

AGGREGATES, CEMENT AND READY-MIX CONCRETE MARKET INVESTIGATION

Competition aspects of regulation and government policy

Introduction

1. The [Updated Statement of Issues](#) sets out the theories of harm that we have identified in this investigation that describe how characteristics of the reference markets could give rise to an adverse effect on competition. Our fourth theory of harm is that there are aspects of regulation and policy which may give rise to competition concerns.
2. In this working paper we analyse the aspects of regulation that cover the aggregates and cement markets in Great Britain that we believe are most likely to impact on the way competition works in those markets, and present views submitted to us by the majors and the British Aggregates Association (BAA). We focus on the areas of regulation and policy that were highlighted in the submissions we received from main and third parties and are described in detail in our working papers on policy and regulation.
3. This working paper discusses the competition issues arising from the following areas of policy and regulation:
 - (a) the planning regime for land-won primary aggregates, marine aggregates and secondary and recycled aggregates;
 - (b) the Aggregates Levy;
 - (c) the European Union Emissions Trading System (EU ETS); and
 - (d) the Carbon Reduction Commitment (CRC), Climate Change Agreements (CCA) and the Climate Change Levy (CCL).

The planning regime

Land-won primary aggregates

4. The details of the planning regime are described in our working paper on [policy and regulation: aggregates](#). The planning system in England is plan-led. This means that the foundation of the system is the preparation of strategic plans by local authorities which set out how they propose land will be used within their areas. These plans, which must take account of the national planning policy, provide the basis for decision-making for individual applications. In England national planning policy on minerals is set out in the National Planning Policy Framework (NPPF) published in March 2012. The Welsh Government and the Scottish Government also have plan-led systems but they have separate national planning policies.

5. In this working paper we discuss whether aspects of the planning regime could give rise to competition concerns. In particular, we discuss (a) whether the planning system creates barriers to entry, (b) issues relating to landbanks and (c) whether the role of Aggregate Working Parties (AWPs) increases market transparency in such a way that it could facilitate coordination between producers. We also note some other general comments that have been made to us regarding the planning system.

Obtaining planning permission

6. The planning system can give 'incumbents' (ie firms—regardless of size—with existing operational sites) certain advantages by favouring extensions of existing quarries over planning applications for new sites. The Aggregates Minerals 2009 Survey showed that between 2006 and 2009, for sand and gravel, 126 permissions were granted for extensions as opposed to 36 permissions that were granted for new quarries. Similarly for crushed rock, for the same period, 49 permissions were

granted for extensions of existing quarries and ten permissions were granted for new quarries.¹

7. Lafarge Aggregates Limited and Lafarge Cement UK Limited (together Lafarge) said that there was a natural inclination for Minerals Planning Authorities (MPAs) to resist granting applications for greenfield quarries simply because they were not popular within local communities. It noted that the national framework for aggregates planning, however, captured within the Managed Aggregates Supply System (MASS),² forced local authorities to grant permissions (whether to greenfield sites or to quarry extensions) in order to generate sufficient supply to meet local demand.³

8. Hanson told us that the guidelines set out in the NPPF that required MPAs to assess planning applications against environmental criteria might lead to a preference for MPAs to grant extensions for existing sites, rather than to authorize the development of new greenfield sites. Hanson noted that extending existing sites was important in terms of managing the country's finite mineral resources, where small resources might otherwise be left unworked if they were not extracted through an existing, adjoining operation, whilst that was active. It was likely that such small extensions would not be economic to open and operate as stand-alone sites and hence, if they were to be worked at all, they needed to be planned as extensions. Hanson said that this did not exclude the possibility of planning being obtained for the development of greenfield resources, as all sites would ultimately reach the end of their potential life either through reserve exhaustion or through the economic cost of operation as reserves became more distant. According to Hanson, achieving an adequate and steady supply of aggregates (one of the objectives set out in the NPPF) could only be achieved through the allocation of sites in development plans and ultimately the grant

¹ Collation of the results of the 2009 aggregates minerals survey for England and Wales.

² The MASS was introduced in the late 1970s to manage regional imbalances between aggregates supply and demand in England and Wales.

³ [Lafarge response to the issues statement](#).

of planning permission through a range of sites, some comprising extensions and some greenfield.⁴

Landbanks

9. The [appendix](#) sets out our detailed assessment of the competition implications of the planning policy regarding landbanks for aggregates. Paragraphs 10 to 20 below summarize our assessment.

10. One of the key characteristics of the planning system for land-won primary aggregates is the use of landbanks.⁵ The NPPF states that the length of a landbank in a particular area can be used as an indicator as to when new permissions for aggregates are likely to be required and that landbanks should be at least for seven years for sand and gravel and ten years for crushed rock. The NPPF also states that landbanks bound up in a few sites should not be allowed to stifle competition in an area while planning guidance issued by the Department for Communities and Local Government (DCLG) states that adequate or excess landbank should not be used as a reason for declining a planning application.

11. We considered two ways in which planning policy regarding landbanks might have adverse implications for competition:
 - (a) First, in our working paper on [barriers to entry and expansion](#) we noted that the Mineral Products Association had identified concerns that some MPAs had interpreted the landbank recommendations (ie seven years' landbank for sand and gravel, and ten years' landbank for crushed rock) too rigidly with the effect that planning applications for aggregates sites might be refused if the landbank in an area extended beyond the periods set out in the planning guidance—this

⁴ [Hanson response to the issues statement](#).

⁵ A landbank is defined as a stock of planning permissions (measured in years) for permitted reserves. It is calculated by dividing the volume of existing permitted reserves by the average annual provision in the area.

might make it more difficult for a new entrant to undertake aggregates extraction in competition with the incumbents in areas where the landbank targets were exceeded.

(b) Secondly, aggregate producers might have an incentive to obtain and hold sites with permitted reserves (either without developing them further, or by mothballing previously operational sites) so that the landbank in an area remains above the minimum target period and new entrants would find it difficult to obtain planning permission for new sites.

12. In considering these concerns, we noted that, notwithstanding the concerns set out in paragraph 11(a), the Mineral Products Association acknowledged that the annual surveys of its members between 2000 and 2008 found that most planning applications for new primary aggregates sites were successful.⁶ We also noted that other research indicated that industry participants generally felt that the planning system worked well and that environmental factors were more common reasons for refusing planning permission than the length of the existing landbank.⁷ Furthermore, our analysis suggested that in most counties where aggregates were extracted, the landbank recommendations were met, as shown in [Annex 1](#).

Length of landbanks and ownership of permitted reserves

13. In order to assess whether there might be geographic areas where there might be cause for concern about competition in the supply of aggregates, our approach has been to identify areas:
- (a) in which the landbank of sand and gravel or crushed rock met or exceeded the relevant minimum period (on the basis that in those areas, the relevant MPA might be less willing to grant planning permission for new aggregates sites; and

⁶ MPA's submission to the OFT, paragraph 8.25.

⁷ www.british-aggregates.co.uk/documentation/doc88.pdf.

(b) of the areas in (a), whether one or more of the majors had a significant share of the permitted reserves.⁸

- *Sand and gravel*

14. Table 1 shows the counties in England with permitted reserves of sand and gravel, and for those counties with a landbank of more than seven years, the majors' share of the permitted reserves.

TABLE 1 **Sand and gravel: landbanks and majors' share of permitted reserves**

	<i>Number of counties</i>
Landbank less than 7 years (or not disclosed)	14
Landbank greater than 7 years	
Share of permitted reserves:	
No major had more than 25 per cent	3
At least one major had 25–50 per cent	15
One major had more than 50 per cent	<u>11</u>
Total counties with permitted reserves of sand and gravel	43

Source: CC analysis.

Table 1 shows that in England, there were:

- (a) 43 counties in which there were permitted reserves of sand and gravel;
- (b) 15 counties where the landbank of sand and gravel was greater than seven years and at least one major had between 25 and 50 per cent of the permitted reserves (of these, there were two counties in which the total permitted reserves were less than one million tonnes); and
- (c) 11 counties where the landbank of sand and gravel was greater than seven years and one major had over 50 per cent of the permitted reserves (of these, there was one county in which the total permitted reserves were less than 1 million tonnes).

Of the counties in (b) and (c), there were 11 counties where the landbank of sand and gravel was greater than seven years and one major, or two majors collectively, had over 75 per cent of the permitted reserves.⁹

⁸ Information on permitted reserves and landbanks was taken from AWP reports for 2009; market shares based on BDS data for 2010.

15. In Scotland, there were ten regions with permitted reserves of sand and gravel, of which there were three regions in which at least one major had between 25 and 50 per cent of the permitted reserves and three regions in which one major had over 50 per cent of the permitted reserves (of these three, there were two regions in which one major, or two majors collectively, had over 75 per cent of the permitted reserves).¹⁰

16. In Wales, there were three regions with permitted reserves of sand and gravel, of which there was one region in which one major had between 25 and 50 per cent of the permitted reserves and one region in which one major had over 75 per cent of the permitted reserves.¹¹

- *Crushed rock*

17. Table 2 shows the counties in England with permitted reserves of crushed rock, and for those counties with a landbank of more than ten years, the majors' share of the permitted reserves.

TABLE 2 **Crushed rock: landbanks and majors' share of permitted reserves**

	<i>Number of counties</i>
Landbank less than 10 years (or not disclosed)	8
Landbank greater than 10 years	
Share of permitted reserves:	
No major had more than 25 per cent	6
At least one major had 25–50 per cent	8
One major had more than 50 per cent	<u>10</u>
Total counties with permitted reserves of crushed rock	32

Source: CC analysis.

Table 2 shows that in England, there were:

(a) 32 counties in which there were permitted reserves of crushed rock;

⁹ Market shares based on BDS data; permitted reserves based on AWP reports.

¹⁰ Based on BDS data.

¹¹ Based on BDS data.

(b) eight counties where the landbank of crushed rock was greater than ten years and at least one major had between 25 and 50 per cent of the permitted reserves; and

(c) ten counties where the landbank of crushed rock was greater than ten years and one major had more than 50 per cent of the permitted reserves (of these, there was one county in which the total permitted reserves were less than 1 million tonnes).

Of the counties in (b) and (c) there were seven counties where the landbank of crushed rock was greater than ten years and one major, or two majors collectively, had over 75 per cent of the permitted reserves.¹²

18. In Scotland, there were ten regions with permitted reserves of crushed rock, of which there were four regions in which at least one major had between 25 and 50 per cent of the permitted reserves and three regions in which one major had over 50 per cent of the permitted reserves (and of these three, there were two regions in which one major, or two majors collectively, had over 75 per cent of the permitted reserves).¹³

19. In Wales there were eight regions with permitted reserves of crushed rock, of which there were three regions in which at least one major had between 25 and 50 per cent of the permitted reserves and five regions in which one major had over 50 per cent of the permitted reserves. There were four regions in which one major, or two majors collectively, had over 75 per cent of the permitted reserves.¹⁴

¹² Market shares based on BDS data; permitted reserves based on AWP reports.

¹³ Based on BDS data.

¹⁴ Based on BDS data.

- *Share of permitted reserves compared with share of production*

20. We compared the overall share of permitted reserves owned by each of the majors in Great Britain at the end of 2010 with their share of production in 2011, and found them to be similar, as shown in Table 3.

TABLE 3 **The majors' share of reserves and output in Great Britain**

	<i>per cent</i>				
	<i>Aggregate Industries</i>	<i>Cemex</i>	<i>Hanson</i>	<i>Lafarge</i>	<i>Tarmac</i>
<i>Sand and gravel</i>					
Share of permitted reserves (2010)	11	12	18	8	19
Share of production (2011)	11	14	12	10	19
<i>Crushed rock</i>					
Share of permitted reserves (2010)	25	11	11	8	24
Share of production (2011)	22	9	15	11	21

Source: BDS aggregates database; BDS estimated market shares of pits, quarries and marine wharves (2011).

We also analysed the correlation between each major's share of reserves and its share of production on a county-by-county basis and found that for sand and gravel, the correlation coefficients were over 0.75 for all the majors and for crushed rock the correlation coefficients were over 0.6 for all the majors. Taken together, these factors indicated to us that the majors were not holding significant inactive sites of permitted reserves in the landbanks to prevent entry as the size of each major's local stock of permitted reserves appears to be positively correlated to its local share of production (if permitted reserves were being 'warehoused' we might expect to see that the size of a major's local stock of permitted reserves exceeded its local share of production).

Incentives to produce aggregates at sites where planning permission has been granted

21. We considered whether aggregate producers had an incentive to hold sites with permitted reserves without developing them (or to mothball previously operational sites) in order to maintain the length of the landbank in an area and prevent a new entrant from gaining planning permission for another site in the same area.
22. We noted that the regulatory framework provides against holding sites with permitted reserves without developing them (or mothballing previously operational sites) in

order to preserve landbanks in that MPAs can make orders prohibiting the resumption of minerals development in, on or under land where no such development has been carried out to any substantial extent for a period of at least two years and where, on the evidence available to the MPA at the time when they make the order, it appears that development is unlikely to resume to any substantial extent.¹⁵ Sites subject to such prohibition orders are not included in permitted reserves.

23. Lafarge told us that once permission had been granted to operate a quarry, there was in most cases a strong incentive to produce aggregates from the site. Lafarge explained that this was because often the leasehold arrangements granting permission to quarry materials imposed minimum rents per year (known as ‘certain rents’) and that while the royalties payable would depend upon the quantity of aggregates produced once production was above the minimum level, certain rents were payable regardless of whether aggregates were quarried. In addition, according to Lafarge, the local geographic scope of aggregates markets made it inefficient to mothball sites and withdraw from local areas. Lafarge considered that it would not be commercially rational to close a site if there were no nearby sites from which it was economical to transport aggregates and serve local demand. Lafarge argued that this therefore encouraged producers to resist mothballing sites and to operate a greater number of local sites, rather than fewer sites.¹⁶
24. Aggregate Industries UK Limited (Aggregate Industries) told us that [REDACTED].¹⁷
25. Cemex UK Operations Limited (Cemex) said that, given the lengthy and costly process of obtaining planning permission, there was a clear commercial imperative for implementing it as soon as possible to recoup the costs of obtaining it. It noted

¹⁵ Minerals Planning Guidance 4.

¹⁶ [Lafarge response to the issues statement.](#)

¹⁷ [Aggregate Industries response to the issues statement.](#)

that holding undeveloped sites in a landbank and/or mothballing previously active sites did not make commercial sense.¹⁸

26. Tarmac Group Limited (Tarmac) told us that it had no wish to mothball sites given the levels of investment made in securing land and mineral rights, obtaining permission and acquiring the necessary plant and equipment in order to produce aggregates from the site. Furthermore, Tarmac argued that the costs of mothballing a site could be significant, including the cost of making the workforce redundant, rent, security, maintenance and other costs. Tarmac told us that many of its aggregates quarries were leasehold sites and often the lease would require the operator to pay a minimum royalty each year to the landlord, irrespective of whether the site was being worked or not. According to Tarmac, the minimum royalty could be up to 40 per cent of the typical total royalty that was expected on the site which was an onerous cost if the site was mothballed. Tarmac explained that, although such payments could often be recovered, the period of recovery was often time limited, for example to three years. Consequently, Tarmac's approach was to mothball a site only as a last resort.¹⁹

Other comments on the planning regime

27. We have summarized below the comments we have received on whether the planning regime favours large firms over small firms (because they are more easily able to bear the financial and time cost of the planning process).
28. The BAA told us that the majors were better placed to ride out the lengthy planning process.

¹⁸ [Cemex response to the issues statement.](#)

¹⁹ [Tarmac response to the issues statement.](#)

29. Lafarge said that it did not consider that its size or experience accorded it any special advantage in comparison to independent or local aggregates producers in navigating the planning regime.²⁰
30. Aggregate Industries said that the general UK planning system was bureaucratic, slow and expensive and that significant improvements could and should be made within the current national framework, which would, inter alia, benefit the minerals planning regime and reduce the cost for all applicants. Aggregate Industries added that the planning system could be navigated by any entrant with the help of planning consultants. According to Aggregate Industries, it was common practice for all suppliers to use planning consultants and there were a large number of planning consultants to whom an entrant could turn for assistance with the detailed process of a planning application. It told us that planning costs varied significantly depending upon the characteristics of the site in question but did not need to constitute a prohibitively large part of the overall investment costs for establishing a quarry. Finally, it noted that planning was not an insurmountable hurdle to entry and that the regime was designed to aid entry and applied equally to large and small suppliers, entrants and incumbents.²¹
31. Hanson said that in some cases smaller local operators might be treated more favourably than larger firms. It told us that there was sometimes a perception among MPAs that smaller operators were local players which would be more committed to a particular region and employing local people. It also said that smaller operators might also utilize external consultants to assist in the planning process where these resources were unavailable in-house. According to Hanson, the costly nature of the planning process was not due to the actions of operators but rather a result of the

²⁰ [Lafarge response to the issues statement.](#)

²¹ [Aggregate Industries response to the issues statement.](#)

design of the regime. It noted that the need to comply with EU legislation was an additional cost: for example, under the Review of Old Minerals Permissions Process an aggregates producer was required to review relevant minerals planning permissions every 15 years and to propose new planning conditions that those permissions would be subject to. These may include new working and restoration schemes and such submissions may be subject to a full environmental impact assessment.²²

The role of Aggregate Working Parties

32. We considered whether AWP's provided a mechanism for the exchange of commercial information between their members, particularly the aggregates producers, which might facilitate coordination.

Formation

33. The AWP's were established in the 1970s to collect and monitor data on aggregates provision as an aid to minerals planning. They are not policymaking bodies, but provide information to facilitate the work of the MPAs within their respective regions, national and regional government agencies and the minerals industry. They also feed regional views to the Government through a national coordinating group.²³
34. There are nine AWP's in England, covering the East of England, East Midlands, London, North-East, North-West, South-East, South-West, West Midlands and Yorkshire and Humberside.²⁴ There are also two AWP's in Wales covering North Wales and South Wales.

²² [Hanson response to the issues statement.](#)

²³ East of England Aggregates Working Party annual report 2010.
www.communities.gov.uk/documents/planningandbuilding/pdf/2065641.pdf.

²⁴ DCLG website: www.communities.gov.uk/planningandbuilding/planningbuilding/planningresearch/researchreports/mineralswasteresearch/aggregateworkingparties/.

35. The secretariat role of the AWP is funded by DCLG.

Objectives

36. The objectives of each AWP include:

- to assess the reserves of sand, gravel and hard rock which are available in the region and which are suitable for use as aggregates;
- to assess the demand for aggregates likely to arise within the region;
- to indicate whether there is likely to be a regional surplus of aggregates production or a shortfall in supply without further planning permissions being granted for mineral working;
- to consider the potential contribution which synthetic and waste materials could make to meeting the demand for aggregates;
- to monitor the supply of, and demand for, aggregates; and
- to consider, where applicable, the contribution which the region could make to meeting demand arising in other parts of the country, taking into account environmental and agricultural considerations.

Aggregates surveys

37. The AWP undertake annual surveys of production and reserves of aggregates. Every fourth year they collect additional information on transport and distribution of aggregates. The combination of these surveys allows levels of consumption by region to be calculated. These surveys are a key dataset of the Government's econometric model to calculate national and sub-national guidelines for further aggregate demand.²⁵

²⁵ DCLG website: www.communities.gov.uk/planningandbuilding/planningbuilding/planningresearch/researchreports/mineralswasteresearch/aggregateworkingparties/.

38. The reports published by the AWP provide a means for the minerals industry and MPAs to reach the same understanding of reserves and landbanks. These reports provide the only regular comprehensive statistics on minerals planning and often the most detailed information on production and the end uses of minerals.²⁶

Attendees

39. Each AWP is chaired by a County Planning Officer or the equivalent, and draws members from the MPAs in its region, the aggregates industry (by representation from the Mineral Products Association, the BAA and the National Federation of Demolition Contractors), and government bodies. Officials from DCLG are invited to attend the English AWPs and officials from the Welsh Assembly attend the Welsh AWPs with the DCLG invited to be present as an observer.²⁷
40. The Mineral Products Association is represented on the AWPs by its own officials and by employees of the majors. The Mineral Products Association was represented by Cemex and Hanson at all of the nine AWPs in England, by Tarmac at eight AWPs, by Lafarge at five AWPs and by Aggregate Industries at three AWPs.

Procedures

41. We were told by Hanson that the procedures and controls maintained by the AWPs prevented the AWPs being used as a forum for disclosure or exchange of information between aggregate producers. Hanson told us the AWPs' procedures and controls included the following:
- The secretary and chairman of each AWP set the agenda for each meeting. The secretary and chairman were invariably from MPAs. Hanson also noted that industry personnel represented a relatively small proportion of those involved in

²⁶ *ibid.*

²⁷ Planning4minerals: a guide on aggregates:
www.bgs.ac.uk/planning4minerals/assets/downloads/86210_P4M_A_Guide_On_Aggregates.pdf.

AWPs and that members were drawn from smaller producers as well as the majors.

- The minutes of each AWP meeting were published in the public domain.
- The questionnaires for the annual and four-yearly survey were sent out by the MPAs, which collated the data and responses received from the operators. Once collated the information was sent to the secretary of the AWP. The AWP secretary collated the returns from each MPA in such a way that information on sales and reserves of any individual operator or for any individual quarry could not be ascertained.
- At no stage in the survey process could one operator ascertain other operators' responses because information was never sent directly from one operator to another, and the survey results were published only in accordance with the 'three company rule' whereby information from one operator was collated with that of at least two other operators, so that none of the three operators could identify the sales or reserves of either of the other two operators.

42. Hanson also told us that when it responded to the AWP surveys, it did so with a covering letter that made it clear that any information supplied was for the sole purpose of being used in the surveys and was not to be disclosed more widely.

43. Hanson said that the degree of transparency resulting from the operation of the planning process went no further than would be expected in a planning system in which long-term investment decisions were made and careful planning of total capacity was necessary to ensure future demand was met.²⁸

44. Tarmac told us that the MPAs compiled the annual monitoring reports, and that data on minerals production and permitted reserves was provided by producers to the

²⁸ [Hanson response to the issues statement.](#)

Local MPAs on a confidential basis.²⁹ Tarmac also noted that figures were released by the Local Mineral Planning Secretaries on an aggregated basis, and only if a minimum number of operators contributed data, to avoid the possibility that an individual operator's figures could be deduced.

45. Aggregate Industries told us that it did not understand why the current degree of transparency in the system was a concern. It told us that meetings of the AWP's were technical in nature and that commercially sensitive information was not disclosed. It said that minutes of the meetings were published on the DCLG website, which was difficult to reconcile with an inappropriate information exchange.³⁰

Our preliminary views on the planning regime for land-won aggregates

46. As set out in our working paper on [barriers to entry and expansion](#), our preliminary view is that the length of the planning process limits the competition faced over the medium term by existing aggregates producers from entry by operators developing new sites. The planning regime also creates an incumbency advantage for existing aggregates producers as site extensions are likely to be preferred to new site developments by MPAs and the planning process for site extensions is generally much shorter and simpler than for new sites.
47. We consider that the use of landbanks as an indicator of the security of aggregates supply may make it more difficult to obtain planning permission for new sites in areas where the landbank exceeds the target periods and that there are a number of such areas in which significant shares of the permitted reserves are held by one of the majors, or collectively by two of the majors. However, we were told by several of the majors that holding sites with permitted reserves without developing them (or

²⁹ [Tarmac response to the issues statement.](#)

³⁰ [Aggregate Industries response to the issues statement.](#)

mothballing previously operational sites) in order to preserve landbanks and prevent competitors obtaining planning permission would not be commercially viable and we noted the risk that MPAs could issue prohibition orders on such sites which would prevent the extraction of aggregates in the future.

48. Our preliminary view is that the number of parties and public bodies represented on the AWP's make it unlikely that commercially sensitive information would be exchanged during AWP meetings and that the AWP procedures are intended to prevent the disclosure of commercially sensitive information. Nevertheless, the AWP meetings do provide a point of contact between aggregates producers.

Marine, secondary and recycled aggregates

49. Marine, secondary and recycled aggregates are subject to different planning regimes which were described in our working paper on [policy and regulation: aggregates](#).
50. In our working paper on [barriers to entry and expansion](#) we noted our preliminary view that in relation to marine aggregates the length of time required to obtain a Production Agreement for marine dredging creates a barrier to entry in the medium term in a similar way to the extraction of land-won aggregates. We also noted our preliminary view that the planning regime was considerably less of a barrier to entry into the production of secondary and recycled aggregates than for primary aggregates as the planning process was typically considerably shorter.

The Aggregates Levy

51. Details of the Aggregates Levy are set out in our working paper on [policy and regulation: aggregates](#). The Aggregates Levy was introduced in 2002 with the aims of internalizing some of the externalities from quarrying, such as dust, noise, visual intrusion and biodiversity loss and introducing a price incentive to encourage the use

of waste, spoil and recycled aggregates by relieving them from the levy. As of October 2012 the Aggregates Levy was £2.00 per tonne and applied to sand, gravel and rock that is commercially exploited in the UK. HM Treasury told us that the Aggregates Levy was payable by the person responsible for subjecting the aggregate to commercial exploitation, who was usually the aggregates producer rather than the user, although the amount of the levy payable might be taken into account in the producer's selling price.

Views of the parties

52. Tarmac told us that the fact that secondary and recycled aggregates were exempt from the Aggregates Levy was one of the reasons why secondary and recycled aggregates were cheaper to produce than primary aggregates and why the share of secondary and recycled aggregates in the overall aggregates market had grown in recent years.³¹

53. Lafarge said that the fact that recycled and secondary aggregates could be produced more cheaply than primary aggregates (due to the fact that they were produced from waste materials and did not attract the Aggregates Levy) directly constrained the pricing of primary aggregates. According to Lafarge, the Aggregates Levy had had the direct effect of making secondary and recycled aggregates more price competitive than primary aggregates. Lafarge also said that in its experience, recycled and secondary aggregates were often used interchangeably by customers for economic reasons, with secondary and recycled aggregates often being favoured on grounds of price. Lafarge noted that it was estimated that 28 per cent of the share of supply of aggregates was accounted for by secondary and recycled aggregates,

³¹ [Tarmac response to the issues statement.](#)

which in Lafarge's view demonstrated that they were an important source of competition in this market.³²

54. Cemex told us that the exemption of secondary and recycled aggregates from the Aggregates Levy was under review following a negative decision by the EU General Court but for the moment the levy increased the considerable cost advantage enjoyed by secondary and recycled aggregates.³³
55. Aggregate Industries told us that it was strongly of the view that aggregates taxes and credits distorted efficient production. Aggregate Industries also said that the Aggregates Levy had been a barrier to the expansion of primary aggregates and resulted in the favouring of secondary and recycled aggregates over primary aggregates. According to Aggregate Industries, the levy constituted approximately 20 to 25 per cent of the average sales price of aggregates. It said that the levy had given producers of secondary and recycled aggregates (primarily independents) a significant cost advantage. It considered that the levy had been one of the main factors that had contributed to the increase in secondary and recycled aggregates as a proportion of total aggregate production from 9 per cent in 1980 to 28 per cent in 2010.³⁴
56. The BAA told us that it had been founded 11 years ago to oppose the imposition of the Aggregates Levy on behalf of the independent aggregates producers as the levy had not been strongly resisted by the majors who accounted for between 75 and 80 per cent of the market. The BAA said that the levy exacerbated the impact on the independents of the majors' ability to price below cost and that the majors were able to cross-subsidize between aggregates products, between geographical areas and

³² Lafarge response to the issues statement.

³³ Cemex response to the issues statement.

³⁴ Aggregate Industries response to the issues statement.

between cement and aggregates whereas the independents did not have these options available. The BAA said that the majors were able to cover the cost of the levy with revenue from other areas of their business while the independents could not and therefore the impact of the levy fell disproportionately on the independents.³⁵

57. Wardell Armstrong (an independent mining, minerals and engineering consultancy)³⁶ told us that the introduction of the Aggregates Levy had had a direct impact on aggregates prices. Wardell Armstrong had observed, through quarry weighbridge audits on behalf of its clients, that the levy comprised approximately 15 to 20 per cent of the average sale price of aggregates to consumers (net of VAT), with the percentage varying across a range of aggregate products and regions as the levy was applied as a flat rate irrespective of value. Wardell Armstrong told us that an initial consequence of the introduction of the levy was an increase in low value quarry products being used on site as restoration material, which in many cases would have been the result of a direct substitution for recycled aggregates which could be sold net of the levy. In Wardell Armstrong's view, the quantity of construction and demolition waste being recycled as aggregates would not, however, have been increased by the levy, as Landfill Tax (now £56 per tonne) had already resulted in maximum recycling from either construction or restoration purposes. Wardell Armstrong also noted that consumers' choice between the use of primary, secondary and recycled aggregates was determined by end use and specification rather than price, since the aggregates used in any particular project had to be fit for purpose and comply with the Building Regulations.³⁷

³⁵ BAA hearing, 10/07/2012

³⁶ Wardell Armstrong acts on behalf of many large land- and minerals-owning clients who have granted rights to extract aggregates to all five of the major aggregates companies active within the UK and many of the smaller regionally-based operators. Clients include the Crown Estate, the Church Commissioners for England, the Forestry Commission, Isle of Man Government and many private landed estates. While the company provides planning and environmental services to aggregates companies, their Mineral Estates Management Group exclusively provide services to land and minerals owners.

³⁷ [Wardell Armstrong response to the issues statement](#).

Our preliminary views on the Aggregates Levy

58. We recognize that the introduction of the Aggregates Levy has placed an additional cost on primary aggregates production resulting in an increase in the price of primary aggregates. We also recognize that the effectiveness of the levy in incentivizing the use of secondary and recycled aggregates (which is the primary aim of the levy) might be limited by the extent of substitutability between primary aggregates and secondary and recycled aggregates. However, our preliminary view is that the Aggregates Levy does not give rise to specific concerns relating to competition. The aim of the levy was to encourage the use of secondary and recycled aggregates and while it may be possible that the Majors can cover the cost of the levy from other areas of their business more easily than smaller producers, this potential distortion is not a direct consequence of the Aggregates Levy. The fact that the levy applies in the same way to all primary aggregates producers means that there is no distortion introduced as a result of the levy. We also note that avoiding the landfill tax (at £56 per tonne) provides a considerably larger incentive than the Aggregates Levy (at £2 per tonne) to recycle demolition waste where possible.

The European Union Emissions Trading Scheme

59. The European Union Emissions Trading Scheme (EU ETS) is described in our working paper on [policy and regulation: cement](#).
60. There have been two trading phases of the EU ETS since it was launched in 2005. Phase I lasted from 1 January 2005 to 31 December 2007 and Phase II started on 1 January 2008 and will end on 31 December 2012. Phase III will run from 1 January 2013 to 31 December 2020.
61. For the cement industry some of the important changes in the structure of the EU ETS that will be implemented in Phase III are the following:

- (a) In Phase III the total number of EU Allowances will decrease annually in a linear manner.³⁸ There will be a single EU-wide cap and EU Allowances will be allocated on the basis of harmonized rules across the member states. During the first and second phases, member states determined the total quantity of EU Allowances to be issued within their borders (the cap) and how these would be allocated to the installations concerned in their National Allocation Plans (NAPs). This approach generated significant differences in allocation rules, creating an incentive for each member state to favour its own industry. By contrast, NAPs will not be needed in Phase III.³⁹
- (b) In the UK during Phases I and II the allocation of EU Allowances to installations was based on the historic CO₂ emissions in the relevant baseline years ('grandfathering' approach). Under Phase III, each installation will receive an annual allocation⁴⁰ calculated by multiplying its historic activity level (HAL) by an EU 'benchmark' of carbon efficiency for the production of clinker. The benchmark is currently set at 0.766 tonnes of CO₂ per tonne of clinker and an installation's HAL is determined from the median production during the period 2005 to 2008 or, if historical activity levels were higher, 2009 to 2010.
- (c) If a site is closed permanently, the EU Allowances for that site will be lost. In order to stop a company obtaining the EU Allowances for an installation, producing 1 tonne of clinker and then selling the remainder of the EU Allowances, an installation will receive its full allocation in Phase III only if it is deemed not to have partially ceased. Partial cessation occurs if a sub-installation which contributes at least 30 per cent of the installations' final annual amount of emissions allowances allocated, or contributes to more than 50,000 allowances

³⁸ The European Commission has calculated the initial cap for 2013 as 2.039 billion allowances and this will decline each year by 37.4 million allowances. However, the cap will need to be revised in early 2013 once final figures are known for the levels of free allocation, the impact of new entrants into the later stages of Phase II and the impact of the new sectors joining the EU ETS in 2013. Further information can be found on the Commission's website at:

http://ec.europa.eu/clima/news/articles/news_2010102201_en.htm.

³⁹ http://ec.europa.eu/clima/policies/ets/faq_en.htm.

⁴⁰ This only applies to installations that qualify for free allowances. This includes industries with a high risk of 'carbon leakage' such as cement. These installations will get all their allowances free of charge despite the increase in the proportion of carbon allowances that will be auctioned during Phase III.

reduces its activity level by at least 50 per cent of its HAL. If activity levels are reduced by between 50 and 75 per cent of HAL, it will receive 50 per cent of the initially allocated allowances in the following year, and if the activity levels are reduced by between 75 and 90 per cent of HAL, it will receive 25 per cent of the initially allocated allowances in the following year.

(d) Under Phases I and II, new entrants, or capacity extensions on existing sites, were granted EU Allowances using a benchmark methodology reflecting technology, load and fuel-specific factors. Under Phase III, 5 per cent of the total quantity of free EU Allowances has been put into the New Entrants Reserve (NER) for new installations and capacity extensions to existing plants that commence operations after 30 June 2011.⁴¹ Given the lack of historical production data for new installations, the preliminary allocation of EU Allowances will be calculated by multiplying the relevant product benchmark by the installation's activity level⁴² and a standard capacity utilization factor.⁴³ If the NER is exhausted, new installations will be required to purchase any EU Allowances they require.

62. The EU ETS as a whole, including the changes introduced in Phase III, has implications for firms' costs and production decisions. In the following paragraphs we discuss the potential effects on competition in the Great Britain cement market.

Effects on costs

63. Hanson told us that as the EU Allowances granted to cement producers had an immediate financial value, producing clinker had an opportunity cost because for

⁴¹ DECC initial submission (10 April 2012).

⁴² The activity level is specified as the average of the two highest months' production volumes in the six months following the start of normal operation. The start of normal operation is specified as the point at which actual production exceeds 40 per cent of the maximum capacity of the installation.

⁴³ Standard capacity utilization factors (SCUFs) will be determined and published by the European Commission on the basis of data collected for the calculation of free allocations. For each product benchmark the SCUF will be the 80 percentile of the average (of all installations producing the product concerned) annual production from 2005 to 2008 divided by the initial installed capacity.

each tonne of CO₂ produced via clinker, one less tonne of CO₂ permits could be sold in the open market. Hanson noted that the extent of this opportunity cost varied with the market price of CO₂ permits and that in 2010 the opportunity cost of CO₂ was approximately [X] per cent of Hanson's total costs.⁴⁴ To the extent that the allocations were not sufficient, firms would need to buy additional allowances and bear an additional direct cost. Hanson told us that given the decrease in the overall emissions cap, Great Britain cement producers would need additional EU Allowances during Phase III.

64. The Department of Energy and Climate Change (DECC) told us that, given that the amount of free EU Allowances each installation receives would be based on the 10 per cent most efficient EU firms for a particular product, it was likely that 95 per cent of firms in industrial sectors, including those deemed to be at risk of carbon leakage (and therefore receiving 100 per cent of the allocation indicated by the benchmark for free) would need to reduce emissions or buy additional allowances.
65. The DECC also noted that the administrative costs of the EU ETS were relatively small when spread over total emissions for a large installation. However, the DECC perceived the administrative cost per tonne of carbon to be relatively high for small emitters and it had pursued the option of an opt-out policy for Phase III for these installations to reduce the administrative burden.
66. Hanson noted that there was volatility in this marginal cost, with the volatility being driven by exogenous factors (for example, the severity of the winter). According to Hanson, the value of EU Allowances had varied significantly across time—which affected cement production in that it created volatility in cement margins (making the calculus of pricing and production more challenging). Hanson told us that the ability

⁴⁴ [Hanson response to the issues statement.](#)

to pass this input cost increase through to price depended on the symmetry of market participants (for example, the energy efficiency of their production facilities) and the constraint from imports from outside the EU (which were unaffected by the allocations).⁴⁵

67. Cemex told us that the rationale of the EU ETS was to act as a market mechanism that allowed participants to achieve reductions in their carbon emissions where it was cost-efficient for them to do so. Cemex noted that, in its view, in the cement manufacturing sector this meant that plants that could keep their carbon emissions within their allocation would have no need to pass on any additional costs to their customers (and might even be able to pass on to customers cost savings from the sale of surplus allowances), whereas less efficient plants whose emissions exceeded their allocations, and which therefore needed to buy additional allowances, would incur additional costs that they might consider passing on to their customers. This therefore drove efficiencies in the sector and encouraged, rather than distorted, competition.⁴⁶

Effects on investment

68. Tarmac said that the EU ETS had been a contributory factor to cement plant closures, with less carbon-efficient, wet process cement plants being susceptible to closure. According to Tarmac, wet process plants required more heat and generated more carbon emissions than dry process plants. Tarmac told us that, as a result, wet process plants were more costly to operate and emitted greater levels of CO₂. Tarmac said that closure of wet process plants had allowed producers in turn to rationalize their emissions allowances to other works. Tarmac believed it unlikely that

⁴⁵ [Hanson response to the issues statement.](#)

⁴⁶ [Cemex response to the issues statement.](#)

wet plant upgrades would occur in the future given the already significant level of over-capacity in domestic cement production and import facilities.⁴⁷

69. Lafarge told us that the EU ETS had discouraged new investment in greenfield cement works (by raising the costs of domestic production and reducing returns on capital employed) and encouraged imports.⁴⁸
70. Hanson said that the EU Allowances had incentivized the use of carbon-offsetting biomass fuels as an alternative to coal despite the fact that these biomass fuels were less efficient.⁴⁹

Imports from outside the EU

71. Another implication of the potential increase in costs facing the Great Britain domestic cement producers is the possibility of increased competition from cement plants outside the EU that are not subject to carbon emissions schemes.
72. Cemex said that manufacturers from outside the EU enjoyed increasing advantages due to carbon pricing. According to Cemex, allocations of free EU Allowances to cement producers in Phase III were unlikely to be sufficient to cover all emissions so cement manufacturers were likely to need to buy additional EU Allowances. Cemex told us that importers of cement from outside the EU into the EU would not incur the cost of buying emissions allowances and therefore, in combination with other advantages such as cheaper electricity (Cemex considered Egypt in particular to benefit from this), importers from outside the EU had a significant competitive advantage over manufacturers within the EU who were subject to the EU ETS. Cemex noted that the European Commission was of the view that imports from

⁴⁷ [Tarmac response to the issues statement.](#)

⁴⁸ [Lafarge response to the issues statement.](#)

⁴⁹ [Hanson response to the issues statement.](#)

outside the EU into EU markets such as Great Britain was a realistic possibility because it had designated cement as a market which was at risk of ‘carbon leakage’.⁵⁰

73. Lafarge also noted that cement or clinker imports from outside the EU ETS zone would have a significant cost advantage.⁵¹
74. Hanson said that imports provided a strong and increasing competitive threat. Hanson told us that, as CO₂ permits also increased the opportunity cost of producing cement in the EU, plants in Morocco and elsewhere in North Africa would have a cost advantage when exporting to the UK. Hanson anticipated that imports of cement and clinker would increasingly come from countries outside the EU.⁵²

Partial cessation rule and imports

75. One of the key aspects of Phase III of the EU ETS is the introduction of the partial cessation rule. The majors told us that this was a change that had important effects regarding imports from outside Great Britain.⁵³
76. Cemex said that the EU ETS had encouraged imports into Great Britain. It told us that in countries which had been subject to significant building booms and busts, such as the Republic of Ireland, Portugal and Spain in particular, large decreases in demand for cement had meant that most operators were operating at well below the capacity for which they had been allocated EU Allowances. It noted that if such firms’ production fell below 50 per cent of their historical 2005 to 2008 baseline levels, they started automatically to lose allowances, without compensation. It told us that many

⁵⁰ [Cemex response to the issues statement.](#)

⁵¹ [Lafarge response to the issues statement.](#)

⁵² [Hanson response to the issues statement.](#)

⁵³ [Responses to the issues statement.](#)

such firms were now aggressively targeting Britain in order to keep production above 50 per cent of their historical levels, thus enhancing competition.⁵⁴

77. Lafarge told us that the EU ETS Phase III was likely to increase the effectiveness of importers as a competitive source of supply. Lafarge said that those cement manufacturers that were not producing at least 50 per cent of their historical clinker production would have their EU Allowances dramatically reduced (and since the allowances were tradable, their loss would represent a significant loss of revenue). Lafarge told us that this threshold provided strong incentives for cement producers in countries where domestic demand was extremely low relative to recent production levels (eg Spain, Greece and the Republic of Ireland—countries that already exported to Great Britain) to export in order to meet the 50 per cent production threshold. Lafarge considered that these would be ongoing changes, not one-off changes in production volumes depending upon domestic demand conditions in each year.⁵⁵

78. Tarmac also said that the EU ETS Phase III was likely to provide even greater incentives for non-Great-Britain cement producers in, for example, Spain, the Republic of Ireland and Greece to supply cement into Great Britain. According to Tarmac, this was due to the rule change whereby cement plants using less than 50 per cent of their allocated annual EU Allowance each year would not automatically retain their full allocation for the following year, and would lose 50 per cent of their allocation. Tarmac argued that this would mean that importers would impose an even greater competitive constraint on domestic cement producers going forward.⁵⁶

⁵⁴ [Cemex response to the issues statement.](#)

⁵⁵ [Lafarge response to the issues statement.](#)

⁵⁶ [Tarmac response to the issues statement.](#)

79. Hanson noted that the EU ETS was one of the factors driving Spanish and Irish cement producers to increase exports to European countries (including the UK) as they tried to maintain cement production to retain allowances despite significant declines in cement demand in their own countries.⁵⁷
80. The possible implications for our investigation of cement imports into Great Britain will be considered further in our working paper on cement imports.

Partial cessation rule and production allocation

81. Hanson said that the impact of the scheme had been to give it an incentive to keep all its plants open to ensure it gained its full allocation of EU Allowances but to reduce plant utilization. It told us that this meant that marginal output was provided by the same plant as when demand was higher—there was consequently no reduction in marginal cost, and no pressure on price to fall. Indeed, according to Hanson, marginal costs might increase as inefficiencies were created when plants operated at low utilization rates. [✂]
82. In a Hanson internal document [✂].

New entrants allocations

83. New entrants will be able to receive free carbon allocations in line with incumbents, where instead of the HAL, its allocation will be based on the installation's capacity (or increase in capacity).
84. Cemex said that in each phase of the EU ETS a proportion of EU Allowances were held back for new installations which began operating during that phase (the NER). Cemex told us that these allowances were allocated on the same free basis as

⁵⁷ [Hanson response to the issues statement.](#)

allowances for existing installations, so new entrants were not prejudiced in any way.⁵⁸

85. Tarmac said that under the current EU ETS an entrant building its own cement kiln might secure an allocation of EU Allowances to assist in meeting the requirements of the ETS new entrant scheme, however, after implementation of EU ETS Phase III, an application to secure allocations of EU Allowances would only be permissible once a new plant had been built and had started to operate.⁵⁹

Our preliminary views on the EU ETS

86. We consider that the partial cessation rule may create an incentive for cement producers to produce more in order to obtain the full amount of EU Allowances that are available, however that this is true for all cement producers, including Great Britain producers. We have seen evidence that some Great Britain cement producers have reduced plants' production volumes and reallocated production between plants to maintain production at the required level as export sales were unlikely. External producers may take similar decisions. Further, the additional incentives on importers do not apply to all cement plants across the board but only to those plants whose production is near to 50 per cent HAL threshold. Our current view therefore is that the additional incentives in relation to imports into the UK have been overstated.
87. We also considered that the allocation mechanism and the partial cessation rule may create incentives for Great Britain producers to allocate production between their plants in a less efficient way than would otherwise be the case, thereby potentially increasing costs of production and eventually prices to consumers. This is because in a period of under-utilization of capacity, the ETS system may provide incentives to

⁵⁸ [Cemex response to the issues statement.](#)

⁵⁹ [Tarmac response to the issues statement.](#)

maintain at least 50 per cent utilization over all plants, rather than, say, mothballing one plant and using another at higher capacity, exploiting economies of scale at that plant. It may also mean that some less efficient plants are kept running when otherwise they would not be.

88. We also reached a preliminary conclusion that the EU ETS creates a distortion in the relative costs of producing cement inside and outside the EU. Cement produced in Great Britain (and the EU) is now more expensive relative to cement produced outside the EU where the carbon reduction scheme does not apply.
89. However, based on the evidence available to us regarding cement production in Great Britain and cement imports into Great Britain, our preliminary view is that the ETS is not distorting competition in the Great Britain cement market to a material extent at the moment.

Carbon Reduction Commitment, Climate Change Agreements and the Climate Change Levy

90. Our working paper on [policy and regulation: cement](#) provides background information on the CRC, CCA and CCL.
91. The CRC does not apply to those carbon emissions already covered by the ETS (eg cement) but covers large aggregate sites. If over 25 per cent of an organization's emissions are covered by the CCA, it will be exempt from certain aspects of the CRC (this includes cement, ground granulated blast furnace slag and lime producers but not aggregates producers). The DECC told us that this could result in 'differential impacts' within the regulated sector, where an integrated aggregates and cement producer which had a CCA would be exempt from the CRC, but a stand-alone aggregates firm would have to comply with the CRC in full. The DECC told us that it

was currently in the process of simplifying the CRC, including changes to the current CCA exemption rules.⁶⁰

92. Cemex told us that, with regard to aggregates, the CRC was an example of environmental legislation that had a greater impact on larger operators and created a greater barrier to large operators looking to expand than new entrants. Cemex explained that participants in the CRC were required to report on their carbon emissions annually (the first such report was submitted in July 2011) and buy sufficient allowances from the Government to cover their carbon emissions in the previous year. As the scheme covers organizations whose consumption exceeded 6,000 megawatt hours in the relevant qualification period—which Cemex estimated would apply only to aggregates producers extracting more than 1,000,000 tonnes annually—Cemex’s view was that the CRC was unlikely to apply to smaller operators.
93. Our view at this stage is that these policies could have different impacts on different types of producers of the reference products, causing some differences in their cost bases and possibly some distortion in competition. We note that:
- the CRC does not apply to those carbon emissions already covered by the ETS (eg cement operations) but covers large aggregate sites; and
 - if over 25 per cent of an organization’s emissions are covered by CCAs (which cover, among others, producers of cement but not producers of aggregates) it will be exempt from certain aspects of the CRC.
94. Our view at this stage is that this could result in different impacts on different types of producers, for example an integrated aggregates and cement producer which had a CCA would be exempt from the CRC but a stand-alone aggregates firm would have to comply with the CRC in full.

⁶⁰ www.decc.gov.uk/en/content/cms/emissions/crc_efficiency/crc_efficiency.aspx.

Competition implications of planning policy regarding landbanks for aggregates

Summary

1. One of the key characteristics of the planning system for land-won primary aggregates is the use of 'landbanks'.⁶¹ The length of a landbank in a particular area can be used as an indicator as to when new permissions for aggregates are likely to be required. The NPPF states that landbanks should be at least for seven years for sand and gravel and ten years for crushed rock. Our working paper on [barriers to entry and expansion](#) identified the difficulty of obtaining planning permission for a new aggregates site as a potential barrier to entry. Some parties submitted to us that obtaining planning permission was more difficult if the landbank in an area exceeded the minimum periods set out in the NPPF.
2. We considered whether (as at the date of the available information), in areas in which the landbank of sand and gravel or crushed rock exceeded the relevant minimum period, one or more of the majors had a significant share of the permitted reserves such that there might be a cause for concern about the impact on competition in that area in the supply of aggregates.
3. We found that in over 50 per cent of counties in England the landbank for sand and gravel and crushed rock exceeded the relevant minimum periods and one major had over 25 per cent of the permitted reserves. We also found that in Scotland and Wales, in over 50 per cent of regions one major had over 25 per cent of the permitted reserves.

⁶¹ A landbank is defined as a stock of planning permissions (measured in years) for permitted reserves. It is calculated by dividing the volume of existing permitted reserves by the average annual provision in the area.

4. The planning policy framework set out in the NPPF and by DCLG requires that landbanks bound up in a few sites should not be allowed to stifle completion in an area and that adequate or excess landbank should not be used as a reason for declining a planning application.

Regulatory framework

5. The working paper on [policy and regulation: aggregates](#) describes the planning regime for the extraction of land-won primary aggregates.
6. The Government's planning policies for England are set out in the NPPF published in March 2012 while the responsibility for determining the level of aggregates extraction is decentralized to local MPAs.
7. The NPPF sets out the ways in which MPAs should plan for a steady and adequate supply of aggregates by maintaining appropriate landbanks, which include:
 - preparing an annual Local Aggregate Assessment, either individually or jointly by agreement with other MPAs, based on a rolling average of ten years' sales data and other relevant local information, and an assessment of all supply options (including marine-dredged, secondary and recycled sources);
 - using landbanks of aggregate minerals reserves principally as an indicator of the security of aggregate minerals supply, and to indicate the additional provision that needs to be made for new aggregate extraction and alternative supplies in mineral plans;
 - making provision for the maintenance of landbanks of at least seven years for sand and gravel and at least ten years for crushed rock, whilst ensuring that the capacity of operations to supply a wide range of materials is not compromised. Longer periods may be appropriate to take account of the need to supply a range

- of types of aggregates, locations of permitted reserves relative to markets, and productive capacity of permitted sites;
- ensuring that large landbanks bound up in very few sites do not stifle competition; and
 - calculating and maintaining separate landbanks for any aggregate materials of a specific type or quality which have a distinct and separate market.⁶²
8. The NPPF also states that MPAs should plan for a steady and adequate supply of industrial minerals. The framework includes guidance that a stock of permitted reserves should be maintained to support the level of actual and proposed investment required for new or existing plant including:
- at least 15 years for cement primary (chalk and limestone) and secondary (clay and shale) materials to maintain an existing plant, and
 - at least 25 years for brick clay, and for cement primary and secondary materials to support a new kiln.⁶³
9. In October 2012 DCLG published Guidance on the Managed Aggregates Supply System⁶⁴ to provide clarity on how the more decentralized approach to aggregate minerals planning should work whilst maintaining the existing groups which form part of the MASS, notwithstanding that planning decisions are determined at a local level by MPAs.
10. The guidance confirmed that MPAs should seek to maintain a landbank of at least seven years for land-won sand and gravel and ten years for crushed rock. The guidance states that while landbanks can be used as an indicator to assess when

⁶² NPPF, paragraph 145: www.communities.gov.uk/documents/planningandbuilding/pdf/2116950.pdf.

⁶³ For these purposes landbank is calculated differently from aggregate minerals landbank as defined in paragraph 12. For cement raw materials, there should be a stock of permitted reserves (landbank) calculated for each proposed site for a cement plant. The size of the cement industry's landbank should be directly linked to the scale of capital investment envisaged at a site. See www.gov.uk/government/publications/national-planning-policy-framework-technical-guidance, paragraphs 52 & 53.

⁶⁴ www.communities.gov.uk/documents/planningandbuilding/pdf/2238394.pdf.

new planning permissions should be considered, each application for minerals extraction should be considered on its own merits, regardless of the length of the landbank and that MPAs should not automatically grant planning permission because the landbank is under seven or ten years (as appropriate) and that an adequate or excess landbank is not a reason for withholding planning permission. Possible reasons for approving an application for planning permission in an area where there exists an adequate landbank include:

- reasonably certain forecast of significant future increases in demand;
- the location of the existing consented reserve is inappropriate for the main market area;
- the nature, type and qualities of the aggregate such as its suitability for a particular purpose within a distinct market; and
- known constraints on the availability of consented reserves that might limit output over the plan period.

11. In Scotland, the Scottish Planning Policy states that planning authorities should ensure that a landbank of permitted reserves for construction aggregates of a minimum ten years' extraction is available at all times in all market areas.⁶⁵

Landbank definition

12. Landbank is defined in the Guidance on the Managed Aggregates Supply System as the sum in tonnes for all permitted reserves for which valid planning permissions are extant.⁶⁶ This includes current non-working sites but excludes dormant and inactive sites (as set out in the Planning and Compensation Act 1991 and Environment Act 1995) for which a review is required before operation can commence or resume. The length of the landbank should be calculated using the expected provision (supply in

⁶⁵ Scottish Planning Policy paragraph 227: www.scotland.gov.uk/Publications/2010/02/03132605/8.

⁶⁶ Guidance on the Managed Aggregates Supply System, paragraph 23.

response to demand) included in the local minerals plan, expressed on an annual basis. For the purposes of the landbank calculations, some MPAs will calculate landbanks based on minerals plans which have used annual apportionments derived from the National and Regional Guidelines for Aggregates Provision for 2001 to 2016, and others will calculate landbanks based on minerals plans which have used updated apportionments for 2005 to 2020 published in June 2009.

Possible competition implication of landbank policy

13. Paragraph 39 of our working paper on [barriers to entry and expansion](#) noted that the Mineral Products Association had told us that there were concerns that some local MPAs had interpreted the landbank recommendations too rigidly with the effect that planning applications for aggregates sites might be refused if the landbank in an area extended beyond the minimum periods specified in Minerals Planning Statement 1 (MPS 1),⁶⁷ and also that the BAA told us that if the landbank were sufficient to meet the forecast demand it was almost impossible to obtain planning permission.⁶⁸

14. In support of the concerns noted above, the Mineral Products Association referred to a research report by Capita Symonds Limited: 'Reasons for the decline in aggregate reserves in England'.⁶⁹ The report commented that it was generally felt by the industry that the minerals planning system had been working well and that most applications submitted in accordance with local development plans were successful. The report went on to say that whilst landbank policy was, in accordance with MPS 1, a valid reason for refusal, the industry felt that some mineral planning authorities interpreted the landbank concept too rigidly. The report noted that for 191 applications refused in the period 1990 to 2007, reasons for the refusal were recorded in 119 cases (61 per cent). The single most common reason for refusal,

⁶⁷ MPA submission to the OFT 15 October 2010, paragraphs 8.8 & 8.9. The Minerals Planning Statements set out the Government's guidance to local planning authorities. MPS1 was revoked by the NPPF.

⁶⁸ Hearing with BAA, 10 July 2012, transcript page 75

⁶⁹ www.british-aggregates.co.uk/documentation/doc88.pdf.

cited in 34 per cent of the cases where reasons were given, was the lack of need due to the size of the existing landbank, although various environmental reasons were given in over 60 per cent of cases. The report suggested that sometimes the landbank reason might be used as a cover for more genuine but less effective objections. The report also noted that the rate of refusals was higher in the East of England than elsewhere.⁷⁰

15. We considered that if the concerns raised by the Mineral Products Association and BAA were valid, in areas where the existing landbanks exceeded the minimum periods and the ownership of the permitted reserves was concentrated in the hands of one party or a few parties, there might be an impact on competition as it might be difficult for another party to obtain planning permission to undertake aggregates extraction in competition with the incumbents.

Assessment

16. In order to consider whether the policies regarding landbanks might have an impact on competition in the aggregates market we have sought to identify areas in which landbanks met or exceeded the minimum periods (on the basis that in those areas, the relevant MPA might be less willing to grant planning permission for new aggregates sites) and whether the ownership of permitted reserves in those areas was concentrated in the hands of any of the majors. Our approach has been to review:
 - the information on landbanks as disclosed in the annual reports of the AWP in England and Wales and the Scottish Aggregates Survey; and
 - the ownership of permitted reserves according to the data collated by BDS Marketing Research Ltd (BDS).

⁷⁰ Paragraphs 5.46–5.49.

Permitted reserves and landbanks

17. The most recent information on the level of permitted reserves and landbanks in England is provided in the annual reports of the AWP.
18. The role of the AWP is described in paragraphs 35 to 41 in the working paper on [policy and regulation: aggregates](#).
19. Every four years, DCLG carries out a survey to provide a comprehensive and up-to-date understanding of national and regional sales, inter-regional flows, transportation, consumption and permitted reserves of primary aggregates. Information is collected through, but is not held by, the AWP. The majority of the results are reported at regional level, although some are reported at MPA level.
20. The most recent information on the level of permitted reserves and landbanks in Wales is provided in the South Wales AWP annual reports for 2010 and the North Wales AWP annual report for 2005. For Scotland, the most recent information is provided in the Scottish Aggregates Survey 2005.
21. [Annex 1](#) shows the permitted reserves and landbanks as reported in the sources noted above.

Ownership of permitted reserves

22. As the AWP's annual reports do not disclose the ownership of permitted reserves, we used the data collated by BDS to identify areas in which the ownership of permitted reserves was concentrated in the hands of any of the majors at the end of 2010. The BDS report for 2010 states that its total reserves figures for each county were close

to those published in AWP reports or minerals plans, allowing for subsequent consents and mineral extracted.⁷¹

23. [Annex 2](#) and [Annex 3](#) show the proportion of sand and gravel and crushed rock permitted reserves owned by each of the majors in each county in England, and also in Scotland and Wales, at the end of 2010, based on information provided by BDS.

Our findings

Sand and gravel

24. Table 1 (which is derived from [Annex 1](#) and [Annex 2](#)) shows the counties in England with permitted reserves of sand and gravel, and for those counties with a landbank of more than seven years, the majors' share of the permitted reserves.

TABLE 1 **Sand and gravel: landbanks and majors' share of permitted reserves**

	<i>Number of counties</i>
Landbank less than 7 years (or not disclosed)	14
Landbank greater than 7 years	
Share of permitted reserves:	
No major had more than 25 per cent	3
At least one major had 25–50 per cent	15
One major had more than 50 per cent	<u>11</u>
Total counties with permitted reserves of sand and gravel	43

Source: CC analysis.

Table 1 shows that in England, there were:

- (a) 43 counties in which there were permitted reserves of sand and gravel;
- (b) 15 counties where the landbank of sand and gravel was greater than seven years and at least one major had between 25 and 50 per cent of the permitted reserves (of these, there were two counties in which the total permitted reserves were less than one million tonnes); and
- (c) 11 counties where the landbank of sand and gravel was greater than seven years and one major had over 50 per cent of the permitted reserves (of these, there

⁷¹ BDS: Estimated reserves of pits and quarries in Great Britain, June 2011.

was one county in which the total permitted reserves were less than 1 million tonnes).

Of the counties in (b) and (c), there were 11 counties where the landbank of sand and gravel was greater than seven years and one major, or two majors collectively, had over 75 per cent of the permitted reserves.⁷²

25. In Scotland, BDS identified ten regions with permitted reserves of sand and gravel, of which there were three regions in which at least one major had between 25 and 50 per cent of the permitted reserves and three regions in which one major had over 50 per cent of the permitted reserves (of these three, there were two regions in which one major, or two majors collectively, had over 75 per cent of the permitted reserves). BDS's regional breakdown did not match that in the Scottish Aggregates Survey 2005 which showed that landbanks overall met the guideline in the Scottish Planning Policy in three of the four regions with material reserves of sand and gravel. The Scottish Aggregates Survey was published five years before the BDS survey.
26. In Wales, BDS identified three regions in Wales with permitted reserves of sand and gravel, of which there was one region in which one major had between 25 and 50 per cent of the permitted reserves and one region in which one major had over 75 per cent of the permitted reserves. BDS's regional breakdown did not match that in the North and South Wales AWP reports which showed only one region with material reserves of sand and gravel.

Crushed rock

27. Table 2 (which is derived from [Annex 1](#) and [Annex 3](#)) shows the counties in England with permitted reserves of crushed rock, and for those counties with a landbank of more than ten years, the majors' share of the permitted reserves.

⁷² Market shares based on BDS data; permitted reserves based on AWP reports.

TABLE 2 **Crushed rock: landbanks and majors' share of permitted reserves**

	<i>Number of counties</i>
Landbank less than 10 years (or not disclosed)	8
Landbank greater than 10 years	
Share of permitted reserves:	
No major had more than 25 per cent	6
At least one major had 25 - 50 per cent	8
One major had more than 50 per cent	<u>10</u>
Total counties with permitted reserves of crushed rock	32

Source: CC analysis.

Table 2 shows that in England, there were:

- (a) 32 counties in which there were permitted reserves of crushed rock;
- (b) eight counties where the landbank of crushed rock was greater than ten years and at least one major had between 25 and 50 per cent of the permitted reserves; and
- (c) ten counties where the landbank of crushed rock was greater than ten years and one major had more than 50 per cent of the permitted reserves (of these, there was one county in which the total permitted reserves were less than 1 million tonnes).

Of the counties in (b) and (c) there were seven counties where the landbank of crushed rock was greater than ten years and one major, or two majors collectively, had over 75 per cent of the permitted reserves.⁷³

28. In Scotland, BDS identified ten regions in Scotland with permitted reserves of crushed rock, of which there were four regions in which at least one major(s) had between 25 and 50 per cent of the permitted reserves and three regions in which one major had over 50 per cent of the permitted reserves (and of these three, there were two regions in which one major, or two majors collectively, had over 75 per cent of the permitted reserves). BDS's regional breakdown did not match that in the Scottish

⁷³ Market shares based on BDS data; permitted reserves based on AWP reports.

Aggregates Survey 2005 which showed that landbanks exceeded the guideline in the Scottish Planning Policy in all regions.

29. BDS identified eight regions in Wales with permitted reserves of crushed rock, of which there were three regions in which at least one major had between 25 and 50 per cent of the permitted reserves and five regions in which one major had over 50 per cent of the permitted reserves. There were four regions in which two majors collectively had over 75 per cent of the permitted reserves. BDS's regional breakdown did not match that in the North and South Wales AWP annual reports which showed that landbanks exceeded the guideline in all regions.

Comparison of the majors' reserves and production

30. We compared the overall share of permitted reserves owned by each of the majors in Great Britain at the end of 2010 with their share of production in 2011, and found them to be similar, as shown in Table 3:

TABLE 3: **The majors' share of reserves and output in Great Britain**

	<i>Aggregate Industries</i>	<i>Cemex</i>	<i>Hanson</i>	<i>Lafarge</i>	<i>Tarmac</i>
<i>per cent</i>					
<i>Sand and gravel</i>					
Share of permitted reserves (2010)	11	12	18	8	19
Share of production (2011)	11	14	12	10	19
<i>Crushed rock</i>					
Share of permitted reserves (2010)	25	11	11	8	24
Share of production (2011)	22	9	15	11	21

Source: BDS aggregates database; BDS estimated market shares of pits, quarries and marine wharves (2011).

We also analysed the correlation between each major's share of reserves and its share of production on a county-by-county basis and found that for sand and gravel, the correlation coefficients were over 0.75 for all the majors and for crushed rock the correlation coefficients were over 0.6 for all the majors.

Preliminary conclusions

31. In over 50 per cent of counties in England where there were permitted reserves of sand and gravel or crushed rock, the combination of conditions existed which might have given cause for concern about the extent of competition: ie the landbank was more than the minimum period set out in the NPPF, with the implication that obtaining a new planning permission for extraction of aggregates might be difficult, and one major (or two majors collectively) had at least 25 per cent of the permitted reserves.
32. In the majority of the regions in Scotland and Wales one of the majors had at least 25 per cent of the permitted reserves.
33. We found that each of the major's share of permitted reserves in Great Britain is similar to its share of production and each major's local stock of permitted reserves is positively correlated with its local share of production which indicated to us that the majors are not holding significant inactive sites of permitted reserves in the landbanks to prevent entry (if permitted reserves were being 'warehoused' we might expect to see that the size of a major's local stock of permitted reserves exceeded its local share of production).
34. We found that historically most planning applications were successful and considered that, regarding the applications which were refused, the evidence was not conclusive on the significance of landbank policy as a reason for refusal.
35. In England, planning policy guidelines set out in the NPPF, which requires MPAs not to allow landbanks that are bound up in a few large sites to stifle competition, and the DCLG Guidance on the Managed Aggregates Supply System, which states that each planning application should be considered on its own merits and that an adequate or

excess landbank is not a reason for withholding planning permission, go some way mitigating the concern that landbank policy might have an adverse impact on competition.

Permitted reserves and landbanks

Region	Sub-region	Reserves		Landbank	
		Sand and gravel Million tonnes	Crushed rock Million tonnes	Sand and gravel Years	Crushed rock Years
<i>England (2009 aggregates survey results)</i>					
East of England	Bedfordshire and Luton	22.9	0.0	12.4	-
	Cambridgeshire and Peterborough	46.2	1.4	16.0	7.0
	Essex, Thurrock and Southend	37.4	0.0	8.4	-
	Hertfordshire	10.8	0.0	7.8	-
	Norfolk	17.0	1.8	6.6	5.9
	Suffolk	<u>13.6</u>	<u>0.0</u>	<u>8.4</u>	
	Total	147.9	3.2	10.0	6.4
East Midlands	Derbyshire	9.9	810.1	6.6	92.7
	Peak District National Park	0.0	92.5	-	22.8
	Leicestershire/Rutland	12.8	342.2	8.5	20.2
	Lincolnshire	22.8	41.3	7.0	37.5
	Northamptonshire	6.2	14.0	8.0	46.8
	Nottinghamshire	<u>28.9</u>	<u>3.4</u>	<u>7.6</u>	<u>33.5</u>
Total	80.6	1303.5	7.4	41.8	
North-East	Durham	2.1	136.3	5.5	28.8
	Northumberland	8.6	78.4	12.3	34.5
	Tees Valley and Tyne & Wear	<u>Not disclosed</u>	<u>2.2</u>	<u>Not disclosed</u>	<u>5.3</u>
	Total	13.7	217.0	10.9	29.2
North-West	Cheshire	12.8	4.4	6.5	34.0
	Cumbria	14.0	169.0	19.9	41.2
	Greater Manchester	6.1	17.2	23.5	10.4
	Lancashire	<u>9.0</u>	<u>136.8</u>	<u>18.0</u>	<u>29.7</u>
	Total	41.8	327.4	12.2	31.2
South-East of England	Berkshire Utilities	10.0	0.0	7.5	-
	Buckinghamshire	11.6	0.0	11.0	-
	East Sussex	Not disclosed	0.0	>7	-
	Hampshire	6.8	0.0	3.3	-
	Isle of Wight	1.4	Not disclosed	14.0	Not disclosed
	Kent	16.8	Not disclosed	10.3	Not disclosed
	Medway	Not disclosed	0.0	<7	-
	Milton Keynes	Not disclosed	0.0	<7	-
	Oxfordshire	9.1	12.6	4.3	25.2
	Surrey	10.9	Not disclosed	8.6	Not disclosed
	West Sussex	<u>5.5</u>	<u>Not disclosed</u>	<u>5.3</u>	<u>Not disclosed</u>
	Total	79.0	48.0	7.1	36.9
	South-West	Avon	0.0	192.3	-
Cornwall		0.0	115.2	-	68.6
Devon		8.7	188.1	9.4	58.8
Dorset		0.0	335.9	-	25.0
Gloucestershire		7.1	27.1	7.1	12.0
Somerset		5.6	0.0	4.0	-
Wiltshire		<u>19.1</u>	<u>8.5</u>	<u>9.7</u>	<u>28.2</u>
Total		40.5	867.0	7.6	33.6
West Midlands		Herefordshire	5.2	15.0	18.2
	Worcestershire	3.7	Not disclosed	4.2	Not disclosed
	Shropshire	14.4	116.0	17.6	39.3
	Staffordshire	79.4	160.5	12.0	115.0
	Warwickshire	4.0	29.1	3.8	33.1
	West Midlands	<u>5.1</u>	<u>0.0</u>	<u>10.0</u>	<u>-</u>
	Total	111.7	320.6	11.0	55.2
Yorkshire and Humber	North Yorkshire	18.4	103.9	7.4	28.3
	Yorkshire Dales National Park	0.0	106.2	-	28.7
	South Yorkshire	5.4	63.4	9.7	27.5
	West Yorkshire	0.0	27.1	-	28.3
	East Riding/North Lincolnshire	<u>10.8</u>	<u>1.7</u>	<u>10.1</u>	<u>6.2</u>
	Total	34.6	302.4	8.4	27.7

Region	Sub-region	Reserves		Landbank	
		Sand and gravel Million tonnes	Crushed rock Million tonnes	Sand and gravel Years	Crushed rock Years
London	London	2.0	0.0	2.0	-
<i>Scotland (2005 survey results)</i>					
	East Central	3.4	43.3	9.0	17.0
	Highland	19.6	481.6	40.0	81.0
	North East	24.8	622.6	27.0	471.0
	Orkney	0.8	4.0	358.0	75.0
	Shetland	0.0	5.4	0.0	31.0
	South	3.5	36.0	6.0	30.0
	Tayside and Fife	15.9	27.9	9.0	11.0
	West Central	54.1	143.4	16.0	18.0
	Western Isles	<u>0.6</u>	<u>3.5</u>	21.0	20.0
		122.8	1367.7		
<i>North Wales (2005 survey results)</i>					
	Anglesey	0.0	17.7	-	42.0
	Conwy	0.0	69.9	-	50.0
	Denbighshire	14.6	25.1	15.0	25.0
	Flintshire		82.7		25.0
	Gwynedd	<u>1.0</u>	<u>5.4</u>	5.0	27.0
		15.6	200.8		
<i>South Wales (2010 survey results)</i>					
	Dyfed and West Glamorgan	1.7	120.6	-	50.2
	Gwent, Mid Glamorgan, South Glamorgan	Not disclosed	219.3	-	63.7
	Powys	0.0	<u>170.7</u>	-	55.7
			510.7		

Source: England AWP annual reports 2009, Scotland Aggregates Survey 2005, North Wales AWP annual report 2005, South Wales AWP annual report 2010.

Sand and gravel: percentage of permitted reserves owned by the majors, 2010

Region	Sub-region	<i>per cent</i>					
		Aggregate Industries	Cemex	Hanson	Lafarge	Tarmac	Independent
East	Bedfordshire	[X]	[X]	[X]	[X]	[X]	[X]
	Cambridgeshire	[X]	[X]	[X]	[X]	[X]	[X]
	Essex	[X]	[X]	[X]	[X]	[X]	[X]
	Hertfordshire	[X]	[X]	[X]	[X]	[X]	[X]
	Norfolk	[X]	[X]	[X]	[X]	[X]	[X]
	Suffolk	[X]	[X]	[X]	[X]	[X]	[X]
East Midlands	Derbyshire	[X]	[X]	[X]	[X]	[X]	[X]
	Leicestershire	[X]	[X]	[X]	[X]	[X]	[X]
	Lincolnshire	[X]	[X]	[X]	[X]	[X]	[X]
	Northamptonshire	[X]	[X]	[X]	[X]	[X]	[X]
	Nottinghamshire	[X]	[X]	[X]	[X]	[X]	[X]
North-East	Cleveland	[X]	[X]	[X]	[X]	[X]	[X]
	Durham	[X]	[X]	[X]	[X]	[X]	[X]
	Northumberland	[X]	[X]	[X]	[X]	[X]	[X]
	Tyne & Wear	[X]	[X]	[X]	[X]	[X]	[X]
North-West	Cheshire	[X]	[X]	[X]	[X]	[X]	[X]
	Cumbria	[X]	[X]	[X]	[X]	[X]	[X]
	Lancashire	[X]	[X]	[X]	[X]	[X]	[X]
	Manchester	[X]	[X]	[X]	[X]	[X]	[X]
	Merseyside	[X]	[X]	[X]	[X]	[X]	[X]
South-East	Berkshire	[X]	[X]	[X]	[X]	[X]	[X]
	Buckinghamshire	[X]	[X]	[X]	[X]	[X]	[X]
	Hampshire	[X]	[X]	[X]	[X]	[X]	[X]
	Isle of Wight	[X]	[X]	[X]	[X]	[X]	[X]
	Kent	[X]	[X]	[X]	[X]	[X]	[X]
	London	[X]	[X]	[X]	[X]	[X]	[X]
	Oxfordshire	[X]	[X]	[X]	[X]	[X]	[X]
	Surrey	[X]	[X]	[X]	[X]	[X]	[X]
West Sussex	[X]	[X]	[X]	[X]	[X]	[X]	
South-West	Cornwall	[X]	[X]	[X]	[X]	[X]	[X]
	Devon	[X]	[X]	[X]	[X]	[X]	[X]
	Dorset	[X]	[X]	[X]	[X]	[X]	[X]
	Gloucestershire	[X]	[X]	[X]	[X]	[X]	[X]
	Wiltshire	[X]	[X]	[X]	[X]	[X]	[X]
West Midlands	Hereford & Worcester	[X]	[X]	[X]	[X]	[X]	[X]
	Shropshire	[X]	[X]	[X]	[X]	[X]	[X]
	Staffordshire	[X]	[X]	[X]	[X]	[X]	[X]
	Warwickshire	[X]	[X]	[X]	[X]	[X]	[X]
	West Midlands	[X]	[X]	[X]	[X]	[X]	[X]
Yorkshire	Humberside	[X]	[X]	[X]	[X]	[X]	[X]
	North Yorkshire	[X]	[X]	[X]	[X]	[X]	[X]
	South Yorkshire	[X]	[X]	[X]	[X]	[X]	[X]
	West Yorkshire	[X]	[X]	[X]	[X]	[X]	[X]
Scotland	Borders	[X]	[X]	[X]	[X]	[X]	[X]
	Central	[X]	[X]	[X]	[X]	[X]	[X]
	Dumfries & Galloway	[X]	[X]	[X]	[X]	[X]	[X]
	Fife	[X]	[X]	[X]	[X]	[X]	[X]
	Grampian	[X]	[X]	[X]	[X]	[X]	[X]
	Highland	[X]	[X]	[X]	[X]	[X]	[X]
	Islands	[X]	[X]	[X]	[X]	[X]	[X]
Lothian	[X]	[X]	[X]	[X]	[X]	[X]	

Region	Sub-region	<i>per cent</i>					
		Aggregate Industries	Cemex	Hanson	Lafarge	Tarmac	Independent
Wales	Strathclyde	[X]	[X]	[X]	[X]	[X]	[X]
	Tayside	[X]	[X]	[X]	[X]	[X]	[X]
	Clwyd	[X]	[X]	[X]	[X]	[X]	[X]
	Dyfed	[X]	[X]	[X]	[X]	[X]	[X]
	Gwynedd	[X]	[X]	[X]	[X]	[X]	[X]
			[X]	[X]	[X]	[X]	[X]

Source: BDS, CC analysis.

Crushed rock: percentage of permitted reserves owned by the majors 2010

Region	Sub-region	Aggregate Industries	Cemex	Hanson	Lafarge	Tarmac	per cent
							Independent
East	Cambridgeshire	[X]	[X]	[X]	[X]	[X]	[X]
	Norfolk	[X]	[X]	[X]	[X]	[X]	[X]
East Midlands	Derbyshire	[X]	[X]	[X]	[X]	[X]	[X]
	Leicestershire	[X]	[X]	[X]	[X]	[X]	[X]
	Lincolnshire	[X]	[X]	[X]	[X]	[X]	[X]
	Northamptonshire	[X]	[X]	[X]	[X]	[X]	[X]
	Nottinghamshire	[X]	[X]	[X]	[X]	[X]	[X]
North-East	Cleveland	[X]	[X]	[X]	[X]	[X]	[X]
	Durham	[X]	[X]	[X]	[X]	[X]	[X]
	Northumberland	[X]	[X]	[X]	[X]	[X]	[X]
	Tyne & Wear	[X]	[X]	[X]	[X]	[X]	[X]
North-West	Cheshire	[X]	[X]	[X]	[X]	[X]	[X]
	Cumbria	[X]	[X]	[X]	[X]	[X]	[X]
	Lancashire	[X]	[X]	[X]	[X]	[X]	[X]
	Manchester	[X]	[X]	[X]	[X]	[X]	[X]
	Merseyside	[X]	[X]	[X]	[X]	[X]	[X]
South-East	Kent	[X]	[X]	[X]	[X]	[X]	[X]
	Oxfordshire	[X]	[X]	[X]	[X]	[X]	[X]
South-West	Avon	[X]	[X]	[X]	[X]	[X]	[X]
	Cornwall	[X]	[X]	[X]	[X]	[X]	[X]
	Devon	[X]	[X]	[X]	[X]	[X]	[X]
	Dorset	[X]	[X]	[X]	[X]	[X]	[X]
	Gloucestershire	[X]	[X]	[X]	[X]	[X]	[X]
	Somerset	[X]	[X]	[X]	[X]	[X]	[X]
West Midlands	Hereford & Worcester	[X]	[X]	[X]	[X]	[X]	[X]
	Herefordshire	[X]	[X]	[X]	[X]	[X]	[X]
	Shropshire	[X]	[X]	[X]	[X]	[X]	[X]
	Staffordshire	[X]	[X]	[X]	[X]	[X]	[X]
	Warwickshire	[X]	[X]	[X]	[X]	[X]	[X]
Yorkshire	North Yorkshire	[X]	[X]	[X]	[X]	[X]	[X]
	South Yorkshire	[X]	[X]	[X]	[X]	[X]	[X]
	West Yorkshire	[X]	[X]	[X]	[X]	[X]	[X]
Scotland	Borders	[X]	[X]	[X]	[X]	[X]	[X]
	Central	[X]	[X]	[X]	[X]	[X]	[X]
	Dumfries & Galloway	[X]	[X]	[X]	[X]	[X]	[X]
	Fife	[X]	[X]	[X]	[X]	[X]	[X]
	Grampian	[X]	[X]	[X]	[X]	[X]	[X]
	Highland	[X]	[X]	[X]	[X]	[X]	[X]
	Islands	[X]	[X]	[X]	[X]	[X]	[X]
	Lothian	[X]	[X]	[X]	[X]	[X]	[X]
	Strathclyde	[X]	[X]	[X]	[X]	[X]	[X]
Tayside	[X]	[X]	[X]	[X]	[X]	[X]	
Wales	Clwyd	[X]	[X]	[X]	[X]	[X]	[X]
	Dyfed	[X]	[X]	[X]	[X]	[X]	[X]
	Gwent	[X]	[X]	[X]	[X]	[X]	[X]
	Gwynedd	[X]	[X]	[X]	[X]	[X]	[X]
	Mid Glamorgan	[X]	[X]	[X]	[X]	[X]	[X]
	Powys	[X]	[X]	[X]	[X]	[X]	[X]
	South Glamorgan	[X]	[X]	[X]	[X]	[X]	[X]
West Glamorgan	[X]	[X]	[X]	[X]	[X]	[X]	

Source: BDS, CC analysis.
