barrier to action on many
15 occasions. This led to considerable discussion focussed on how capital costs for
16 interventions such as CHP could be met, with an Energy Services Company (ESCo)
17 arrangement being the main option explored. Securing capital in itself was however not
18 problematic for Peabody, as it was made clear by finance department staff that Peabody
19 could borrow against the value of its stock and raise considerable funds immediately. The
20 challenge of securing capital funding instead acted as a barrier to action because of the
21 lack of a strong financial case for the considered interventions that counter-acted the risk
22 of making a large investment.
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34
35 “Capital funding is no problem... it’s just paying for it.” *February 2009*
36

37
38 “I think it's the financial model that would do it... and having an acceptable risk
39 profile.” *February 2009*
40
41
42

43 Throughout the study, Peabody was reported as being highly risk-averse, a position due in
44 part to the recent experience of a substantial cost over-run on the BedZED development.
45 This led to funding approaches being sought “where the risk is not ours, where the risk to
46 us is minimised” (*February 2009*). Partnership-working with organisations such as
47 ESCOs was put forward as a means for minimising risk.
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55 “I think whatever you do with renewables is always going to be a partnership. I
56 don't think we're ever going to take on that risk.” *February 2009*
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1 One key informant made the case that working with external businesses would be likely
2 to reduce the financial benefits of interventions for residents, due to the greater return that
3 they would expect on investments. As a result, it was argued that taking on some risk was
4 necessary to ensure that residents could get a better deal in terms of fuel bills savings.
5
6
7

8
9 “Fuel savings are generally greater for residents where more financial risk is
10 taken by the landlord or longer-term investment models are used.” *March 2009*
11
12

13 *Funding approaches*

14
15 Where the possibility of action to achieve deep emission cuts being mandated was
16 discussed, Peabody staff felt that in the current context, they would have no option but to
17 sell properties or increase rents to fund the work.
18
19
20
21

22
23 “We’ll be in the same position that we’ve been in for decent homes standards,
24 actually having to raise money suddenly, through sadly sales of properties to raise
25 money for it.” *February 2007*
26
27
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29

30
31 “I don’t think we want to consider that... but the stark consequences if we had to
32 do it would be rent increases or lots of sales.” *February 2009*
33
34
35

36 Peabody staff recognised that rent increases were not possible in the current context, and
37 whilst cautious about advocating a change that could be unpopular and detrimental to
38 residents, saw a potential need to make the argument to policymakers that they should be
39 permitted.
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44
45 “Then there’s an argument you’d need to make as a social landlord about the
46 ability to raise rents, or receive a grant to cover this.” *July 2007*
47
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50
51 The issue of split financial incentives was raised by Peabody staff, with the most common
52 solution proposed being to share the benefits of investment with residents.
53
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55
56 “One of the major difficulties for social landlords is that financial investment
57 cannot be recovered through increased rents, and that reduced energy costs
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resulting from investment accrue to the resident, not the landlord, so there is little scope for high cost initiatives.” *June 2007*

Due to these problems, other funding mechanisms were being discussed by Peabody staff towards the end of the research period which would be likely to require Government action. These included increased grant funding (Howlett 2009) and delivering improvements through an ESCo or utility companies, with a charge tied to each dwelling (rather than the householder) being levied over a decade or more to repay investment costs.

Residents

Priorities

Action on climate change was found to be a low priority amongst Peabody residents.

Evidence for this came from interviews with tenants conducted as part of the 21st Century Peabody project research, low engagement with discussions on climate change at the residents’ conference, relatively low take-up of the offer of energy feedback monitors and the views of Peabody staff.

“The environment is not a priority amongst residents at present.” *May 2008*

“When you talk to residents at BedZED who aren’t the posh ones, then the bottom line is saving money.” *February 2009*

The lack of climate change as a motivation was emphasised by a Peabody resident in response to a presentation by the author in 2008:

“The only way you’re going to save energy is if people can’t afford it.” *May 2008*

Recent research by Peabody staff has identified security, digital TV and soundproofing as the main priorities of residents for home improvements. Improvements related to energy use were therefore rarely identified by Peabody residents.

Acceptability of interventions

1
2 With resident satisfaction being an important goal for Peabody, the acceptability of
3
4 interventions to residents was reported as a vitally important consideration. The key issue
5
6 raised was that residents would need to see some significant benefits if the disruption or
7
8 changed arrangements resulting from refurbishment were to be acceptable.
9

10
11 Author: “So, in terms of the benefits, if you offered [communal heating] to them
12
13 and it was just going to cost the same as their previous boilers, you think that
14
15 wouldn't be enough?”
16

17
18
19 Interviewee 1: “No! They would be... why are we doing this? Why are we going
20
21 through all this disruption? Are you mad?”
22

23
24 Interviewee 2: “Because the only way you could sell it then is carbon, but people
25
26 aren't interested, it's way down the pecking order.”
27

28
29
30 *February 2009*
31

32
33 For interventions to be acceptable, Peabody staff suggested that they should result in
34
35 significant reductions in running costs, or be one part of a package of improvements that
36
37 includes actions that satisfy residents' priorities.
38

39
40 “If you could say to them that your fuel costs are going to be 20% less, and the
41
42 old lady who lives next door is going to be able to heat her house more for less
43
44 money, then there might be a feeling of community spirit, but unless that's
45
46 there...” *February 2009*
47

48
49
50 “It'd have to be for a whole package of things, if it was just for that [a new
51
52 communal heating system], then it wouldn't really make... they wouldn't buy
53
54 that.” *February 2009*
55

56
57 The relative disinterest in achieving emission reductions relative to minimising fuel prices
58
59 led to fixed monthly charges being chosen by residents for communal heating on
60

1 Peabody's Coopers Road estate, bringing a likely reduction in the system's overall
2 efficiency. Interventions that lead to an increase in fuel costs, as could be the case with a
3 switch to electric heating systems from gas, were absolutely ruled out.
4

5
6
7 "Well, then that would be a no-no. You can't say to people we're going to come
8 and do all this work, and by the way the bills are going to be higher." *February*
9
10
11 *2009*
12

13
14 When residents were asked whether increasing rents to help fund improvements could be
15 acceptable (as part of Peabody's research for the 21st Century Peabody project) the idea
16 was strongly rejected. This was explained in the research as being related to the idea of a
17 "compact" between Peabody and its residents, and a perception that it is not delivering
18 services of a sufficient quality to justify rent increases. When the idea of increasing rents
19 to fund refurbishment was discussed in a presentation by the author to the Residents and
20 Communities Committee, a resident in the meeting responded very negatively, stating
21 that "residents would be terrified" (*May 2008*). It therefore appears likely that a strategy
22 of rent increases would cause considerable resistance, even if residents are left better off
23 overall.
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39 Residents were reported as being reluctant to remove gas fires from homes, despite
40 advice by Peabody that they were inefficient, due to the role they play as a focal point and
41 a belief amongst many residents that they are cheaper to run. Resident perceptions of
42 communal heating were also seen as a significant barrier by Peabody staff, both because
43 of its poor track record in the past and the potential for breakdowns affecting whole
44 estates to damage Peabody's reputation with residents.
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52 "If one heating systems breaks you have one resident to deal with, if a district
53 heating system breaks you've got a whole estate full of people and their MP..."
54
55
56 *September 2006*
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1
2 For the concerns outlined above to no longer apply, Peabody staff felt that a substantially
3 different social context would be necessary, with refurbishment at Peabody being
4 understood as part of a national effort to refurbish UK housing.
5

6
7 Interviewee 1: "I think it helps if the Government says, right everybody, a bit of
8 the Dunkirk spirit..."
9

10
11 Interviewee 2: "That's kind of the way almost that the Government has started
12 talking about it though, at least Ed Miliband is talking about it as a "great national
13 refurbishment programme", and I guess you're right, if people sort of feel that
14 everyone else is doing it and we all have to... I guess people would find it more
15 acceptable."
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23
24 *February 2009*
25

26 27 *Leaseholders* 28

29 Leaseholder dwellings on Peabody estates are those for which the householders own the
30 lease on a home (typically a flat), while Peabody still retains ownership of the building as
31 a whole. As a result, leaseholders are responsible for any internal changes to such homes,
32 whilst Peabody is typically responsible for external parts of the building and the provision
33 of communal services. Due to the sales of homes on some Peabody estates, particularly
34 those formerly managed by local authorities where tenants have a "right to buy" their
35 home, leaseholder dwellings on Peabody estates are becoming increasingly common.
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48 A number of particular issues relating to leaseholder dwellings were identified during the
49 research by Peabody staff, each relating to difficulties that leaseholders could create for
50 efforts to carry out interventions on whole estates. These issues included: an inability to
51 make internal changes to leaseholder homes; a risk that leaseholders will not want
52 communal systems; and a risk that leaseholders may not be willing to sell their homes if a
53 redevelopment strategy was pursued. As no works to install communal heating or solid
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1 wall insulation took place on estates with leaseholders during the research period, it was
2 not possible to study the impacts that these issues had in practice.
3

4 5 **Resources, internal processes, and staff views** 6

7 8 *Skills, internal capacity and partnerships* 9

10 With regard to their existing skills and capacity to work with carbon reduction
11 technologies, Peabody staff reported a generally poor performance to date with
12 communal heating and providing a utility service to residents.
13
14

15
16
17 “Peabody doesn’t understand the management of utilities... to avoid all
18 management issues, they sell all of the electricity generated to the grid and let
19 Solar Century do all of the management.” *June 2006*
20
21

22
23
24
25 “We've got a very poor record in managing district heating systems, whether it's
26 understanding how to bill and meter, or understanding how to manage the piece
27 of kit itself.” *February 2009*
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30
31
32 The central issue raised when this was discussed was on the extent to which this was
33 addressed by developing new internal capacity, forming partnerships or developing an
34 ESCo.
35
36

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38
39 “We have to work out if we have an in-house team, or gas contractors or
40 whatever it is that understands them, or if possible, we farm it out to a third party,
41 but for the third party, it may not be worth their while.” *February 2009*
42
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47 Issues of capacity were also discussed early on in the research period in terms of a lack of
48 time to carry out work on energy efficiency issues. These concerns led to the creation of
49 the Energy Efficiency Coordinator post.
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51
52

53
54
55 In the light of the identified need for external expertise and the sharing of risk,
56 partnership-working with the likes of ESCos or utilities was seen as a crucial complement
57 to the development of internal capacity by Peabody staff.
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60
61

1 “The time always comes where you have to say Peabody in partnership with -
2 because we're about providing housing.” *February 2009*

3
4
5 “It is a challenge that can only be met by powerful partnership working from
6 social landlords, the government, utilities firms and residents themselves.”
7
8
9
10 (Howlett 2009)

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14
15 The formation of an ESCo to assist with the management and strategy development of
16 energy provision was recommended strongly to Peabody by its energy consultants, so this
17 issue was explored in 2006 and 2007 through meetings with potential ESCo partners. A
18 key barrier identified was the lack of interest from potential external partners, due to the
19 apparent lack of a strong financial case for installing CHP on Peabody estates.
20
21
22
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24

25
26 “Sorry, but we have had the London ESCo here saying they're not interested.”
27
28
29 *July 2007*

30
31
32 “Where are they? There's no one beating down on our door saying there's cash to
33 be made by putting in 30 CHPs.” *July 2007*

34
35
36
37 As was the case with financial decisions, discussions around external partnerships were
38 strongly influenced by a concern to minimise risk. This was commonly framed in terms
39 of whether an organisation was a “robust partner” (*February 2007*). This concern was
40 motivated in part by the experience of the organisation supplying the biomass CHP unit at
41 BedZED going out of business. There was also caution about the idea of creating a
42 Peabody ESCo, due to the risk that if it delivered a poor service to residents it could
43 damage Peabody's reputation.
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52 *Internal processes and prioritisation of goals*

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55 A number of common themes from the literature on sustainability in organisations
56 greening were observed at Peabody. These included the positive impact of strong support
57 from senior management on action, and the need for middle management staff to win
58
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60
61

1 support for proposals from senior staff. It was recognised on many occasions that
2 responsibility for many issues relating to energy use in Peabody stock was dispersed
3 throughout the organisation. Effective action was hindered in part at Peabody by a “silo
4 culture” (a term coined in 2006 by an internal working group at Peabody, referring to a
5 lack of effective communication between departments). This was observed for action on a
6 number of relevant issues in 2006. With regard to energy efficiency, the “silo” issue
7 appeared to be effectively addressed by the formation of the Green Task Force, which
8 brought together staff from many parts of the organisation, and by concentrating
9 responsibility for work on energy issues in the post of the Energy Efficiency Coordinator.
10 The need to mainstream work on sustainability was stressed on many occasions, and
11 action was taken to achieve this by increasingly incorporating work on sustainability in
12 the personal performance targets of staff during the research period.
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29 A number of other organisational goals that could potentially conflict with a carbon
30 reduction agenda were identified during the research period. These were typically derived
31 from regulation, and included installing digital TV infrastructure, meeting new fire safety
32 regulations and achieving budget savings through efficiency improvements. The conflict
33 between minimising the times that homes are empty between tenancies and carrying out
34 comprehensive refurbishment in dwellings was highlighted as a potential barrier to
35 action. Conflicts between goals raise the question of how they are prioritised. It was
36 recognised by Peabody staff early in the research period that carbon reduction was not
37 prioritised at that time. Although in 2009 it has a much higher status, it was recognised
38 that without a requirement to act, it would inevitably be a lower priority than goals that
39 Peabody was forced to act upon.
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53 “These things have not been prioritised.” *June 2007*

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56
57 “Inevitably, something that we don't have to do is slipping down the agenda a
58 bit.” *February 2009*
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1
2
3 *Staff attitudes to interventions*

4 Peabody staff demonstrated a number of attitudinal responses to carbon reduction
5
6 interventions, including support of their potential to reduce emissions and reduce fuel
7
8 bills, and negative perceptions that could act as a barrier to action in some cases. These
9
10 attitudes included a perceived risk associated with installing new technologies, and
11
12 scepticism about the claims made for the benefits of emerging technologies, based upon
13
14 prior experience of technologies failing to meet expectations.
15
16

17
18 “They want to do a scheme with no heating, with no obvious heating, and I got a
19
20 bit nervous”. *February 2007*
21
22

23
24 “A few years ago it was all microCHP, now that's not a good idea.” June 2008
25
26

27 The perceptions that interventions using new or emerging technologies would be complex
28
29 and involve “hassle” were common amongst Peabody staff.
30

31
32 “If you connect your building to a normal network, like EDF or something, you
33
34 know what's going on, but if you connect to something with a specialist service
35
36 agreement, then there's all sorts of new headaches.” *February 2007*
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40 “In terms of insulation though, it's fiddly, diddly, diddly. My god, just think
41
42 about every window...” *February 2009*
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45 The dominant view amongst Peabody staff early on in the research was that little could be
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47 done to improve fabric on estates, a view which shifted towards the end of the research
48
49 period, with many staff feeling that it was worth investigating. This interest, arising
50
51 through recommendations from this research project and uncertainty around costs, created
52
53 an impetus to carry out a pilot refurbishment to explore these issues for a typical
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55 Victorian-era Peabody estate.
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59 “Would the money be there? We need to do a 19th century block and see how it
60
61 could work.” *February 2009*
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3 **Discussion**
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6 The key issues identified and some of their wider implications are discussed below, with
7 regard to the motivations for carrying out interventions (drivers for action), and other
8 contextual factors which affect their viability and acceptability (potential barriers). Some
9 recommendations for policymakers arising from these results are then presented.
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15 **Motivations**
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17 Peabody was identified as putting great importance on compliance with regulation, as is
18 typical for an organisation operating in a highly-regulated sector. A key issue identified
19 was that strong external drivers for the achievement of deep emission cuts do not exist at
20 present. Despite a commitment identified for Peabody to take a lead within the sector on
21 this issue and strong motivations of individual staff members, Peabody staff felt that
22 externally mandated goals will inevitably take priority. These factors indicate that it
23 would be beneficial for Government to mandate action by Peabody (and by extension
24 other social landlords) to improve their stock, so that this issue is given sufficient priority
25 relative to other externally-mandated goals. This would require a change in policy from
26 the UK Government, which to date has rejected calls for setting minimum energy
27 efficiency standards for existing housing (Green Futures 2008).
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45 A further key motivation identified, that could indicate a financial case for stock
46 refurbishment, was the potential risk that homes may become impossible to let if future
47 fuel price increases lead to residents having prohibitively high fuel bills. This was seen as
48 a potentially serious issue both by Peabody staff and other social housing staff
49 interviewed as part of the wider research project (XXXX 2009a). This concern could
50 provide motivation in future years to insulate homes to reduce space heating needs and to
51 invest in micro-generation to provide increased security of supply.
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Viability

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2 During the research period, a significant increase in the prioritisation of work to reduce
3 carbon emissions from Peabody stock was observed, with Peabody appearing to be
4 relatively advanced in this work relative to other social landlords. Despite this change, its
5 staff felt that substantial action is not possible in the current context due to the increased
6 expenditure required. To bridge this funding gap, four possible sources of funds appear to
7 be available for social landlords: their tenants (through increased rents or other charges);
8 the general public (through increased Government grants or charges administered by
9 utility companies); the sale of social housing stock; reduced spending on other services
10 and operations.³ The risk of negative social impacts of these approaches, coupled with the
11 likely resistance to increased charges identified in the present study, points towards a
12 need for external funding to play a substantial role, as has been suggested elsewhere (e.g.
13 EHA 2009). Current trends indicate an increased willingness on the part of the UK
14 Government to make increased financial support available, as demonstrated by its pledge
15 to support domestic micro-generation measures through feed-in tariffs and a renewable
16 heat incentive (funded in both cases through utility bills), and plans to trial grant-funded
17 area-based refurbishment through its Community Energy Saving Programme (DECC
18 2009). However, these levels of financial support are still likely to be insufficient to
19 enable refurbishment to achieve deep emission cuts to be funded for Peabody stock
20 (XXXX et al. 2009).
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47 A lack of internal capacity for managing new technologies was also shown to be a
48 significant issue. Such issues were anticipated, given the early stage of the diffusion of
49 low-carbon refurbishment in the UK, and therefore may be addressed over future years if
50 this process is taken up more widely. The new skills required for actions such as billing
51 residents or developing communal heating led to a preference to work in partnership with
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1 external organisations to deliver carbon reduction interventions. These concerns and
2 possible solutions have been explored extensively in literature on refurbishment of social
3 housing (e.g. EST 2007), and create a need for adequate support to be made available to
4 social landlords when it is needed.
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10 **Acceptability**

11 The acceptability of interventions for Peabody’s residents was identified as a key
12 requirement by Peabody staff and as a result, a lack of acceptability could pose a
13 significant barrier to action. This issue appears to be of some importance, as reducing
14 carbon emissions was identified as a low priority amongst Peabody tenants. The potential
15 disruption and inconvenience resulting from refurbishment was seen as a barrier which
16 would require residents to perceive tangible benefits, in particular in terms of reduced
17 fuel bills, if it was to be overcome.
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30 Peabody staff felt that if action could be framed in terms of a UK-wide effort to reduce
31 emissions from housing, then residents would be more likely to be supportive. The lack
32 of such a clear vision has been cited as a key barrier for the achievement of this goal over
33 recent years (UKGBC 2008). Policy on existing housing refurbishment is however
34 increasingly moving in that direction, with Government recently speaking of a “Great
35 British Refurb” in its Low Carbon Transition Plan (DECC 2009). This plan has indicated
36 a significant increase in ambition on existing housing refurbishment, and includes
37 proposals that by 2030, all UK homes receive whole-house energy efficiency measures,
38 including renewable technologies where appropriate (ibid). However, the requirement
39 that these measures are “cost effective” may exclude a number of technologies that
40 appear necessary to achieve deep emission cuts, but which may not achieve a payback
41 within their lifetime (XXXX et al. (2009).
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60 ³ The impacts of funding refurbishment of Peabody stock through stock sales or rent
61 increases were explored in XXXX et al. (2009).
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2 The increased prominence of climate change and fuel poverty led to broad support for the
3 principle of intervening to reduce stock carbon reduction interventions, which drew both
4 upon support from individual staff members and reference to Peabody's goals as an
5 organisation. This situation echoes the findings of Bansal (2003) which identified a fit
6 between staff and organisational values as key requirements to support work by
7 organisations on sustainability (Bansal 2003). With regard to particular interventions,
8 negative perceptions based upon the poor past experiences of both staff and residents
9 were seen as hindering the installation of communal heating. Staff were also concerned
10 that communal heating could be negatively perceived by residents as providing less
11 control than individual boilers, despite the fact that this needn't be the case. Overcoming
12 this barrier is likely to require both residents and staff gaining positive experiences of
13 communal heating through a diffusion of the technology over future years.
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32 **Recommendations for policymakers**

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34 Based upon the discussion above, four main recommendations for policymakers arising
35 from this research are put forward:
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- 37
38 ▪ Provide a framework on housing refurbishment for landlords and the public
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40 ▪ Regulate to enforce action by social landlords
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42 ▪ Create funding models and offer financial incentives to make interventions
43 financially viable
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45 ▪ Change existing regulations for social housing that conflict with the carbon
46 reduction agenda
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54 A framework should provide the public with an understanding that refurbishment is part
55 of a nationwide effort to reduce the emissions from existing housing. The emerging
56 concept of a "Great British Refurb" (DECC 2009) is likely to be a useful method for
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1 positively communicating the scale of the work required. By setting out a vision for the
2 action required to achieve deep emission cuts, the external context seen as vital by
3 Peabody staff to make disruption to residents acceptable could be achieved. Social
4 landlords also need a long-term policy framework to assist with their future business
5 planning. Such a framework is likely to come about through regulation on the
6 improvements or increased energy efficiency standards required, and a number of
7 proposals already exist for achieving this (Boardman 2007; EST 2008; Housing Forum
8 2009; NEA 2009). Regardless of the approach taken, the findings from this research
9 imply that mandating action for social landlords is likely to be necessary to provide
10 sufficient motivation for social landlords to act. This requires a shift from the current
11 approach put forward by Government of promoting action on a voluntary basis (Green
12 Futures 2008).

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28 A necessary complement to regulation is to ensure that refurbishment is financially
29 viable. This is a complex task, as in addition to grant funding and other financial
30 mechanisms, it requires a number of structural barriers affecting financial viability to be
31 addressed. One key barrier is the inability of social landlords to share in the financial
32 benefits of refurbishment by increasing charges to residents to offset some of their own
33 expenditure. Giving social landlords greater freedom to change rent levels could be a
34 useful step to make refurbishment more financially viable. As increasing rents to fund
35 refurbishment may not be politically feasible, the Government should more generally
36 ensure that viable financial mechanisms are available to social landlords, which minimise
37 the risk, upfront costs and total lifetime costs of carrying out whole-house carbon
38 reduction interventions. A variety of mechanisms for achieving this exist (reviewed in
39 EHA 2009), such as providing low cost loans and linking repayments to a dwelling rather
40 than a household (for example through council tax payments). Grant funding is also likely
41 to be required for social landlords. External funding covering at least 50% of costs has
42 been recommended to stimulate the retrofitting of the social housing sector (Boardman
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2007; EHA 2009; XXXX et al. 2009). Support on this scale should be pursued, as the only available alternatives are likely to be rent increases or stock sales.

Finally, Government should look to change regulations that conflict with a social landlord's carbon reduction agenda. An example of this would be altering the regulations that require the time that dwellings are unoccupied between tenancies to be minimised, so that comprehensive whole-house refurbishments can be carried out (Housing Forum 2009). A second example would be to ensuring that grant funding is standardly available to cover refurbishment costs for leaseholder dwellings when a whole estate is refurbished. This approach has been successfully used in the past to ensure that all households on a council housing estate in Aberdeen could be connected to a new district heating system (King 2004).

Conclusion

Through participant observation with Peabody, a number of significant contextual issues affecting the viability of carrying out carbon reduction interventions have been identified. The results indicate that in the current context, interventions to achieve deep carbon emission cuts are not financially viable for Peabody, and may not be seen as acceptable by Peabody residents. These findings are likely to apply equally to other UK social landlords (which each face similar operating conditions), indicating a great challenge in achieving deep carbon emission cuts in the social housing sector.

These findings point to a need for the UK Government to intervene in a number of ways to change these contextual issues. This should include mandating that action takes place, ensuring that the necessary improvements are financially viable and giving an indication to social landlords and their residents that this work is part of a UK-wide effort to retrofit

1 existing housing. Without actions of this nature, it appears unlikely that action to achieve
2 deep carbon emission cuts from existing social housing will be viable.
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6 With regard to future research that builds upon the findings of this study, research on
7 actual carbon reduction refurbishments of housing estates would be of great value.
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10 Longitudinal research exploring the organisational process of delivering the measures and
11 the views of those involved could be particularly beneficial. Such research could be used
12 to improve knowledge of issues such as costs, funding mechanisms, acceptability to
13 stakeholders, political or organisational barriers and the actual impacts of refurbishment
14 measures on energy use.
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25 **Abbreviations**

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29 CHP: Combined Heat and Power

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31 ESCo: Energy Services Company

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33 GLA: Greater London Authority

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35 KPI: Key Performance Indicator

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37 RSL: Registered Social Landlord

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39 SAP: Standard Assessment Procedure (for energy ratings of UK homes)

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41 SHIFT: Sustainable Homes Index For Tomorrow
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48
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