A National Survey of the Role of the UK Development Industry in Brownfield Regeneration

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Abstract

Recently, the UK government has focused increasingly on how best to bring brownfield land back into reuse for housing. Pressures caused by demographic changes, regional policies, and skewed economic growth together with the government’s desire to pursue ‘sustainable development’ policies, have increased demand for housing on brownfield land. Therefore, in the ‘post-Barker’ world, the development’s industry’s role has come under close scrutiny.

The paper provides an overview of brownfield policy in the UK, and examines the development industry’s role in brownfield regeneration. The paper analyses results from a survey of commercial and residential developers carried out in mid-2004, and which forms Stage 1 of a two and half year EPSRC-funded project, based at The College of Estate Management in Reading. The results suggest that housebuilding on recycled land is no longer the preserve of specialists, and is now widespread throughout the industry in the UK. Attitudes towards developing on contaminated sites also appear to have changed as developers have gained more experience of building on brownfield land. The redevelopment of contaminated sites for residential use could, however, be threatened by the impact of the EU Landfill Directive. These and other findings, relating to sustainability issues (including climate change), have important ramifications for brownfield regeneration policy.

Background and context

On their election in 1997, the New Labour government placed a particular emphasis on brownfield regeneration as a cornerstone of urban regeneration. This approach recognised the importance of reusing brownfield land both to improve urban environments and to relieve development pressures in the countryside. The new government took on board this theme with greater alacrity than its predecessor, placing urban regeneration high on its agenda (1).

The emphasis on recycling urban land was further strengthened with the introduction in 1998 of the target for 60% of all new homes to be developed on brownfield land (2). The latter forms part of the UK government’s sustainability agenda, which embraces the promotion of social progress, protection of the environment and natural resources and a commitment to maintaining a high level of economic growth (3). These objectives also informed the Sustainable Communities Plan which is the government’s strategy for tackling both areas of strong housing demand in the South East and areas of decline in the North and Midlands (4). However, the three underlying objectives (or ‘pillars’) of sustainable communities – environmental, social and economic – are not easily balanced, and opinions differ on how much emphasis should be placed on each. The increasing pressure to release more land for housing, also looks set to heighten the tensions that exist within the sustainability agenda (5).

More recently, the Barker review has refocused attention on the development industry in relation to brownfield regeneration (5). The review was commissioned by HM UK Treasury to investigate the lack of responsiveness of housing supply to increasing demand amid concerns over the consequences of rising house prices for the national economy. The conclusions from the review support the need to release more land for housing, if the aims of lowering house price inflation and increasing the amount of affordable accommodation are to be met. Although there is no suggestion in the report that the 60% target for brownfield reuse should be discarded, the difficulties inherent in brownfield development raises the possibility of a potential conflict between the need to increase the supply of housing land and the government’s emphasis on reusing land. Therefore there are further tensions between the requirements for national economic growth, including improving accessibility to affordable housing, and the restrictions on greenfield development to limit environmental damage and direct resources towards revitalising urban communities.

Current statistics show that the brownfield land total is about 66,000 ha in England, with some 16,500 ha comprising ‘hardcore’ sites (6). The Government’s national target is that by 2008, 60% of new dwellings should be provided on previously-developed land, and through conversion of existing buildings. In 2003, provisional estimates suggested that 67% of new dwellings were built on previously-developed land including conversions (the same percentage as 2002), compared with 56% in 1993 (7). As Figure 1 shows, the total number of dwellings completed on brownfield sites was relatively stable between 1997 and 2001, although the absolute total appears to have increased more recently, with a bottoming out of ‘greenfield’ completions.

Moreover, the Barker review took a fairly critical view of the housebuilding industry’s attitude towards brownfield development. With housing completions at a low ebb, as the review states (8):

"Developers do not undertake sufficient brownfield development from the point of view of social costs and benefits. This is not caused by risk, but it may be exacerbated by it. Building on brownfield land has clear external benefits; it aids in regeneration of cities in particular, and reduces the need to use additional greenfield land, reducing the environmental impact of development. These positive externalities are not signalled to housebuilders or landowners, as their profits from brownfield developments will not reflect them. This suggests that there is a possible market failure in the provision of brownfield land for development."
In Barker's view, which adopts a market-led, 'behavioural' approach to understanding housebuilder strategies in relation to brownfields, the fundamental problem was the low value of brownfield land resulting from relatively high development costs, coupled with high existing use values, which may prevent redevelopment. This was also often exacerbated by contamination issues and other mitigation works which reduce land value and may even result in a negative value. In short, both market and site-specific risk can increase 'housebuilders' aversion to brownfield development'.

![Figure 1](image1.png)

**Figure 1** Dwellings built on brownfield and greenfield land in England (source: ODPM data)

### The role of the development industry

The shift in policy towards reusing urban land has also changed the framework within which the housebuilding industry operates. Housebuilders have been required to reduce their dependency on greenfield and develop in a very different context. So to what extent has the industry, which has been notoriously slow to innovate, adapted to these changes? (9) This section briefly draws together previous work and the available evidence in the public domain to explore the questions:

- To what extent are housebuilders engaging in brownfield development?; and
- How do the strategies of individual housebuilding firms differ?

Publicly available information on how housebuilders are approaching brownfield development is largely restricted to the company literature of publicly quoted firms and public statements such as submissions to the Barker Review. Nonetheless this data reveals some interesting findings. Not surprisingly perhaps, the headline figures suggest that the industry as a whole has responded positively to the increased emphasis on brownfield development, with the national 60% target having been reached by 2001, seven years ahead of schedule. The industry body, the House Builders Federation (HBF), has been broadly supportive of the idea of building homes on brownfield sites, but as a supplement to and not a replacement for greenfield development, and has continually pointed to flaws in the procedural and policy framework which make such development more difficult [(10); (11)].

A simple review of the company literature of the 12 largest publicly quoted housebuilders (which include the top 10 housebuilders overall measured on completions) highlights a range of responses towards brownfield development (Figure 2) ². For some housebuilders, notably Berkeley Homes, Countryside Properties, Barratt and Bellway, brownfield sites now account for the majority of their output (12). George Wimpey saw a large rise in completions on brownfield land from 54% in 2002 to 67% in 2003, which is likely to be due in part to their acquisition of Laing Homes towards the end of 2002. At the other end of the scale, housebuilders such as Redrow, Bovis Homes, Wilson Bowden and Persimmon have yet to reach the government’s target. Most of this group state that they support the government's aim to build 60% of homes on brownfield sites, and are working towards achieving this target. Wilson Bowden, for example, report that 'the Group has shifted its extensive land bank acquisition towards brownfield sites' and that brownfield comprised 67% of all land (gross acreage) purchased in 2002 [(13); (14)]. Similarly, Redrow, although only completing half of their new homes on previously developed land, report that brownfield sites now account for over 70% of their land bank (15).

![Figure 2](image2.png)

**Figure 2** Approach to housebuilding on brownfield land (source: Housebuilders’ annual reports)

These publicly quoted companies make up around 50% of the market; there is little information in the public domain on the strategies and approach to brownfield development of smaller and privately owned housebuilders who constitute the remainder of the industry. Exceptions include high-profile innovators such as Urban Splash ³, who although producing less than 200 units a year, have arguably had a much greater impact on the attitudes of the industry towards the potential of urban development.

Behind the headline figures there are clearly differing levels of commitment and motivation towards brownfield development. Some housebuilders view this as a new opportunity, but others appear to be responding more reluctantly to the changed policy framework and are targeting sites very selectively. George Wimpey, for example, state that they are ‘developing a high quality, low risk business able to exploit the growing market for inner
city living' targeting prime sites in London and other major cities (16). Many housebuilders clearly see a market for urban living amongst certain sectors of the population, such as affluent young professionals, which they are prepared to cater for, but are more sceptical about wider demand. To date, the Berkeley Group's main activities have largely focused on the premium market achieving an average selling price which far exceeds other leading housebuilders, although this is also a reflection of their main area of operation in London and the South East.

The dominance of the largest high-volume housebuilders has implications for the influence these actors have in housing production. For example, Barlow identified the lack of competition from alternative sources of supply in the housebuilding industry as an important barrier to innovation (17). However, there has been recent speculation about the possible entry of commercial developers into the housebuilding market and the impact this would have on the industry ([18]; [19]). As Barker commented, the skills required for brownfield development are more characteristic of commercial property developers (8). Chelsfield, primarily a commercial developer, are already active in residential development in London, whilst Stanhope (in much the same category) have set up a subsidiary First Base which will focus on providing low-cost homes.

In summary, the available evidence shows that housebuilders have responded by varying degrees to the changes in the regulatory structure within which their industry operates. But the extent of the response from the industry should not be overplayed. For example, in the early 1990s, housebuilders were already engaging in brownfield development; in 1993 56% of dwellings in England were built on brownfield sites and this had risen to 64% by 2002 7. To put this into context, applying these figures to the annual private sector completions data 8 gives a total increase over this 9-year period of just over 13,500 dwellings – equivalent to the annual completion rate of George Wimpey.

The development industry's approach to brownfield development - Stage 1 survey

Research questions
From our review of the existing literature and data sources, some of the outstanding questions and issues our nationwide survey of developers seeks to address are:

- To what extent are developers engaging in brownfield development and how this varies by company type and size.
- What are the driving forces behind brownfield development; is it primarily the 'push' factor of government policy or are there 'pull' factors as well?
- If the government’s target for brownfield development is going to be sustained, increasingly contaminated sites will have to be tackled, but what are attitudes towards developing on contaminated land in the industry? Is post-remediation 'stigma' considered to be a significant issue?
- To what extent is awareness and use of remediation technology moving beyond the usual 'dig and dump'? Do developers consider that they have adequate access to independent sources of information on remediation technology?
- Is 'sustainability' permeating the development process – from detailed building design to site masterplanning and community consultation?

Set against the backdrop of the Barker review, the survey also presented the opportunity of gathering opinion on recent policy reviews and legislation such as the EU Landfill Directive banning the co-disposal of hazardous and non-hazardous waste impact on developers' behaviour 9.

Methodology
A nationwide survey of developers was therefore undertaken in June-July 2004 to gather contextual data on approach and attitudes towards brownfield development. The issues raised in the questionnaire will subsequently be pursued in more detail in case study work in Stage 2 of the research.

The postal questionnaire was sent to just under 1,000 developers, and the sample was split in a ratio of approximately 30:70 between commercial developers and housebuilders respectively, reflecting the focus of the research project. The sample of housebuilders included the top 100, based on unit output, sourced from the Private Housebuilding Annual. The remainder were selected randomly from various sources and directories including: NHBC, Freemans, Estates Gazette Interactive and Glennigan. The sample of commercial developers included the most prominent in the industry, with the remainder selected randomly from directories. The survey required a response from someone with an overview of company strategy, and so it was targeted at named managing directors or other members of senior management.

The subject areas in each questionnaire are summarised below:

- Part 1: contained questions on company type, geographic spread, type of development undertaken, extent and composition of land bank (housebuilders only), amount of brownfield development undertaken, how and why this had changed / is likely to change in future, attitudes towards developing on contaminated sites and opinions on the impact of the EU Landfill Directive and the Barker Review.

- Part 2: explored knowledge and use of different remediation technologies, access to information, experience of post remediation stigma amongst different groups, insurance against risk, the existence of a company environmental policy, attitudes towards sustainability and opinions on the potential impacts of climate change.

The response rate for the first phase of the questionnaire was 16% (158 useable responses; sample size: 987). The second phase of the questionnaire was sent out to all those who responded to the first survey and supplied an appropriate contact; 65% of these were returned (94 useable responses representing 10% of the original sample) 9.
Main Findings

The development industry’s approach to brownfield development

The survey targeted developers according to whether their principal business was commercial property or housebuilding. There has been recent publicity surrounding prominent commercial developers intending to extend their activities to include residential development and the impact this could have on the housebuilding industry. The survey findings show that there is already considerable crossover between the two sectors, with over half of all commercial property developers in the survey also building housing and vice versa: the signs are that this is likely to increase.

The survey also confirmed that brownfield development is now widespread throughout the housebuilding industry. For example, more than 80% of the sample developed entirely on brownfields. It was already apparent that brownfield development was no longer the preserve of specialists and had been adopted by volume housebuilders. For example, larger housebuilders were building some 50-74% of their units on brownfields. Findings from the survey show that smaller and medium-sized operators have also clearly shifted their output towards brownfield (Figure 3). Commercial property developers have a much longer history of developing on previously used land. The commercial developers in our survey built predominantly on brownfield sites. However, where they also undertook housing development this was restricted solely to recycled land.

Figure 3 Average brownfield completions by size (source: (20))

Given the policy emphasis on brownfield development it is not surprising that housebuilders of all sizes are undertaking schemes on previously developed land, to a greater or lesser degree. Maintaining output on greenfield sites has become increasingly difficult in the recent planning climate. Indeed, ‘the availability of land’ or ‘government policy’ (which underpins the former) were the key reasons given by the majority of developers for increasing their output on brownfield over recent years.

However, the move towards brownfield development has not been solely policy-driven; a significant proportion of developers – both commercial and residential – viewed it as an opportunity for profitable development in what has been a relatively buoyant property market.

At present, there appears to be a clear intention amongst developers to continue to increase the amount of brownfield development they are undertaking and for housebuilders this was supported by the composition of their land banks in which brownfield accounted for, on average, 70% of total plots.

Dealing with contaminated sites

Developing on sites with contamination is likely to become increasingly important if the brownfield target is to be sustained. The survey findings show that developers in both the commercial and residential sectors are clearly not averse to developing on contaminated sites. Practically all the survey respondents were prepared to undertake development on sites requiring remedial treatment and around three-quarters had actually developed on contaminated sites over the past year. Smaller developers are less likely to undertake schemes on contaminated sites; this is not unexpected given that they may not have the resources, the specialist knowledge or the financial reserves to carry the additional risks involved.

A majority of housebuilders (59%) were prepared to hold contaminated sites in their land banks (Figure 4). Attitudes towards contaminated land clearly appear to have changed as housebuilders have gained more experience of developing on brownfield sites.

Figure 4 Willingness of housebuilders to hold contaminated land in land bank (source: (20))

The readiness of the development industry to tackle contaminated sites could, however, be threatened by the impact of the EU Landfill Directive. Over two-fifths of housebuilders were likely to be discouraged from undertaking development on sites with contamination following the implementation of the Directive. This was particularly true of smaller housebuilders and those without experience of commercial development. Commercial developers were less likely to be dissuaded from building on contaminated sites, but the Directive is clearly causing some uncertainty in the industry.

The Directive is causing concern because 'dig and dump' is still the most frequently used method of dealing with
Contamination. There is, however, evidence that in-situ treatments are being used, most commonly barrier methods and containment. Commercial developers typically had a greater awareness of alternative remediation techniques than housebuilders and were more likely to have experimented with them, particularly solidification / stabilisation and soil vapour extraction. Other techniques were generally used much less frequently.

The EU Directive does appear to have stimulated some interest in exploring alternatives to landfill; just over half of all developers said they were doing this. Of the remainder, around half stated that they were also likely to continue developing on contaminated land, suggesting that they already have sufficient knowledge of alternatives to landfill.

In terms of access to independent sources of information on remediation treatments, the majority of developers did not consider this to be a problem. Smaller housebuilders were less likely to share this view and this could suggest that there is a greater role for government bodies such as the Environment Agency to publicise and disseminate information more widely.

Risk and stigma

The survey findings also revealed that the use of Environmental Liability Insurance and newer products, which allow bespoke outsourcing of liability, is relatively limited as yet. Developers are more likely to rely on contractor warranties and fixed price remediation contracts to help manage risk and control costs. This is an issue which will be investigated in relation to site-specific conditions in the case study research in the next phase of the project.

Post-remediation stigma amongst purchasers, valuers and lenders was also considered to be a significant issue by both housebuilders and commercial property developers. The impact this has in relation to the marketing of a scheme and end values will be explored in more depth through the case study work in the next phase of the research.

Integration of sustainability into the development process and opinions on climate change

Around a third of developers stated that they had a formal environmental policy or statement. However, this is not a significant influence on attitudes towards brownfield development. Only a small minority of developers cited a company environmental policy as a motivating factor in undertaking brownfield development and this was alongside other influences such as government policy, availability of land and the opportunity for profitable development.

In terms of site location and masterplanning, the majority of developers were positive about the need for close proximity to public transport links, access to local shops and services and the need to minimise impact on site ecology. These are often matters which are addressed via the planning system through site allocations in local plans, policy requirements and S106 agreements.

Views on the importance of early community consultation regarding development schemes, again a requirement of the sustainability agenda, were more mixed depending on past experiences. Given the prevalence of NIMBYism some developers are clearly reluctant to engage with local communities, describing attempts as ‘counterproductive’. Others, perhaps recognising the benefits of tackling community concerns early in the planning process, placed greater importance on this, including the largest of the volume housebuilders.

The importance of providing affordable housing was also a more contentious issue due to the impact on development economics, with some developers actively avoiding schemes which would require an element of affordable housing.

Consideration of the environmental performance of buildings through the adoption of BREEAM standards was much less widespread in the industry and more commonly taken up by commercial developers.

There are some important issues in relation to this:

- There was a general lack of awareness, if not of BREEAM, then the exact standards required, especially amongst housebuilders;
- Some developers claim they design to BREEAM standards but don’t apply for accreditation due to cost;
- Some housebuilders suggested that the cost of implementing higher environmental standards would not be met by house purchasers who aren’t prepared to pay extra for them.

In public-private sector partnerships, achieving higher environmental standards in building and site design is often a requirement; English Partnerships, for example, require buildings to achieve a ‘very good’ BREEAM rating. Increasingly these matters will also be subject to regulation; consultation is currently underway for changes to Part L of the Building Regulations to incorporate the requirements of the EU Energy Performance of Buildings Directive. As higher environmental standards become a necessity, rather than an option, concerns about increased costs adding to the purchase price of a house will no longer be an issue for individual housebuilders, but will apply equally throughout the industry.

There is a growing awareness in the development industry about the potential impacts of climate change. Consideration of possible effects is regarded as particularly important at the building design stage, probably at least partly a result of continuing changes to the Building Regulations. The impacts of most concern to developers are the possibility of rising insurance costs and increased flood risk.

Conclusions

Government policy has clearly been successful in shifting the pattern of development towards brownfield sites, but conflicting policy aims may start to create difficulties and threaten the continued success of the regeneration agenda. The attempt to reduce the amount of contaminated material going to landfill sites may also slow down the development of brownfield sites, as alternative...
methods of remediation have to be sourced and implemented and costs of disposal rise. Higher costs for dealing with contamination may therefore threaten the viability of some brownfield redevelopments thus increasing reliance on public sector intervention. There also appears to be a greater need for the public sector to take the lead in disseminating and publicising the information that is available on alternative remediation treatments.

It is clear from the research therefore that the EU Landfill Directive, and the recent, European Court of Justice van der Walle case (21)\(^\text{10}\), can exacerbate tensions which already exist between existing brownfield and contaminated land policy 'layers'. Nonetheless, more sustainable methods of remediation may be promoted as a result, and it may be the case that the sustainable development agenda really does now become a main focus for debate within the property industry, as other environmental directives and legislation start to bite. The next stage of our research aims to examine how developers approach brownfield issues, and their engagement with other stakeholders, in more closely-defined local and key regional contexts, such as Thames Gateway and Greater Manchester (20).

References

(12) Based on Annual reports.
(21) The European Court of Justice (C-1/03 (Van der Walle and others))

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1 In this paper brownfield is defined as any land, which has been previously developed, including derelict and vacant land, which may or may not be contaminated.
2 Land Use Change Statistics (LUCS) data excluding conversions [ODPM website].
3 Based on data available as at April 2004.
4 Urban Splash have won numerous awards for their inner city regeneration projects. The founder, Tom Bloxham, has been credited with an innovative, pioneering approach to regeneration and acts as an advisor to the ODPM on urban policy.
5 LUCS data including conversions [source: ODPM].
6 Private sector completions for England [source: ODPM]. This comparison uses data from two different sources and the LUCS data may be subject to a time lag. However, this illustration does give some indication of the likely scale of the increase.
7 Stigma can be defined as the risk, hazard and uncertain consequences of contamination, which increase the costs of attracting capital to a contaminated or previously contaminated property.
8 From 16th July 2004 the Directive banned the co-disposal of hazardous and non-hazardous waste resulting in a radically reduced number of sites permitted to accept hazardous waste. The aim of the Directive is to encourage waste reduction and wider adoption of more sustainable methods of dealing with contamination. The decision in the recent Van der Walle case (21) case also means any party with an interest in polluted or contaminated land must consider the impacts of becoming a 'holder' of what the European Court of Justice now says is 'waste'.
9 In terms of number of respondents, the survey was unable to obtain a representative response from the housebuilding industry’s smallest operators (those building up to 30 units a year), but achieved good penetration amongst medium and larger-sized housebuilders, who account for the vast majority of the industry’s output in volume terms. In total, the output of the survey respondents accounts for some 28% of annual housing completions in the UK, consequently the survey represents a valuable snapshot of the industry, bearing in mind the caveat relating to smaller operators (20).
10 The Building Research Establishment introduced BREEM (Building Research Establishment Environmental Assessment Method) as a method of assessing the environmental performance of buildings. The assessment is based on a broad range of factors which encompass management policy, health and wellbeing, energy use, pollution, transport, land use, ecology, materials and water consumption.