

# **“To encourage people to think” – the power of Building Control Inspectors in sustainable construction**

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## **Abstract**

In England, national building regulations govern aspects of a building’s environmental performance. Compliance with the regulations is assessed by Building Control Inspectors who review designs and inspect on-site construction. However, little research has been carried out previously to investigate the role of these professionals in sustainable construction. Semi-structured interviews were conducted with 20 building inspectors and four key informants from relevant professional bodies in England. Half of the building inspectors were based in private firms and half in local authorities. The building inspectors tended to position their power as wholly derived from the regulations. However, this stood in contrast to their descriptions of day-to-day activities and objectives which included providing advice and guidance, effective membership of design teams and a collaborative relationship with contractors/builders, architects and members of the public. Application of French and Raven’s (1959; Raven 1992) typology of power demonstrates that, in fact, other bases of power are available to, and are used by, building inspectors. Beyond the ‘reward’ and ‘coercive’ bases intrinsic to certification and regulation, and the ‘formal legitimate’ power of their legislative role, the building inspectors also deploy ‘expert’ and ‘informational’ power. The primary conclusion is that, with greater recognition of the varied bases of influence available to them, building inspectors could extend their influence in daily working interactions to optimise environmental design solutions.

## **INTRODUCTION**

Building control inspectors (BCIs) are part of the construction process on all construction projects in the UK, with the possible exception of very minor domestic works. They are involved in schemes ranging in value from many millions of pounds down to the individual homeowner tackling a do-it-yourself internal re-arrangement. Despite their ubiquity, there has been surprisingly little research with these professionals. Given their pivotal role in assessing compliance with building regulations, understanding their potential for instigating change is essential for the industry to become more sustainable. The objective of the current study was to investigate the role of building control inspectors and their power in facilitating sustainable construction. The duties of the building control inspector and the process by which the responsibilities are discharged are first outlined, before discussion of the relevant literature. A theoretical framing of power is then described before the method and findings of the study are presented and discussed.

## **The building control process**

In England, aspects of a building's performance are mandated by a set of legislative instruments, collectively known as building regulations. These are set out in fourteen parts, including structure (Part A), fire safety (Part B), ventilation (Part F), energy efficiency (Part L) and access (Part M). The duty of the BCI is to assess compliance with these regulations. The process of building control proceeds either via plans inspection or building notice. For projects with design plans (typically all projects with the exception of some minor domestic works), the plans are submitted to Building Control prior to commencement of work on site. The BCI conducts an assessment of the plans against regulations, followed by site inspections to assess the work against plan as construction progresses. Alternatively, for small projects, a building notice may be given and the BCI carries out a number of site inspections to evaluate compliance with regulations. In both cases, successful compliance results in the BCI issuing a certificate on completion, which can be important for gaining insurance or mortgage funding. The building control function was originally discharged by local authorities. From the mid-1990s however, private firms were permitted to offer building control services, within a strict framework of accreditation in which evidence of knowledge, capacity, experience, training and insurance are regularly audited. Such firms and their qualified inspectors are known as 'approved inspectors' and the building control function of assessment of compliance is now carried out by approved inspectors and local authority inspectors.

## **Building control in the literature**

Research studies which have contributed to knowledge on building control have tended to focus on building regulations, particularly on their effectiveness as legislative instruments. Previous work has examined fire safety regulations (Bright 2007), general compliance with a focus on health and safety (Baiche, Walliman and Ogden 2006) and energy efficiency (Part L) compliance in research exploring sustainable construction (Bell, Smith and Palmer 2010; Pan and Garmston 2012). There has been consensus in earlier studies that Part L is viewed by BCIs as less important than other regulations (Cox 2006; Williams and Dair 2007; Fischer and Guy 2009). Indeed Boardman (2007: 369) argued that Part L was not seen as "worthy of enforcement" by BCIs. However, such studies were conducted a decade ago. In the interim, the UK Government has enshrined emissions targets in law through the Climate Change Act of 2008; building regulations (particularly Part L) have become incrementally more stringent and further legislation on sustainability in construction, such as the Code for Sustainable Homes, has been introduced (and recently withdrawn). Lipsky (1980; 2010) has argued that policy is in fact made by the day-to-day practice of 'street-level bureaucrats', that is, the individuals with responsibility for implementing government policy. Thus an updated investigation with a focus on building control inspectors, rather than on policy instruments, is merited.

Studies on research questions beyond regulations have provided perspectives on BCIs seen through the eyes of other construction professionals. Architects and designers have been found to consider BCIs as a barrier to the inclusion of recyclates in construction design (Chick and Micklethwaite 2004). Contractors and building performance consultants have questioned understanding of Part L regulations among BCIs (Hamza and Greenwood 2009). A particularly bleak image emerged from Fischer and Guy's (2009) study with architects, with some of their interviewees suggesting that BCIs are poorly-paid, under-resourced, lacking in skills (specifically on Part L calculations), with a culture that de-prioritises energy efficiency. However, the perspective from one profession and one study cannot represent the wider picture, and differing views on the role of BCIs were discussed within Fischer and Guy's (2009)

own findings and elsewhere. Good and effective relationships between BCIs and site managers (Baiche, Walliman and Ogden 2006) and between BCIs and small builders (Sun *et al.* 2015) have been noted. Although good relationships between BCIs and builders could lead to an informality that threatens standards (Geelhoed *et al.* 2012), flexibility and openness to discussion by BCIs are valued by other construction professionals (Killip 2013). Amongst Fischer and Guy's (2009) architects, some had experience of productive long-term working relationships with approved inspectors, who effectively became part of the design team. The role of the BCI as enforcer of regulations has tended to be taken for granted in previous studies, with Baiche and colleagues (2006) as amongst the few to argue that responsibility for compliance falls to site managers and operatives and that BCIs should be facilitators and certifiers rather than enforcers. In one of the most in-depth studies with building control personnel, in which 59 professionals were interviewed in an investigation of Part L compliance (Cox 2006), the mechanisms by which BCIs can wield power were briefly outlined. Distinction was made between local authority and approved inspectors. Both can write letters as an initial sanction to draw attention to non-compliance and can refuse certification. Approved inspectors can refer a case back to the local authority and the local authority can take a case to court, although this is rarely done. The author notes that these mechanisms of power are rarely invoked and that "gentle persuasion" is the preferred means of progress (p. 4).

### **Power in social relationships**

Despite the focus on weaknesses in compliance in the studies cited, findings show generally high levels of compliance with building regulations, demonstrating that the role of the BCI is by and large successful. However, the implicit assumptions around power as enforcement and the very limited discussion of how BCIs achieve compliance within interactions with other construction professionals ignore long-standing knowledge on the nature of power and influence in social interaction. French and Raven (1959) proposed a model of power in social relationships which has been refined subsequently (Raven 1992) and remains predominant in social research (Fiske and Berdahl 2007). In this model, social influence is defined a change in an individual's behaviour or belief resulting from the action of another person, the influencing agent. Social power is defined as the potential to wield such influence (Raven 1992). Social power exists in all human interactions and is invariably implicitly recognised. However, typically, some forms of power are assumed to predominate in particular interactions while others are overlooked. Of the six bases of power proposed in the model, the most easily recognised are those of reward, coercion and legitimacy. Power stemming from the ability to reward is self-evident and coercion is its complement – the power to punish. Threats and rewards may be real, as in the power to award or deny certification of building compliance, but may also be interpersonal – personal approval or disapproval by someone perceived as important to the individual also function as threat or reward. Legitimate power arises, amongst other sources, from a structural relationship, thus the position of building inspector carries formal legitimate power, based on its legislative role, to query, challenge and offer suggestions to others in the design team. Less well-acknowledged bases of power are those of expert and informational power. Expert power lies in the tendency for people to follow the advice of those they consider experts, in the assumption that the expert has greater knowledge. Informational power relies on access to information or reasoned argument. The sixth power base, referent power, relies on the target of influence identifying with the influencing agent, and is not considered relevant here. Thus French and Raven's model of

social influence proposes five bases of power which may be available to BCIs: reward, coercion, legitimacy, expert and informational.

The objective of the research was to explore the role of BCIs in relation to sustainable construction. Taking a qualitative approach as appropriate for an explorative study, we did not begin with a priori theory or expectation, in line with recommended practice. In the analysis stage, we identified French and Raven's theory as a useful framework to aid interpretation of the data and we describe it here as background for the reader.

## **RESEARCH METHOD**

In order to explore the role of building inspectors in depth, a qualitative methodology was adopted. The objective was to gain a broad but nuanced account of how Building Inspectors themselves perceived their role. Semi-structured interviews were conducted with twenty practising building inspectors and four senior representatives of relevant professional bodies (the Chartered Association of Building Engineers, the Chartered Institute of Building, Association of Consultant Approved Inspectors, Local Authority Building Control). Half of the participants worked in local authorities and half in approved inspector businesses. The majority of participants were recruited by direct invitation – for the approved inspectors, a list was compiled of all approved inspector organisations. A small number volunteered by responding to a notice on the Planning Portal website. Both businesses and local authorities were selected to ensure a spread of representation across England. No other selection criteria were applied. The interviews were conducted by the second author, lasted approximately one hour and were audio-recorded and transcribed verbatim.

Thematic analysis was conducted on the data - an analytic method that systematically seeks patterns in the data enabling interpretation that is both detailed and rich. The analysis facilitates two levels of interpretation: first, a more descriptive reading, representing a surface level account of the data, and second, a more critical analytic interpretation, in which commonalities and contrasts within the data and beyond are drawn out. At this level, the analyst can draw on previous research and theory to add insights to interpretation. Following the guidelines of Braun and Clarke (2006), the transcripts were read and segments of interest were coded. When all transcripts were coded, the coded segments were clustered into subthemes and then into themes, checking back constantly to the data to ensure completeness and accuracy. In keeping with recognised standards of rigour and validity for qualitative research, data abstracts are presented below to demonstrate transparency and to allow the reader to evaluate the appropriateness of the analysis.

## **RESEARCH RESULTS**

The themes in the data were clustered into three groups: (1) ensuring basic compliance and the limitations of the role, (2) advising and guiding the design team and (3) a broader vision for the role. These themes are first discussed in general before considering their applicability to the participants' responses on sustainable construction. Verbatim quotations are indicated by participant number (e.g. P3) to protect anonymity.

### **Basic compliance and the limitations of the role**

The participants described the role of the Building Control Inspector as ensuring compliance with the regulations: to ensure "*the building is fit and safe for use*" [P5]. Most emphasised the minimal nature of required compliance and many referred explicitly to the boundaries of their role. They clarified that the building inspector's role does not include design. Although they

can exercise judgement and consider novel solutions, they cannot instruct changes that have cost implications. Most saw decisions being driven by others: *“we’re not really a decision maker that, I don’t think, that can make a lot of difference...contractors and clients and designers have more of a role to play”* [P17]. The sense from many was of the limitations of their role, it being closely aligned to building regulations and with power only to assess (minimal) compliance. These responses clearly considered only the legitimate base of power from French and Raven’s (1959) model and perceived this to be a limited form of power.

### **Advising and guiding**

However, an alternative perspective emerged in parallel. A number of participants saw themselves as an intermediary between government policy and industry in terms of knowledge, and spoke of *“pass[ing] information on to builders and designers”* [P16]. Several mentioned *“grey areas”* in regulation, where the requirements were not straightforward, and described their role as helping the client. Some noted their collaborative role on the project team, communicating between different professional silos which included communicating design intent to people on site. They typically dealt with the full range of parties involved in a construction project, including clients (from organisational to private householder), structural engineers, architects, site agents, heating engineers, fire officers, builders and site operatives. A number described one of their main objectives as assisting both design team and client:

Our primary aim is to get the best possible outcome for the building in terms of the client's wishes and the design team's wishes, at the same time as achieving the highest level of compliance...we have two goals.  
[P12]

The majority saw their role as including the provision of guidance and advice. Most offered technical consultations at a pre-submission stage, to members of the general public as well as to other construction professionals, and their advisory services continued from the early stages of the project right through to on-site work. Some spoke of negotiating, compromising, *“an element of advocacy and persuasion”* [P7]. A number described making suggestions and offering options or alternative solutions and: *“If, for example they can’t meet an aspect of the building, we will give them suggestions”* [P19]. A strong emphasis on interpersonal skills and an ability to communicate and negotiate was evident. Some participants explicitly contrasted the typical approach with an earlier or stereotypical role of ‘police officer’: *“We need to advise and be advisory because the world has changed and customer expectations have changed. Nobody, a householder, or whatever, will tolerate anybody wielding a big stick from the public authority”* [P7] Here the participant makes reference to what the social power model would term coercive power and interestingly, the reference relates to the ineffectiveness of this power base.

A few participants recognised the influential nature of the role of building inspector:

That influence is real... the small to medium sized contractors, they will defer to a building control officer for the simple reason that they want to get a building built ... and they will give him his place. [P2].

Another spoke of the significant impact of building control on the sector: *“For the industry, we have a huge impact on the built environment, huge...we’re the people that no-one notices...without us, it wouldn’t be possible and we make a huge impact”* [P12]. So although the bounded nature of their role was salient for the participants, they also described the

guidance and advice they offered and the processes of discussion and communication they used, with a few recognising the considerable influence of their profession. From the perspective of social power theory, the BCI possesses expert and informational power as well as institutional, and the evidence here suggests that these forms of power are exercised by BCIs on a day-to-day basis, albeit often without full recognition.

### **Broader role**

Despite the emphasis from the majority on the constraints of their position, some participants showed a broader vision of the potential of the building control role. Noticeably, a few did not accept the limitation of minimal compliance with regulations, speaking instead about contributing to high quality in construction: *"I think [the role of building control is] to support the construction industry in getting the quality of building construction as high as possible"* [P7]. Others described being pro-active in their approach within the limits of ensuring compliance. Some participants noted the wider role of the building control sector, contributing to British Standards for example, and others saw the potential for this to be expanded and to include input to regulations.

### **Sustainable construction**

Before considering the three themes with respect to sustainable construction, two preliminary points are necessary, regarding the participants' interpretations of the term 'sustainability' and their perspective of the relative importance of regulations addressing sustainability.

#### **Understanding of sustainable construction**

The interviewees provided a broad range of responses when asked what they understood by the term 'sustainable construction'. Most referred to energy efficiency and thermal performance. Some referred to flooding, biodiversity, water efficiency, waste and materials. Several saw sustainability in terms of durability, linking the term to high quality, flexible buildings that were useful to their occupants and to society over time. A number spoke about the bigger picture and global context. For most participants then, there was a holistic understanding of sustainability in construction, not restricted to the few aspects addressed in current building regulations.

#### **Relative importance of regulation parts**

Participants were asked if all regulatory parts were of equal importance, in order to assess the relative priority of environment-related provisions. There was consensus that compliance with all parts were required but that primary attention may be paid to some provisions. As Participant 12 explained: *"We can't sign a building off unless we're satisfied that every, single building regulation is at a satisfactory standard, but naturally, you get drawn towards certain regulations because of the impact they have"*. For most participants, fire and structural safety were the parts that were first mentioned although a few also referred to Part L on energy efficiency as high priority. In contrast, others described the difficulty of communicating the importance of Part L to the client due to its intangibility and complexity. This suggests a somewhat complex take on the regulations by building control inspectors: recognition of the equal statutory footing of all provisions but the experience of an implicit hierarchy of importance influenced by risk and tangibility.

Responses to their role in sustainable construction showed a similarly diverse range to views on the role in general. For some participants, the fundamental role was that of compliance with Part L, and more generally to implement government policy. A number clearly articulated what they perceived as the absolute limitations of their role, seeing no involvement without the existence of legislation: “*The only way building control could make [construction more sustainable] is to get it within the legislation as set standards, otherwise we can’t really enforce anything*” [P5].

However, several participants juxtaposed acknowledgement of some power on aspects of sustainability alongside the constraints. For example,

We can’t influence design and we can’t influence how things are done, but then when people are talking to us about renewable energies... is guiding them through various options that are available to them. [P9]

One spoke of an “*advocacy role*” in encouraging the client and designer to improve thermal performance so that energy bills were reduced. Another mentioned scope for advice given the flexibility in thermal modelling for projects. So there was reference to influence beyond ensuring that the regulations are met. However, although referred to, in most cases, this influence remained partially unrecognised. For example, one said:

They could perhaps say in the process of value engineering and so forth that they might want to think about this or ... that, but it’s nothing that we have any power to enforce, it’s all sort of goodwill. [P21]

In these extracts, the participants show awareness of the expert or informational power of their role but appear to acknowledge only the coercive power base – other forms of influence are dismissed as “*goodwill*”.

When asked about the contribution that the building control professional could have, participants proposed multiple ways for the sector to facilitate progress of sustainable construction. Reference was made to the ability of building inspectors to “*push the boundaries*” [P9] and to facilitate the introduction of alternative technologies and methods; to apply their knowledge for more holistic solutions, “*to encourage people to think*” [P16]. There was recognition of the potential to encourage others on construction projects to set and achieve higher standards with respect to the environment and generally “*to promote good practice in terms of build and materials*” [P14]. One key informant felt that building control had the potential to influence the industry in general and could encourage development of government policy. Another BCI clearly described the constraints of the role but went on to describe his efforts on a flagship project, intended to demonstrate excellent practice. Thus, despite near universal recognition of the limitations of institutional power of their role, French and Raven’s legitimate power base, almost all were deploying expert and informational influence in their day-to-day interactions, and a number were actively looking for other ways to influence the industry.

## **DISCUSSION**

Based on our analysis of interviews with twenty-four building control professionals, the findings suggest that most considered their role in sustainable construction to be limited by the content of building regulations. However, this perspective overlooked the processes by which BCIs in fact operate. In parallel with describing the constraints of their role, the

participants also describing informing, advocating, persuading, guiding and influencing, as essential mechanisms to accomplish their job objective.

From the perspective of the social power model (French and Raven 1959; Raven 1992), their responses appeared to consider primarily the formal legitimate power base, that is, the power based on the regulatory role of the building control inspector. Limited comment was also made on coercive power – the power to punish, in this case by not signing off on compliance. An approach based primarily on coercive power was seen to be likely to meet resistance and to be ineffective. An analysis of power bases by Raven and colleagues (1998) found a two factor solution: (1) harsh forms of powers including power from legitimate position and use of sanctions, and (3) soft forms including expert and informational. The responses from our participants recognised harsh forms of power almost exclusively. However, other forms of power were in evidence. In particular, participants referred to informational power in which they proffered suggestions to the design team, and to expert power, in which their knowledge and experience contributed to project outcomes. While on the one hand the participants described how they used these forms of influence, on the other hand, they appeared to dismiss them, in one case describing them as just “goodwill”. Research has shown these ‘soft’ forms of power to be, in general, more effective than harsh forms, with expert power particularly effective across domains (Fiske and Berdahl 2007). A small number of participants appeared to realise the expert power of BCIs and had planned, or could see potential, to drive flagship projects or to influence government policy. For a few, their expert power was consciously incorporated into their daily job, in their attempts to move beyond the minimal requirements of the regulations and to encourage higher standards.

The findings here align with the arguments of Fischer and Guy (2009) on the potential role of the ‘intermediary’. Although examining the role of the architect, they proposed the importance of the intermediary, who could mediate not only between the technical requirements of regulations and the design team, but could also mediate between constructions professionals. The BCIs here described their relationships with multiple players within the design team and beyond, and referred to conveying knowledge and expertise – about the design intent, about the regulations and about construction techniques in general – amongst the range of project stakeholders. Fischer and Guy argued for the important role of intermediary in sustainable construction to be played by architects. We argue that BCIs are also ideally placed to take on this role. Indeed, BCIs may be better placed given their independent role, not employed by the client, and their frequently greater presence on site.

The findings here challenge earlier research which argued that Part L of the building regulations was seen as less important by BCIs. The participants in this study were clear that all regulations were important and that compliance with all is required. Even if some appear to be primary, the participants noted that, in reality, it is highly unusual for regulations to be prioritised – compliance with all relevant parts must be achieved. As the earlier studies were completed a decade ago, it is possible that understanding of the importance of Part L has developed in the interim. The current study also contrasts with that of Baiche and colleagues (2006) in which the participant BCIs suggested that the regulations were straightforward to interpret. Here, the ‘grey areas’ of regulation which required the BCI’s interpretation were mentioned by several, as was the complexity of Part L in particular. Again, the passage of time and evolution of the regulations may explain the difference in findings.



## CONCLUSIONS

The power available to BCIs goes beyond that of the formal legitimate power of the role and the coercive power to refuse certification of compliance on a building project. Although these are the forms of power most often referred to, in reality, the BCI's role in ensuring compliance is typically achieved through expert and informational power, deployed through advice and guidance. There is great potential for BCIs to become more influential in encouraging increasing levels of sustainability through realisation of all of the power bases they wield and how they can use them most effectively. This potential is understood, and acted upon, by some BCIs but could be deployed much more widely. Decades of theory and research on social power point to bases of power and means of effective use which could enable BCIs to leverage the power of their role to contribute more to progress to sustainable construction.

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