Performing accountability: making environmental credentials visible in housing design

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Abstract

Making housing developments 'environmentally sustainable' requires housing developers to be accountable for their 'green' credentials. Accountability is promoted by both the UK government's environmental policy for housing design – the Code for Sustainable Homes – and local councils in their planning criteria. These accountability practices are key to how relationships between housing professionals and local planning authorities influence practices and outcomes of environmental sustainability. In this article, we examine how accountability is performed in housing design and development. We argue that accountability practices involve the management of making environmental sustainability visible through demonstrating the utilisation of sustainable technologies. We contend that these 'visibility' practices are carried out to the detriment of an appreciation of how energy is both provided and consumed. Indeed, visibility practices play a key role in shaping the provision of renewable energy with diverse end-results.

Keywords:

Accountability; Energy provision and consumption; Housing Development; Sustainable technologies; Visibility

1. Introduction

Practices of accountability are pervasive in planning initiatives to increase the environmental sustainability of new housing developments. It is our premise that accountability practices are central to how housing professionals and local planning authorities shape environmental sustainability. In this article, we discuss the politics of making environmental sustainability visible and its impact on energy provision. By examining the ways in which housing professionals account for their use of sustainable technologies, we argue that the 'management of visibility' is key to demonstrating compliance with policy. In housing development accountability is promoted by both the UK government's environmental policy for housing design – the Code for Sustainable Homes – and local councils in their planning criteria for environmental sustainability. For developers, the choice to install visible technologies is part of a creative strategy to accumulate enough points to meet the Code's criteria and the local council's target for planning permission. How developers deal with these sustainability criteria reveal the politics that underpin how local planning authorities and housing professionals together shape environmental accountability in a bid to comply, win building contracts, and demonstrate their sustainability credentials. For example, housing associations in collaboration with building contractors are required to submit bids that outline their proposals to meet energy requirements to local authorities to gain permission for developments.

In 2006 the UK's Department of Communities and Local Government (DCLG) launched an environmental standard called the 'Code for Sustainable Homes' (referred to as the 'Code' hereafter), which was introduced to inform the design and development of new housing: [it] 'offers a tool for home builders to

demonstrate the sustainability performance of their homes, and to differentiate themselves from their competitors' (DCLGa, 2006: 5; our emphasis). Promoted to developers as a means to single-out their properties in competitive housing markets, the Code is positioned as a way to demonstrate, and make accountable developers' actions during a build. Its implementation is assessed according to the performance of the whole building using a points-based system by measuring 'the sustainability of a home against design categories rating the "whole home" as a design package' (DCLG 2006a: 4). This enables developers to 'off-set' one aspect of the building with another to gain accreditation (Raman and Shove, 2000). The need to prove compliance with the Code is tied to the commercial ambitions and priorities of developers to design, build, and sell homes, and the environmental requirements set out by local planning authorities concerning design and construction. It is this negotiated relationship between professional practices and policy requirements that we focus on in this article.

We conducted our study in collaboration with one of southern England's largest housing associations. Our research was informed by 20 in-depth interviews with housing professionals. These professionals came from a variety of backgrounds such as: architects, development officers, and sustainability consultants, for example. All interviewees were involved in designing, constructing, and managing social housing schemes developed under the directive of the Code, and worked on schemes that had one of the following technologies installed: solar hot water heating panels, photovoltaic (PV) cells, or biomass Combined Heat and Power (CHP) technology. Because our study focused on the practices of professionals working for a housing

association in southern England, it is not representative of the whole of the United Kingdom. Our work therefore serves as a basis for further research.

2. Performing accountability

Accountability practices are so pervasive that they constitute everyday activities (Neyland and Woolgar, 2002: 262), becoming a principle of social organization (Strathern, 2000: 281). This is no less so for housing development where accountability shapes the activities and technologies that comprise building design. Understanding how accountability is carried out in this context is important, given that the materiality of the building, and the technologies contained therein, influence practices of energy provision and potential consumption (Shaw and Ozaki, 2013).

Accountability practices originally emanated from financial accounting in the form of audits. It is seen as a way of internalising governance and is concerned with the effectiveness of regulatory initiatives to ensure compliance with rules (Power, 1997: 41). 'Public inspection', 'rendering visible', and 'measures of performance' are practices associated with auditing that migrated from finance to the public and private sectors (Shore and Wright, 2000: 59). Notions of accountability also go hand in hand with moral and ethical connotations, such as value for money, efficiency, and transparency emerged with the rise of auditing (ibid.: 60). Positioned to encourage 'best practice', auditing is framed as fostering and maintaining professionalism (Neyland and Woolgar, 2002: 261). It is also associated with the value of widening access through transparency, making auditing increasingly difficult to criticise (Strathern, 2000: 3).

We define accountability as a process that demands of professionals an ability to be able to *reflexively describe and make visible their actions* to their assessors in a form that is persuasive (Strathern, 2000; see also Hinchcliffe et al., 2007). The accountability process thus enrols visibility practices, which make evident housing professionals' actions. In housing design, these descriptions exist as planning documents that visually describe the form of a proposed building, trying to be convincing of environmental credentials. Indeed, visibility is contingent on maintaining 'proper' performances in the sense of doing the right thing by 'officially accredited values of society' (Goffman, 1990: 45, quoted in Goldsmith, 2010: 916). The appearance of these performances can be achieved by making positive acts visible (ibid.), but also by concealing negative instances; and this is 'managed transparency' (Zyglidopoulos and Fleming, 2011: 702).

It is crucial to understand how visible representations of the Code (e.g. sustainable technologies) are managed as part of accountability practices so that they are recognizable as 'observable and reportable phenomena' (Button and Sharrock, 1998: 74). It is to this task that we now turn.

3. The Code: gaining and accumulating points

The Code is a voluntary assessment method that enables the rating of new build homes in terms of its design and construction with regards to environmental sustainability. Although originally introduced in England, it is intended as a 'single national standard to guide industry' to tackle environmental sustainability issues such as the environmental impacts of activities that contribute to increased levels of carbon dioxide from domestic arenas (DCLG, 2006a: 4; DCLG, 2006b) and it is widely

applied in the UK. Indeed, the UK government has recently announced the gradual discontinuation of the Code, but has integrated many of its measures into the Building Regulations. The Code offers an assessment framework that is recognised within the house building industry as 'the' framework to inform the design of new buildings in order to gain local government environmental approval, grant subsidy, and planning permission, for example.

The Code's target is to make all new built homes 'zero carbon' (zero net emissions of carbon dioxide from all energy use) by 2016, with a 44 per cent improvement in energy and carbon performance by 2013, compared to the 2006 Building Regulations (Part L). Pressure to comply with the Code is more significant in the social housing sector than in the private sector (McManus et al., 2010) because housing developments require Code certification as part of the conditions set by the funding agency in order to qualify for grant subsidy. Furthermore, local authorities, in England in particular, use the Code as planning requirements and often set a minimum Code level in planning conditions for future builds. The installation of technologies deemed sustainable, such as photovoltaic cells and/or A+ rated white goods (e.g. refrigerator-freezer, washing machine), is one recommendation made by the Code. The use of these technologies, for example, results in building developments being awarded points, contributing to the level of environmental sustainability accredited.

As mentioned earlier, the implementation of the Code by house builders is assessed according to the performance of the whole building using a points-based system that measures the sustainability of a home against design categories and rates the 'whole home' as a design package (DCLG, 2006a: 4). The Code is structured into

nine design categories with points attributed to each depending on the performance level attained. The category ‘energy/ carbon dioxide’ subsumes 21.4 per cent of potential points available to developers (ibid.).

Insert table 1 here

There are many ways in which housing professionals seek to accumulate enough points to reach the levels required of them by the Code by resourcefully appropriating certain technologies to meet its criteria. As we can see in the above table, the Code requires a proportion of ‘energy demand’ to be provided by ‘low or zero carbon technologies’ for each development. Technologies such as photovoltaic cells (PV) are often the technology of choice to be installed so as to meet the environmental targets of local planning authorities. Builders, usually responsible for managing the cost of a build, use photovoltaic cells because they do not produce excessive costs to fit, nor do they overly challenge the design of the build as they are easily fitted on the top of roofs. Other inexpensive visible ‘add-ons’ include the inclusion of bat and bird boxes, and rainwater harvesting tanks. These housing professionals demonstrated to us the knowledgeable, resourceful, and visible ways in which they attempt to accumulate as many points from the Code’s assessment criteria as possible, paying attention to the effect their chosen technological strategy has on housing design as well as cost.

Interpretations of the Code by housing professionals are not always a clear-cut matter. Decisions to install certain technologies are also shaped by the requirements

of local authorities, affecting how housing professionals perform accountability practices to achieve planning permission.

4. Accountability and visibility

Local planning authorities often set their own individual targets for environmental sustainability, complementing the Code's criteria. Meeting these targets is necessary for housing professionals to gain planning permissions. The importance placed on the role of assessment in shaping housing design cannot be underestimated. It is necessary for evidence, such as material specifications and other metrics, to be submitted to the assessors once the new building is completed, rather than during the construction and design process. Because of this, the assessment criteria is present in the activities and minds of those involved in the design process due to the risk of having a finished building that does not meet the Code's standards: 'We are constantly thinking for each design, is it compliant?' (Development Officer). Local councils are an important 'audience' for those involved in the design of new buildings and demonstrating accountability to gain Code accreditation and planning permission. As a sustainability consultant made clear to us, it is the local authority's brief they refer to, in order to find the definition of sustainability that they are required to build to.

Housing professionals try to make environmental sustainability visible in their designs, compromising their working approaches to sustainability. A Regional Development Manager told us that when they submit their plans for a new housing scheme the local planning authority view 'tangible things like… a small wind turbine on a roof, or photovoltaics' as fulfilling the 'green agenda'. In contrast, the

standard of insulation and the qualities of materials used are not given priority by local authorities because of their apparent invisibility.

The emphasis on the visibility of 'green' technologies and design by local authorities in the planning stage results in developers trying to align their design with this agenda in order to demonstrate compliance, compete for work, and gain planning permission: 'You had to have them [visible sustainable technologies] or you wouldn't get the project' (Architect). These scenarios can result in the installation of particular technologies, such as photovoltaic cells, without thought to how these technologies participate in shaping practices of energy provision (Shaw and Ozaki, 2013) and consumption (McMeekin and Southerton, 2012; Shove, 2003; Southerton, 2006; Ozaki and Shaw, 2014) and whether they are the most appropriate technologies to use.

The complication here is that the environmental targets set by local authorities vary and are subject to change. We found that these changes are influenced in part, by other local authorities' targets to achieve more renewable technologies and 'greener' credentials. A steering group member of the Code described how a planning requirement put forward by a London Borough required of developers to achieve ten per cent of their energy production from onsite renewables. Putting this into practice meant that, in some cases, the fabric of the building, which is invisible, is degraded in order to pay for these visible renewable technologies. Furthermore, between the local planning authorities there exists some competition to acquire the most renewables 'Some... started wanting 15 per cent and others wanted 20 per cent... there was a lot of confusion because the planners didn't really understand… how this was going to be achieved' (Code Steering Group Member). The installment of renewable technologies

to meet the targets of the local authority indicates that developers may ignore less visible practices, such as insulation, that may be environmentally beneficial for the sake of saving money to pay for renewables.

There are also trends in preferred technologies among local authorities. For example, asked why Biomass Combined Heat and Power (CHP) was chosen for one of their developments, a development officer explained that it was a 'push from the borough [local authority]' to implement their environmental strategy. Indeed, a sustainability officer in a local authority (engaged in the planning process for this same development) explained that the major of London's energy strategy and the Greater London Authority (GLA) generate requirements for the use of certain sustainable technologies. 'Whether it's solar panels or different methods, it seems to [be] "oh, this is the key one that everybody's doing at the moment"' (Local Authority Sustainability Officer). Within local planning authorities there exist trends for the use of certain visible technologies in housing developments, which affect the ways housing professionals approach locally set requirements.

Policy and local planning authorities demand of housing professionals the need to make 'sustainability' visible, drawing on sustainable technologies and building metrics, so that they can conform to environmental targets. This management of visibility is key to accountability practices; and yet, housing professionals' efforts can backfire. Conformity to policy itself does not necessarily generate sustainable effects. Despite its installation, a visible sustainable technology, which the local authority can see and approve of, may not produce intended and expected environmental impacts. As our own research (Ozaki and Shaw, 2014) shows, there is a conflict between the ways residents live and the assumptions associated with

installed technologies about their ideal use. A housing professional described a situation where photovoltaic cells were installed onto the roofs of a housing development to meet local planning conditions for renewable technologies. Yet crucially, the quantity of cells installed cannot generate enough 'useful' electricity to be of potential benefit to residents: 'It's no good saying to people, you've got solar panels but, by the way, it's probably only going to generate enough to run a couple of light bulbs' (Maintenance Manager). Similarly, an architect recounted a project she worked on where they installed photovoltaic cells onto the roofs of a development to meet the sustainability requirements of their planning conditions. These houses were targeted at commuter residents who were going to be out all day. At that time they could not connect the photovoltaic cells to the national grid, so if the electricity produced was not used, it was wasted. She saw a clear case of residents not being able to capitalize on their potential for energy renewable because their daily routines were not taken into account with the choice of sustainable technologies. Asked why the local authority was so keen to have photovoltaic cells, she replied that 'they look fantastic, they're sexy; they look really nice' (Architect).

Environmental 'visibility' is shaped not only by the way local authorities interpret the protocol, but also by the way housing professionals respond to those interpretations and make the local authority's sustainability criteria into a visible representation. Developers are held to account and how they manage the visibility of their actions is crucial to influencing how energy is provided, and the outcomes of environmental sustainability.

5. Conclusions

In this article we discussed how environmental accountability was promoted by local planning authorities in their planning criteria and how housing professionals performed accountability in their practices of housing development and design. In doing so, we examined a key element of accountability: making sustainable technologies visible in housing design, and its management.

The emphasis on installing sustainable technologies results in highly visible 'sustainable' buildings, such as ones with photovoltaic cells (PV), and is often done without consideration to how these technologies help shape local energy provision, as well as potential consumption.

These professional practices reveal the competition for winning bids that inform how local planning authorities and housing professionals together shape practices of environmental accountability in housing design comply with the Code and demonstrate their sustainability credentials. The emphasis on the visibility of environmental sustainability in housing design indicates a transparent and clear signal that a local authority is implementing and demonstrating 'best practice' in environmental matters. However, as the previous examples of the housing developments installed with photovoltaic cells show, such visibility does not necessarily result in the intended environmental outcomes that policy and local authorities envisage. There is a clear tension between the ethos and expectations that practices of accountability are imagined to bring into being (e.g. best practice) and the performative ways in which housing and local authority actors negotiate each others' requirements to fulfil environmental targets and gain planning permission. With a focus on the politics of making sustainable technologies visible, we argue that the 'management of visibility' encourages a superficial understanding of sustainability

that black-boxes the practices of actors that shape how energy is provided, influencing the potential for renewable energy provision and consumption. It is clear that policy's acceptance of the *installation* of sustainable technologies as proof of a building's sustainability ignores the lived worlds of those developing and using social housing and sustainable technologies. On the one hand, developers are opportunistic in saving money and meeting the required minimum environmental standards to gain planning approval. Social housing associations also require a development that is relatively easy to manage and maintain. Whilst on the other, local authorities ignore how buildings are used and residents interact with the installed sustainable technologies, with an emphasis on the installation as a satisfactory point to assess the 'successful' attainment of environmental targets. Clearly, meeting targets at the installation phase are only part of the story as to whether developments are indeed able to live up to their environmental credentials. Policy needs to look beyond the installation phase and consult wider with those professionals who develop and sell houses to understand better their working priorities and contexts. Only with an understanding of these professional worlds, can we begin to comprehend how the incorporation of sustainable technologies into buildings shapes the provision of energy.

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Table 1. Points Scoring System (Code for Sustainable Homes Category 1 – Energy/CO2)

Issue	Measurement Criteria	Points Awarded
Low or Zero Carbon Energy Technologies	EITHER Where at least 10% of total energy demand is supplied from local renewable or low carbon energy sources	EITHER 1.2
	OR Where at least 15% of total energy demand is supplied from local renewable or low carbon energy sources	OR 2.4