Terms of reference and conduct of the inquiry

Terms of reference

1. On 24 September 2013 the OFT sent the following reference to the CC:

1. In exercise of its duty under section 22(1) of the Enterprise Act 2002 ('the Act') to make a reference to the Competition Commission ('the CC') in relation to a completed merger, the Office of Fair Trading ('the OFT') believes that it is or may be the case that—

(a) a relevant merger situation has been created in that:

(i) enterprises carried on by or under the control of Aggregate Industries UK Limited have ceased to be distinct from enterprises carried on by or under the control of Breedon Aggregates Limited; and

(ii) as a result, the condition specified in section 23(3) of the Act is satisfied, with respect to the supply of primary aggregates, ready-mix concrete, and asphalt in local areas in Grampian, Tayside and Fife, and the Highlands, which together constitute a 'substantial part of the UK.'

(b) the creation of that situation has resulted or may be expected to result in a substantial lessening of competition within any market or markets in the UK for goods or services, including the supply of primary aggregates, ready-mix concrete, and asphalt in local areas in Grampian, Tayside and Fife, and the Highlands.

2. Therefore, in exercise of its duty under section 22(1) of the Act, the OFT hereby refers to the CC, for investigation and report within a period ending on 10 March 2014, the following questions in accordance with section 35(1) of the Act:

(a) whether a relevant merger situation has been created; and

(b) if so, whether the creation of that situation has resulted or may be expected to result, in a substantial lessening of competition within any market or markets in the UK for goods or services.

(signed) SHELDON MILLS
Office of Fair Trading
24 September 2013

Interim measures

2. On 25 September 2013 we adopted the initial undertakings accepted by the OFT from Breedon and Breedon Scotland on 28 May 2013. These undertakings are published on the CC website.

3. On 31 October 2013 we directed Breedon and Breedon Scotland to appoint a monitoring trustee. The directions are published on the CC website.

Conduct of the inquiry

4. An invitation to comment on the inquiry was posted on the CC website on 24 September 2013. We also published biographies of the members of the Group conducting the inquiry. The administrative timetable for the inquiry was published on the CC website on 11 October 2013 and then updated on 15 January 2014.

5. We invited a wide range of interested parties to comment on the acquisition. These included customers and competitors of the main parties. Evidence was also obtained through oral hearings with third parties, through telephone contacts, through further written requests and data on asphalt, aggregate and RMX sites and volumes was purchased from BDS Marketing Research Ltd. Summaries of hearings can be found on our website.

6. We commissioned DJS Research Limited (DJS) to carry out a survey of the main parties' smaller customers for aggregates, asphalt and RMX in north-east Scotland. DJS completed 231 telephone interviews and prepared a presentation and a report setting out the results of the survey, which were published on the CC website.

7. We received written evidence from Breedon, and a non-confidential version of its main submission is on our website. We also held a hearing with Aggregate Industries on 11 November.

8. On 22 October 2013 we published an issues statement on our website, setting out the areas of concern on which the inquiry would focus.

9. On 22 October 2013 members of the Inquiry Group, accompanied by staff, visited the Aberdeen area to see a quarry, an asphalt plant and an RMX plant owned by Breedon.

10. In the course of our inquiry, we sent to Breedon, Aggregate Industries and other parties some working papers and extracts from those papers for comment.

11. A non-confidential version of the provisional findings report has been placed on the CC website.

12. We would like to thank all those who have assisted in our inquiry so far.

Parties' financial information

1. In this appendix we set out summary financial information for Aggregate Industries and for Breedon.

Aggregate Industries' summary financials

2. We set out in Table 1 summary financial information for Aggregate Industries in 2011 and 2012.

TABLE 1 **Aggregate Industries' summary financials for 2011 and 2012**

		£'000
	2012	*2011*
Turnover	1,025,731	1,071,634
EBITDA	40,448	84,455
Margin (%)	*4*	*8*
Operating profit	(39,439)	(14,532)
Capital employed	1,391,735	1,489,544
ROCE (%)	*–2.8*	*1.0*
Net assets	200,058	268,534

Source: Aggregate Industries' financial statements 2012.

3. Aggregate Industries' EBITDA and profitability declined from 2011 to 2012. This reflected one-off exceptional restructuring costs and impairments of £22 million. An additional factor was that the cost of sales and administration expenses declined more slowly than turnover over the period.

4. There was also a decline in capital employed and net assets.

Aggregate Industries' divested operations summary financial information

5. In Table 2 we set out summary financial information for 2012 for the operations which Aggregate Industries sold to Breedon.

TABLE 2 **Aggregate Industries' divested operations, 2012**

[✂]

Source: Aggregate Industries.

Notes:
1. Margin = EBITDA / turnover.
2. Margin is a measure of the value of incremental sales.
3. ROCE = operating profit / capital employed.
4. ROCE is a measure of the value the business gains from its assets and liabilities.

6. The summary financial information for Aggregate Industries' divested assets show:

   (a) EBITDA for the divested assets of [✂] per cent. [✂]

   (b) ROCE for the divested assets of [✂] per cent [✂]. The [✂] per cent ROCE is driven by the [✂] products, which account for £[✂] million of the £[✂] million operating profit.

Breedon's financial performance

7. In Table 3 we set out the financial performance of Breedon in 2010 to 2012, showing separately the results for its operations in England and Scotland.

TABLE 3 **Breedon's financial performance**

[✂]

Source: Breedon

8. Breedon's summary financial performance for the three years prior to the acquisition showed [✂] EBITDA margins in all years for [✂]. At a Group level the EBITDA margin [✂] from [✂] per cent to [✂] per cent.

9. The ROCE for each business [✂]over the three-year period. At a Group level the [✂] in ROCE was from [✂] per cent to [✂] per cent.

Breedon Scotland's high-level performance indicators

10. In Table 4 we set out the high level performance indicators for Breedon Scotland.

TABLE 4 **Breedon Scotland's high-level performance indicators**

[✂]

Source: Breedon.

11. The high-level performance indicators for Breedon's Scottish business showed for the three years 2010 to 2012:

(a) each product made [✂] EBITDA contribution in all years; and

(b) the ROCE [✂] at a Group level from [✂] per cent in 2010 to [✂] per cent in 2012.

Supporting analysis for product market definition

Introduction

1. This appendix contains analysis and evidence used when considering the appropriate definition of the relevant product markets in which the competitive effects of the Breedon/Aggregate Industries merger can be assessed. The appendix presents analysis based on information and data received from the merging parties, third parties, and on BDS data. In assessing the boundaries of the relevant product market, we take as a starting point the products produced by the merging parties. We set out the analysis and evidence for aggregates, RMX and asphalt.

Aggregates

2. We examined the following aspects of the supply of aggregates in north Scotland:
   (a) how various types and grades of aggregates are used (demand-side substitutability), including usage and supply of recycled aggregates;
   (b) how much scope there is to switch production between different aggregates (supply-side substitutability); and
   (c) the extent to which various types and grades of aggregates are sold externally and internally to downstream RMX and asphalt operations.

Use of aggregates

Overall usage in different applications

3. Breedon submitted that it agreed with the CC's estimates in the MIR[1] of the proportions of total usage of aggregates by application in the UK. We have not seen any evidence to suggest that this would be different to any significant degree in the North of Scotland. The estimates showed that around 50 per cent of all aggregates sales

[1] Here MIR refers to the provisional findings report of the Aggregates, cement and ready-mix concrete market investigation, published on 23 May 2013.

were to construction and fills applications, 20 per cent for the production of RMX, 11 per cent for the production of asphalt, 10 per cent for the production of concrete products and 9 per cent for other speciality uses.

4. In terms of usage of specific types or grades of aggregates, Breedon submitted the information reproduced in Table 1 below. It highlights that there is limited demand-side substitutability between different aggregates product categories, as the various applications may require specific types and grades of aggregates.

TABLE 1 **Use of different aggregates product categories by application**

Product type	*Construction*	*Fills*	*RMX*	*Asphalt*	*Concrete products*	*Specialist*
Single-sized aggregates	Yes	No	Yes	Yes	Yes	Some
Fine materials	Yes	Some	Yes	Yes	Yes	Some
Type 1 sub-base	No	Yes	No	No	No	No
Crusher runs/other primary	Yes	Yes	No	No	No	No
Recycled	Yes	Yes	Some	Some	Some	No
Rail ballast	No	No	No	No	No	Rail ballast
High PSV*	No	No	No	No	No	Asphalt surface courses
High purity limestone	No	No	No	No	No	Industrial applications
Agricultural lime	No	No	No	No	No	Agricultural uses
Decorative aggregates	No	No	No	No	No	Decorative

Source: Breedon.

*PSV: Polished stone value, an attribute of aggregates. The higher the PSV of a particular aggregate, the greater the skid resistance of the asphalt produced using that aggregate.

5. Breedon submitted the following estimates for the proportions of various types of aggregates used in the production of RMX, asphalt and concrete products:

(a) RMX: 60 per cent single-sized graded aggregates, 40 per cent coarse sand or dust;

(b) concrete products: 65 per cent single-sized graded aggregates, 35 per cent coarse sand or dust; and

(c) asphalt: 70 per cent single-sized graded aggregates, 30 per cent fine sand or dust.

6. Aggregate Industries noted that customers had multiple requirements, particularly concerning grades, strength, appearance and particle size. However, it also noted that these could be changed by the aggregate producers to satisfy customers' requirements. It further noted that often the choice was limited to what was available locally, but producers would find innovative ways of meeting customers' requirements.

Standards and regulations

7. Breedon explained that aggregates for use as sub-base and fills were not subject to the same technical requirements as aggregates for asphalt and RMX, and that these types of aggregates were not usually supplied to any specific specification unless for the Highways Authority work.

8. Aggregates used to produce RMX must comply with a British Standard (BS). The relevant standard specifies the properties of aggregates and filler aggregates (whether primary, recycled or secondary) for use in concrete, which complies with its own BS, and concrete used in roads and other pavements and for use in precast concrete products. The standard specifies geometrical, physical, chemical and durability requirements.

9. Aggregates for the production of asphalt are also supplied in accordance with a BS, which covers requirements for aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas. The relevant BS specifies a range of categories for properties to help select appropriate limiting values for the wide range of aggregates in bituminous mixtures and surface treatments within Europe. Breedon explained that, subject to meeting the technical specification requirements stipulated by these standards, recycled aggregates were fully substitutable for this application. Aggregate Industries submitted that, through application of

the correct techniques, the standards for aggregates used in the production of asphalt could be achieved by both sand and gravel and crushed rock aggregates.

Sand and gravel vs crushed rock aggregates

10. Based on aggregates purchasing data from Aggregate Industries, we estimated the proportions of crushed rock, as opposed to sand and gravel, used in the production of RMX, concrete products and asphalt. Our estimates can be found in Table 2. [✂]

TABLE 2 **Aggregate Industries' purchases of crushed rock aggregates, 2009 to 2011**

	2009		*2010*		*2011*	
Region and downstream product	*Total volume* kt*	*Proportion CR %*	*Total volume* kt*	*Proportion CR %*	*Total volume* kt*	*Proportion CR %*
Divested sites						
RMX	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Concrete products	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
All Scotland sites						
RMX	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Concrete products	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
All GB sites						
RMX	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Concrete products	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CC analysis of Aggregate Industries purchasing data.

*The total volume only includes primary aggregates.
Note: Divested sites includes sites in the Western Isles. Some purchases in relation to the divested sites and Scotland sites may not be captured as region for some purchases is not available in the data. Negative sales volumes have been excluded from the analysis.

Recycled aggregates

11. Breedon submitted estimates on overall usage of primary and recycled aggregates[2] in the UK in 2012, based on MPA estimates, shown in Table 3 below. It shows that, in the UK as a whole, around half of aggregates used in construction and as fills are of recycled sources, compared with only 2 per cent of aggregates requirements for the production of RMX being satisfied from recycled sources. These estimates imply an overall usage of recycled aggregates in the UK of 29 per cent.

[2] Breedon's references to 'recycled' aggregates include secondary aggregates. Breedon submitted that it used the terms 'recycled' and 'secondary' aggregates to refer also to 'site-won' aggregates (ie where a contractor processed excavated material from a site to either use on-site or sell to the market) and to aggregates produced from small operations that were not registered as quarries, albeit in both cases the materials would have the same physical properties as primary aggregates.

TABLE 3 **Breedon's estimates of usage of primary and recycled aggregates in the UK, 2012**

Application	*Primary %*	*Recycled %*	*Primary m tonnes*	*Recycled m tonnes*
Construction and fills	51	49	48.2	46.3
RMX	98	2	37	0.8
Asphalt	85	15	17.7	3.1
Concrete products	80	20	15.1	3.8
Other specialty	100	0	17	0
Total	71	29	135	54

Source: Breedon—based on MPA estimates.

12. Breedon told us that it did not believe that the equivalent data on usage of recycled aggregates for Scotland would be significantly different from the data provided above in respect of the UK. Breedon submitted its estimates of usage of primary and recycled aggregates by application in Scotland, and in the Grampian and Tayside regions specifically; these are shown in Table 4 below. Breedon explained that its estimates were based on assumptions reflecting that higher proportions of recycled aggregates were used in some regions than others. We note that they seem to be Breedon's assumptions rather than evidence based on data. We observe that Breedon estimates a significantly lower proportion of recycled aggregates being used in the production of asphalt and concrete products in Scotland if compared with the UK overall (for asphalt—5 per cent in Scotland, compared with 15 per cent in the UK; for concrete products—15 per cent in Scotland, compared with 20 per cent in the UK).

TABLE 4 **Breedon's estimates of usage of primary and recycled aggregates in Scotland, 2012**

per cent

Application	*Scotland*		*Grampian and Tayside*	
	Primary	*Recycled*	*Primary*	*Recycled*
Construction and fills	55	45	51	49
RMX	99	1	99	1
Asphalt	95	5	97	3
Concrete products	85	15	90	10
Other specialty	100	0	100	0

Source: Breedon.

Breedon's usage of recycled aggregates

13. Breedon estimated its usage of recycled aggregates in the UK and in Scotland as detailed in Table 5 below. In Scotland, 6 per cent of its aggregates requirements for construction and fills applications were from recycled sources, and 0.5 per cent of aggregates used in asphalt production were from recycled sources. Breedon explained that it used [✂] (around [✂] tonnes annually) of 'recycled asphalt planings' (RAP), but that [✂] of its asphalt plants in the UK had the necessary modification to be able to use RAP.

TABLE 5 **Breedon's estimates of its usage of aggregates**

per cent

	UK		*Scotland*	
Application	*Primary*	*Recycled*	*Primary*	*Recycled*
Construction and fills	[✂]	[✂]	[✂]	[✂]
RMX	[✂]	[✂]	[✂]	[✂]
Asphalt	[✂]	[✂]	[✂]	[✂]
Other specialty	[✂]	[✂]	[✂]	[✂]

Source: Breedon.

14. Breedon estimated that it sold around [✂] tonnes of recycled products annually, including [✂] tonnes of asphalt planings (around [✂] tonnes of which were sold by Breedon's contracting division). This represented [✂] per cent of Breedon's total sales of aggregates in the whole of Scotland of nearly [✂] million tonnes in 2012. Breedon explained that, in general, the use of recycled products for general fill applications would be relatively low in rural Scotland but much higher around the major conurbations such as Glasgow, Edinburgh, Aberdeen and Dundee.

Aggregate Industries' usage of recycled aggregates

15. We estimated Aggregate Industries' usage of recycled aggregates in its RMX, asphalt and concrete products production. Table 6 shows that Aggregate Industries did not use any noticeable amounts of recycled (or secondary) material in the production of RMX, asphalt or concrete products in the divested sites [✂].

TABLE 6 **Aggregate Industries' purchases of recycled and secondary aggregates, 2009 to 2011**

Region and downstream product	*2009*		*2010*		*2011*	
	Total volume kt*	*Proportion recycled %*	*Total volume* kt*	*Proportion recycled %*	*Total volume* kt*	*Proportion recycled %*
Divested sites						
RMX	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Concrete products	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
All Scotland sites						
RMX	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Concrete products	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
All GB sites						
RMX	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Concrete products	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CC analysis of Aggregate Industries purchasing data.

*The total volume includes primary aggregates, recycled aggregates and secondary aggregates.
Note: Divested sites includes sites in the Western Isles. Some purchases in relation to the divested sites and Scotland sites may not be captured as region for some purchases is not available in the data. Negative sales volumes have been excluded from the analysis.

Supply of recycled aggregates in north Scotland vs other parts of the country

16. We estimated the availability of recycled aggregates in north Scotland compared with other parts of the country. Table 7 summarizes our calculations; these are based on 2011 data from BDS. The share of supply of recycled aggregates (as a proportion of all aggregates) was slightly higher in north Scotland compared with Scotland in general (14 per cent compared with 10 per cent). However, the share of supply in north Scotland was lower than the GB total (19 per cent). Breedon noted that it believed BDS significantly underestimated the proportion of recycled aggregates.

TABLE 7 **Share of supply of recycled aggregates by region, 2011**

Region	*Primary aggregates volume kt*	*Recycled volume kt*	*Total volume kt*	*Proportion recycled %*
Highlands	1,395	180	1,575	11.4
Grampian	2,295	285	2,580	11.0
Tayside	1,595	305	1,900	16.1
Fife	1,215	270	1,485	18.2
North Scotland total	6,500	1,040	7,540	13.8
Scotland total	20,540	2,195	22,735	9.7
GB total	154,175	36,850	191,025	19.3

Source: CC calculations based on BDS data.

Note: Figures for Highlands exclude Glensanda, which does not produce recycled materials.

Decorative aggregates

17. Decorative aggregates are used for their colour and appearance. Lafarge Tarmac told us that the colour and shape, and therefore the source of the aggregate, was important. Based on Table 9, we note that decorative aggregates are produced by a more limited number of quarries compared with the number of quarries in north Scotland producing other types of aggregates used in construction.

18. Aggregate Industries told us that while decorative aggregates were substitutes for other aggregates, substitution did not work the other way around, as decorative aggregates were used where particular colourings or aesthetics were required. It explained that its customer base for decorative aggregates tended to differ from the typical aggregates customer base in that decorative materials were normally marketed more to the end-user, who typically was the one making decisions dealing with the aesthetics of a particular project (eg through builders merchants and house builders).

19. Breedon submitted that some recycled aggregates, if they were of suitable appearance, could be used in decorative applications (eg crushed slate and crushed brick).

Supply-side substitutability

Evidence from Breedon

20. Breedon explained that aggregates products could be classified as fully processed, partly processed or unprocessed. Table 8 summarizes the information it provided for each.

TABLE 8 **Production and processing of different types of aggregates**

	Fully processed	*Partly processed*	*Unprocessed*
Aggregates products	Single-size graded Fine/coarse sand Dust All specialty aggregates Decorative aggregates	Type 1 sub-base Other sub-bases Fills, crusher run and capping materials Recycled aggregates Secondary aggregates	'As dug' sand and gravel 'As blasted' rock
Production/processing	Drilling and blasting quarry face, excavating rock and sand, processing through primary, secondary and tertiary crushers to reduce size and feeding into separating screens	Subjected to primary and secondary crushers, but not full set of screens meaning variable material size	Blasted from quarry and loaded on to a truck
Cost of production (£/tonne) *	[✂]	[✂]	[✂]

Source: Breedon.

*These costs include the following items: royalties/depletion, drilling/blasting, wages, repairs, fixed costs, aggregates levy (£2/tonne), and 'other'.

21. Breedon noted that it was possible to switch between fully processed and partly processed products providing there was capacity in the plant to do so at each stage of the process. A machine would be rated to process a certain number of tonnes per hour so, for example, even if a primary crusher could process 200 tonnes per hour but the screens could only process 100 tonnes per hour, then fully processed material would be limited to 100 tonnes per hour.

22. It was possible to purchase new machinery (ie crushers and separating screens) to increase capacity; however, Breedon noted that suppliers would be unwilling to do this for single contracts due to the capital investment required. Suppliers would wish to know that increased demand was going to be permanent before making such an investment. Alternatively a supplier could hire machinery for a temporary increase in demand.

23. Breedon explained that it was more difficult to switch between various fully processed products because it was difficult to adjust the crushing plants fully to avoid producing particular sized products. Further, Breedon argued that switching production from

internal to external demand was not a realistic prospect, as the product types needed in each case were different.[3]

24. In relation to costs, Breedon explained that the cost of producing primary aggregates varied significantly on a range of geological and site factors including the quarry design, as well as plant configuration and capacity and royalties payable.[4] Some aggregates, such as sand and gravel, were cheaper to produce but incurred much higher royalty payments. Direct processing costs of recycled and secondary aggregates were broadly similar to those of primary aggregates, but they were not subject to the aggregates levy (currently £2/tonne).[5] Decorative aggregates and aggregates for asphalt and RMX were all fully processed, and as such had higher production costs, but the costs did not vary by the actual end-use for the product.

Evidence from Aggregate Industries

25. Aggregate Industries submitted that each quarry tended to produce multiple grades, and that there was therefore a high degree of supply-side substitutability between quarries. Aggregate Industries explained that, in respect of the divested sites specifically, the operational and mothballed quarries were all capable of producing most types of 'general construction use' primary aggregates, but that the sand and gravel quarries (Beauly, Edzell and Powmyre) did not produce sub-base or fill material. Aggregate Industries submitted that Ardchronie (a psammite crushed rock quarry) was capable of producing specialist rail ballast and sea defence materials.

[3] That is, different types of fully processed products.
[4] Royalties are payable to the freehold owner when aggregates producers extract minerals from the ground but do not hold the freehold (in Scotland, a heritable interest) of the minerals themselves.
[5] However, Breedon noted that it was not able to provide detailed data on the costs of producing recycled and secondary aggregates.

Third party evidence

26. Leiths submitted that it was relatively easy to switch to produce different grades of aggregates (ie different sizes of material). It explained that most of its production was undertaken using mobile crushing and screening equipment on a campaign basis—ie it could be readily moved and modified to produce different grades of material at different locations.

27. Lafarge Tarmac submitted that, in the case of crushed rock and recycled aggregates, there was scope for some flex towards producing smaller sizes by sending larger particles back through the crusher network. It explained that each crushing stage produced a full range of particle sizes up to the value for which that crusher was configured; to produce a clean graded aggregate required a screening process in which the smaller sizes were separated. It said that in the case of sand and gravel, the ratio of different grades of aggregates produced was largely determined by what was found within the deposit, and that, at its simplest, a sand and gravel plant merely washed and screened the natural material into different size grades, but that a simple crusher could be used to produce finer-grade aggregates from coarser-grade aggregates if desired.

28. We examined what aggregates products quarries in north Scotland produced, based on data submitted to us by some larger suppliers in the area. Table 9 shows that most quarries can produce most products (except sands at crushed rock quarries, although Breedon argued that crushed rock quarries could produce fine and coarse products which were substitutable with fine and coarse sand); some quarries producing sand and gravel also produce sub-bases and fills.

TABLE 9 **Primary aggregates types produced by sites in north Scotland**

Supplier and aggregate product category	*Type 1 sub-base*	*Other sub-base and fills*	*Fine sand*	*Coarse sand*	*Dust*	*Graded <40mm*	*Other general construction*	*Decorative*	*Special types*
Breedon									
Balmullo	✓	✓			✓	✓	✓	✓	Rail ballast
Banavie	✓	✓			✓	✓	✓	✓	
Benderloch		✓	✓	✓		✓	✓	✓	
Bonawe	✓	✓			✓	✓	✓		
Boyne Bay	✓	✓			✓	✓	✓		Agg lime
Capo	✓	✓	✓	✓	✓	✓	✓	✓	
Clatchard Craig	✓	✓			✓	✓	✓	✓	
Craigenlow	✓	✓			✓	✓	✓	✓	
Cunmont									
Ethiebeaton	✓	✓			✓	✓	✓	✓	
Furnace	✓	✓			✓	✓	✓	✓	
Meadowside	✓	✓			✓	✓	✓	✓	
Morefields	✓	✓			✓	✓	✓	✓	Agg lime
Netherglen	✓	✓			✓	✓	✓	✓	
Orrock	✓	✓			✓	✓	✓		
Rothes Glen		✓	✓	✓		✓	✓		
Shierglas	✓	✓			✓	✓	✓		Agg lime
Stirlinghill	✓	✓			✓	✓	✓		
Lafarge Tarmac									
Dunain Mains	✓	✓	✓	✓	✓	✓			
Daviot	✓	✓			✓	✓	✓		
Blackcastle	✓	✓	✓	✓	✓	✓			
Caysbriggs		✓				✓		✓	
Cloddach	✓	✓	✓	✓		✓	✓		
Cairdshill	✓	✓			✓	✓	✓	✓	
Perth	✓	✓			✓	✓	✓		
Cruicks									
Park	✓	✓			✓	✓	✓		
Auchtertyre		✓							
Spey Bay		✓				✓	✓		
Strathrory				✓		✓	✓		
Gedloch							✓		
Leiths									
Achilty	✓	✓			✓	✓			
Blackhills	✓	✓			✓	✓			
Bluehill	✓	✓			✓	✓			
Newforres	✓	✓			✓	✓			
Parkmore	✓	✓			✓	✓			Agg lime
Torrin	✓	✓			✓	✓		✓	Dolomite
Kishorn	✓	✓			✓	✓			High PSV
Northlasts	✓	✓			✓	✓			
Loch-hills		✓	✓	✓		✓			
Lynemore *									
Netherpark		✓	✓	✓		✓			
Mid-Lairgs	✓	✓	✓	✓	✓	✓		✓	
Dornie	✓	✓	✓	✓	✓	✓			HPL, Agg lime
Angle Park Sand & Gravel									
Ramornie			✓						
Melville Gates			✓	✓		✓		✓	
Mountcastle				✓		✓			
Tayside Contracts									
Collace	✓	✓		✓		✓	✓		
Collace Recycling	✓	✓		✓					
Forfar	✓	✓		✓					
Arbroath	✓	✓		✓					
Huntingtower	✓	✓		✓					
Baldovie	✓	✓		✓					
Boysack	✓	✓			✓	✓	✓		

Source: Breedon, Lafarge Tarmac, Leith, Tayside Contracts, Angle Park Sand & Gravel.

*No information was provided by Leiths for this site—but it noted that it was a sand pit, nearing the exhaustion of reserves.

Internal vs external supplies

Internal sales

29. We examined the extent to which aggregates are sold internally at the relevant sites in north Scotland, and, to the extent possible, examined the extent of external sales by aggregate product. Tables 10 and 11 below show internal and external sales of aggregates for Breedon and Aggregate Industries respectively. However, it should be noted that for Breedon, sales to co-located downstream sites (ie RMX and asphalt plants located at a quarry) were not available broken down by aggregate type, and therefore Table 10 under-represents internal sales:

(a) Overall, [✂] per cent ([✂] per cent when including sales to downstream co-located sites) of Breedon's aggregates sales and [✂] per cent of Aggregate Industries' aggregates sales were external (this includes sales to contract surfacing business).

(b) [✂]

TABLE 10 **Breedon: internal vs external sales of aggregates, 2012**

Product sub-category	*External sales kt*	*Sales to contracting Kt*	*Internal sales kt*	*Total sales kt*	*Proportion external* %*
Primary aggregates	[✂]	[✂]	[✂]	[✂]	[✂]
Type 1 sub-base	[✂]	[✂]	[✂]	[✂]	[✂]
Other sub-bases and fills	[✂]	[✂]	[✂]	[✂]	[✂]
Sands	[✂]	[✂]	[✂]	[✂]	[✂]
Dust	[✂]	[✂]	[✂]	[✂]	[✂]
Single size <40mm	[✂]	[✂]	[✂]	[✂]	[✂]
Other construction	[✂]	[✂]	[✂]	[✂]	[✂]
Decorative aggregates	[✂]	[✂]	[✂]	[✂]	[✂]
Recycled aggregates	[✂]	[✂]	[✂]	[✂]	[✂]
All aggregates	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CC analysis of Breedon transaction data.

*Sales to contracting are considered as external sales.
Note: Breedon's figures do not include sales to co-located downstream operations, and therefore the proportion of external sales is over-estimated in this table. The analysis in the table includes all Breedon sites in north Scotland except sites on the Western coast—ie except Banavie, Benderloch, Bonawe and Furnace quarries.

TABLE 11 **Aggregate Industries: internal vs external sales of aggregates, 2012**

Product sub-category	*External sales kt*	*Sales to contracting Kt*	*Internal sales kt*	*Total sales kt*	*Proportion external* %*
Primary aggregates	[✂]	[✂]	[✂]	[✂]	[✂]
Sub-bases and fills	[✂]	[✂]	[✂]	[✂]	[✂]
Sands	[✂]	[✂]	[✂]	[✂]	[✂]
Dust	[✂]	[✂]	[✂]	[✂]	[✂]
Other construction	[✂]	[✂]	[✂]	[✂]	[✂]
Decorative aggregates	[✂]	[✂]	[✂]	[✂]	[✂]
Recycled aggregates	[✂]	[✂]	[✂]	[✂]	
All aggregates	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CC analysis of Aggregate Industries transaction data.

*Sales to contracting are considered as external sales.
Note: In Aggregate Industries data, we could not distinguish between Type 1 sub-base and other sub-bases and fills and we could not distinguish single-size graded <40mm aggregates from 'other construction' aggregates. This analysis includes all the Aggregate Industries' divested sites, including the ones in the Western Isles (Druim Reallasger, Gairbh Eilean and Marybank).

Sourcing of aggregates

30. We also examined data on sourcing of aggregates by Aggregate Industries' downstream businesses—RMX, asphalt and concrete products. Table 12 shows that the majority of aggregates requirements are sourced internally, although this appears to vary over time and across geographies. The divested sites sourced internally [✂] per cent of aggregates for the production of RMX, which is [✂]. The divested asphalt sites sourced [✂] per cent of aggregates internally in 2011, which is [✂].

TABLE 12 **Aggregate Industries' sourcing of aggregates, 2009 to 2011**

	2009		*2010*		*2011*	
Region and downstream product	*Total volume* kt*	*Proportion internal %*	*Total volume* kt*	*Proportion internal %*	*Total volume* kt*	*Proportion internal %*
Divested sites						
RMX	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Concrete products	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
All Scotland sites						
RMX	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Concrete products	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
All GB sites						
RMX	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Concrete products	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CC analysis of Aggregate Industries purchasing data.

*The total volume includes primary aggregates, recycled aggregates and secondary aggregates.
Note: Divested sites include sites in the Western Isles. Some purchases in relation to the divested sites and Scotland sites may not be captured as region for some purchases is not available in the data. Negative sales volumes have been excluded from the analysis.

31. Breedon noted that it had self-supplied nearly all sites for the last three years, with exceptions at Inverness.

Third party evidence

32. We have received evidence on internal supplies of aggregates from third parties. Table 13 below reviews proportions of aggregates sold/used internally by site for Lafarge Tarmac, Tayside Contracts, Angle Park and Leiths Group.

33. All of Leiths' sites had some level of internal sales. Across the suppliers examined, total internal sales varied from 16 per cent for Angle Park to 50 per cent for Tayside Contracts. Internal sales at both Lafarge Tarmac and Leiths accounted for around [✂] of all sales in 2012. Angle Park noted that all internal sales were for value added applications.

TABLE 13 **Internal usage of aggregates by other suppliers, 2012**

Supplier	*Site*	*Product type*	*Volume kt*	*Proportion used internally %*	*Comments*
Lafarge Tarmac	Dunain Mains	Primary	[✂]	[✂]	
	Daviot	Primary	[✂]	[✂]	
	Blackcastle	Primary	[✂]	[✂]	[✂]
	Caysbriggs	Primary	[✂]	[✂]	
	Caysbriggs	Decorative	[✂]	[✂]	
	Cloddach	Primary	[✂]	[✂]	[✂]
	Cloddach	Recycled	[✂]	[✂]	
	Cairdshill	Primary	[✂]	[✂]	
	Cairdshill	Decorative	[✂]	[✂]	
	Perth	Primary	[✂]	[✂]	
	Park	Primary	[✂]	[✂]	
	Spey Bay	Primary	[✂]	[✂]	
	Perth Recycling	Recycled	[✂]	[✂]	
	Strathrory	Primary	[✂]	[✂]	
	Total		[✂]	[✂]	
Tayside Contracts	Collace Quarry	Primary	58	85	
	Collace Quarry	Recycled	15	20	
	Forfar Recycling Depot	Recycled	5	18	
	Arbroath Recycling Depot	Recycled	15	3	
	Huntingtower Recycling Depot	Recycled	11	2	
	Baldovie Recycling Depot	Recycled	12	20	
	Total		**116**	**50**	
Angle Park	Ramornie	Aggregates	60	3	All internal sales for VAP
	Melville Gates	Aggregates, pre-packed	50	40	All internal sales for VAP
	Mountcastle	Aggregates	70	10	All internal sales for VAP
	Total		**180**	**16**	
Leiths Group	Achilty	Primary	[✂]	[✂]	
	Blackhills	Primary, recycled	[✂]	[✂]	Exceptional external sales due to one off contract
	Bluehill	Primary, recycled	[✂]	[✂]	
	New Forres	Primary, recycled	[✂]	[✂]	Exceptional external sales due to one off contract
	Parkmore	Primary, special	[✂]	[✂]	
	Torrin	Primary, decorative	[✂]	[✂]	
	Kishorn	Primary, recycled	[✂]	[✂]	
	Northlasts	Primary, recycled	[✂]	[✂]	
	Lochhills	Primary, recycled	[✂]	[✂]	
	Lynemore	Primary	[✂]	[✂]	
	Nether Park	Primary, recycled	[✂]	[✂]	
	Midlairgs	Primary, decorative, recycled	[✂]	[✂]	Exceptional external sales due to one off contract
	Dornie	Primary, special	[✂]	[✂]	
			[✂]	[✂]	
	Total		[✂]	[✂]	

Source: Lafarge Tarmac; Tayside Contracts; Angle Park; Leiths Group.

34. Lafarge Tarmac told us that its RMX plants in north Scotland were generally supplied from internal sources, and said that it purchased [✂] kt of aggregates from [✂] for its [✂] between 2010 and 2011. It submitted that the [✂] generally sourced all of its

aggregates from internal sources, and that [✂] kt was purchased from [✂] between 2009 and 2011.

35. Hanson told us that its RMX plants were entirely supplied by external sources in north Scotland, and in particular [✂] suppliers were used: [✂].However, across England and Wales Hanson was fully vertically integrated and, for a significant proportion of its requirements, self-supplied. HCM said that all aggregates for RMX production in its quarries in north-east Scotland were supplied by Lafarge Tarmac as part of the divestment earlier in the year. Leiths said that all of its RMX plants were vertically integrated and it completely in-sourced aggregates such that it did not need access to aggregates from alternative suppliers.

36. Aggregate Industries told us that [✂].

37. Cemex provided data that showed it sourced the vast majority of aggregates internally. However, one of its plants used Aggregate Industries aggregates and another used a very small proportion of aggregates from an independent quarry. Cemex also sold its aggregates to other downstream competitors.

38. Aberdeenshire Council told us that 45 per cent of sales were to external customers, including both Breedon and Aggregate Industries which made up a small percentage of the overall sales figures. Accumix told us that it received all of its aggregates from a third party quarry, where it was based.

Analysis of BDS data

39. BDS supplied us with aggregates production/sales data for primary aggregates sites in north Scotland (Grampian, Highlands, Tayside and Fife), and estimated internal sales for these sites. Table 14 below combines this data with competitor question-

naire data (where we had direct responses on sales from third parties' competitor questionnaires we used the questionnaire data rather than BDS data) to summarize the proportion of internal and external sales. The table excludes Breedon and Aggregate Industries sites. It shows that approximately two-fifths (40 per cent) of sites in north Scotland do not have any internal sales, and around three-quarters (74 per cent) of all sales (by volume) are to external customers, suggesting that there is a lot of external supply by aggregates producers.

TABLE 14 **Internal sales of aggregates by competitor sites in north Scotland, 2012**

Total number of sites	80
Proportion of sites supplying externally only (%)	40%
Total sales (kt)	5,743
Internal sales (kt)	1,497
External sales (kt)	4,246
Proportion external sales (%)	74%

Source: CC calculations based on data from third party competitors and BDS.

Note: The analysis includes all sites that produce some primary aggregates (excluding Breedon and Aggregates Industries sites), but the sales data may include any recycled aggregates that are also produced at these sites.

RMX

Demand-side substitutability

40. There is a wide variety of mixes produced by RMX suppliers, designed by either customers themselves or the supplier. Breedon estimated that it had approximately [✂] different concrete descriptions on file, and that the number of potential RMX products was significantly higher.

41. Concrete is generally supplied in accordance with BS/EN standards, which stipulate standards for specification, performance, production, conformity and strength.

42. Breedon submitted that mobile RMX plants were commonly utilized for renewable energy and hydroelectric schemes, and said that there were other projects for which mobile RMX plants were suitable, such as fish farms, roads, airports, docks and harbours.

Cost of supplying from a fixed plant vs mobile plant

43. Breedon submitted to us estimates for differences in the cost of supplying from a fixed plant as opposed to a mobile plant, depending on project size, duration and distance to the project location. These estimates are summarized in Table 15. These figures imply that it is more economical to supply from a mobile plant than a fixed plant where the project requires large volumes (eg more than 10,000m^3 of RMX), or is of longer duration (eg 20 weeks or more), or is further located from the fixed plant (which adds to the transport costs).

TABLE 15 **Cost variations in supplying from fixed vs mobile RMX plants, 2012**

[✂]

Source: Breedon estimates.

Supply-side substitutability

44. Breedon said that, in principle, all its plants were able to produce all of Breedon's range of RMX products. It added that there was some limitation on this where materials available in the area were not suitable to achieve the customer's requirements or where there was a lack of cement silo capacity to produce the required grades of cement.

45. Aggregate Industries said that all of the divested RMX plants were capable of manufacturing all standard RMX mixes, and that the cost of configuring any RMX plant to manufacture different specifications and grades were negligible. It explained that at the same RMX plant the full range of standard RMX mixes would be manufactured on any given day, and therefore the switching took place on a daily basis. It noted that [✂].[6]

[6] Aggregate Industries.

46. Lafarge Tarmac told us that the differences between generic grades of RMX were derived from differences in the relative quantities of the raw materials; accordingly all RMX plants could produce any specification of generic concrete without any additional costs over and above usual production costs. It explained that RMX was produced to order and that each plant would typically produce several different grades on any one day in response to different customer requirements.[7]

Asphalt

Demand- and supply-side substitutability

47. Asphalt is produced to various specifications, by varying the mix of coarse and fine aggregates, and bitumen. Breedon supplies several generic types of asphalts, described in Table 16, which also indicates material compositions.

TABLE 16 **Types of asphalt produced by Breedon and their material composition**

Type	*Approx no of descriptions*	*Aggregates %*	*Dust %*	*Sand %*	*Filler %*	*Bitumen %*
Proprietary designs	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Hot rolled asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Asphalt concretes	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Stone mastic asphalt	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Breedon.

48. Breedon explained that surface asphalt specifications might have a minimum PSV requirement which limited the types of aggregates that could be used to high PSV aggregates. PSV was not relevant to lower layer base and binder asphalts as it was related to skid resistance.

49. In relation to recycled material used in asphalt, Breedon explained that some of its asphalt plants would have the ability to incorporate RAP, currently up to a level of 20 per cent in base and binder materials.

[7] Lafarge Tarmac.

50. Similarly as for RMX, asphalt (and the materials used in its production) was subject to British Standards.

24/7 plants

51. There are projects which require the asphalt to be supplied at night, particularly in cases of heavily congested roads where the disruption can be minimized by night-time working, and on airport runways where work cannot be done during the day because of flight schedules. The times that an asphalt plant can operate are governed by its planning consent, and plants that have 24/7 planning consent are able to undertake night-time working without getting special approval.

52. Breedon explained that most local planning authorities are content to give a temporary consent to work at night if a particular contract requires it. Breedon submitted that on the occasions that this had been required, Breedon had always been able to get obtain the approval for night-time working.

53. BEAR Scotland noted that it often required the supply of asphalt and concrete on a 24/7 basis, eg if it had works on an area of the trunk road network where Transport Scotland restricted working to the hours between 19.30 and 06.00.

Mobile plants

54. Breedon submitted that using a mobile plant required a significant volume of asphalt to make it economical. Once mobile plants were set up, they operated exactly as fixed asphalt plants. Breedon estimated that it would cost around £[✂] to set up a mobile plant and around the same amount to decommission, although the costs varied greatly.

55. Examples where a mobile plant would be deployed included airport runways (which might require in excess of 10,000 tonnes, so it might be economical to erect a mobile asphalt plant, and also because night-time working might be required), and on capital road programmes. For example, they were likely to be used for the upcoming Aberdeen Western Peripheral Route (AWPR) which, Breedon estimated, would require many hundreds of thousands of tonnes of asphalt material, and would utilize on-site aggregates (borrow pits) to produce the asphalt.

Catchment area analysis

Introduction

1. This appendix sets out our analysis of catchment areas for aggregates, RMX and asphalt.

2. Catchment areas describe geographic areas within which most of the sales of products occur, and they provide a useful description of the geographic scope of competition. We analysed catchment areas separately for aggregates, RMX and asphalt based on detailed 2012 sales data of Breedon and Aggregate Industries. We estimated production-site-centred (ie plant-centred) catchment areas in terms of radial distances from the production site. The focus of our analysis is on 80 per cent catchment areas—ie areas in which 80 per cent of sales occur.

Data and methodology

Data

3. In order to analyse catchment areas, we used sales data provided by Breedon and Aggregate Industries for the relevant sites in the North of Scotland. This dataset contains quarterly information on sales values and volumes by site, customer, customer location (jobsite), product (at a relatively fine level of product subcategory, such as 'Type 1 sub-base'), type of delivery (collected vs delivered), and sales channel (external, internal to contract surfacing, internal to other downstream operations).[1]

4. In order to calculate catchment areas, either road distance or radial distance data is needed (see discussion below on road vs radial distances). However, neither

[1] This data set does not include volumes of aggregates transferred internally to co-located RMX and asphalt plants. However, co-located RMX and asphalt plants are not relevant for calculating catchment areas.

Breedon nor Aggregate Industries routinely records data on customer locations that is necessary to calculate radial distances.[2]

5. We asked Breedon and Aggregate Industries to compile data on delivery location coordinates in their transaction data. They were able to geo-code the delivery locations for the majority of the relevant sales.[3] Aggregate Industries geocoded the delivery locations based on the first part (ie district level) of the postcode and information on county and settlement for the deliveries. We note that this is likely to mean that its delivery locations are unlikely to be geocoded with great precision, particularly in the more sparsely populated areas of Scotland.[4] Therefore we considered that Aggregate Industries' data, and hence analysis based on such data, may be less reliable.

6. In terms of the proportion of 2012 external delivered sales volumes, coordinates (and thus radial distances) were available as follows (see Annex 1, Tables 1 and 2, for more detail):

   (a) Breedon: [✂] per cent for aggregates, [✂] per cent for RMX, and [✂] per cent for asphalt; and

   (b) Aggregate Industries: [✂] per cent for aggregates, [✂] per cent for RMX and [✂] per cent for asphalt.[5]

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[2] Customer location may be identified using geo-coordinates or eastings and northings. In this appendix the term 'geo-coding' is used to define the process of finding the geographic coordinates (ie geo-coordinates) associated to other geographic data such as postcodes, at the end of identifying the location of customers and/or production sites.
[3] Breedon used postcode data, where available, and geocoded the remainder manually. We could not check the accuracy of manual geocoding. Aggregate Industries geocoded the data, and indicated a 'radius of uncertainty' of the geocoding—this indicated instances where precise location could not be found, for example due to an incomplete delivery address record.
[4] Aggregate Industries' data shows the same delivery location across a large number of customers for each site even if these customers do not all work on the same project and therefore in the same location. Aggregate Industries told us that this issue was due to the precision with which they stored their customer location data (ie settlement, county and the first half of the postcode).
[5] Aggregate Industries provided delivery location for all its transaction data except ten entries; however, we did not consider that all of the coordinates provided were reliable, particularly where the reported possible geocoding error was significant. The criteria we applied to determine whether the data on geo-coordinates was likely to be sufficiently reliable was to include all those delivery locations for which coordinates were successfully geocoded by Aggregate Industries, allowing a possible error in geocoding of up to 5 miles.

7. Breedon records estimated delivery distances in terms of road miles in its data, thus, as a sensitivity analysis, we calculated catchment areas based on road mile distances for Breedon.[6] As shown in Annex 1, Table 3, this data was available for the vast majority of external delivered sales from the relevant sites.

Methodology

Coverage of sales transactions

8. Our catchment area analysis includes Breedon's and Aggregate Industries' sales of primary aggregates used in construction (referred to as 'primary aggregates'), primary aggregates used as decorative aggregates (referred to as 'decorative aggregates'), and recycled aggregates. We did not include sales of special types of aggregates, such as agricultural lime, as none of Aggregate Industries' sites acquired by Breedon produced such products. We included all sites with positive delivered sales (in terms of volumes) in 2012. [7]

9. In assessing catchment areas, we considered only sales to external customers (ie we did not include sales to parties' own downstream businesses or internal transfers). Table 1 below shows proportion of sales volumes that were internal versus external in 2012 for each of aggregates, RMX and asphalt. While [✂] of sales of aggregates ([✂] and [✂] per cent for Breedon and Aggregate Industries respectively) and RMX ([✂] and [✂] per cent for Breedon and Aggregate Industries respectively) are [✂]sales of asphalt for Breedon ([✂] per cent) and [✂] for Aggregate Industries [✂]. Our catchment area analysis for aggregates, RMX and asphalt captures direct sales of materials to customers, which means it does not include materials supplied

[6] Breedon explained that the road mile distance data provided in its transaction data on occasions reflected a distance agreed with the haulier as the basis for calculating haulage charges, and did not necessarily equate to the exact distance travelled.
[7] We did not include in the analysis transactions that recorded negative values and volumes. The parties told us that these entries were likely to be due to returns or credit notes. In our catchment area analysis in radial distance we did not include sales where delivery location was missing.

through contract surfacing services. This might affect the extent to which we can rely on catchment area estimates for asphalt in particular.

TABLE 1 **Proportions of internal vs external sales volumes, 2012**

per cent

Site	*Aggregates*	*RMX*	*Asphalt*
*Breedon**			
External sales	[✂]	[✂]	[✂]
Sales to contracting	[✂]	[✂]	[✂]
Sales to other materials	[✂]	[✂]	[✂]
Aggregate Industries			
External sales	[✂]	[✂]	[✂]
Sales to contracting	[✂]	[✂]	[✂]
Sales to other materials	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

*For Breedon, data did not contain transfers of aggregates to co-located RMX and asphalt operations. The table thus shows proportions of internal and external sales as they appear in the transaction data, and not Breedon's overall sales. Breedon indicated that, if all sales of aggregates were included (ie including internal transfers to co-located RMX and asphalt plants), external sales represent [✂] per cent and internal sales to other materials represent [✂] per cent of total sales.
Note: Aggregates do not include sales of special types of aggregates, such as agricultural lime.

TABLE 2 **Proportions of delivered vs collected sales volumes for external sales volumes, 2012**

per cent

Site	*Aggregates*	*RMX*	*Asphalt*
Breedon			
Delivered sales	[✂]	[✂]	[✂]
Collected sales	[✂]	[✂]	[✂]
Aggregate Industries			
Delivered sales	[✂]	[✂]	[✂]
Collected sales	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

Note: Aggregates do not include sales of special types of aggregates, such as agricultural lime.

10. We only included data on sales that were delivered to the customer. Data provided by the main parties did not include comprehensive records on the locations of customers collecting their orders from the production site and thus we could not consider these customers in computing the catchment areas. Table 2 shows the split between delivered and collected sales (for sales to external customers). For both Breedon and Aggregate Industries, the vast majority of RMX are delivered sales ([✂] per cent). Approximately [✂] of Breedon's and [✂] of Aggregate Industries' sales of aggregates are delivered sales. For asphalt, [✂] of Breedon's and [✂] per cent of Aggregate Industries' asphalt sales are delivered. This indicates that

catchment area estimates for asphalt, and in particular estimates based on Aggregate Industries' data, may be less reliable, since they are based on data which does not include a significant proportion of sales. For example, Breedon indicated that sales of asphalt through its contract surfacing services may have wider catchment areas than direct external sales, since Breedon would source material internally even if customers were located further away.

11. Our analysis focuses on catchment areas in 2012. Catchment areas in one year may be influenced by location of construction projects in that year; therefore, we carried out some sensitivity tests to check whether catchment areas were different in 2010 and 2011.

Calculation of catchment areas

12. For each site, we first computed the distance over which 80 per cent of external sales volume of a particular product was delivered.

13. For average catchment areas, we averaged catchment areas of each site and product across all sites to calculate the average distance over which 80 per cent of external sales volume was delivered for that product for each of Breedon and Aggregate Industries. We weighted each site's distance by the total volume of a given product delivered from that site to derive a weighted average distance across all sites for a given product and for each of Breedon and Aggregate Industries. Our headline results for average 80 per cent catchment areas for aggregates, asphalt and RMX used an overall weighted average catchment area distances across all the relevant Breedon and Aggregate Industries sites in north Scotland.

Road vs radial distances

14. Catchment area analysis can be based on radial distances or road distances.[8] In theory, it is more appropriate to use the same measure as is used for calculating haulage or delivered prices, such that there is a direct relationship between the distances and the prices customers pay, and thus the price competitiveness of products travelling over these distances. Breedon indicated that its haulage was priced based on road miles. Aggregate Industries indicated it considered radial miles.

15. While Breedon does not routinely record delivery locations in the transaction data, it does record estimated road delivery distances. Therefore we carried out sensitivity analysis of catchment areas based on road miles for Breedon.[9,10] Aggregate Industries does not record road delivery distances in its transaction data.

Sensitivity analysis and robustness checks

16. We performed some further sensitivity checks. For aggregates, we calculated weighted average distances by aggregates product category (Type 1 sub-base, sands, etc), and for RMX we calculated average catchment areas by RMX plant type—namely, for quarry and satellite sites. For each product group, we also computed the weighted average distances within which 50, 60, 70 and 90 per cent of external sales volumes were delivered. We also looked at the 95 per cent confidence interval (CI) for the mean catchment area distances as a robustness check for the weighted average distance.[11] Given the small number of sites used in the analysis and in the calculation of weighted average catchment area distances, the CIs are likely to be relatively wide.

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[8] It can also be based on other parameters, such as drive-times, but we understand that for aggregates, RMX and asphalt haulage is typically calculated based on travel distances (road or radial), therefore analysis based on travel distances is more relevant. Radial distances were used in calculating catchment areas for aggregates, RMX and asphalt in previous cases.
[9] The catchment area analysis based on road distance was based on a larger sample than the one based on radial distance as Breedon provided estimated road distance for almost 100 per cent of its external delivery sales (see Annex 1, Table 3, for details).
[10] Catchment areas in radial distance are always smaller than catchment areas in road distance.
[11] A 95 per cent CI is a range of values for a variable of interest that if the sample were taken 100 times then in 95 cases the true estimate of the variable would lie within this range. The upper and lower levels are called the confidence limits.

Aggregates catchment areas

Catchment areas by site

17. We calculated catchment areas for each Breedon and Aggregate Industries aggregates site for all aggregates (ie primary, recycled and decorative aggregates), split by primary construction, primary decorative and recycled aggregates.

18. Table 3 presents 80 per cent catchment areas (in radial distances in miles) for each site, and Figure 1 and Figure 2 illustrate these catchment areas (for all aggregates) on a map for Breedon and Aggregate Industries, respectively. Table 4 describes the sample of sites on which these calculations were based in terms of external delivered sales volumes.[12] Since Aggregate Industries' sites in north Scotland do not produce recycled aggregates and its sales data available to us does not record decorative aggregates separately from other primary aggregates, Tables 3 and 4 below present our analysis for Aggregate Industries for all primary aggregates.

[12] The data submitted shows [✂] externally delivered transaction of aggregates from Cunmont in 2012. For this reason, Cunmont is not included in tables that present catchment areas for 2012.

TABLE 3 **Aggregates: 80 per cent catchment areas by site, 2012**

Site	*All construction*	*Primary*	*Recycled*	*Decorative*
*Breedon sites**	[✂]	[✂]	[✂]	[✂]
Balmullo	[✂]	[✂]	[✂]	[✂]
Boyne Bay	[✂]	[✂]†	[✂]	[✂]
Capo	[✂]	[✂]	[✂]†	[✂]
Clatchard	[✂]	[✂]	[✂]	[✂]†
Craigenlow	[✂]	[✂]	[✂]	[✂]†
Ethiebeaton	[✂]	[✂]	[✂]	[✂]†
Meadowside	[✂]	[✂]	[✂]	[✂]
Morefields	[✂]	[✂]	[✂]	[✂]†
Netherglen	[✂]	[✂]	[✂]	[✂]
Orrock	[✂]	[✂]	[✂]†	[✂]
Rothes Glen	[✂]	[✂]	[✂]	[✂]
Shierglas	[✂]	[✂]	[✂]	[✂]†
Stirlinghill	[✂]	[✂]	[✂]	[✂]†
*Aggregate Industries sites**	[✂]	[✂]	[✂]	[✂]
Beauly	[✂]	[✂]	[✂]	[✂]
Edzell	[✂]	[✂]	[✂]	[✂]
Powmyre	[✂]	[✂]	[✂]	[✂]
Tom's Forest	[✂]	[✂]	[✂]	[✂]
*All sites**	19	18	18	50

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

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*Weighted average.
†[✂]
Note: 'All construction' includes primary and recycled aggregates, but not decorative aggregates. The overall results (ie weighted averages across sites) are the same as when excluding decorative aggregates.

TABLE 4 **Aggregates catchment area sample: external delivered sales volume, 2012**

kt

Site	*All construction*	*Primary*	*Recycled*	*Decorative*
Breedon sites	[✂]	[✂]	[✂]	[✂]
Balmullo	[✂]	[✂]	[✂]	[✂]
Boyne Bay	[✂]	[✂]	[✂]	[✂]
Capo	[✂]	[✂]	[✂]	[✂]
Clatchard	[✂]	[✂]	[✂]	[✂]
Craigenlow	[✂]	[✂]	[✂]	[✂]
Ethiebeaton	[✂]	[✂]	[✂]	[✂]
Meadowside	[✂]	[✂]	[✂]	[✂]
Morefields	[✂]	[✂]	[✂]	[✂]
Netherglen	[✂]	[✂]	[✂]	[✂]
Orrock	[✂]	[✂]	[✂]	[✂]
Rothes Glen	[✂]	[✂]	[✂]	[✂]
Shierglas	[✂]	[✂]	[✂]	[✂]
Stirlinghill	[✂]	[✂]	[✂]	[✂]
Aggregate Industries sites	[✂]	[✂]	[✂]	[✂]
Beauly	[✂]	[✂]	[✂]	[✂]
Edzell	[✂]	[✂]	[✂]	[✂]
Powmyre	[✂]	[✂]	[✂]	[✂]
Tom's Forest	[✂]	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

Note: 'All construction' includes primary and recycled aggregates, but not decorative aggregates. The overall results (ie weighted averages across sites) are the same as when excluding decorative aggregates.

FIGURE 1

Aggregates: Breedon 80 per cent catchment areas by site, 2012

[✂]

Source: CC analysis.

FIGURE 2

Aggregates: Aggregate Industries 80 per cent catchment areas by site, 2012

[✂]

Source: CC analysis.

19. We observe the following:

(a) There is significant variation in 80 per cent catchment areas across sites, from [✂] miles for Breedon's [✂] to [✂] miles for [✂].[13]

(b) Catchment areas for recycled aggregates and primary aggregates are [✂], but average catchment areas for decorative aggregates are [✂] miles on average for Breedon.

(c) Overall weighted average (ie across all Breedon and Aggregate Industries sites) 80 per cent catchment area for primary aggregates and for recycled aggregates is 18 miles in terms of radial distances.

Analysis by product category

20. As a sensitivity, we computed average distances of 80 per cent catchment areas, where catchment areas of individual sites are weighted by sales volumes of the respective aggregate product(s). Table 5 shows the results by aggregates product category (Type 1 sub-base, sands etc); however, we note, based on Table 6 (which describes the sample of sites on which these calculations are based), that sample sizes and/or sales volumes are relatively small.

[13] [✂]

TABLE 5 **80 per cent catchment areas for aggregates: weighted average radial delivery distances, 2012**

	Breedon		*Aggregate Industries*	
Product category	*80% catchment area*	*CI*	*80% catchment area*	*CI*
Primary aggregates	[✂]	[✂]	[✂]	[✂]
Type 1 sub-bases	[✂]	[✂]	[✂]	[✂]
Other sub-bases and fills	[✂]	[✂]	[✂]	[✂]
Sands	[✂]	[✂]	[✂]	[✂]
Dust	[✂]	[✂]	[✂]	[✂]
Single size <40mm	[✂]	[✂]	[✂]	[✂]
Other construction	[✂]	[✂]	[✂]	[✂]
Decorative aggregates	[✂]	[✂]	[✂]	[✂]
Recycled aggregates	[✂]	[✂]	[✂]	[✂]
All aggregates	[✂]	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

Notes:
1. [✂]
2. In Breedon's data 'sands' include both fine and coarse sand. [✂]

TABLE 6 **Sample description for aggregates catchment areas calculations, 2012**

	Breedon		*Aggregate Industries*	
Product category	*No of sites*	*Volume (kt)*	*No of sites*	*Volume (kt)*
Primary aggregates	[✂]	[✂]	[✂]	[✂]
Type 1 sub-bases	[✂]	[✂]	[✂]	[✂]
Other sub-bases and fills	[✂]	[✂]	[✂]	[✂]
Sands	[✂]	[✂]	[✂]	[✂]
Dust	[✂]	[✂]	[✂]	[✂]
Single size <40mm	[✂]	[✂]	[✂]	[✂]
Other construction	[✂]	[✂]	[✂]	[✂]
Decorative aggregates	[✂]	[✂]	[✂]	[✂]
Recycled aggregates	[✂]	[✂]	[✂]	[✂]
All aggregates	[✂]	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

Note: In Breedon's data 'sands' include both fine and coarse sand. [✂]

21. We also report CIs for the weighted averages. For Breedon, the average of [✂] miles for primary aggregates has a 95 per cent CI of [✂] to [✂] miles. For Aggregate Industries, the average of [✂] miles has a 95 per cent CI of [✂] to [✂] miles.

Road vs radial distances

22. As a sensitivity analysis, we estimated 80 per cent catchment area distances in terms of road miles for Breedon. Table 7 reports the results of this analysis by site for all aggregates, along with radial distances and difference between the road and the

radial catchment area distances. The results presented in Table 7 below differ from the results presented in Table 3 where only construction aggregates (ie primary and recycled aggregates) are included in the analysis. Weighted average 80 per cent catchment area measured in road distance is [✂] miles for all aggregates, compared with [✂] miles if measured as a radial distance.

TABLE 7 **80 per cent catchment areas for all aggregates by site: road vs radial distances, 2012**

miles

Site	*Radial*	*Road*	*Difference*
*Breedon sites**	[✂]	[✂]	[✂]
Balmullo	[✂]	[✂]	[✂]
Boyne Bay	[✂]	[✂]	[✂]
Capo	[✂]	[✂]	[✂]
Clatchard	[✂]	[✂]	[✂]
Craigenlow	[✂]	[✂]	[✂]
Ethiebeaton	[✂]	[✂]	[✂]
Meadowside	[✂]	[✂]	[✂]
Morefields	[✂]	[✂]	[✂]
Netherglen	[✂]	[✂]	[✂]
Orrock	[✂]	[✂]	[✂]
Rothes Glen	[✂]	[✂]	[✂]
Shierglas	[✂]	[✂]	[✂]
Stirlinghill	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon.

*Weighted average.
Note: We note that in some instances sales delivered from Morefields travel further away when measured in radial distance as opposed to road distance. Breedon said that this might happen when the data reflected sales which included transport by ferry. In these instances, the road distance reflects the distance to the harbour at Ullapool, whereas the delivery address reflects delivery to the harbour at Scrabster (from where the customer collected the product).

Further sensitivity analysis

23. We carried out the following further sensitivity analyses and robustness checks: *(a)* catchment areas for catchments ranging from 50 to 90 per cent; *(b)* average 80 per cent catchment areas for 2010 and 2011. The results of these analyses are presented and described below.

Catchments of various sizes

24. Table 8 below reports weighted average catchment areas for catchments ranging from 50 to 90 per cent, and Figures 3 and 4 below show the catchment areas by site. This includes all aggregates.

25. We observe that half of sales are delivered within relatively close proximity of sites—[✂] miles for Breedon on average and [✂] miles for Aggregate Industries, although this varies by site. Weighted average 90 per cent catchment areas are [✂] miles and [✂] miles respectively.

TABLE 8 **Aggregates: weighted average catchment areas for various catchments, 2012**

miles

Supplier	*50%*	*60%*	*70%*	*80%*	*90%*
Radial distances					
Breedon	[✂]	[✂]	[✂]	[✂]	[✂]
Aggregate Industries	[✂]	[✂]	[✂]	[✂]	[✂]
Road distances					
Breedon	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

Note: The sample used to calculate the catchment areas based on road distance is larger than those used in the analysis based on radial distance as Breedon provided data on road distance for almost 100 per cent of its external delivery sales.

FIGURE 3

Aggregates: catchments of various sizes for Breedon sites, 2012

[✂]

Source: CC analysis.

FIGURE 4

Aggregates: catchments of various sizes for Aggregate Industries sites, 2012

[✂]

Source: CC analysis.

Catchment areas over time

26. We calculated 80 per cent catchment areas by site and on average for 2010 and 2011, in order to see whether there is much variation in catchment areas over time. Catchment areas could change from year to year depending on where the construction projects are located relative to the production sites.

27. Table 9 reports 80 per cent catchment areas for each year from 2010 to 2012 for construction aggregates (ie primary and recycled aggregates but not decorative aggregates). We see some changes in catchment areas from year to year, with

average catchment areas being somewhat higher in 2012 (19 miles) than in the previous two years (15 and 14 miles).

TABLE 9 **Construction aggregates: 80 per cent catchment areas by site, 2010 to 2012**

miles

Site	*2010*	*2011*	*2012*	*2010–12*
*Breedon sites**	[✂]	[✂]	[✂]	[✂]
Balmullo	[✂]	[✂]	[✂]	[✂]
Boyne Bay	[✂]	[✂]	[✂]	[✂]
Capo	[✂]	[✂]	[✂]	[✂]
Clatchard	[✂]	[✂]	[✂]	[✂]
Craigenlow	[✂]	[✂]	[✂]	[✂]
Cunmont	[✂]	[✂]	[✂]	[✂]
Ethiebeaton	[✂]	[✂]	[✂]	[✂]
Meadowside	[✂]	[✂]	[✂]	[✂]
Morefields	[✂]	[✂]	[✂]	[✂]
Netherglen	[✂]	[✂]	[✂]	[✂]
Orrock	[✂]	[✂]	[✂]	[✂]
Rothes Glen	[✂]	[✂]	[✂]	[✂]
Shierglas	[✂]	[✂]	[✂]	[✂]
Stirlinghill	[✂]	[✂]	[✂]	[✂]
*Aggregate Industries sites**	[✂]	[✂]	[✂]	[✂]
Ardchronie	[✂]	[✂]	[✂]	[✂]
Beauly	[✂]	[✂]	[✂]	[✂]
Edzell	[✂]	[✂]	[✂]	[✂]
Kemnay	[✂]	[✂]	[✂]	[✂]
Powmyre	[✂]	[✂]	[✂]	[✂]
Tom's Forest	[✂]	[✂]	[✂]	[✂]
*All sites**	15	14	19	16

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

*Weighted average.
Note: 'Construction aggregates' includes primary and recycled aggregates, but not decorative aggregates. The overall results (ie weighted averages across sites) are the same as when excluding decorative aggregates.

RMX catchment areas

Catchment areas by site

28. Similarly as for aggregates, we calculated catchment areas for each Breedon and Aggregate Industries RMX site. Table 10 presents 80 per cent catchment areas (in radial distances in miles) for each site, indicating also whether a given site is a quarry site or a 'satellite' site (ie not co-located with a quarry), and Figures 5 and 6 illustrate these catchment areas on a map. Table 10 also describes the sample on which the analysis is based in terms of volumes of external delivered sales.

TABLE 10 **RMX: 80 per cent catchment areas by site, 2012**

Site	*Type of site*	*80% catchment area miles*	*Volume '000 m^3*
*Breedon sites**		[✂]	[✂]
Aviemore	Satellite	[✂]	[✂]
Boyne Bay	Quarry	[✂]	[✂]
Bridge of Don	Satellite	[✂]	[✂]
Capo	Quarry	[✂]	[✂]
Clatchard	Quarry	[✂]	[✂]
Craigenlow	Quarry	[✂]	[✂]
Dunfermline	Satellite	[✂]	[✂]
Ethiebeaton	Quarry	[✂]	[✂]
Inverness	Satellite	[✂]	[✂]
Inverurie	Satellite	[✂]	[✂]
Kirkcaldy	Satellite	[✂]	[✂]
Morefields	Quarry	[✂]	[✂]
Netherglen	Quarry	[✂]	[✂]
Orrock	Quarry	[✂]	[✂]
Rothes Glen	Quarry	[✂]	[✂]
Shierglas	Quarry	[✂]	[✂]
Stirlinghill	Quarry	[✂]	[✂]
Westhill	Satellite	[✂]	[✂]
*Aggregate Industries sites**		[✂]	[✂]
Beauly	Quarry	[✂]	[✂]
Dundee	Satellite	[✂]	[✂]
Dyce	Satellite	[✂]	[✂]
Edzell	Quarry	[✂]	[✂]
Perth	Satellite	[✂]	[✂]
Peterhead	Satellite	[✂]	[✂]
Tom's Forest	Quarry	[✂]	[✂]
Tullos	Satellite	[✂]	[✂]
*All sites**		13	235

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

*Weighted average.
Note: Aviemore and Clatchard were mothballed in 2013. Dunfermline is only occasionally used. Edzell was mothballed in 2012. Perth was mothballed in 2012 but reopened in 2013.

FIGURE 5

RMX: Breedon 80 per cent catchment areas by site

[✂]

Source: CC analysis.

FIGURE 6

RMX: Aggregate Industries 80 per cent catchment areas by site

[✂]

Source: CC analysis.

29. We observe the following for 80 per cent catchment areas for RMX:

(a) There is significant variation in catchment areas across sites—for example, from [✂] miles for Breedon's [✂] to [✂] miles for [✂] plants.

(b) On average, 80 per cent catchment areas for RMX are 13 miles (the weighted average is [✂] miles for Aggregate Industries sites and [✂] miles for Breedon sites).

Analysis by RMX plant type

30. As a sensitivity analysis, we computed average distances of 80 per cent catchment areas, where catchment areas of individual sites are weighted by sales volumes. Table 11 reports average catchment areas by type of RMX site—namely, for quarry and satellite sites—and 95 per cent CIs for the averages. We observe that, for Breedon, weighted average catchment areas are [✂], and that Aggregate Industries average for quarry sites is around twice that of satellite sites. CIs for the averages are relatively wide, however, due to the great variation in site catchment areas and the small number of sites.

TABLE 11 **80 per cent catchment areas for RMX: weighted average radial delivery distances, 2012**

	Breedon		*Aggregate Industries*	
Product category	*80% catchment areas*	*CI*	*80% catchment areas*	*CI*
Quarry site	[✂]	[✂]	[✂]	[✂]
Satellite site	[✂]	[✂]	[✂]	[✂]
All sites*	[✂]	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

*Weighted average.

Road vs radial distances

31. Similarly as for aggregates, we estimated 80 per cent catchment area distances in terms of road miles for Breedon, in order to examine whether there are notable differences between catchment areas based on radial distances and catchment areas based on road distances. Table 12 reports the results of this analysis by RMX site, along with radial distances presented in Table 10 above and difference between the road and the radial catchment area distances.

TABLE 12 **80 per cent catchment areas for RMX by site: road vs radial distances, 2012**

miles

Site	*Radial*	*Road*	*Difference*
*Breedon sites**	[✂]	[✂]	[✂]
Aviemore	[✂]	[✂]	[✂]
Boyne Bay	[✂]	[✂]	[✂]
Bridge of Don	[✂]	[✂]	[✂]
Capo	[✂]	[✂]	[✂]
Clatchard	[✂]	[✂]	[✂]
Craigenlow	[✂]	[✂]	[✂]
Dunfermline	[✂]	[✂]	[✂]
Ethiebeaton	[✂]	[✂]	[✂]
Inverness	[✂]	[✂]	[✂]
Inverurie	[✂]	[✂]	[✂]
Kirkcaldy	[✂]	[✂]	[✂]
Morefields	[✂]	[✂]	[✂]
Netherglen	[✂]	[✂]	[✂]
Orrock	[✂]	[✂]	[✂]
Rothes Glen	[✂]	[✂]	[✂]
Shierglas	[✂]	[✂]	[✂]
Stirlinghill	[✂]	[✂]	[✂]
Westhill	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon.

*Weighted average.
Note: Aviemore and Clatchard were mothballed in 2013. Dunfermline is only occasionally used.

32. As for aggregates, the road distances of catchment areas are greater than the radial distances. The difference between road and radial miles tends to increase for larger delivery distances, probably reflecting the effect of road network.

Further sensitivity analysis

33. Tables 13 to 14 below show results of sensitivity analysis and robustness checks for RMX catchment area calculations.

Catchments of various sizes

34. Table 13 below reports weighted average catchment areas for catchments ranging from 50 per cent to 90 per cent, and Figures 7 and 8 below show the catchment areas by RMX site. Catchment areas vary significantly across sites, reflecting the location of the site relative to the locations of projects for which RMX is delivered. Average 90 per cent catchment areas are [✂] miles for Breedon and [✂] miles for Aggregate Industries.

TABLE 13 **RMX: weighted average catchment areas for various catchments, 2012**

miles

Supplier	*50%*	*60%*	*70%*	*80%*	*90%*
Radial distances					
Breedon	[✂]	[✂]	[✂]	[✂]	[✂]
Aggregate Industries	[✂]	[✂]	[✂]	[✂]	[✂]
Road distances					
Breedon	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

Note: The sample used to calculate the catchment areas based on road distance is larger than those used in the analysis based on radial distance as Breedon provided data on road distance for almost 100 per cent of its external delivery sales.

FIGURE 7

RMX: catchments of various sizes for Breedon sites, 2012

[✂]

Source: CC analysis.

FIGURE 8

RMX: catchments of various sizes for Aggregate Industries sites, 2012

[✂]

Source: CC analysis.

Catchment areas over time

35. Table 14 reports 80 per cent catchment areas for RMX sites for each year from 2010 to 2012. There is some variation from year to year, particularly on site level; on average, Breedon's and Aggregate Industries' 2012 average of [✂] and [✂] miles, respectively, [✂].

TABLE 14 **RMX: 80 per cent catchment areas by site, 2010 to 2012**

miles

Site	*2010*	*2011*	*2012*	*2010–12*
*Breedon sites**	[✂]	[✂]	[✂]	[✂]
Aviemore	[✂]	[✂]	[✂]	[✂]
Boyne Bay	[✂]	[✂]	[✂]	[✂]
Bridge of Don	[✂]	[✂]	[✂]	[✂]
Capo	[✂]	[✂]	[✂]	[✂]
Clatchard	[✂]	[✂]	[✂]	[✂]
Craigenlow	[✂]	[✂]	[✂]	[✂]
Deeside	[✂]	[✂]	[✂]	[✂]
Dunfermline	[✂]	[✂]	[✂]	[✂]
Ethiebeaton	[✂]	[✂]	[✂]	[✂]
Inverness	[✂]	[✂]	[✂]	[✂]
Inverurie	[✂]	[✂]	[✂]	[✂]
Kirkcaldy	[✂]	[✂]	[✂]	[✂]
Morefields	[✂]	[✂]	[✂]	[✂]
Netherglen	[✂]	[✂]	[✂]	[✂]
Orrock	[✂]	[✂]	[✂]	[✂]
Rothes Glen	[✂]	[✂]	[✂]	[✂]
Shierglas	[✂]	[✂]	[✂]	[✂]
Stirlinghill	[✂]	[✂]	[✂]	[✂]
Westhill	[✂]	[✂]	[✂]	[✂]
*Aggregate Industries sites**	[✂]	[✂]	[✂]	[✂]
Beauly	[✂]	[✂]	[✂]	[✂]
Dundee	[✂]	[✂]	[✂]	[✂]
Dyce	[✂]	[✂]	[✂]	[✂]
Edzell	[✂]	[✂]	[✂]	[✂]
Perth	[✂]	[✂]	[✂]	[✂]
Peterhead	[✂]	[✂]	[✂]	[✂]
Tom's Forest	[✂]	[✂]	[✂]	[✂]
Tullos	[✂]	[✂]	[✂]	[✂]
*All sites**	13	10	13	12

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

*Weighted average.
Note: Aviemore and Clatchard were mothballed in 2013. Dunfermline is only occasionally used. Edzell was mothballed in 2012. Deeside was mothballed in 2010. Perth was mothballed in 2012 but reopened in 2013.

Asphalt catchment areas

Catchment areas by site

36. Similarly as for aggregates and RMX, we calculated catchment areas for each Breedon and Aggregate Industries asphalt site. Table 15 presents 80 per cent catchment areas (radial distances) for each asphalt site, and Figures 9 and 10 illustrate the 80 per cent catchment areas on a map. Note that this analysis covers only direct asphalt sales to external customers, but not asphalt supplied to customers through contract surfacing services. Table 15 also describes the sample on which the analysis is based.

TABLE 15 **Asphalt: 80 per cent catchment areas by site, 2012**

Site	*80% catchment area miles*	*Volume kt*
*Breedon sites**	[✂]	[✂]
Daviot†	[✂]	[✂]
Clatchard	[✂]	[✂]
Craigenlow	[✂]	[✂]
Ethienbeaton	[✂]	[✂]
Netherglen	[✂]	[✂]
Orrock	[✂]	[✂]
Shierglas	[✂]	[✂]
Stirlinghill	[✂]	[✂]
*Aggregate Industries sites**	[✂]	[✂]
Mid Lairgs	[✂]	[✂]
Tom's Forrest	[✂]	[✂]
*All sites**	17	73

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

*Weighted average.
†Daviot is located at the Lafarge Tarmac Daviot quarry (near Inverness). All other asphalt sites are co-located with a Breedon quarry.

FIGURE 9

Asphalt: Breedon 80 per cent catchment areas by site

[✂]

Source: CC analysis.

FIGURE 10

Asphalt: Aggregate Industries 80 per cent catchment areas by site

[✂]

Source: CC analysis.

37. We observe the following for 80 per cent catchment areas for asphalt:

(a) Catchment areas vary by site—for example, from [✂] miles for [✂] to [✂] miles for [✂]. On average, Breedon's 80 per cent catchment area for asphalt is [✂] miles, and it is [✂] miles for Aggregate Industries. However, Aggregate Industries' figures are based on only two sites and very small sales volumes.

(b) Overall average 80 per cent catchment area across all Breedon and Aggregate Industries sites is 17 miles for asphalt. This, however, is based on direct external

delivered sales of asphalt to customers, which [✂] of asphalt, as [✂] is sold through contract surfacing services business.

Average catchment areas

38. Table 16 shows average distances of 80 per cent catchment areas, where catchment areas of individual sites are weighted by sales volumes. These catchment areas are based on radial distances. The table also reports 95 per cent CI for the averages.

TABLE 16 **80 per cent catchment areas for asphalt: weighted average radial delivery distances and CIs, 2012**

Type of site	*Breedon*	*Aggregate Industries*
80% catchment areas	[✂]	[✂]
CIs	[✂]	[✂]

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

Road vs radial distances

39. We estimated 80 per cent catchment area distances in terms of road miles for Breedon. Table 17 reports the results of this analysis by asphalt site, along with radial distances presented in Table 15 above and the difference between the road and the radial catchment area distances.

TABLE 17 **80 per cent catchment areas for asphalt by site: road vs radial distances, 2012**

miles

Site	*Radial*	*Road*	*Difference*
*Breedon sites**	[✂]	[✂]	[✂]
Daviot†	[✂]	[✂]	[✂]
Clatchard	[✂]	[✂]	[✂]
Craigenlow	[✂]	[✂]	[✂]
Ethiebeaton	[✂]	[✂]	[✂]
Netherglen	[✂]	[✂]	[✂]
Orrock	[✂]	[✂]	[✂]
Shierglas	[✂]	[✂]	[✂]
Stirlinghill	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon.

*Weighted average.
†Daviot is co-located at the Tarmac quarry. All other asphalt sites are co-located with a Breedon quarry.

Further sensitivity analysis

40. Tables 18 and 19 below show results of sensitivity analysis and robustness checks for asphalt catchment area calculations.

Catchments of various sizes

41. Table 18 below reports weighted average catchment areas for catchments ranging from 50 per cent to 90 per cent, and Figures 11 and 12 below show the catchment areas by asphalt site.

TABLE 18 **Asphalt: weighted average catchment areas for various catchments, 2012**

					miles
Supplier	*50%*	*60%*	*70%*	*80%*	*90%*
Radial distances					
Breedon	[✂]	[✂]	[✂]	[✂]	[✂]
Aggregate Industries	[✂]	[✂]	[✂]	[✂]	[✂]
Road distances					
Breedon	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

Note: The sample used to calculate the catchment areas based on road distance is larger than those used in the analysis based on radial distance as Breedon provided data on road distance for almost 100 per cent of its external delivery sales.

FIGURE 11

Asphalt: catchments of various sizes for Breedon sites, 2012

[✂]

Source: CC analysis.

FIGURE 12

Asphalt: catchments of various sizes for Aggregate Industries sites, 2012

[✂]

Source: CC analysis.

Catchment areas over time

42. Table 19 reports 80 per cent catchment areas for asphalt sites for each year from 2010 to 2012. We observe some variation in catchment areas over the three years, more for some sites than other. The average has changed slightly—[✂] and [✂] miles in 2010, [✂] and [✂] miles in 2011, and [✂] and [✂] miles in 2012 for

Breedon and Aggregate Industries, respectively. The overall average catchment area for 2012 of 17 miles is in line with the overall average across the three years.

TABLE 19 **Asphalt: 80 per cent catchment areas by site, 2010 to 2012**

miles

Site	*2010*	*2011*	*2012*	*2010–12*
*Breedon sites**	[✂]	[✂]	[✂]	[✂]
Daviot†	[✂]	[✂]	[✂]	[✂]
Clatchard	[✂]	[✂]	[✂]	[✂]
Craigenlow	[✂]	[✂]	[✂]	[✂]
Ethiebeaton	[✂]	[✂]	[✂]	[✂]
Netherglen	[✂]	[✂]	[✂]	[✂]
Orrock	[✂]	[✂]	[✂]	[✂]
Shierglas	[✂]	[✂]	[✂]	[✂]
Stirlinghill	[✂]	[✂]	[✂]	[✂]
*Aggregate Industries sites**	[✂]	[✂]	[✂]	[✂]
Mid Lairgs	[✂]	[✂]	[✂]	[✂]
Tom's Forest	[✂]	[✂]	[✂]	[✂]
*All sites**	19	16	17	17

Source: CC calculations based on data provided by Breedon and Aggregate Industries.

*Weighted average.
†Daviot is co-located at the Tarmac quarry. All other asphalt sites are co-located with a Breedon quarry.

Further material for catchment area analysis

1. Table 1 reports on the availability of delivery locations coordinates (and thus data on radial distances) in Breedon's transaction data for external delivered sales.

TABLE 1 **Proportion of external delivered sales for which delivery location coordinates are available in Breedon's transaction data, 2012**

			per cent
Site	*Aggregates*	*Asphalt*	*RMX*
Aviemore	-	-	92
Balmullo	98	-	-
Boyne Bay	96	-	94
Bridge of Don	-	-	100
Capo	97	-	93
Clatchard	96	80	93
Craigenlow	100	100	100
Cunmont	100	-	-
Daviot	-	100	-
Dunfermline	-	-	100
Ethiebeaton	97	83	98
Inverness	-	-	95
Inverurie	-	-	99
Kirkcaldy	-	-	93
Meadowside	37	-	-
Morefields	86	-	89
Netherglen	47	79	66
Orrock	63	98	93
Rothes Glen	59	-	55
Shierglas	83	78	76
Stirlinghill	100	100	100
Westhill	-	-	96
Total	85	89	90

Source: CC calculations based on data provided by Breedon.

Note: Table shows proportion of 2012 sales volume for external delivered sales for which delivery location coordinates (and thus radial delivery distances) are available in the Breedon data.

2. Table 2 reviews Aggregate Industries' data on delivery location coordinates, showing the proportion of external delivered sales volumes for which coordinates were geo-coded with reasonable certainty to be used in the analysis.

TABLE 2 **Proportion of external delivered sales for which delivery location coordinates are available in Aggregate Industries' transaction data, 2012**

per cent

Site	*Aggregates*	*RMX*	*Asphalt*
Beauly	94	98	-
Dundee	-	100	-
Dyce	-	98	-
Edzell	38	99	-
Mid Lairgs	-	-	94
Perth	-	100	-
Peterhead	-	100	-
Powmyre	99	-	-
Tom's Forest	98	100	98
Tullos	-	88	-
All Aggregate Industries sites	93	96	98

Source: CC calculations based on data provided by Aggregate Industries.

Note: Table shows proportion of 2012 sales volume for external delivered sales for which sufficiently reliable delivery location coordinates (and thus radial delivery distances) were available. The criteria applied to determine whether the data on coordinates was likely to be sufficiently reliable was to include all those delivery locations for which coordinates were geo-coded by Aggregate Industries, allowing a possible error in geo-coding of up to 5 miles.

3. Table 3 reports on the availability of delivery road distance data in the Breedon data for external delivered sales.

TABLE 3 **Breedon data: proportion of external delivered sales for which estimated road distance data is available, 2012**

per cent

Site	*Aggregates*	*Asphalt*	*RMX*
Aviemore	-	-	100
Balmullo	100	-	-
Boyne Bay	100	-	100
Bridge of Don	-	-	100
Capo	100	-	100
Clatchard	100	90	100
Craigenlow	100	100	100
Cunmont	100	-	-
Daviot	-	100	-
Dunfermline	-	-	100
Ethiebeaton	100	86	100
Inverness	-	-	100
Inverurie	-	-	100
Kirkcaldy	-	-	100
Meadowside	100	-	0
Morefields	100	-	100
Netherglen	100	100	100
Orrock	100	94	100
Rothes Glen	100	-	100
Shierglas	100	100	100
Stirlinghill	100	100	100
Westhill	-	-	100
All Breedon sites	100	94	100

Source: CC calculations based on data provided by Breedon.

Note: Table shows proportion of 2012 sales volume for external delivered sales for which delivery distance in terms of road miles is available in the Breedon data.

Tender and win and loss analysis

Introduction and summary

1. This appendix presents our analysis of customer or contract wins and losses and of tender bidding for the supply of construction materials and contract surfacing services in north Scotland. The purpose of this analysis is to gain an insight into the closeness of competition between Breedon and Aggregate Industries and other suppliers pre-merger through tender and win and loss data.

Analysis of data from Breedon

2. Breedon supplied the CC with a list of contract surfacing projects it tendered for between 2010 and 2012, as well as win/loss reports broken down by products for 2012. However, Breedon noted that it did not routinely keep data on tenders, wins or losses and acknowledged that this information was incomplete.[1]

3. In total, Breedon had [✂] contract surfacing tenders in the north and north-east of Scotland on its Tender Register.[2] The data suggests that Breedon won approximately [✂] of these. The data shows that there were [✂] occasions where [✂] were noted as the winning bidder ([✂]). The dataset was missing the majority of information on the eventual winner and competitors in any particular tender. This was taken into account when analysing this data.

4. Breedon also noted the unit attached to each contract surfacing tender, which through the contract winner gave an indication of local competitors, where it was

[1] Breedon told us that the extent to which win and loss data was recorded was subject to variation at the local level. Additionally, Breedon noted that generally, [✂], and therefore a large proportion of jobs would not be recorded at all in win/loss data.
[2] The north and north-east are defined here according to Breedon's own datasets. The north includes the sites of Daviot, Netherglen, Elgin, Morefields, Shierlgas, Meadowside, Aviemore, Inverness and Rothes Glen, and the north-east includes the sites of Craigenlow, Clatchard, Orrock, Stirlinghill, Ethiebeaton, Aberdeen, Capo and Balmullo.

recorded. For tenders attached to [✂] unit losses noted in the data were [✂]. For Daviot asphalt plant there were [✂]. For [✂] losses were to [✂].

5. In the north-east the win-loss data shows that Breedon lost contracts to [✂][3] across aggregates, asphalt and RMX. For aggregates, by volume approximately [✂] were lost to [✂] and [✂] to [✂]. For asphalt approximately [✂] of the losses were to [✂] and [✂] to [✂]. For RMX approximately [✂] was lost to [✂] and [✂] to [✂].

6. In the north the picture was [✂]. For aggregates there were [✂] to [✂]. [✂], however, was responsible for [✂] per cent of the noted losses. For asphalt [✂] were noted in the data, however, where they were noted, these were [✂]. For RMX, a [✂] to [✂] was mentioned [✂] (for small local contracts to various customers), but the data did not provide the quantity involved. There were [✂] and a further [✂] per cent to [✂].[4] Further, Breedon's win-to-loss ratio was [✂] in the north than the north-east.[5]

7. Further data from Breedon's Excalibur Quote database suggests that, where a quote was given, Breedon won [✂] per cent of coated aggregates (asphalt), [✂] per cent of dry aggregates and [✂] per cent of RMX in 2012.

Analysis of data received from third parties

Transport Scotland

8. Through BEAR Scotland, Transport Scotland is [✂]. This is [✂].

9. Therefore although Transport Scotland is only a single customer we place some weight on its tender data [✂].

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[3] Data is missing for January and December.
[4] These proportions do not take into account the [✂] unquantified loss to [✂].
[5] Assuming that the wins and losses are recorded in the same fashion in the north-east and north.

10. Transport Scotland has a contract in place with BEAR Scotland for the north-east operating region (until 31 March 2014) and the north-west operating region (until 31 March 2018) trunk roads[6] whereby any work required under £350,000 in the north-west and £250,000 in the north-east (rising to £350,000 in April 2014 under a new contract; the successful bidder to be announced in December 2013) are automatically allocated to BEAR Scotland. BEAR Scotland will then contract this out to their relevant sub-contractor dependant on the type of work; this is currently Breedon for surfacing works.[7] Contracts over these thresholds are open to competitive tender and are published via the Public Contracts Scotland portal service.

11. We asked Transport Scotland to indicate the proportion of projects which are above and which are below the threshold of the agreement with BEAR Scotland (ie what proportion would be tendered). The Performance Audit Group financial reports for Transport Scotland provided financial spend for each region broken down by projects over and below the threshold. Looking across the 2009/10, 2010/11 and 2011/12 financial years in the north-east approximately 19 per cent of the financial spend have been above the threshold and 81 per cent have been below the threshold. In the north-west approximately 16 per cent of spend had been on projects above the threshold and 84 per cent have been below the threshold. However, there was some variation across years: in the north-east the proportion above the threshold ranged from 26 per cent in 2009/10 to 10 per cent in 2011/12, while in the north-west it ranged from 24 per cent in 2010/11 to less than 1 per cent in 2011/12.[8]

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[6] Transport Scotland also has a contract in place with BEAR Scotland for the south-east. A map of these regions, as defined by Transport Scotland can be found in Annex 1.
[7] From time to time BEAR Scotland's framework contracts come up for renewal, at which point other contractors and sub-contractors will bid for these contracts. In the south-east (of Scotland) Aggregate Industries' retained business is the current subcontractor to BEAR Scotland for surfacing works.
[8] Transport Scotland's Performance Audit Group financial reports for 2009/10, 2010/11 and 2011/12: www.performanceauditgroup.co.uk/about.htm.

12. BEAR Scotland designs the contracts for over-the-threshold projects, but pre-qualification submissions are sent to and dealt with by Transport Scotland directly. The contracts are awarded by Transport Scotland, and reviewed by BEAR Scotland and Transport Scotland jointly. Here we present an analysis of all contracts over these thresholds from the period 2004 to 2013.[9]

13. Transport Scotland currently evaluates on price only for contracts worth up to £5 million (the entire data set). As such the winning bidder is always the lowest bid. Table 1 provides a summary of Transport Scotland's tender data with a focus on the competition between Breedon and Aggregate Industries.[10] Note that this covers all contracts for surfacing services including the supply of required materials (mainly asphalt) in the north-east and the north-west regions, as defined by Transport Scotland; a map showing these regions is included in Annex 1.

TABLE 1 **Bidding for Transport Scotland above-threshold contracts in the north-west and north-east regions, 2004 to 2012**

[✂]

Source: CC analysis of Transport Scotland's data.

14. The tender data suggests that Breedon and Aggregate Industries bid for many of the same contracts. They both competed in 77 of the 113 tenders, and there were only nine tenders where Breedon bid, but Aggregate Industries did not. The mean difference between their bids was [✂] per cent, while the mean difference between the average bid and winning bid was around 10 per cent.

15. Breedon appears to have been [✂], winning [✂] contracts ([✂] per cent of those it bid for) compared with [✂] for Aggregate Industries ([✂] per cent of those bid for).

[9] Note that there were very few tenders in 2011, 2012 or 2013.
[10] Transport Scotland notes that the data may not be entirely complete as it is manually entered. However, within each tender there were no cells missing data.

Breedon's bids were on average [✂] per cent over the winning bid while Aggregate Industries' were [✂] per cent over the winning bid.

16. Leiths appears to have bid for many of these contracts also. There were 44 tenders where Breedon, Aggregate Industries and Leiths bid. Leiths' bids have been, on average, [✂], and [✂]. However, [✂] (winning [✂] per cent of the contracts it bid for). This may be due to [✂].

17. The data has also been split geographically by the north-east and the north-west operating regions. Table 2 displays summary bidding statistics for the north-east region only.

TABLE 2 **Bidding for Transport Scotland above-threshold contracts in the north-east region only, 2004 to 2013**

[✂]

Source: CC analysis of Transport Scotland's data.

18. The picture for the north-east was fairly similar to the overall picture (and hence the north-west). On average there were five bidders in a tender, the mean difference between the average bid and winning bid was also around 10 per cent, Breedon was the most frequent bidder with a success rate of [✂] per cent, and Aggregate Industries and Leiths were the next most frequent bidders. The split between contracts bid in the north-east and the north-west was similar for Breedon and for Aggregate Industries (62 and 63 per cent of contracts bid for were in the north-east, respectively), but Aggregate Industries had a [✂] ([✂] per cent versus [✂] per cent, respectively).

19. However there were some slight differences. Aggregate Industries' mean bid was [✂] from Breedon's mean bid in the north-east. Of the other competitors [✂] and

[✂] did not win any contracts they bid for in the north-east, while [✂] and [✂] did not win any in the north-west.

Comparing those who self-supply asphalt with those who purchase from other suppliers

20. We looked at the success of winning contracts by bidders which did not produce the materials (eg asphalt) themselves compared with those which did (such as Breedon, Aggregate Industries, Leiths, etc), in order to assess if those that could self-supply were more successful than those that could not. We classified all known materials producers in north Scotland as 'self-supplied'.

21. Self-supplying competitors did not bid for bridge contracts, so analysis was under-taken on the 101 road contracts only. In six of these tenders there were no bidders that could self-supply, while in 17 tenders all the bidders could self-supply. In the remaining 78 tenders there was a mix of those who could self-supply and those who could not. The average contract consisted of three (60 per cent) bidders capable of self-supplying. Of the 78 mixed tenders a self-supplying firm won 78 per cent of the time (61 contracts).

22. Figure 1 displays the success rates for individual competitors, broken down by whether they were capable of self-supplying asphalt or not and sorted by the number of bids they placed. This includes all competitors who placed at least three bids.[11]

FIGURE 1

Success rates for individual competitors (with at least three bids)

[✂]

Source: CC analysis of Transport Scotland's data.
Note: [✂].

[11] There were no self-supplying competitors that made fewer than three bids and of the competitors that could not self-supply, none that made two bids won contracts and three of those who made only one bid won contracts.

23. In general, self-supplying competitors bid for more contracts than those that could not self-supply. Of those who made a substantial number of bids (greater than ten), [✂] was more successful than any other bidder. Of those that could not self-supply (and made at least ten bids) [✂] had the best success rate.

Angus Council

24. Angus Council uses Tayside Contracts for the majority of its road work and services; however, other suppliers are invited to tender for the supply of some services (not materials). These are typically for repairing roads, resurfacing, coast and river protection and harbour maintenance. Angus Council provided the CC with a list of its 12 biggest contracts in 2012/13 let by the roads division. These contracts were generally in relation to contract surfacing for road maintenance, but also included the building of a play park. The majority of contracts also involved RMX. Of all 12 contracts, Breedon bid for three contracts of which [✂]. Aggregate Industries did not bid for any of these contracts.

RJ McLeod

25. RJ McLeod is a private civil engineering contractor based in Glasgow with a north Scotland office in Dingwall. It is involved in various construction projects including marine, renewable energy, site infrastructure, waterways, flood prevention, and roads and bridges. RJ McLeod hold tenders for the supply of both materials and contract surfacing services. It awards contracts based on price, quality, safety and environmental performance, including appropriate accreditation and registration.

26. Although RJ McLeod has used many suppliers [✂].[12] RJ McLeod supplied the CC with a list of ten large recent tenders for purchases of construction materials (split between RMX and aggregates) which are replicated in Table 3. It should be noted

[12] [✂]

that there was some missing information, particularly in relation to individual bids. Further, RJ McLeod noted that tender values were generally not comparable with awarded values due to changes in quantity and/or changes in design (scope).

TABLE 3 **Bidding for ten large contracts of RJ McLeod for the supply of RMX and aggregates in north Scotland, 2012**
[✂]
Source: RJ McLeod.

27. Breedon competed for eight of the 20 contracts while Aggregate Industries competed for three (these were all for contracts for which Breedon also competed). Leiths also competed for eight contracts; six of these were for contracts for which Breedon also competed. Breedon had won [✂] of the contracts, Leiths [✂], and Aggregate Industries [✂].

I & H Brown Limited

28. I & H Brown Limited (I & H Brown) is a civil engineering construction firm carrying out bulk earthworks, infrastructure, wind farms, reclamation and landfill engineering. It told us that contracts were awarded based on the ability to deliver the product to strict time requirements, price and quality.

29. I & H Brown submitted that both Breedon and Aggregate Industries, along with a handful of other large players, were usually invited to tender. It supplied us with tender information on ten large contracts in 2012. These are replicated in Table 4.

TABLE 4 **Bidding for ten large contracts of I & H Brown for the supply of concrete and aggregates in north Scotland**
[✂]
Source: [✂].

30. Breedon competed in nine of the ten contracts, Leiths in eight and Aggregate Industries in five. Breedon won [✂] of these contracts, Leiths [✂] and Aggregate

Industries [✂]. There are only a handful of other bidders across all the contracts. The data did not contain the actual bids so we were unable to ascertain how close the bidding was.

Fife Council

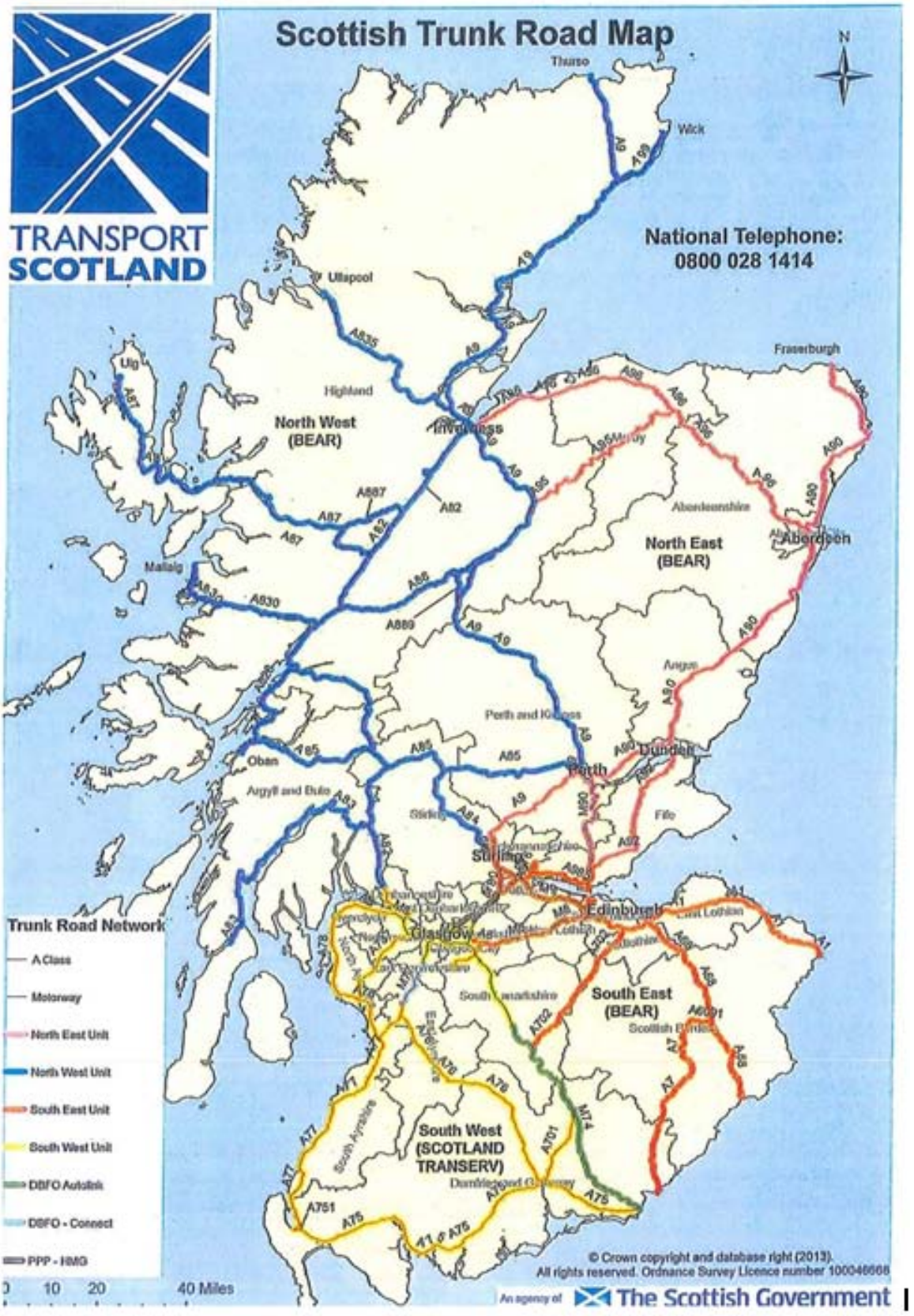
31. Fife Council supplied tender data for ten large projects in 2012. These were for a mixture of different works including resurfacing roads, building seas walls, car parks, roads and culverts. In general most of the suppliers bidding were civil engineering contractors rather than materials suppliers. Of these contracts Breedon competed directly in [✂] contracts [✂] ([✂] of these contracts were for resurfacing and [✂] was for surface dressing).

32. However, Breedon still supplied materials in [✂] of the contracts it lost, and of the remaining [✂] contracts it still supplied materials in [✂] as a subcontractor. In relation to contract surfacing [✂] of these [✂] contracts involved supplying the materials for another contractor to carry out the laying.

33. There was also a mix of other subcontractors supplying aggregates, asphalt and RMX. However, with the exception of Breedon the only other firms supplying materials for more than one contract were Tillicoultry Quarries for aggregates and asphalt and Skene for RMX. The bidding data reveals that neither Aggregate Industries nor Leiths were listed as subcontracting suppliers. Aggregate Industries had not bid directly for any of these contracts. Further, Aggregate Industries was not listed on Fife Council's framework for the supply of construction materials or contract surfacing services (Leiths was on both contracts). This could be due to Aggregate Industries not having any sites located in Fife (Aggregate Industries has RMX and aggregates sites in Tayside, but not asphalt plants or contract surfacing units).

34. Fife Council also provided a list of ten contracts awarded for materials directly. [✂] of these were to Tillicoultry and [✂] to Breedon. Fife Council noted that its main aggregates supplier in 2012 was [✂], RMX supplier was [✂], and asphalt supplier was [✂].

Map of Transport Scotland regions



Source: Transport Scotland.

Analysis of overlaps and local concentration

Introduction

1. This appendix presents our analysis of overlaps between Breedon and Aggregate Industries aggregates, RMX and asphalt sites in north-east Scotland and of local concentration for those instances where there is a potential geographic overlap between the parties' activities. The results of this analysis are then used to filter out those sites which are unlikely to give rise to competition concerns on the basis of post-merger local shares of production and counts of suppliers.[1]

2. Our approach to examining competitive effects of the merger follows these two steps:
   (a) First, we carry out an analysis of geographic overlaps of Breedon and Aggregate Industries sites, and examine pre- and post-merger local concentration. We used a set of filters based on post-merger production shares and counts of suppliers within defined catchment areas around the parties' sites in order to filter out sites which are unlikely to give rise to competition concerns. This analysis is set out in detail in this appendix.
   (b) Second, we carry out a detailed analysis of local competition, examining all the different constraints from sites within and outside the relevant catchment areas. This analysis is set out in Appendix G.

3. This appendix is structured as follows:
   (a) We first examine *geographic overlaps* of parties' activities in north-east Scotland for each aggregates, RMX and asphalt. We consider that there is a geographic overlap between sites if they are within twice the average 80 per cent catchment areas for the respective product of each other. Furthermore, we indicated where

[1] In the context of mergers of retailers or grocers, this is typically referred to as 'fascia counts'.

there may be a potential overlap for sites located further away from each other (ie more than twice but less than three times the average 80 per cent catchment areas) based on examining possible geographic overlaps between the sites' delivery locations (shown in Annex 1). Aggregate Industries' and Breedon's active, mothballed and occasional use sites are included in this analysis.

(b) For sites identified in the first step as definite or 'possible' geographic overlaps, we analyse *local concentration* in defined average 80 per cent catchment areas around the sites. We consider production shares of Breedon pre- and post-merger and fascia counts within average 80 per cent catchment areas for a given product and within average 80 per cent catchment areas 'uplifted' by 50 per cent ('extended average 80 per cent catchment areas') of the relevant Breedon and Aggregate Industries sites. We also include maps ('heat maps') illustrating local concentration around potential customer sites in north-east Scotland (ie a demand-centred analysis) in Annex 2.

(c) Finally, we *filter out* sites as unlikely to be problematic, based on a set of filters which use the estimated production shares and fascia counts within the average 80 per cent catchment areas and within the extended average 80 per cent catchment areas around the relevant sites (ie sites as identified as overlaps or potential overlaps).

Analysis of overlaps

Methodology

4. Our analysis focuses on geographic overlaps between Breedon and Aggregate Industries aggregates, RMX and asphalt sites in north-east Scotland. The starting point is to consider all Breedon and the acquired Aggregate Industries sites which are within three times the average 80 per cent catchment areas of each other. This is a cautious approach as it selects sites which are relatively far apart from each other

and which may not necessarily be serving or competing for the same customers. We then apply the following analysis to these pre-selected sites:

(a) We considered that sites overlapped if they were within twice the average 80 per cent catchment areas of each other: 36 miles for aggregates, 26 miles for RMX, and 35 miles for asphalt.

(b) Further, we considered whether there may be an overlap based on delivery locations of sites by examining delivery location maps shown in Annex 1; where there appeared to be an overlap in terms of delivery locations, we marked this as a 'possible' overlap between production sites, otherwise we indicated that an overlap was 'unlikely'. Thus, there could be a 'possible' overlap of sites if, for example, parties competed for customers located between their sites geographically, even if the sites were more than twice the average 80 per cent catchment area distances apart (eg more than 36 miles apart for aggregates). Thus, our overlap analysis considered sales delivery locations of sites that were located further apart than twice the average 80 per cent catchment areas in order to see if they could potentially be competing for customers, although we were mindful that the delivery location data had its limitations.[2] In turn, we took this initial analysis of overlaps into account in our competitive assessment.

5. Breedon and Aggregate Industries sites identified as overlaps or 'possible' overlaps (including mothballed and occasional use sites) are then examined further in the analysis of local concentration and in filtering.

Aggregates

6. Table 1 shows, for each acquired Aggregate Industries site, Breedon sites within 54 miles (which is three times the average 80 per cent catchment area for aggre-

[2] Delivery locations were available only for external delivered sales, and delivery locations were manually geocoded specifically for this inquiry rather than routinely recorded and available in the parties' sales data, thus potentially being erroneous or imprecise.

gates of 18 miles). It includes Aggregate Industries' and Breedon's occasional use sites.

TABLE 1 **Aggregates: overlaps between Breedon and Aggregate Industries sites**

Region	*Aggregate Industries site*	*Breedon site(s)*	*Distance (miles)*	*Overlap?*	*Comment*
Active sites					
Highland	Beauly	Meadowside	32	[✂]*	[✂]
		Morefields	39	[✂]	[✂]
		Netherglen	46	[✂]	[✂]
		Rothes Glen	46	[✂]	[✂]
		Banavie	49	[✂]	[✂]
Tayside & Fife	Powmyre	Cunmont	11	[✂]	[✂]
		Ethiebeaton	13	[✂]	[✂]
		Balmullo	18	[✂]	[✂]
		Capo	19	[✂]	[✂]
		Clatchard	22	[✂]	[✂]
		Shierglas	31	[✂]	[✂]
		Orrock	39	[✂]	[✂]
		Craigenlow	43	[✂]	[✂]
		Meadowside	48	[✂]	[✂]
Grampian	Tom's Forest	Craigenlow	5	[✂]	[✂]
		Stirlinghill	27	[✂]	[✂]
		Boyne Bay	32	[✂]	[✂]
		Capo	32	[✂]	[✂]
		Rothes Glen	39	[✂]	[✂]
		Netherglen	40	[✂]	[✂]
		Cunmont	53	[✂]	[✂]
Occasional use sites					
Grampian	Correnie	Craigenlow	6	[✂]	[✂]
		Capo	28	[✂]	[✂]
		Boyne Bay	34	[✂]	[✂]
		Stirlinghill	35	[✂]	[✂]
		Rothes Glen	35	[✂]	[✂]
		Netherglen	36	[✂]	[✂]
		Cunmont	48	[✂]	[✂]
		Ethiebeaton	49	[✂]	[✂]
		Meadowside	52	[✂]	[✂]
	Edzell†	Capo	2	[✂]	[✂]
		Cunmont	22	[✂]	[✂]
		Ethiebeaton	24	[✂]	[✂]
		Craigenlow	25	[✂]	[✂]
		Balmullo	33	[✂]	[✂]
		Clatchard	40	[✂]	[✂]
		Shierglas	45	[✂]	[✂]
Highland	Ardchronie	Morefields	30	[✂]‡	[✂]

Source: CC calculations.

*[✂]
†[✂]
‡[✂]

7. Overall, our analysis suggests that there are the following geographic overlaps between Breedon and Aggregate Industries active aggregates sites:

(a) in Tayside & Fife: Aggregate Industries' Powmyre site and Breedon's Cunmont, Ethiebeaton, Balmullo, Capo, Clatchard, Shierglas sites, and possibly also Orrock and Craigenlow sites; and

(b) in Grampian: Aggregate Industries' Tom's Forest site and Breedon's Craigenlow, Stirlinghill, Capo sites, Boyne Bay, and possibly also Netherglen and Rothes Glen sites; and Aggregate Industries' Edzell site and Breedon's Capo, Cunmont, Ethiebeaton, Craigenlow and Balmullo sites.

8. Aggregate Industries' Correnie site, which is an occasional use site (ie material is extracted from time to time and, since there are no processing facilities, processed, stocked and sold from the nearby Tom's Forest site), is likely to have similar geographic overlaps with Breedon's sites to those seen in respect of Aggregate Industries' Tom's Forest sites. We note, however, that Correnie produces decorative aggregates which have much larger average 80 per cent catchment areas than aggregates used in construction, and thus, for decorative aggregates, there may be geographic overlaps with Breedon sites producing decorative aggregates which are located further away than the distances we consider in relation to construction aggregates.

9. In Highlands, Breedon's Meadowside quarry is within 32 miles of Aggregate Industries' Beauly site near Inverness, but Breedon indicated that currently Meadowside did only contract crushing. Similarly, Breedon's Morefields site and Aggregate Industries' Ardchronie site are around 30 radial miles apart (52 miles by road), but Ardchronie is operated on occasional use basis (ie as and when required to fulfil specific supply opportunities). Furthermore, evidence received in relation to Ardchronie through third party hearings[3] and from Aggregate Industries suggested that it did not compete with Breedon's Morefields site, which is its only aggregates

[3] Hearing with RJ McLeod.

site within 36 radial miles from Ardchronie. Thus there does not appear to be a meaningful overlap at the present time between the parties' aggregates operations in Highlands.

RMX

10. Table 2 reports the results of our analysis for RMX sites. For each acquired Aggregate Industries RMX site, any Breedon RMX site within 40 miles (which is three times the average 80 per cent catchment area for RMX of 13 miles, rounded) is short-listed for examining the potential overlaps.

TABLE 2 **RMX: overlaps between Breedon and Aggregate Industries sites**

Region	*Aggregate Industries site*	*Breedon site(s)*	*Distance (miles)*	*Overlap?*	*Comment*
Active sites					
Highland	Beauly	Inverness	9	[✂]	[✂]
		Aviemore*	31	[✂]	[✂]
		Meadowside	32	[✂]	[✂]
		Morefields	39	[✂]	[✂]
Tayside & Fife	Dundee	Ethiebeaton	4	[✂]	[✂]
		Clatchard*	15	[✂]	[✂]
		Capo	25	[✂]	[✂]
		Kirkcaldy	26	[✂]	[✂]
		Orrock	30	[✂]	[✂]
		Dunfermline†	34	[✂]	[✂]
		Shierglas	39	[✂]	[✂]
	Perth	Clatchard*	11	[✂]	[✂]
		Dunfermline†	23	[✂]	[✂]
		Kirkcaldy	23	[✂]	[✂]
		Orrock	24	[✂]	[✂]
		Ethiebeaton	25	[✂]	[✂]
		Shierglas	27	[✂]	[✂]
Grampian	Dyce	Bridge of Don	4	[✂]	[✂]
		Westhill	6	[✂]	[✂]
		Inverurie	8	[✂]	[✂]
		Craigenlow	10	[✂]	[✂]
		Deeside*	11	[✂]	[✂]
		Stirlinghill	23	[✂]	[✂]
		Boyne Bay	36	[✂]	[✂]
		Capo	33	[✂]	[✂]
	Peterhead	Stirlinghill	5	[✂]	[✂]
		Bridge of Don	23	[✂]	[✂]
		Inverurie	24	[✂]	[✂]
		Westhill	29	[✂]	[✂]
		Boyne Bay	30	[✂]	[✂]
		Craigenlow	31	[✂]	[✂]
		Deeside*	34	[✂]	[✂]
	Tom's Forest	Inverurie	3	[✂]	[✂]
		Craigenlow	5	[✂]	[✂]
		Westhill	8	[✂]	[✂]
		Bridge of Don	11	[✂]	[✂]
		Deeside*	12	[✂]	[✂]
		Stirlinghill	27	[✂]	[✂]
		Boyne Bay	32	[✂]	[✂]
		Capo	32	[✂]	[✂]
		Rothes Glen	39	[✂]	[✂]
		Netherglen	40	[✂]	[✂]
	Tullos	Bridge of Don	6	[✂]	[✂]
		Westhill	8	[✂]	[✂]
		Deeside*	10	[✂]	[✂]
		Craigenlow	14	[✂]	[✂]
		Inverurie	16	[✂]	[✂]
		Stirlinghill	26	[✂]	[✂]
		Capo	30	[✂]	[✂]
Mothballed sites					
Grampian	Edzell	Capo	2	[✂]	[✂]
		Deeside*	21	[✂]	[✂]
		Ethiebeaton	24	[✂]	[✂]
		Craigenlow	25	[✂]	[✂]
		Westhill	26	[✂]	[✂]
		Bridge of Don	33	[✂]	[✂]
		Inverurie	34	[✂]	[✂]
		Clatchard*	40	[✂]	[✂]

Source: CC calculations.

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*Breedon's mothballed sites.
†Breedon's occasional use sites.
Note: Current status of sites is as of October 2013.

11. Similarly as for aggregates, we considered that Breedon and Aggregate Industries sites within twice the average 80 per cent catchment area radial distances (26 radial miles) overlapped, and we considered whether sites located further apart overlapped too. We used customer delivery location maps, shown in Annex 1, to inform us whether this might be the case.

12. On the basis of distance between Breedon and Aggregate Industries RMX sites, and taking into account overlaps of catchment areas and delivery locations (see Annex 1), on a cautious basis, it appears that there are the following geographical overlaps between parties' RMX sites:

(a) In Highlands: Aggregate Industries' Beauly plant and Breedon's Inverness plant, and it appears unlikely that there is an overlap between Aggregate Industries' Beauly and Breedon's other sites in the east of Highlands (Aviemore, Meadowside, and Morefields).

(b) In Tayside & Fife: a number of Breedon's plants overlap with Aggregate Industries' Dundee and/or Perth plants (namely, Ethiebeaton, Clatchard,[4] Capo, Kirkcaldy, Orrock, Dunfermline, with Shierglas also being a 'possible' overlap).

(c) In Grampian, near Aberdeen: a number of Breedon's plants overlap with Aggregate Industries' Dyce and/or Tullos and/or Tom's Forest plants (namely, Craigenlow, Bridge of Don, Inverurie, Westhill, Stirlinghill and Deeside (mothballed)).

(d) Aggregate Industries' Peterhead plant near Peterhead (in Grampian) and Breedon's Stirlinghill, Bridge of Don and Inverurie plants.

13. Aggregate Industries' mothballed Edzell RMX plant (in Grampian) overlaps geographically (on a 26-mile basis) with Breedon's Capo, Deeside, Ethiebeaton, Craigenlow and Westhill plants.

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[4] Breedon reopened Aggregate Industries' Perth plant and mothballed its Clatchard plant in spring 2013.

14. Based purely on distances between sites (considering 26-mile radial distances), it does not appear that Breedon's Netherglen, Rothes Glen, Boyne Bay or Shierglas RMX plants, located in north Grampian or the Grampian mountains, overlap with any of the acquired Aggregate Industries RMX plants. Similarly, Breedon's Aviemore, Meadowside or Morefields RMX plants, located in the Highlands, are not within 26 miles of any of the acquired Aggregate Industries sites. However, there may be some overlap in the customer delivery locations between some of these Breedon RMX plants (eg Boyne Bay, Shierglas) and some of the acquired Aggregate Industries RMX plants. Where relevant, we will consider this as part of the detailed competitive assessment.

Asphalt

15. Table 3 below reports the results of our analysis for asphalt sites. For each acquired Aggregate Industries site, any Breedon site within 50 miles (which is three times the average 80 per cent catchment area for asphalt of 17 miles, rounded) is assessed as a potential overlap.

16. On the basis of distance between Breedon and Aggregate Industries asphalt sites, and considering overlaps of catchment areas and delivery locations (see Annex 1), it appears that there are the following geographical overlaps:

(a) Aggregate Industries' Mid Lairgs asphalt plant and Breedon's Daviot and Netherglen plants; and

(b) Aggregate Industries' Tom's Forest asphalt plant and Breedon's Craigenlow and Stirlinghill plants.

17. There are no overlaps in asphalt between the parties in the Tayside & Fife regions since Aggregate Industries has no asphalt sites in that region.

TABLE 3 **Asphalt: overlaps between Breedon and Aggregate Industries sites**

Region	*Aggregate Industries site*	*Breedon site(s)*	*Distance (miles)*	*Overlap?*	*Comment*
Active sites					
Highland	Mid Lairgs	Daviot	1	[✂]	[✂]
		Netherglen	35	[✂]	[✂]
		Shierglas	46	[✂]	[✂]
Grampian	Tom's Forest	Craigenlow	5	[✂]	[✂]
		Stirlinghill	27	[✂]	[✂]
		Netherglen	40	[✂]	[✂]

Source: CC calculations.

Note: Current status of sites is as of October 2013.

Analysis of local concentration

18. The next step, described in paragraph 3*(b)* above, was to estimate the degree of local concentration in areas around those Breedon and Aggregate Industries sites identified as overlapping or potentially overlapping. We examined Breedon's pre- and post-merger production shares, and counts of suppliers (also referred to as 'fascia counts' in this appendix), in circular areas around the identified overlap sites.

Data and methodology

Data

19. In order to calculate local production shares and fascia counts, we required data on parties' sites as well as on sites of competitors in the relevant product markets in north-east Scotland. This data set on suppliers' sites/plants ('the plant list') contained the following data: supplier's name, site name, site location (geo-coordinates, ie eastings and northings), site production or sales volume,[5] type of site,[6] and, for aggregates only, types of product produced/sold (primary, recycled), and proportions of internal and external sales. We used the data for 2012.

[5] Depending on the source of data, some sites had production volumes (data sourced from BDS primarily) and some sites had sales volumes (data sourced from the suppliers themselves). We understand that RMX and asphalt stocks are negligible, so there should be virtually no difference between production and sales volumes in any time period. For aggregates, suppliers may be holding some stocks of material, which means that there may be discrepancies between the production and the sales volumes. We refer to these volumes as sales volumes throughout.

[6] For aggregates, this indicated whether a site was a sand and gravel or a crushed rock quarry for primary aggregates quarries, and whether it was a recycled aggregates site. For RMX, this indicated whether a site was a static/site RMX plant or a volumetric truck, and, for static/site RMX plants, it indicated whether the site was located on a quarry.

20. We collated the plant-list data from a number of sources:

(a) Breedon and Aggregate Industries supplied us with their own data.

(b) Some other competitors provided us the data on their sites, including location and production or sales in 2012.

(c) For the remainder of suppliers in north Scotland, we used data from BDS on competitor site locations with BDS estimated volumes for 2012.

21. In relation to aggregates sites, Breedon noted that the data we used did not include all the suppliers and sites in north Scotland. It submitted the following lists of further competitors' aggregates sites, noting that these were missing in our data and consequently in our analysis (there was some overlap between the two lists of sites):

(a) A description of sites and their estimated output, provided in response to our market questionnaire. These were mainly recycling sites and borrow pits located in the Grampian (near Aberdeen). This data set did not include comprehensive data on locations or the description of the method for estimating the output, where given.

(b) A list of sites producing aggregates in the area near Aberdeen, along with their locations and estimated outputs. These included primarily redevelopment (demolition) sites, one-off sites, borrow pits and recycling operations. Breedon indicated that it estimated the anticipated volumes based on its market knowledge (such as previous years' output), confirmation from owners/previous owners of sites, or visual assessment. Breedon estimated annual output from these sites in 2013 to be in the region of 1.1 Mt.

22. We considered whether these additional aggregates sites near Aberdeen and estimated volumes submitted by Breedon should be included in the data we used in our analysis. We understand that the data we use may not capture all the sites producing aggregates, and in particular recycling sites, demolition sites and borrow

pits, which can serve as sources of aggregates for some uses and some customers. However, we considered that Breedon's methodology for estimating the outputs of these sites was not sufficiently robust, that the figures it had provided could not be verified in order for us to rely on them. Furthermore, there were other considerations which made us doubtful as to the robustness of the estimated volumes for the purposes of our analyses: Breedon's estimated total volume of these additional sites in the Grampian of 1.14 Mt seemed unduly high if compared with our total estimate for the Grampian (including primary and recycled aggregates) of 3.1 Mt; furthermore, other evidence in relation to availability and constraint from recycled sources in the Grampian region did not appear to be consistent with such significant volumes of recycled aggregates being supplied in the area. Our detailed competitive assessment took into account the fact that our data on recycled aggregates sites near Aberdeen and their estimated output volumes, to the extent we rely on them, might be underestimates.

Methodology

23. We calculated measures of local concentration—ie production shares and fascia counts—within average 80 per cent catchment areas around parties' sites[7] and around potential customer locations. For each product, we used their respective weighted average 80 per cent catchment areas, estimated from Breedon's and Aggregate Industries' sales data for external delivered sales (see Appendix D). We also carried out the analysis using a 50 per cent larger radial ('extended average 80 per cent catchment area').[8] We refer to these as the 'defined average 80 per cent catchment area distances', and they are different for each aggregates, RMX and asphalt. For asphalt, we also considered areas around sites based on a 35-mile

[7] In this analysis, we have included all Breedon and Aggregate Industries sites in north-east Scotland, not just the ones identified as overlaps on the basis of distances between them. Where the sites are further apart than the catchment area distances used, the merger increment of the production share is zero.
[8] Geographic markets are typically wider than catchment areas, and we considered that the average 80 per cent catchment areas might lead to unduly narrow geographic areas for measuring local concentration. We considered that an increased average 80 per cent catchment area radial by 50 per cent was appropriate in this case, and noted that the average 90 per cent catchment areas were narrower than this.

radius (twice the estimated average 80 per cent catchment areas for direct materials sales to external customers), since other evidence indicated that asphalt may travel further than the average 80 per cent catchment areas we estimated, eg as substantial sales of asphalt are through contract surfacing services. Thus, we used the following radials for calculating production shares and fascia counts in areas around the relevant sites:

(a) aggregates: 18 miles and 27 miles,

(b) RMX: 13 miles and 20 miles,

(c) asphalt: 17 miles, 25 miles and 35 miles.

24. For each of aggregates, RMX and asphalt, we calculated the following measures of local concentration:

(a) production shares of Breedon pre-merger and post-merger, and the increment;

(b) fascia count of competing suppliers,[9] (i) including all suppliers and (ii) excluding those with a production share of 5 per cent or less;[10] and

(c) production share of the largest competing supplier.

25. For aggregates, we considered production shares and fascia counts on the following basis:

(a) including primary and recycled aggregates suppliers, and including internal and external sales (the 'base case');

(b) a sensitivity analysis which included primary and recycled aggregates suppliers, but excluded internal sales; and

(c) a sensitivity analysis which included primary aggregates suppliers only, and included internal and external sales.

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[9] Fascia count of competing suppliers does not include Breedon or Aggregate Industries. In terms of fascia reduction, since there would no longer be any Aggregate Industries sites in the overlap areas of north Scotland post-merger, the reduction in fascias due to the merger would be by one (ie loss of Aggregate Industries as a separate supplier).

[10] Fascia count which excludes competitors with less than 5 per cent production share within a catchment area is a cautious one in that it excludes the smaller competitors which might provide a more limited competitive constraint in particular in relation to some customers or projects.

26. For RMX, we considered production shares and fascia counts on the following basis:

(a) including supplies from all static/site RMX plants and volumetric trucks (the 'base case'); and

(b) a sensitivity which included supplies from all static/site RMX plants, but excluded volumetric trucks.

27. For asphalt, we calculated production shares and fascia counts including all suppliers and plants of asphalt, and including asphalt supplied to customers via contract surfacing businesses of the suppliers.

28. We also calculated local concentration in catchment areas around potential customer locations in north Scotland ('demand-centred analysis'). That is, we considered each possible customer location (these were not actual delivery locations) in north Scotland and calculated the concentration measures described above in the relevant catchment-area-based radials around these potential customer locations. We showed these results on 'heat' maps (reported in Annex 2) in order to illustrate local concentration around potential customer locations.

Aggregates

Plant-centred analysis

Base case—all aggregates and all sales

29. Tables 4 and 5 below show the results of our plant-centred analysis of local concentration for the base case. We show results for both the average 80 per cent catchment area (18 miles) and for the wider area with a 27-mile radius, and have included all sites identified as possible 'overlap' sites.

30. We observe the following in terms of aggregates production shares:

(a) In the Tayside & Fife region, there are no sites where the merger would lead to a combined share in excess of 33 per cent within the 18- or 27-mile radials around them, but there are a few instances where the merger would lead to a combined share of 25 per cent or more (Cunmont and Ethiebeaton on 18-mile basis, and Balmullo, Clatchard, Ethiebeaton and Powmyre on 27-mile basis).

(b) In the Grampian region, there are a number of sites where the merger would lead to a combined share in excess of 33 per cent within the 18-mile radials around them (Craigenlow, Corrennie and Tom's Forest) or within the 27-mile radials around them (Craigenlow, Stirlinghill, Corrennie, Edzell, Tom's Forest).

TABLE 4 **Aggregates base case, plant-centred analysis: Breedon production shares, 2012**

			18-mile radial			*27-mile radial*		
Region	*Supplier*	*Site*	*Pre-merger*	*Post-merger*	*Increment*	*Pre-merger*	*Post-merger*	*Increment*
Grampian	Breedon	Boyne Bay	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Capo	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Craigenlow	[0–25]	[33–50]	[✂]	[0–25]	[33–50]	[✂]
		Netherglen	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Rothes Glen	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Stirlinghill	[25–33]	[25–33]	[✂]	[0–25]	[33–50]	[✂]
	Aggregate Industries	Corrennie	[25–33]	[50–100]	[✂]	[0–25]	[33–50]	[✂]
		Edzell	[0–25]	[0–25]	[✂]	[25–33]	[33–50]	[✂]
		Tom's Forest	[0–25]	[33–50]	[✂]	[0–25]	[33–50]	[✂]
Tayside & Fife	Breedon	Balmullo	[25–33]	[25–33]	[✂]	[0–25]	[25–33]	[✂]
		Clatchard	[0–25]	[0–25]	[✂]	[0–25]	[25–33]	[✂]
		Cunmont	[0–25]	[25–33]	[✂]	[0–25]	[0–25]	[✂]
		Ethiebeaton	[0–25]	[25–33]	[✂]	[0–25]	[0–25]	[✂]
		Orrock	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Shierglas	[50–100]	[50–100]	[✂]	[33–50]	[33–50]	[✂]
	Aggregate Industries	Powmyre	[0–25]	[0–25]	[✂]	[0–25]	[25–33]	[✂]

Source: CC calculations.

31. Table 5 shows fascia counts of competing suppliers within the 18- and 27-mile radials around Breedon's and Aggregate Industries' aggregates sites, and the share of the largest competing supplier in the radial. We observe the following:

(a) In Tayside & Fife, there are at least six competing suppliers (ie sites of suppliers other than Breedon or Aggregate Industries) within 18-mile radials around sites and at least nine on the basis of 27-mile radials, with Geddes Group coming up as the largest competing fascia in most instances. The largest competitors' shares range from [0–25] to [33–50] per cent on an 18-mile basis and from [0–

25] per cent on a 27-mile basis. If we consider only competitors with 5 per cent or greater share within relevant radials, there are at least four other competing suppliers within 18-mile radials around sites and at least five on the basis of 27-mile radials.

(b) In the Grampian region, there are at least five competing suppliers within 18- and 27-mile radials around sites, with Leiths, Laird Brothers, Geddes Group, Lovie and Lafarge Tarmac (LT) coming up as the largest competing fascias. The largest competitors' shares range from [0–25] to [33–50] per cent on 18-mile basis and from [0–25] to [33–50] per cent on 27-mile basis. [✂] is the largest competitor in radials around Craigenlow, Corrennie and Tom's Forest, and has a relatively large share of supply within these radials (eg [25–33] per cent around Tom's Forest, [25–33] per cent around Craigenlow and [0–25] per cent around Corrennie, on 18-mile basis). If we consider only competitors with 5 per cent or greater share within relevant radials, there are at least three competing suppliers within 18-mile and four other competitors within 27-mile radials around sites.

TABLE 5 **Aggregates base case, plant-centred analysis: competitor fascia counts, 2012**

			18-mile radial			*27-mile radial*		
Region	*Supplier*	*Site*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*
Grampian	Breedon	Boyne Bay	7	6	Lovie ([33–50])	11	7	Lovie ([25–33])
		Capo	4	2	Laird ([33–50])	10	5	Geddes Group ([25–33])
		Craigenlow	6	3	Leiths ([25–33])	10	4	Leiths ([0–25])
		Netherglen	5	3	LT ([33–50])	5	4	LT ([33–50])
		Rothes Glen	5	4	LT ([33–50])	5	4	LT ([33–50])
		Stirlinghill	6	4	Lovie ([25–33])	10	4	Lovie ([0–25])
	AI	Corrennie	4	3	Leiths ([0–25])	12	4	Leiths ([25–33])
		Edzell	5	3	Laird ([33–50])	11	4	Geddes Group ([0–25])
		Tom's Forest	8	4	Leiths ([25–33])	13	5	Leiths ([0–25])
Tayside & Fife	Breedon	Balmullo	9	6	Skene ([0–25])	13	6	Geddes Group ([0–25])
		Clatchard	10	8	Cemex ([0–25])	14	6	Geddes Group ([0–25])
		Cunmont	6	4	Geddes Group ([33–50])	12	5	Geddes Group ([0–25])
		Ethiebeaton	8	4	Geddes Group ([25–33])	12	5	Geddes Group ([0–25])
		Orrock	7	5	Skene ([0–25])	12	8	Central Recycling Ltd ([0–25])
		Shierglas	1	1	Geddes Group ([33–50])	3	3	Geddes Group ([0–25])
	Aggregate Industries	Powmyre	6	4	Geddes Group ([33–50])	9	6	Geddes Group ([0–25])

Source: CC calculations.

*Production share shown in parenthesis.
Note: LT = Lafarge Tarmac, Laird = Laird Brothers.

Sensitivity: external sales only

32. We also carried out sensitivity analysis excluding internal sales from the production share calculations (we still included recycled aggregates when considering competition). Tables 6 and 7 below show these results for both the average 80 per cent catchment area (18 miles) and for the wider area with a 27-mile radius.

33. If compared with the main results in Table 4 above, we observe the following:

(a) Although the numbers change (Breedon's pre- and post-merger production share tends to be [✂] if internal sales are excluded), the overall conclusions for aggregates sites in the Highlands and Tayside & Fife regions are the similar as in the base case.

(b) In the Grampian region, the numbers change quite significantly in some instances, and we generally observe a [✂] combined Breedon and Aggregate

Industries share. The merger would lead to a combined share in excess of 33 per cent within the 18-mile radials around Craigenlow, Corrennie and Tom's Forest. When we consider the combined share within 27-mile radials, we observe that it would be 33 per cent or more in areas around Stirlinghill, Corrennie, Craigenlow and Tom's Forest.

34. Table 7 reports these sensitivity results for fascia counts. We observe that competing fascia counts reduce by one or more fascia when only external sales are considered (but not necessarily in the case where fascias with a production share of 5 per cent or more are considered). This is because we no longer consider competitors that solely or mainly sell aggregates internally. Also, the identity of the largest competitor in some instances change, although we still see Leiths and Geddes Group coming up in most instances.

TABLE 6 **Aggregates external sales case, plant-centred analysis: Breedon production shares, 2012**

			18-mile radial			*27-mile radial*		
Region	*Supplier*	*Site*	*Pre-merger*	*Post-merger*	*Increment*	*Pre-merger*	*Post-merger*	*Increment*
Grampian	Breedon	Boyne Bay	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Capo	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Craigenlow	[0–25]	[33–50]	[✂]	[0–25]	[33–50]	[✂]
		Netherglen	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Rothes Glen	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Stirlinghill	[25–33]	[25–33]	[✂]	[0–25]	[33–50]	[✂]
	Aggregate Industries	Corrennie	[0–25]	[50–100]	[✂]	[0–25]	[33–50]	[✂]
		Edzell	[0–25]	[0–25]	[✂]	[25–33]	[25–33]	[✂]
		Tom's Forest	[0–25]	[33–50]	[✂]	[0–25]	[33–50]	[✂]
Tayside & Fife	Breedon	Balmullo	[25–33]	[25–33]	[✂]	[0–25]	[0–25]	[✂]
		Clatchard	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Cunmont	[0–25]	[25–33]	[✂]	[0–25]	[0–25]	[✂]
		Ethiebeaton	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Orrock	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Shierglas	[33–50]	[33–50]	[✂]	[33–50]	[33–50]	[✂]
	Aggregate Industries	Powmyre	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]

Source: CC calculations.

TABLE 7 **Aggregates external sales case, plant-centred analysis: competitor fascia counts, 2012**

			18-mile radial			*27-mile radial*		
Region	*Supplier*	*Site*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*
Grampian	Breedon	Boyne Bay	7	6	Lovie ([25–33])	11	7	Lovie ([0–25])
		Capo	4	4	Geddes Group ([50–100])	10	5	Geddes Group ([33–50])
		Craigenlow	6	3	Leiths ([25–33])	10	4	Leiths ([0–25])
		Netherglen	5	3	LT ([33–50])	5	4	LT ([33–50])
		Rothes Glen	5	4	LT ([33–50])	5	4	LT ([33–50])
		Stirlinghill	6	4	James Jamieson ([25–33])	10	5	Lovie ([0–25])
	Aggregate Industries	Correnie	4	3	Leiths ([0–25])	12	4	Leiths ([0–25])
		Edzell	5	4	Geddes Group ([50–100])	11	4	Geddes Group ([25–33])
		Tom's Forest	8	4	Leiths ([0–25])	13	5	Leiths ([0–25])
Tayside & Fife	Breedon	Balmullo	9	5	Cemex ([0–25])	13	7	Geddes Group ([0–25])
		Clatchard	10	7	Cemex ([0–25])	14	7	Geddes Group ([0–25])
		Cunmont	6	3	Geddes Group ([33–50])	12	6	Geddes Group ([25–33])
		Ethiebeaton	8	3	Geddes Group ([33–50])	12	6	Geddes Group ([0–25])
		Orrock	7	6	Cemex ([0–25])	12	9	Central Recycling Ltd ([0–25])
		Shierglas	1	1	Geddes Group ([50–100])	3	3	Geddes Group ([25–33])
	Aggregate Industries	Powmyre	6	4	Geddes Group ([50–100])	9	5	Geddes Group ([25–33])

Source: CC calculations.

*Production share shown in parenthesis.
Note: LT = Lafarge Tarmac.

Sensitivity: primary aggregates only

35. Finally, we present a sensitivity of our local concentration analysis for aggregates which considers only primary aggregates, and excludes the supplies and suppliers of recycled aggregates. Tables 8 and 9 report the results.

36. If compared with the main results in Table 4 above, we observe the following:

(a) In the Tayside & Fife region, Breedon's post-merger share would not increase to above 33 per cent in any instances on an 18-mile or a 27-mile basis, except for Clatchard RMX plant. There are a number of instances where the combined share is above 25 per cent.

(b) When we consider only primary aggregates, we observe that the combined share around Craigenlow is [50–100] per cent, around Correnie it is [50–100] per cent,

and around Tom's Forest it is [33–50] per cent on an 18-mile basis (these are, respectively, [33–50], [33–50] and [33–50] per cent on a 27-mile basis). Additionally, on a 27-mile basis, the combined share is above 33 per cent around Stirlinghill and Edzell.

37. Table 9 reports these sensitivity results for fascia counts. We observe that competing fascia counts reduce by one or more fascia when only primary aggregates are considered, if compared with the base case which included also suppliers of recycled aggregates. Also, the identity of the largest competitor in some instances changes, but we still see Leiths, Geddes Group and Lafarge Tarmac appearing as the largest competitors in most instances.

TABLE 8 **Primary aggregates case, plant-centred analysis: Breedon production shares, 2012**

			18-mile radial			*27-mile radial*		
Region	*Supplier*	*Site*	*Pre-merger*	*Post-merger*	*Increment*	*Pre-merger*	*Post-merger*	*Increment*
Grampian	Breedon	Boyne Bay	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Capo	[0–25]	[0–25]	[✂]	[0–25]	[25–33]	[✂]
		Craigenlow	[0–25]	[50–100]	[✂]	[0–25]	[33–50]	[✂]
		Netherglen	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Rothes Glen	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Stirlinghill	[33–50]	[33–50]	[✂]	[0–25]	[33–50]	[✂]
	Aggregate Industries	Corrennie	[25–33]	[50–100]	[✂]	[0–25]	[33–50]	[✂]
		Edzell	[0–25]	[0–25]	[✂]	[25–33]	[33–50]	[✂]
		Tom's Forest	[0–25]	[33–50]	[✂]	[25–33]	[33–50]	[✂]
Tayside & Fife	Breedon	Balmullo	[25–33]	[25–33]	[✂]	[25–33]	[25–33]	[✂]
		Clatchard	[0–25]	[0–25]	[✂]	[25–33]	[25–33]	[✂]
		Cunmont	[0–25]	[25–33]	[✂]	[0–25]	[25–33]	[✂]
		Ethiebeaton	[0–25]	[25–33]	[✂]	[0–25]	[25–33]	[✂]
		Orrock	[25–33]	[25–33]	[✂]	[25–33]	[25–33]	[✂]
		Shierglas	[50–100]	[50–100]	[✂]	[33–50]	[33–50]	[✂]
	Aggregate Industries	Powmyre	[0–25]	[0–25]	[✂]	[0–25]	[25–33]	[✂]

Source: CC calculations.

TABLE 9 **Primary aggregates case, plant-centred analysis: competitor fascia counts, 2012**

			18-mile radial			*27-mile radial*		
Region	*Supplier*	*Site*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*
Grampian	Breedon	Boyne Bay	7	6	Lovie ([25–33])	11	7	LT ([0–25])
		Capo	3	2	Laird ([33–50])	8	4	Geddes Group ([25–33])
		Craigenlow	5	3	Leiths ([25–33])	9	4	Leiths ([0–25])
		Netherglen	5	3	LT ([33–50])	5	4	LT ([33–50])
		Rothes Glen	5	4	LT ([33–50])	5	4	LT ([33–50])
		Stirlinghill	6	4	James Jamieson ([25–33])	10	6	Lovie ([0–25])
	Aggregate Industries	Corrennie	4	3	Leiths ([0–25])	11	4	Leiths ([0–25])
		Edzell	4	2	Laird ([33–50])	8	4	Geddes Group ([0–25])
		Tom's Forest	7	4	Leiths ([25–33])	12	4	Leiths ([0–25])
Highlands	Breedon AI	Meadowside	1	1	GF Job ([33–50])	3	2	Leiths ([33–50])
		Beauly	2	2	Leiths ([50–100])	5	3	Leiths ([33–50])
Tayside & Fife	Breedon	Balmullo	7	4	Cemex ([0–25])	11	5	Geddes Group ([0–25])
		Clatchard	8	6	Cemex ([0–25])	12	5	Laird ([0–25])
		Cunmont	5	3	Geddes Group ([33–50])	10	6	Geddes Group ([0–25])
		Ethiebeaton	7	2	Geddes Group ([25–33])	10	6	Geddes Group ([0–25])
		Orrock	6	5	Cemex ([0–25])	9	7	Cemex ([0–25])
		Shierglas	1	1	Geddes Group ([25–33])	3	3	Laird ([0–25])
	Aggregate Industries	Powmyre	5	2	Geddes Group ([33–50])	8	5	Geddes Group ([0–25])

Source: CC calculations.

*Production share shown in parenthesis.
Note: LT = Lafarge Tarmac, Laird = Laird Brothers.

Demand-centred analysis

38. Annex 2, Figures 1 and 2, show estimated pre- and post-merger local production shares of Breedon within 18-mile radius from any point on the map ('heat maps'). These locations can be interpreted as possible customer locations, and the maps illustrate concentration in the supply of a given product (ie aggregates, RMX or asphalt) in a circular area around each location. Only those locations where both Breedon and Aggregate Industries sites are present within 18 miles are shown (ie it shows only those possible customer locations for which there is a change as a result of the merger). The production share estimates include all sales of aggregates (primary and recycled, internal and external). Thus, for example, green shading at a given point on the map indicates that, for a customer located at that location, Breedon's share is less than 25 per cent (either pre-merger in Figure 1, or post-

merger in Figure 2). The differences between Figures 1 and 2 indicate the effect of merger (estimated based on 2012 volumes of the suppliers). Figures 3 and 4 show the same but consider a wider geographic area of 27 miles around a possible customer location. Figures 5 and 6 show fascia reduction within 18 and 27 miles, respectively, of a possible customer location.

39. These maps indicate that some customers, depending on their location, and assuming 2012 volumes of sales by the different suppliers in the area would be representative of those going forwards, would see a combined share of Breedon and Aggregate Industries of over 33 per cent (and, for some, over 50 per cent as indicated by the red areas in Figure 2) in the Grampian region, around Aberdeen. The combined production share would be in excess of 25 per cent in the Tayside & Fife region for some customer locations. There would not be any changes to most customers in the catchment areas of the parties' sites near Inverness. Fascia reduction figures indicate that, for the vast majority of customer locations, there would be at least three other suppliers with a production share of at least 5 per cent within 18 or 27 miles.

RMX

Plant-centred analysis

Base case—RMX supplied by static/site plants and volumetric trucks

40. Tables 10 and 11 below show the results of our plant-centred analysis of local concentration around Breedon's RMX. We estimated Breedon's pre- and post-merger production share (with the post-merger share being the combined Breedon and Aggregate Industries share based on sales volumes in 2012), on the basis of volumes supplied by RMX plants and volumetric trucks in areas with radii of 13 and 20 miles around Breedon's and Aggregate Industries' RMX plants.

41. We observe the following in relation to Breedon's estimated pre- and post-merger local production shares for RMX:

(a) In Tayside & Fife, Breedon's local RMX production share post-merger increases to over 25 per cent around Clatchard within 20-mile radius only.

(b) In the Highlands, Breedon's RMX production share increases to [33–50] per cent in the area 13 miles around Inverness RMX plant, and to [50–100] per cent in the area around Beauly RMX plant. The combined shares are [33–50] and [33–50] per cent, respectively, when considering areas with 20-mile radials around the sites.

(c) In the Grampian region, Breedon's RMX post-merger production share increases to significant levels (in some instances, [50–100] per cent) in the areas around a number of sites, particularly in the area near Aberdeen and in Aberdeenshire more generally. Even when the larger radials around sites are used (20 miles), post-merger production shares are in excess of 50 per cent in areas around a number of sites (Bridge of Don, Craigenlow, Inverurie, Dyce, Tom's Forest, Westhill), and there is an increase in the combined share to over 33 per cent around sites near Peterhead (ie Aggregate Industries' Peterhead plant, Breedon's Stirlinghill plant). Combined production shares in 20-mile areas around Edzell and Capo RMX plants are below 25 per cent if compared with the combined shares within 13-mile areas around these sites (where the combined share is [50–100] per cent).

TABLE 10 **RMX base case, plant-centred analysis: Breedon production shares, 2012**

			13-mile radial			*20-mile radial*		
Region	*Supplier*	*Site*	*Pre-merger*	*Post-merger*	*Increment*	*Pre-merger*	*Post-merger*	*Increment*
Grampian	Breedon	Boyne Bay	[50–100]	[50–100]	[✂]	[0–25]	[0–25]	[✂]
		Bridge of Don	[25–33]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
		Capo	[50–100]	[50–100]	[✂]	[0–25]	[0–25]	[✂]
		Craigenlow	[33–50]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
		Deeside*	[0–25]	[50–100]	[✂]	[33–50]	[50–100]	[✂]
		Inverurie	[33–50]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
		Stirlinghill	[50–100]	[50–100]	[✂]	[0–25]	[33–50]	[✂]
		Westhill	[33–50]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
	Aggregate Industries	Dyce	[33–50]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
		Edzell†	[50–100]	[50–100]	[✂]	[0–25]	[0–25]	[✂]
		Peterhead	[25–33]	[33–50]	[✂]	[0–25]	[33–50]	[✂]
		Tom's Forest	[33–50]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
		Tullos	[0–25]	[50–100]	[✂]	[33–50]	[50–100]	[✂]
								[✂]
Highlands	Breedon	Inverness	[25–33]	[33–50]	[✂]	[0–25]	[33–50]	[✂]
	Aggregate Industries	Beauly	[25–33]	[50–100]	[✂]	[0–25]	[33–50]	[✂]
								[✂]
Tayside & Fife	Breedon	Clatchard‡	[0–25]	[0–25]	[✂]	[25–33]	[25–33]	[✂]
		Dunfermline†	[25–33]	[25–33]	[✂]	[33–50]	[33–50]	[✂]
		Ethiebeaton	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Kirkcaldy	[33–50]	[33–50]	[✂]	[33–50]	[33–50]	[✂]
		Orrock	[33–50]	[33–50]	[✂]	[33–50]	[33–50]	[✂]
		Shierglas	[50–100]	[50–100]	[✂]	[50–100]	[50–100]	[✂]
	Aggregate Industries	Dundee	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Perth	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]

Source: CC calculations.

*Mothballed in 2010.
†Occasional use.
‡Mothballed in 2012 or 2013.

42. Table 11 reports the results of fascia count and competitor analysis in the areas around Breedon's and Aggregate Industries' RMX sites:

(a) In the Highlands, there are two to five competing fascias near Beauly and Inverness RMX sites, depending on radial distance used and site. HCM is the largest competing supplier for these sites.

(b) In the Tayside & Fife region, there are two to six competing fascias in the catchment areas around sites (except for Shierglas), depending on radial distance used and site, and the largest competitors are Skene, Geddes Group and Laird Brothers.

(c) In the Grampian, there are none up to three competing suppliers within the radial distances from the RMX sites post-merger, depending on the radial used and site. Leiths, Chap Quarries, Lovie, Laird Brothers and HCM appear as the largest competitors.

TABLE 11 **RMX base case, plant-centred analysis: competitor fascia counts, 2012**

			13-mile radial			*20-mile radial*		
Region	*Supplier*	*Site*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*
Grampian	Breedon	Boyne Bay	0	0	-	3	3	Lovie ([33–50])
		Bridge of Don	2	2	Leiths ([25–33])	3	3	Leiths ([0–25])
		Capo	0	0	-	2	2	Laird ([50–100])
		Craigenlow	2	2	Chap Quarries ([0–25])	3	3	Leiths ([0–25])
		Deeside†	2	2	Leiths ([25–33])	2	2	Leiths ([25–33])
		Inverurie	2	2	Lovie ([0–25])	3	3	Leiths ([0–25])
		Stirlinghill	0	0	-	2	2	Lovie ([33–50])
		Westhill	2	2	Leiths ([25–33])	3	3	Leiths ([0–25])
	Aggregate Industries	Dyce	2	2	Leiths ([25–33])	3	3	Leiths ([0–25])
		Edzell‡	0	0	-	2	2	Laird ([50–100])
		Peterhead	2	2	Lovie ([25–33]	2	2	Lovie ([33–50])
		Tom's Forest	2	2	Chap Quarries ([0–25])	3	3	Leiths ([0–25])
		Tullos	2	2	Leiths ([33–50])	2	2	Leiths ([25–33])
Highlands	Breedon	Inverness	3	3	HCM ([25–33])	5	5	HCM ([25–33])
	Aggregate Industries	Beauly	2	2	HCM ([25–33])	4	4	HCM ([25–33])
Tayside & Fife	Breedon	Clatchard‡	3	3	Skene ([50–100])	6	5	Skene ([0–25])
		Dunfermline§	4	3	Skene ([33–50])	4	3	Skene ([33–50])
		Ethiebeaton	6	5	Geddes Group ([25–33])	6	5	Geddes Group ([25–33])
		Kirkcaldy	3	2	Skene ([33–50])	3	2	Skene ([33–50])
		Orrock	3	2	Skene ([33–50])	4	3	Skene ([33–50])
		Shierglas	0	0	-	0	0	-
	Aggregate Industries	Dundee	6	5	Geddes Group ([25–33])	6	5	Laird ([33–50])
		Perth	2	2	Laird ([50–100])	3	3	Skene ([25–33])

Source: CC calculations.

*Production share shown in parenthesis.
†Mothballed in 2010.
‡Mothballed in 2012 or 2013.
§Occasional use.
Notes:
1. Laird = Laird Brothers.
2. HCM = Hope Construction Materials.

Sensitivity: excluding volumetric trucks

43. Table 12 reports the results of our sensitivity analysis for local RMX concentration, where we have excluded RMX supplied by volumetric trucks in the measures of local concentration. The instances where Breedon's production shares have changed relative to the base case have been highlighted.

44. The exclusion of volumetric trucks in the set of competitors has materially changed local concentration only around Beauly and Inverness in the Highlands region. The combined share is [50–100] per cent based on 13 miles around Inverness (compared with [33–50] per cent when the supplies by volumetric trucks are included) and it is

[50–100] per cent based on 13 miles around Beauly (compared with [50–100] per cent).

TABLE 12 **RMX excluding volumetric trucks plant-centred analysis: Breedon production shares, 2012**

			13-mile radial			*20-mile radial*		
Region	*Supplier*	*Site*	*Pre-merger*	*Post-merger*	*Increment*	*Pre-merger*	*Post-merger*	*Increment*
Grampian	Breedon	Boyne Bay	[50–100]	[50–100]	[✂]	[0–25]	[0–25]	[✂]
		Bridge of Don	[25–33]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
		Capo	[50–100]	[50–100]	[✂]	[0–25]	[0–25]	[✂]
		Craigenlow	[33–50]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
		Deeside*	[0–25]	[50–100]	[✂]	[33–50]	[50–100]	[✂]
		Inverurie	[33–50]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
		Stirlinghill	[50–100]	[50–100]	[✂]	[0–25]	[33–50]	[✂]
		Westhill	[33–50]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
	Aggregate Industries	Dyce	[33–50]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
		Edzell†	[50–100]	[50–100]	[✂]	[0–25]	[0–25]	[✂]
		Peterhead	[25–33]	[33–50]	[✂]	[0–25]	[33–50]	[✂]
		Tom's Forest	[33–50]	[50–100]	[✂]	[25–33]	[50–100]	[✂]
		Tullos	[0–25]	[50–100]	[✂]	[33–50]	[50–100]	[✂]
								[✂]
Highlands	Breedon	Inverness	[25–33]	[50–100]	[✂]	[0–25]	[33–50]	[✂]
	Aggregate Industries	Beauly	[33–50]	[50–100]	[✂]	[25–33]	[33–50]	[✂]
Tayside & Fife	Breedon	Clatchard†	[0–25]	[0–25]	[✂]	[25–33]	[25–33]	[✂]
		Dunfermline‡	[25–33]	[25–33]	[✂]	[33–50]	[33–50]	[✂]
		Ethiebeaton	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Kirkcaldy	[33–50]	[33–50]	[✂]	[33–50]	[33–50]	[✂]
		Orrock	[33–50]	[33–50]	[✂]	[33–50]	[33–50]	[✂]
		Shierglas	[50–100]	[50–100]	[✂]	[50–100]	[50–100]	[✂]
	Aggregate Industries	Dundee	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]
		Perth	[0–25]	[0–25]	[✂]	[0–25]	[0–25]	[✂]

Source: CC calculations.

*Mothballed in 2010.
†Mothballed in 2012 or 2013.
‡Occasional use.

Demand-centred analysis

45. Annex 2, Figures 7 and 8, show concentration 'heat maps' for RMX, which read in a similar way as those for aggregates, described in paragraph 21. The production share estimates include RMX sites and volumetric trucks and are based on radial distances of 13 miles around possible customer locations. Figures 9 and 10 are based on a wider geographic area of 20 miles around possible customer locations. Figures 11 and 12 show fascia reduction.

46. When we compare the two figures, we observe an increase in Breedon's post-merger RMX production share within both 13- and 20-mile radials to above 25 per cent or above 33 per cent for customer locations near Inverness. We observe an increase to

over 50 per cent post-merger production share in RMX in the area near Aberdeen, based on both the 13- and the 20-mile geographic areas around possible customer locations. Fascia reduction maps show that most customer locations in the Grampian would have two or fewer competing suppliers with a production share of at least 5 per cent to choose from post-merger. There would be at least three other suppliers near most customer locations in the Highlands near Inverness.

Asphalt

Plant-centred analysis

47. Tables 13 to 15 below show the results of our plant-centred analysis of local concentration around Aggregate Industries' and Breedon's asphalt plants. We based this analysis on estimated average 80 per cent catchment area radials (17 miles) and, as for the other two product groups, on radials increased by 50 per cent (25 miles in the case of asphalt). We also estimated local concentration with 35-mile radials around asphalt sites.

48. We observe the following in terms of asphalt production shares:

(a) In the Highlands, Breedon's post-merger production share would increase to [33–50] per cent in a 25-mile radius around Daviot and to [33–50] per cent in a 25-mile radius around Mid Lairgs (it would be [50–100] per cent on 17-mile radii for both sites).

(b) In the Grampian region, there would be [✂] in Breedon's production share as a result of the merger within 17 or 25 miles around Netherglen (north Grampian) or Stirlinghill (near Peterhead) asphalt plants. Breedon's production share would increase by [✂] to [25–33] per cent around Craigenlow and Tom's Forest asphalt plants, both on 17- and on 25-mile basis (the sites are 5 miles apart from each other).

TABLE 13 **Asphalt plant-centred analysis: Breedon production shares, 2012**

			17-mile radial			*25-mile radial*		
Region	*Supplier*	*Site*	*Pre-merger*	*Post-merger*	*Increment*	*Pre-merger*	*Post-merger*	*Increment*
Grampian	Breedon	Craigenlow	[0–25]	[25–33]	[✂]	[0–25]	[25–33]	[✂]
		Netherglen	[33–50]	[33–50]	[✂]	[33–50]	[33–50]	[✂]
		Stirlinghill	[50–100]	[50–100]	[✂]	[0–25]	[0–25]	[✂]
	Aggregate Industries	Tom's Forest	[0–25]	[25–33]	[✂]	[0–25]	[25–33]	[✂]
Highlands	Breedon	Daviot	[50–100]	[50–100]	[✂]	[0–25]	[33–50]	[✂]
	Aggregate Industries	Mid Lairgs	[50–100]	[50–100]	[✂]	[0–25]	[33–50]	[✂]

Source: CC calculations.

49. Table 14 shows fascia counts and the share of the largest competitor within a radial distance from Aggregate Industries' and Breedon's asphalt plants. For the Highlands asphalt plants, there are no other competing suppliers within 17 miles of Daviot and Mid Lairgs sites, but there are two other suppliers within 25 miles (Pat Munro and Leiths). For Craigenlow and Tom's Forest in the Grampian region, there are two other competing fascias within 17 and 25 miles of the sites—these are Leiths, with a share of [33–50] per cent, and Aberdeenshire Council, with a share of [25–33] per cent.

50. However, catchment areas were estimated based on a very limited fraction of sales of asphalt—ie direct sales of material, which is delivered to customers. A large proportion of asphalt (around [✂] per cent for Breedon and over [✂] per cent for Aggregate Industries[11]) is sold through contract surfacing services businesses of Breedon and Aggregate Industries, and these are not captured by our catchment area analysis. Evidence from the main and the third parties suggested that asphalt may be supplied over distances greater than 17 or 25 miles. Therefore we estimated local concentration in areas around asphalt plants that have a radius twice the estimated average 80 per cent catchment area—that is, 35 miles. The results of local concentration and fascia counts are shown in Table 14.

[11] Based on sales transaction data for 2012.

TABLE 14 **Asphalt plant-centred analysis: competitor fascia counts, 2012**

			17-mile radial			*25-mile radial*		
Region	*Supplier*	*Site*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*
Grampian	Breedon	Craigenlow	2	2	Leiths ([33–50])	2	2	Leiths ([33–50])
		Netherglen	1	1	Leiths ([50–100])	1	1	Leiths ([50–100])
		Stirlinghill	0	0	-	2	2	Leiths ([33–50])
	Aggregate Industries	Tom's Forest	2	2	Leiths ([33–50])	2	2	Leiths ([33–50])
Highlands	Breedon	Daviot	0	0	-	2	2	Pat Munro ([33–50])
	Aggregate Industries	Mid Lairgs	0	0	-	2	2	Pat Munro ([33–50])

Source: CC calculations.

*Production share shown in parenthesis.

TABLE 15 **Asphalt plant-centred analysis: Breedon production shares based on 35-mile radials, 2012**

			Breedon production share			*Fascia counts*		
Region	*Supplier*	*Site*	*Pre-merger*	*Post-merger*	*Increment*	*All fascias*	*Fascias with 5%+ share*	*Largest competitor* (%)*
Grampian	Breedon	Craigenlow	[0–25]	[25–33]	[✂]	2	2	Leiths ([33–50])
		Netherglen	[33–50]	[50–100]	[✂]	2	2	Leiths ([25–33])
		Stirlinghill	[25–33]	[33–50]	[✂]	2	2	Leiths ([33–50])
	Aggregate Industries	Tom's Forest	[0–25]	[25–33]	[✂]	2	2	Leiths ([33–50])
Highlands	Breedon	Daviot	[33–50]	[33–50]	[✂]	2	2	Pat Munro ([25–33])
	Aggregate Industries	Mid Lairgs	[33–50]	[33–50]	[✂]	2	2	Pat Munro ([25–33])

Source: CC calculations.

*Production share shown in parenthesis.

51. We observe similar results as when using the wider radials of 35 miles—namely, that Breedon's production share would increase to [33–50] per cent around Daviot and Mid Lairgs in the Highlands, and to [25–33] per cent around Craigenlow and Tom's Forest in the Grampian. There are two other competing suppliers in the radials in each of the cases.

Demand-centred analysis

52. Annex 2, Figures 13 and 14, show estimated pre- and post-merger, respectively, local shares of Breedon for asphalt within 25-mile radius from any point on the map. Figures 15 and 16 show the same for 35-mile radials. These maps indicate similar results as the plant-centred analysis—namely, an increase in Breedon's production

share post-merger to over 25 per cent for some customer locations and to over 33 per cent for others in the Aberdeenshire areas. Breedon's post-merger production share would be in excess of 33 per cent for [✂] customer locations in the Highlands, near Inverness.

53. Annex 2, Figures 17 and 18, depict fascia count reductions—they indicate that two or fewer competing suppliers would remain for most customer locations affected by the merger, although some customers located south of Aberdeen would have at least three competing suppliers within 35 miles.

Filtering

Methodology

54. For each product-site combination identified as definite or possible geographic overlap in the analysis of overlaps, we apply filters to identify areas that are unlikely to give rise to competition concerns. We adopt a conservative approach to filters, in that we opt for thresholds that would result in fewer rather than more areas being filtered out.

55. We filter out sites as unlikely to be problematic on the basis of the following concentration measures: *(a)* estimated Breedon post-merger production shares and *(b)* competitor fascia counts with production shares of 5 per cent or more.

56. We used the following thresholds within the average 80 per cent catchment areas and within the extended average 80 per cent catchment areas around the overlap sites:

(a) if the post-transaction share of the parties was between 25 per cent (inclusive) and 33 per cent *and* there would remain four or more competitors in both of the defined average 80 per cent catchment areas;

(b) if the post-transaction share of the parties was less than 25 per cent *and* there would remain three or more competitors in both of the defined average 80 per cent catchment areas; and

(c) if the post-transaction share of the parties was between 25 per cent (inclusive) and 33 per cent in the extended or average 80 per cent catchment areas, but less than 25 per cent in the other defined average 80 per cent catchment area *and* there would remain three or more competitors in the extended or average 80 per cent catchment areas, but four or more in the other defined average 80 per cent catchment area.

57. Sites falling within one of the above categories are not considered further in our detailed analysis of the competitive dynamics.

58. We apply the filters on the following product markets:

(a) for aggregates, we consider the production of all primary and recycled aggregates used in construction;

(b) for RMX, we consider the production of all types of RMX by fixed and mobile plants and volumetric trucks; and

(c) for asphalt, we consider the production of all types of asphalt by fixed and mobile plants.

59. For aggregates and RMX, we examine post-merger local concentration also on the product markets identified in our sensitivity analysis: for aggregates against a scenario in which internal sales were excluded and a scenario in which recycled aggregates were excluded, and for RMX against a scenario which excluded the supply of RMX by volumetric trucks.

Filtering for aggregates

60. Table 16 shows the filtering results for the parties' aggregates sites. Tables 17 and 18 show filtering based on sensitivity analyses for aggregates—ie local concentration measures calculated excluding internal sales, and local concentration measures calculated based on primary aggregates only, respectively.

TABLE 16 **Aggregates initial filtering (base case—including recycled aggregates and internal sales)**

Region	*Site*	*Post-merger share within 18 miles*	*Post-merger share within 27 miles*	*Competitors remaining within 18 miles*	*Competitors remaining within 27 miles*	*A potential problem site?*
T&F (near Dundee)	Powmyre (AI)	[0–25]	[25–33]	4	6	No
T&F (near Dundee)	Cunmont (B)	[25–33]	[0–25]	4	5	No
T&F (near Dundee)	Ethiebeaton (B)	[25–33]	[0–25]	4	5	No
T&F (near Dundee)	Shierglas (B)	-	-	-	-	No
T&F (Fife)	Balmullo (B)	-	[25–33]	-	6	No
T&F (Fife)	Clatchard (B)	-	[25–33]	-	6	No
G (near Montrose)	Edzell (AI)	[0–25]	[33–50]	3	4	Yes
G (near Montrose)	Capo (B)	[0–25]	[0–25]	2	5	Yes
G (near Aberdeen)	Tom's Forest (AI)	[33–50]	[33–50]	4	5	Yes
G (near Aberdeen)	Corrennie (AI)	[50–100]	[33–50]	3	4	Yes
G (near Aberdeen)	Craigenlow (B)	[33–50]	[33–50]	3	4	Yes
G (near Peterhead)	Stirlinghill (B)	-	[33–50]	-	4	Yes
G (North)	Boyne Bay (B)	-	-	-	-	No
G (North)	Netherglen (B)	-	-	-	-	No
G (North)	Rothes Glen (B)	-	-	-	-	No

Source: CC calculations.

Notes:
1. G = Grampian region, T&F = Tayside & Fife region, H = Highlands region. B = Breedon, AI = Aggregate Industries.
2. Post-merger concentration is shown as '-' if there is no merger effect within the given radials (ie there are no overlaps between Breedon site(s) and the acquired Aggregate Industries site(s) based on a given radial).

TABLE 17 **Aggregates initial filtering (sensitivity—excluding internal sales)**

Region	*Site*	*Post-merger share within 18 miles*	*Post-merger share within 27 miles*	*Competitors remaining within 18 miles*	*Competitors remaining within 27 miles*	*A potential problem site?*
T&F (near Dundee)	Powmyre (AI)	[0–25]	[0–25]	4	5	No
T&F (near Dundee)	Cunmont (B)	[25–33]	[0–25]	3	6	No
T&F (near Dundee)	Ethiebeaton (B)	[0–25]	[0–25]	3	6	No
T&F (near Dundee)	Shierglas (B)	-	-	-	-	No
T&F (Fife)	Balmullo (B)	-	[0–25]	-	7	No
T&F (Fife)	Clatchard (B)	-	[0–25]	-	7	No
G (near Montrose)	Edzell (AI)	[0–25]	[25–33]	4	4	No
G (near Montrose)	Capo (B)	[0–25]	[0–25]	4	5	No
G (near Aberdeen)	Tom's Forest (AI)	[33–50]	[33–50]	4	5	Yes
G (near Aberdeen)	Corrennie (AI)	[50–100]	[33–50]	3	4	Yes
G (near Aberdeen)	Craigenlow (B)	[33–50]	[33–50]	3	4	Yes
G (near Peterhead)	Stirlinghill (B)	-	[33–50]	-	5	Yes
G (North)	Boyne Bay (B)	-	-	-	-	No
G (North)	Netherglen (B)	-	-	-	-	No
G (North)	Rothes Glen (B)	-	-	-	-	No

Source: CC calculations.

Notes:
1. G = Grampian region, T&F = Tayside & Fife region, H = Highlands region. B = Breedon, AI = Aggregate Industries.
2. Post-merger concentration is shown as '-' if there is no merger effect within the given radials (ie there are no overlaps between Breedon site(s) and the acquired Aggregate Industries site(s) based on a given radial).

TABLE 18 **Aggregates initial filtering (sensitivity—primary aggregates only)**

Region	*Site*	*Post-merger share within 18 miles*	*Post-merger share within 27 miles*	*Competitors remaining within 18 miles*	*Competitors remaining within 27 miles*	*A potential problem site?*
T&F (near Dundee)	Powmyre (AI)	[0–25]	[25–33]	2	5	Yes
T&F (near Dundee)	Cunmont (B)	[25–33]	[25–33]	3	6	Yes
T&F (near Dundee)	Ethiebeaton (B)	[25–33]	[25–33]	2	6	Yes
T&F (near Dundee)	Shierglas (B)	-	-	-	-	No
T&F (Fife)	Balmullo (B)	-	[25–33]	-	5	No
T&F (Fife)	Clatchard (B)	-	[25–33]	-	5	No
G (near Montrose)	Edzell (AI)	[0–25]	[33–50]	2	4	Yes
G (near Montrose)	Capo (B)	[0–25]	[25–33]	2	4	Yes
G (near Aberdeen)	Tom's Forest (AI)	[33–50]	[33–50]	4	4	Yes
G (near Aberdeen)	Corrennie (AI)	[50–100]	[33–50]	3	4	Yes
G (near Aberdeen)	Craigenlow (B)	[50–100]	[33–50]	3	4	Yes
G (near Peterhead)	Stirlinghill (B)	-	[33–50]	-	6	Yes
G (North)	Boyne Bay (B)	-	-	-	-	No
G (North)	Netherglen (B)	-	-	-	-	No
G (North)	Rothes Glen (B)	-	-	-	-	No

Source: CC calculations.

Notes:
1. G = Grampian region, T&F = Tayside & Fife region, H = Highlands region. B = Breedon, AI = Aggregate Industries.
2. Post-merger concentration is shown as '-' if there is no merger effect within the given radials (ie there are no overlaps between Breedon site(s) and the acquired Aggregate Industries site(s) based on a given radial).

61. On the basis of this filtering, the following aggregates sites are identified as potential problem sites requiring an in-depth assessment competitive constraints:

(a) sites near Montrose (Grampian): Edzell (Aggregate Industries) and Capo (Breedon); and

(b) sites near Aberdeen (Grampian): Tom's Forest, Corrennie (Aggregate Industries), Craigenlow and Stirlinghill (Breedon).

Filtering for RMX

62. Table 19 shows the filtering results for the parties' RMX sites. The concentration measures here take into account the supply of RMX by volumetric trucks. Table 20 shows the filtering results with volumetric trucks excluded from the concentration measures.

TABLE 19 **RMX initial filtering (base case—including volumetric trucks)**

Region	*Site*	*Post-merger share within 13 miles*	*Post-merger share within 20 miles*	*Competitors remaining within 13 miles*	*Competitors remaining within 20 miles*	*A potential problem site?*
T&F (near Perth)	Perth (AI)	[0–25]	[0–25]	3	4	No
T&F (near Perth)	Clatchard (B) *	[0–25]	[25–33]	3	5	No
T&F (near Dundee)	Dundee (AI)	[0–25]	[0–25]	5	5	No
T&F (near Dundee)	Ethiebeaton (B)	[0–25]	[0–25]	5	5	No
G (near Montrose)	Edzell (AI) *	[50–100]	[0–25]	0	2	Yes
G (near Montrose)	Capo (B)	[50–100]	[0–25]	0	2	Yes
G (near Aberdeen)	Tullos (AI)	[50–100]	[50–100]	2	2	Yes
G (near Aberdeen)	Tom's Forest (AI)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Dyce (AI)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Craigenlow (B)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Westhill (B)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Inverurie (B)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Bridge of Don (B)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Deeside (B)	[50–100]	[50–100]	2	2	Yes
G (near Peterhead)	Peterhead (AI)	[33–50]	[33–50]	2	2	Yes
G (near Peterhead)	Stirlinghill (B)	[50–100]	[33–50]	0	2	Yes
H (near Inverness)	Beauly (AI)	[50–100]	[33–50]	2	4	Yes
H (near Inverness)	Inverness (B)	[33–50]	[33–50]	3	5	Yes

Source: CC calculations.

*Mothballed sites.
Note: G = Grampian region, T&F = Tayside & Fife region, H = Highlands region. B = Breedon, AI = Aggregate Industries.

TABLE 20 **RMX initial filtering (sensitivity—excluding volumetric trucks)**

Region	*Site*	*Post-merger share within 13 miles*	*Post-merger share within 20 miles*	*Competitors remaining within 13 miles*	*Competitors remaining within 20 miles*	*A potential problem site?*
T&F (near Perth)	Perth (AI)	[0–25]	[0–25]	3	4	No
T&F (near Perth)	Clatchard (B) *	[0–25]	[25–33]	3	5	No
T&F (near Dundee)	Dundee (AI)	[0–25]	[0–25]	4	4	No
T&F (near Dundee)	Ethiebeaton (B)	[0–25]	[0–25]	4	4	No
G (near Montrose)	Edzell (AI) *	[50–100]	[0–25]	0	2	Yes
G (near Montrose)	Capo (B)	[50–100]	[0–25]	0	2	Yes
G (near Aberdeen)	Tullos (AI)	[50–100]	[50–100]	2	2	Yes
G (near Aberdeen)	Tom's Forest (AI)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Dyce (AI)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Craigenlow (B)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Westhill (B)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Inverurie (B)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Bridge of Don (B)	[50–100]	[50–100]	2	3	Yes
G (near Aberdeen)	Deeside (B)	[50–100]	[50–100]	2	2	Yes
G (near Peterhead)	Peterhead (AI)	[33–50]	[33–50]	2	2	Yes
G (near Peterhead)	Stirlinghill (B)	[50–100]	[33–50]	0	2	Yes
H (near Inverness)	Beauly (AI)	[50–100]	[33–50]	1	3	Yes
H (near Inverness)	Inverness (B)	[50–100]	[33–50]	2	4	Yes

Source: CC calculations.

*Mothballed sites.
Note: G = Grampian region, T&F = Tayside & Fife region, H = Highlands region. B = Breedon, AI = Aggregate Industries.

63. On the basis of this filtering, the following RMX sites are identified as potential problem sites requiring an in-depth assessment competitive constraints:

(a) sites near Montrose (Grampian): Edzell (Aggregate Industries) and Capo (Breedon);

(b) sites near Aberdeen (Grampian): Tom's Forest, Dyce, Tullos (Aggregate Industries), Craigenlow, Westhill, Inverurie, Deeside and Bridge of Don (Breedon);

(c) sites near Peterhead (Grampian): Peterhead (Aggregate Industries) and Stirlinghill (Breedon); and

(d) sites near Inverness (Highlands): Beauly (Aggregate Industries) and Inverness (Breedon).

Filtering for asphalt

64. Tables 21 and 22 show the filtering results for the parties' asphalt sites. Table 21 reports the results based on post-merger concentration within 17-mile and 25-mile radials around sites, and Table 22 reports the results based on 35-mile radials around parties' asphalt sites.

TABLE 21 **Asphalt initial filtering (based on 17- and 25-mile radials)**

Region	*Site*	*Post-merger share within 17 miles*	*Post-merger share within 25 miles*	*Competitors remaining within 17 miles*	*Competitors remaining within 25 miles*	*A potential problem site?*
G (near Aberdeen)	Tom's Forest (AI)	[25–33]	[25–33]	2	2	Yes
G (near Aberdeen)	Craigenlow (B)	[25–33]	[25–33]	2	2	Yes
G (near Aberdeen)	Stirlinghill (B)	-	-	-	-	No
G (North)	Netherglen (B)	-	-	-	-	No
H (near Inverness)	Mid Lairgs (AI)	[50–100]	[33–50]	0	2	Yes
H (near Inverness)	Daviot (B)	[50–100]	[33–50]	0	2	Yes

Source: CC calculations.

Notes:
1. G = Grampian region, T&F = Tayside & Fife region, H = Highlands region. B = Breedon, AI = Aggregate Industries.
2. Post-merger concentration is shown as '-' if there is no merger effect within the given radials (ie there are no overlaps between Breedon site(s) and the acquired Aggregate Industries site(s) based on a given radial).

TABLE 22 **Asphalt initial filtering (based on 35-mile radials)**

Region	*Site*	*Post-merger share within 35 miles*	*Competitors remaining within 35 miles*	*A potential problem site?*
G (near Aberdeen)	Tom's Forest (AI)	[25–33]	2	Yes
G (near Aberdeen)	Craigenlow (B)	[25–33]	2	Yes
G (near Aberdeen)	Stirlinghill (B)	[33–50]	2	Yes
G (North)	Netherglen (B)	[50–100]	2	Yes
H (near Inverness)	Mid Lairgs (AI)	[33–50]	2	Yes
H (near Inverness)	Daviot (B)	[33–50]	2	Yes

Source: CC calculations.

Note: G = Grampian region, T&F = Tayside & Fife region, H = Highlands region. B = Breedon, AI = Aggregate Industries.

65. On the basis of this filtering, the following asphalt sites are identified as potential problem sites requiring an in-depth assessment of competitive constraints:

(a) sites near Aberdeen (Grampian): Tom's Forest (Aggregate Industries), Craigenlow, Stirlinghill (Breedon); and

(b) sites near Inverness (Highlands): Mid Lairgs (Aggregate Industries), Daviot, Netherglen (Breedon).

Further maps of sites and delivery locations

1. Maps below show selected Breedon and Aggregate Industries sites (depicted as triangles), along with circles with radials of sizes of average 80 per cent catchment areas, and delivery locations for external delivered transactions, depicted as 'x'-es.

FIGURE 1

Aggregates: Powmyre, Balmullo, Clatchard, Capo, Shierglas

[✂]

Source: CC analysis.

FIGURE 2

Aggregates: Edzell, Powmyre, Orrock, Craigenlow

[✂]

Source: CC analysis.

FIGURE 3

Aggregates: Tom's Forest, Stirlinghill, Rothes Glen, Capo, Netherglen

[✂]

Source: CC analysis.

FIGURE 4

Aggregates: Edzell, Balmullo, Clatchard, Cunmont, Ethiebeaton

[✂]

Source: CC analysis.

FIGURE 5

RMX: Highlands sites

[✂]

Note: [✂]
Source: CC analysis.

FIGURE 6

RMX: Dundee, Perth, Ethiebeaton, Clatchard, Capo

[✂]

Source: CC analysis.

FIGURE 7

RMX: Perth, Dunfermline, Kirkcaldy, Orrock, Shierglas

[✂]

Source: CC analysis.

FIGURE 8

RMX: Dundee, Dunfermline, Kirkcaldy, Orrock, Shierglas

[✂]

Source: CC analysis.

FIGURE 9

RMX: Tom's Forest, Dyce, Stirlinghill, Capo, Boyne Bay

[✂]

Source: CC analysis.

FIGURE 10

RMX: Peterhead, Bridge of Don, Inverurie, Westhill, Boyne Bay

[✂]

Source: CC analysis.

FIGURE 11

RMX: Edzell, Tullos, Ethiebeaton, Capo, Westhill

[✂]

Source: CC analysis.

FIGURE 12

Asphalt: Mid Lairgs, Daviot, Tom's Forest, Craigenlow, Netherglen, Shierglas

[✂]

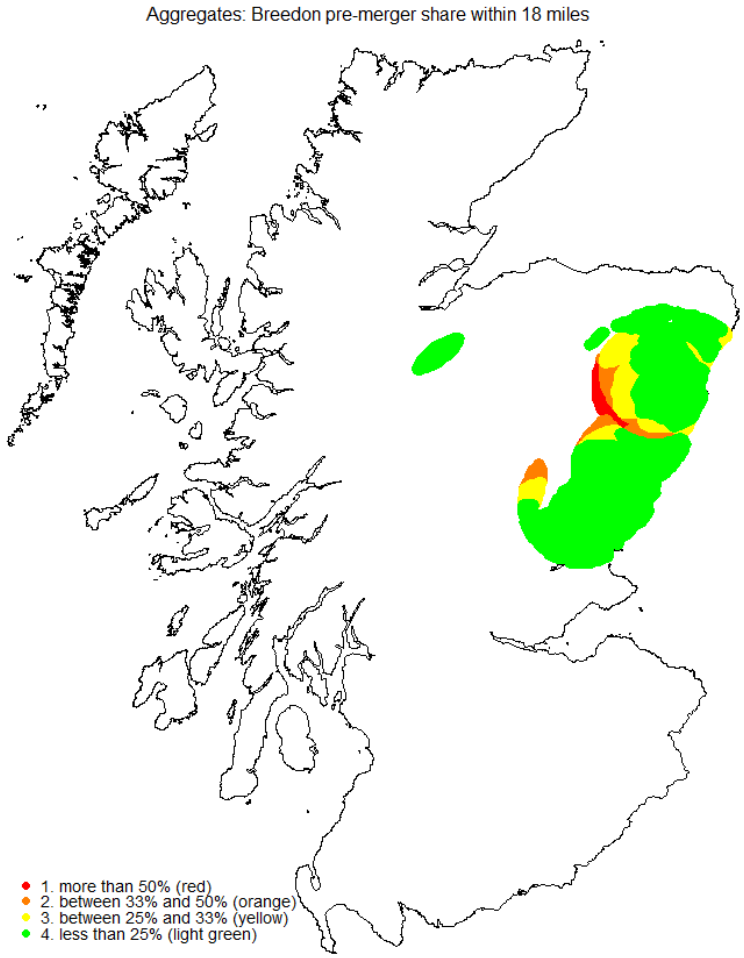
Source: CC analysis.

Heat maps

1. Maps below illustrate pre- and post-merger local concentration within average 80 per cent catchment areas around potential customer locations. Only those locations where there is a Breedon site and an Aggregate Industries site (could be more than one site) within a given radial distance are shown in colour. The colour of a given location on the map depicts the level of local concentration (either Breedon share of production or fascia reduction) in a circular area around this location.

FIGURE 1

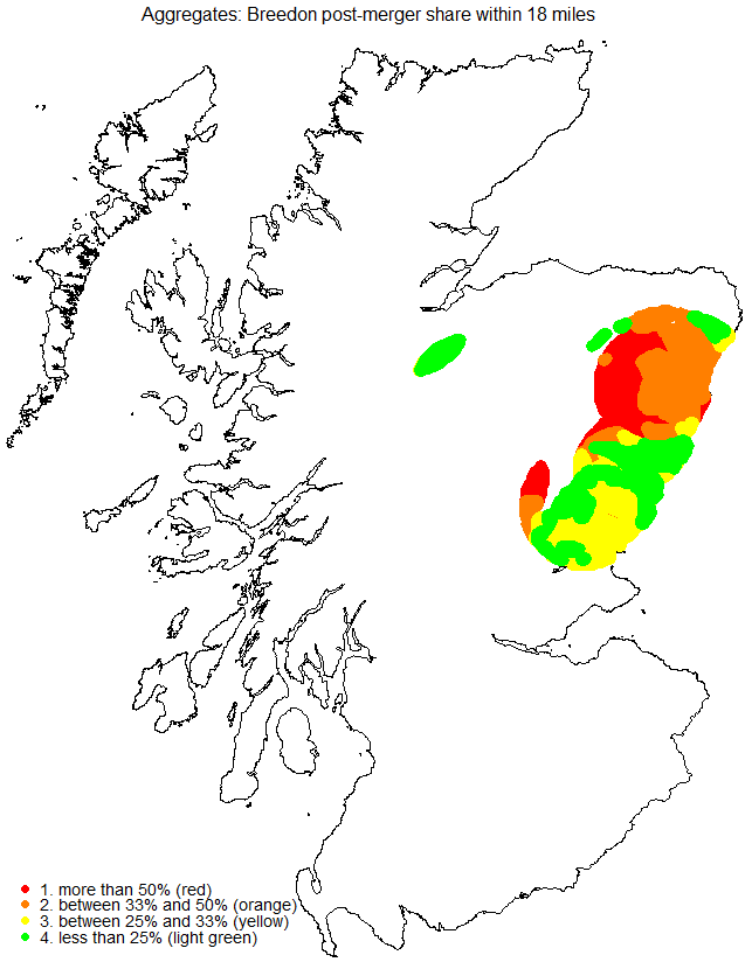
Aggregates: estimated Breedon pre-merger share within 18 miles



Source: CC analysis.

FIGURE 2

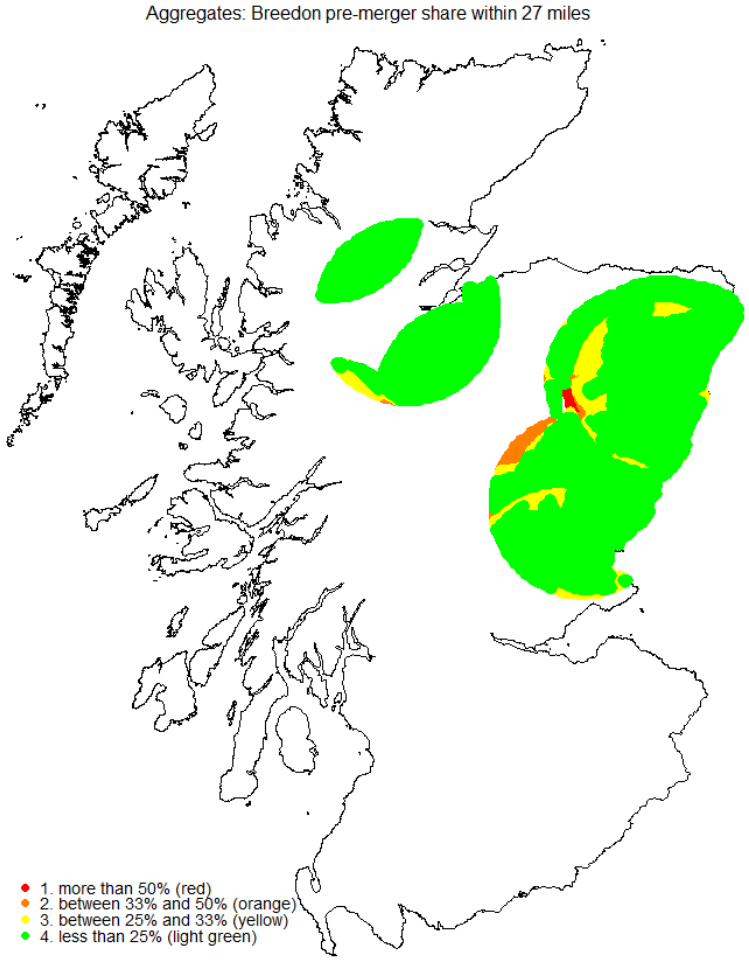
Aggregates: estimated Breedon post-merger share within 18 miles



Source: CC analysis.

FIGURE 3

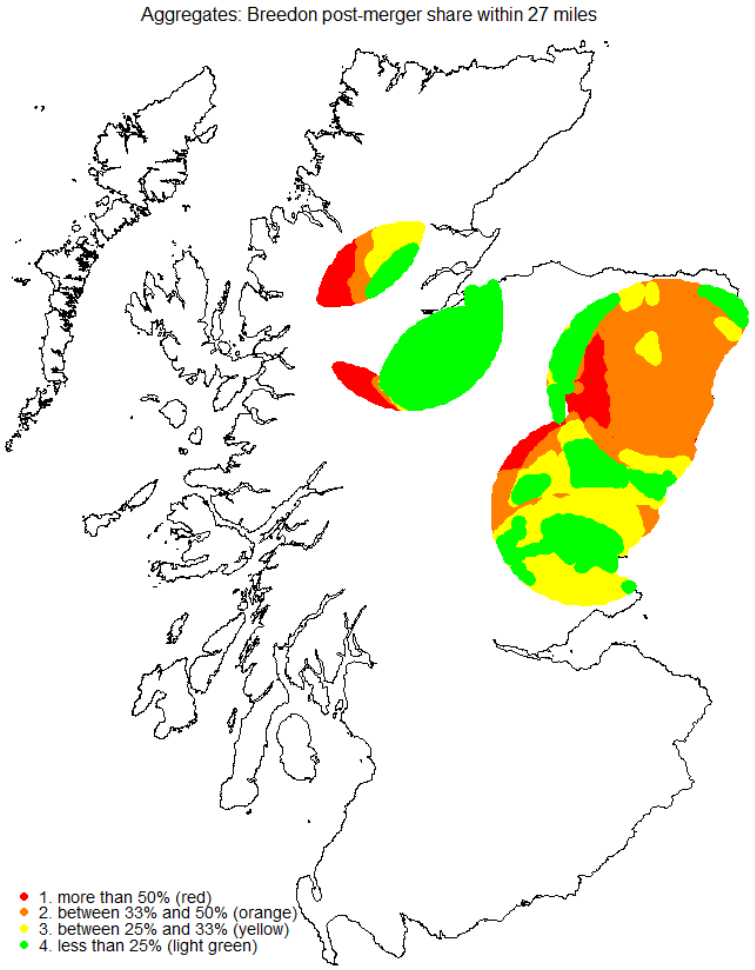
Aggregates: estimated Breedon pre-merger share within 27 miles



Source: CC analysis.

FIGURE 4

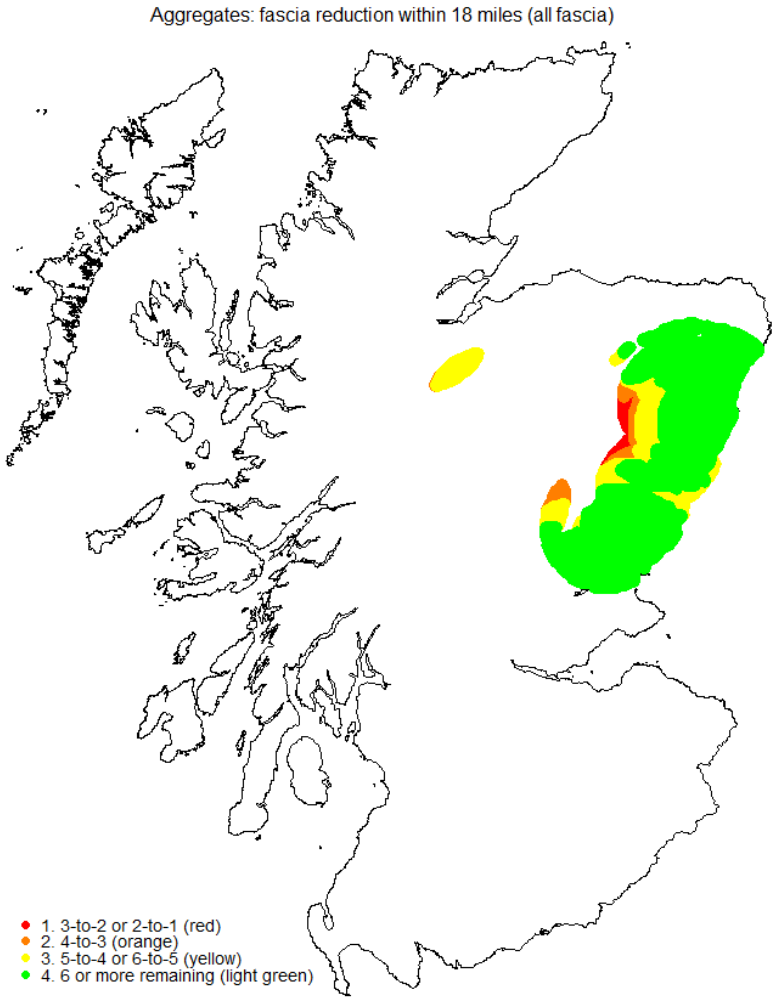
Aggregates: estimated Breedon post-merger share within 27 miles



Source: CC analysis.

FIGURE 5

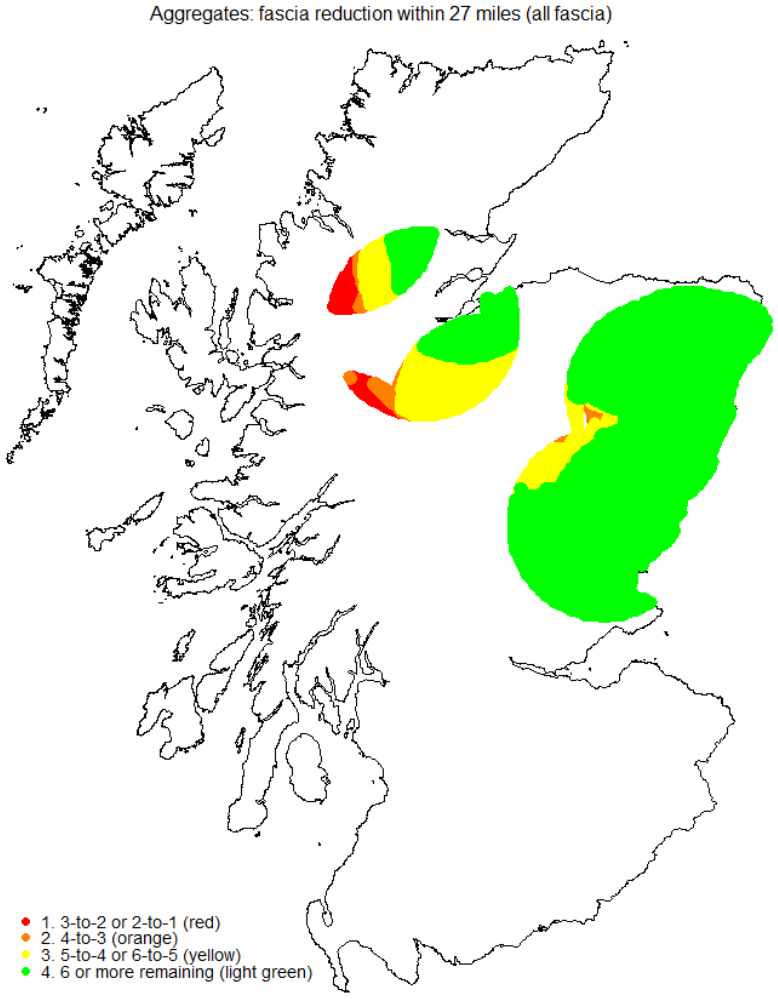
Aggregates: fascia reduction within 18 miles



Source: CC analysis.

FIGURE 6

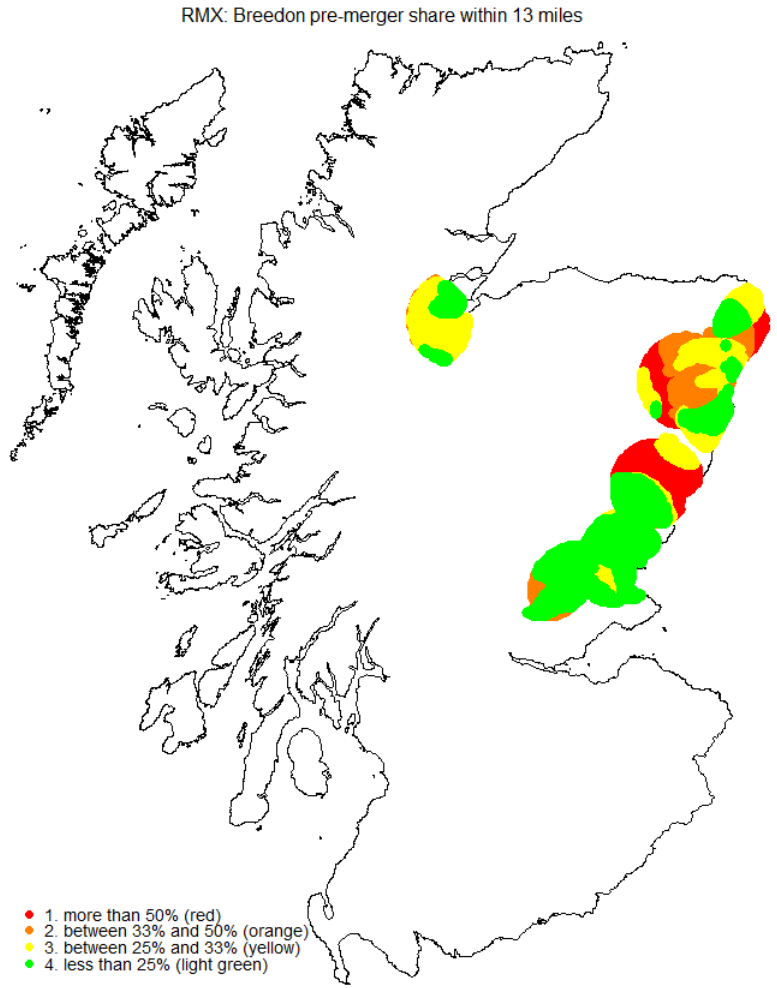
Aggregates: fascia reduction within 27 miles



Source: CC analysis.

FIGURE 7

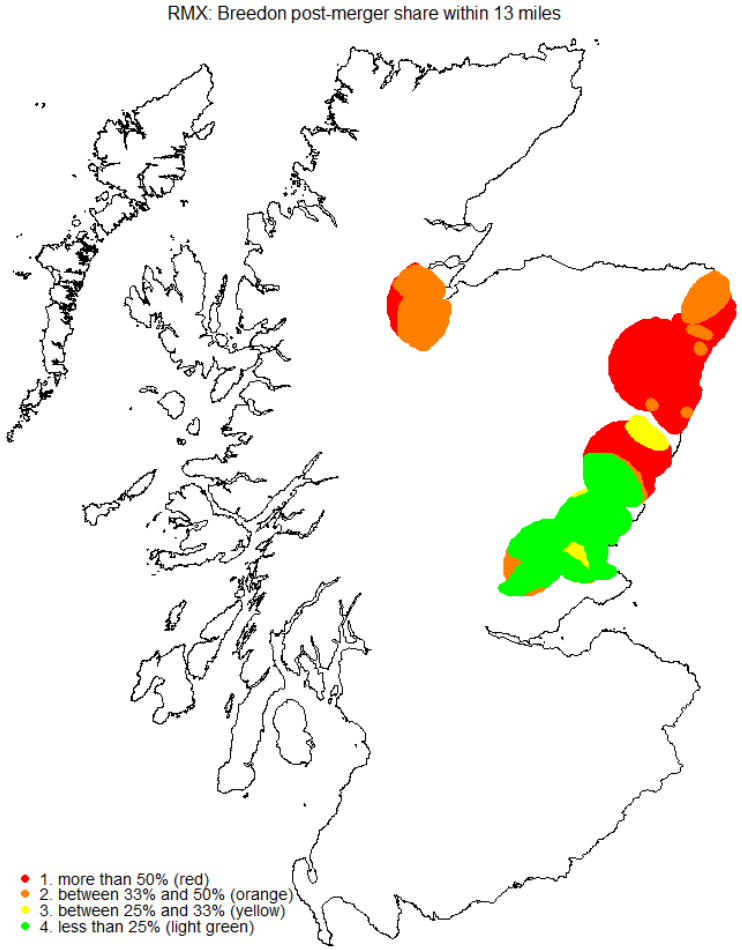
RMX: estimated Breedon pre-merger share within 13 miles



Source: CC analysis.

FIGURE 8

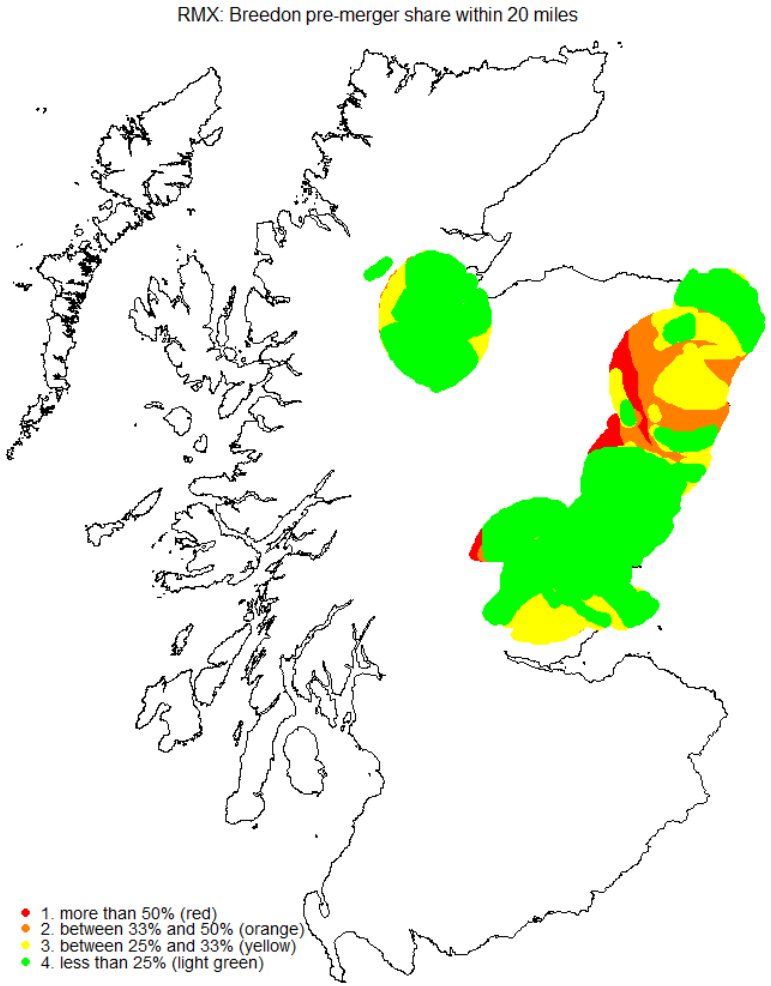
RMX: estimated Breedon post-merger share within 13 miles



Source: CC analysis.

FIGURE 9

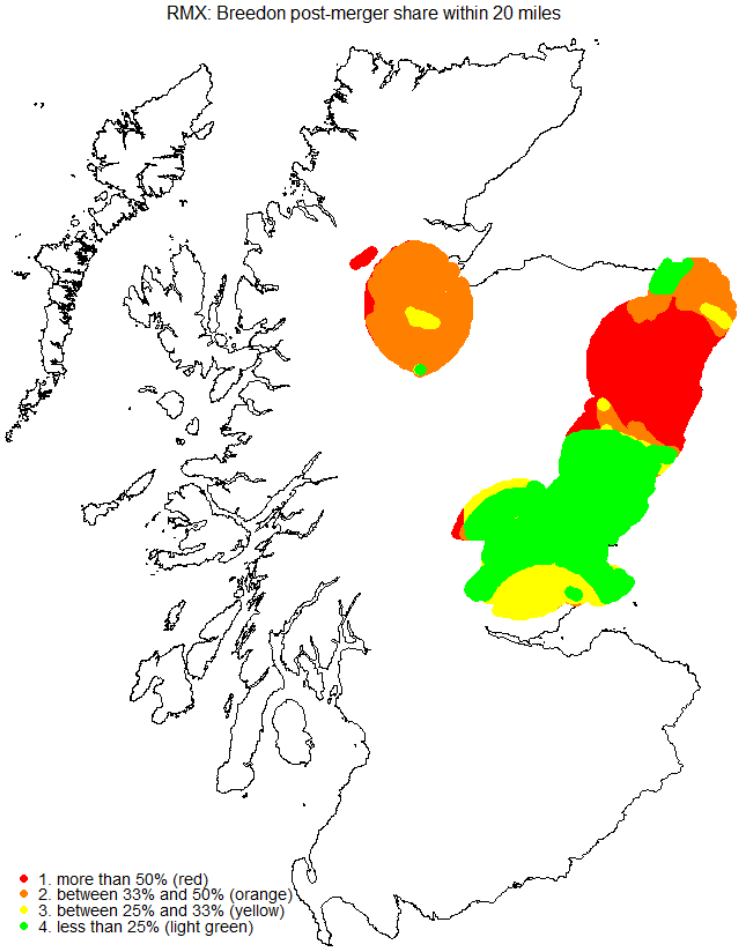
RMX: estimated Breedon pre-merger share within 20 miles



Source: CC analysis.

FIGURE 10

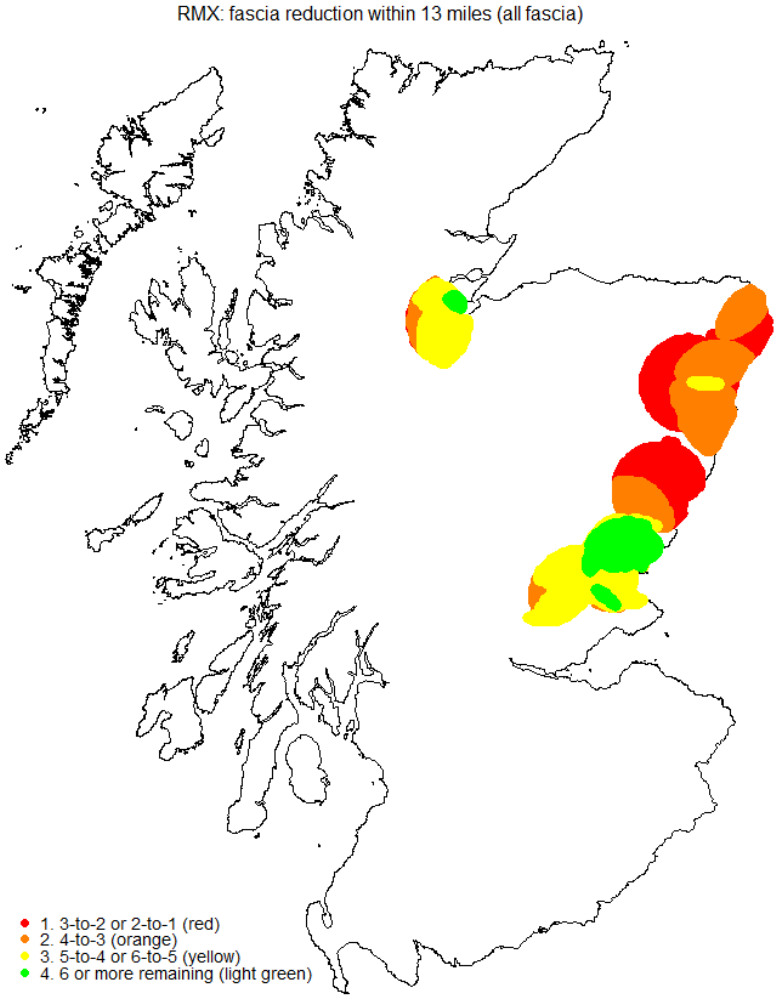
RMX: estimated Breedon post-merger share within 20 miles



Source: CC analysis.

FIGURE 11

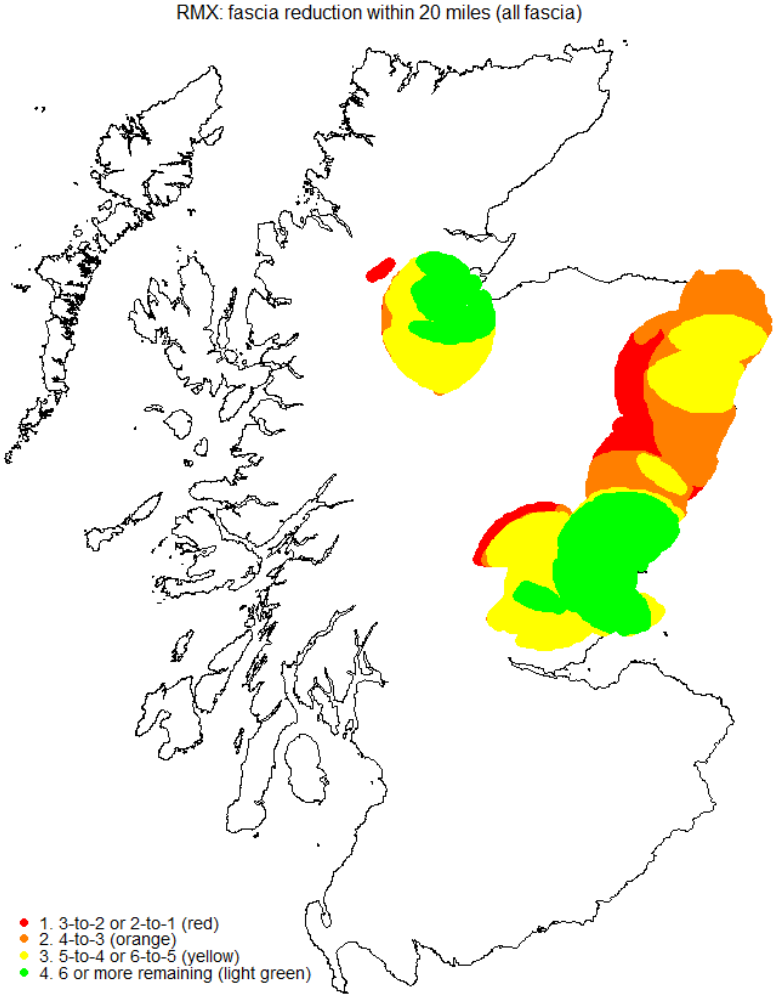
RMX: fascia reduction within 13 miles



Source: CC analysis.

FIGURE 12

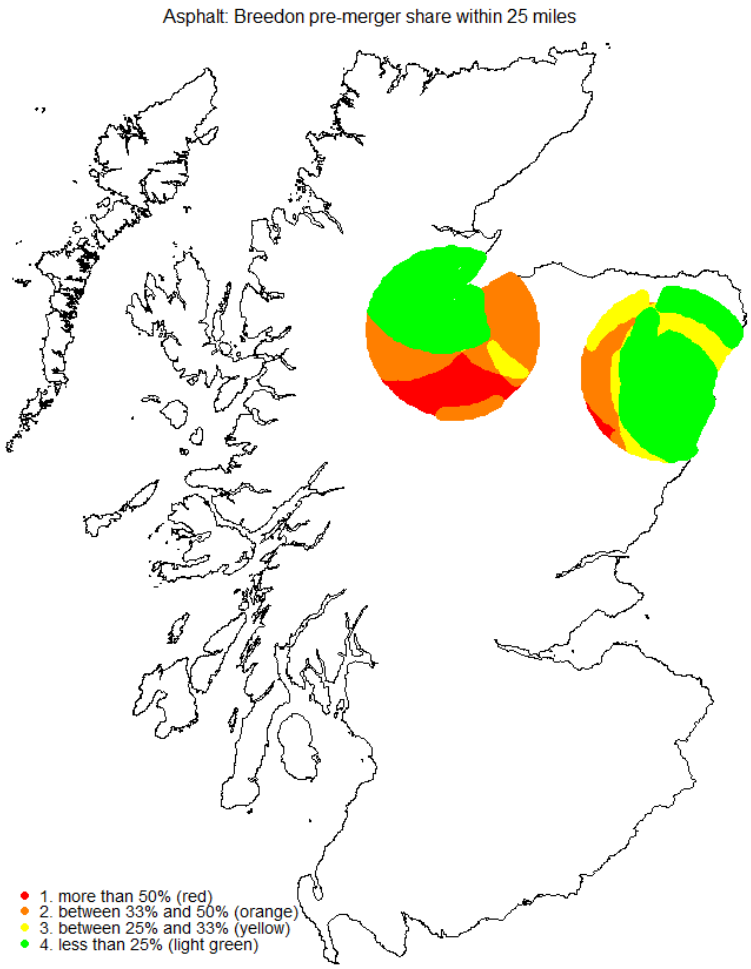
RMX: fascia reduction within 20 miles



Source: CC analysis.

FIGURE 13

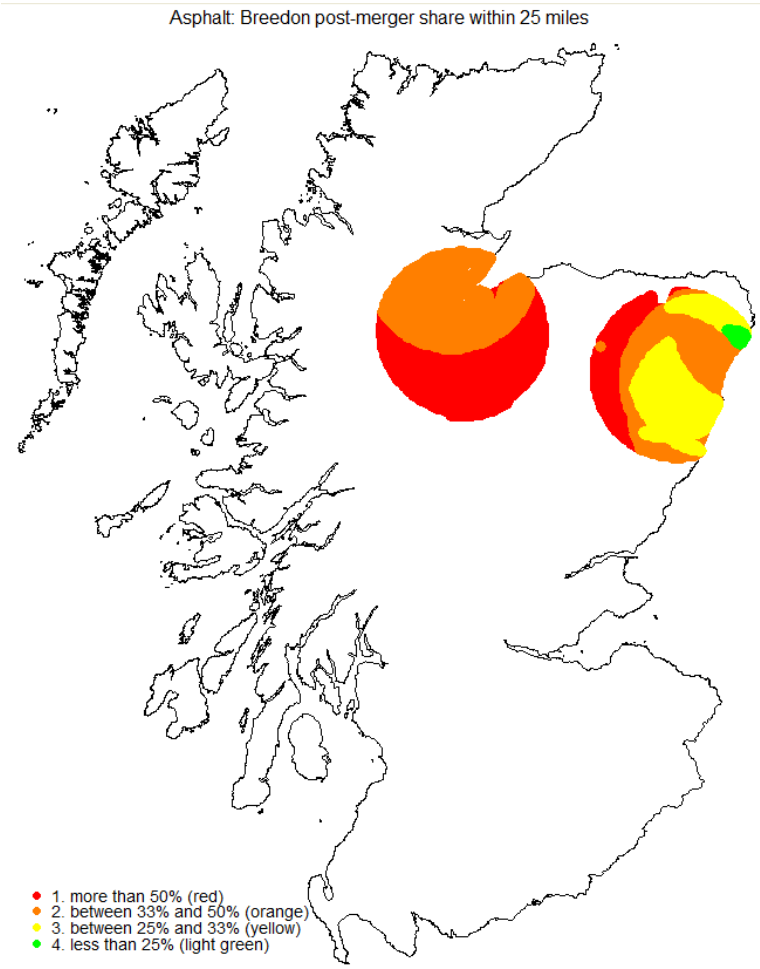
Asphalt: estimated Breedon pre-merger share within 25 miles



Source: CC analysis.

FIGURE 14

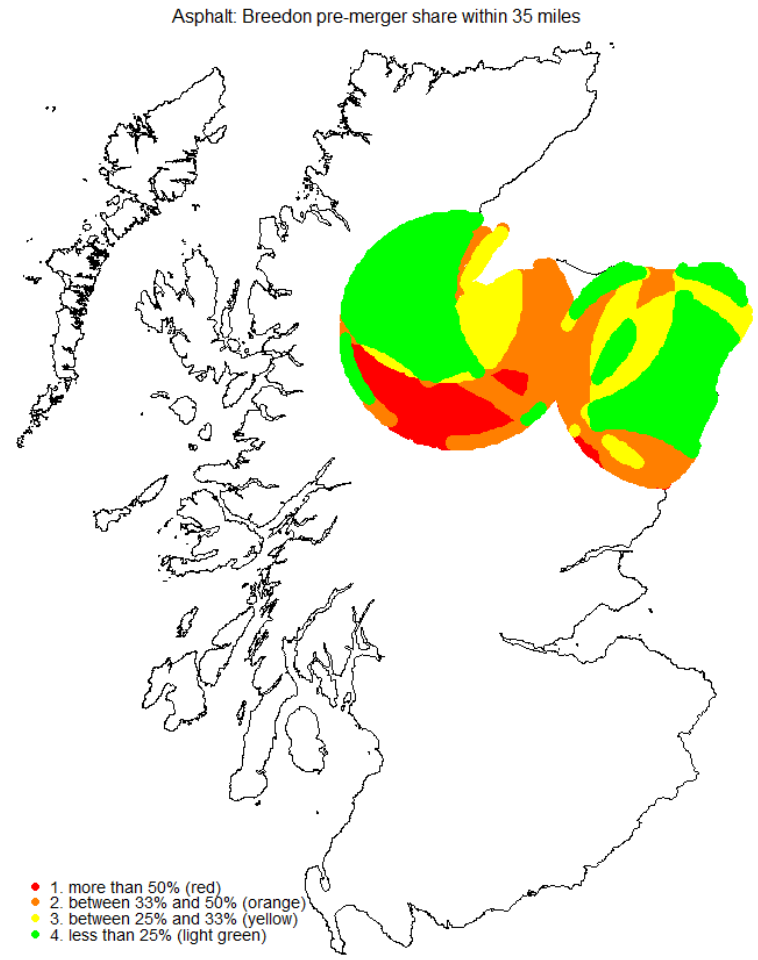
Asphalt: estimated Breedon post-merger share within 25 miles



Source: CC analysis.

FIGURE 15

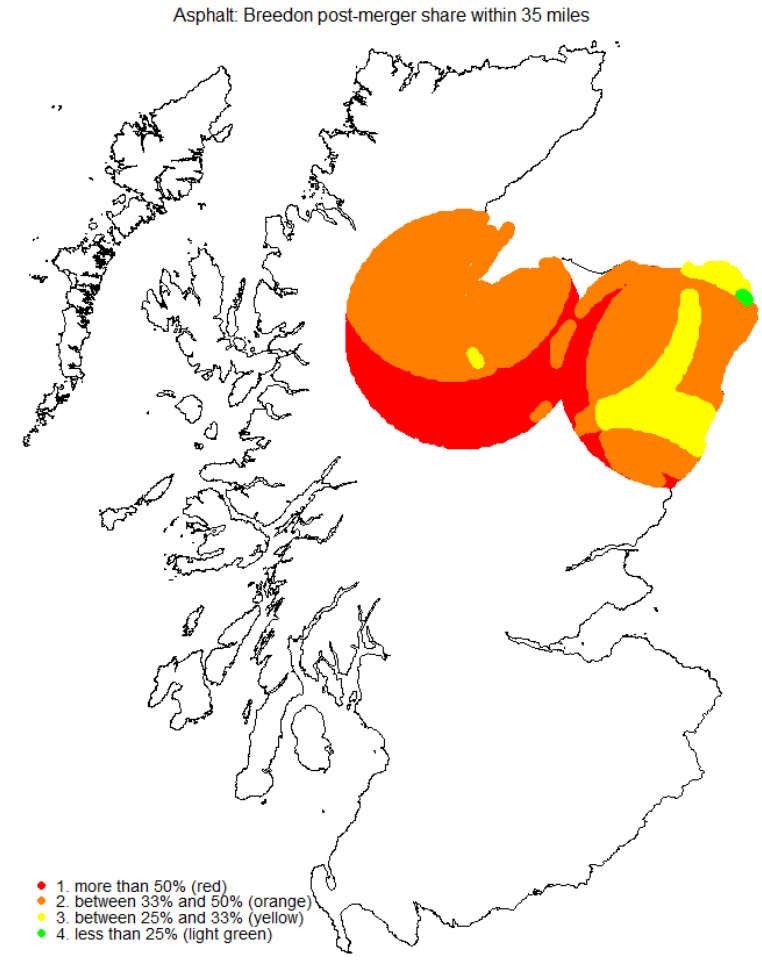
Asphalt: estimated Breedon pre-merger share within 35 miles



Source: CC analysis.

FIGURE 16

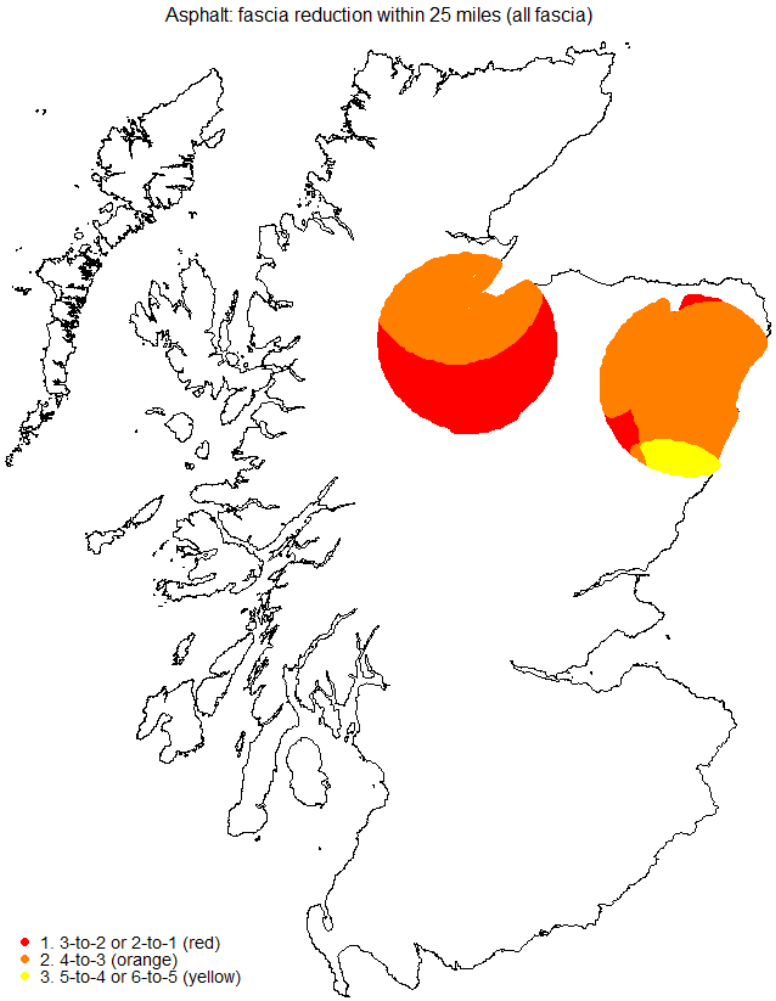
Asphalt: estimated Breedon post-merger share within 35 miles



Source: CC analysis.

FIGURE 17

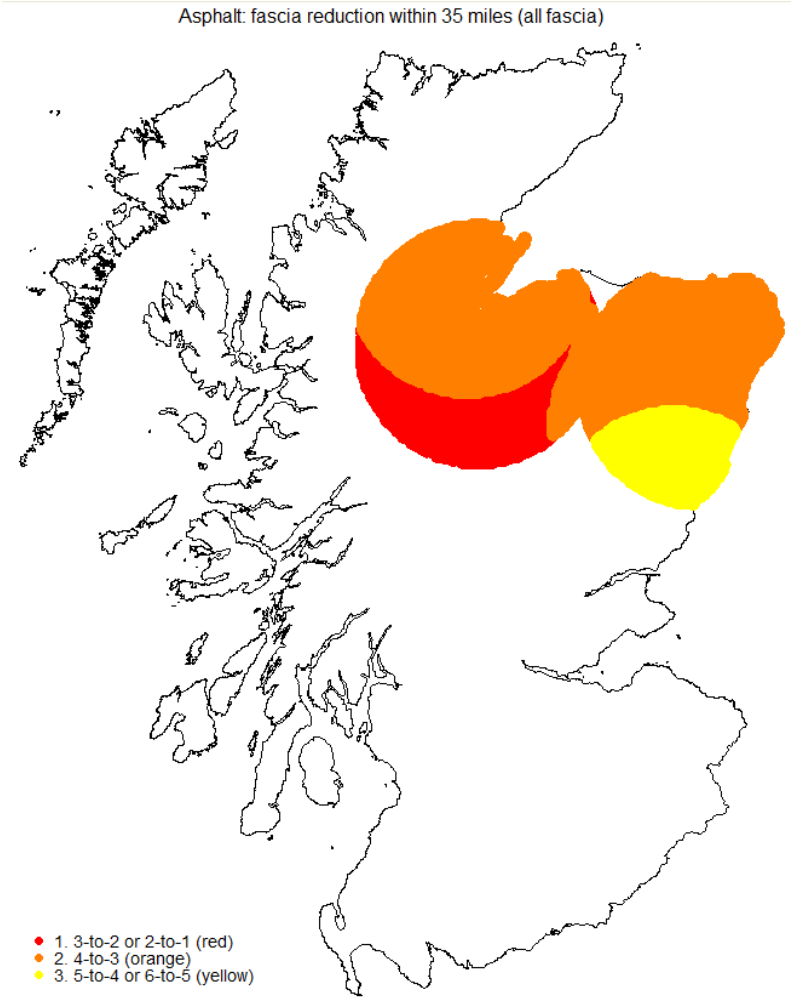
Asphalt: fascia reduction within 25 miles



Source: CC analysis.

FIGURE 18

Asphalt: fascia reduction within 35 miles



Source: CC analysis.

Analysis for competitive assessment

Introduction

1. This appendix contains analysis and evidence to support the competitive assessment for those Breedon and Aggregate Industries aggregates, RMX and asphalt sites which were not filtered out using the analysis of overlaps and filters based on local concentration (see Appendix F), and thus required further detailed assessment.

2. This appendix examines sites and evidence for each product-area combination not filtered out on the basis of sets of cautious concentration filters:

(a) aggregates sites near:

(i) Montrose (Grampian): Edzell[1] (Aggregate Industries) and Capo (Breedon); and

(ii) Aberdeen (Grampian): Tom's Forest, Corrennie[2] (Aggregate Industries), Craigenlow, and Stirlinghill (Breedon);

(b) RMX sites near:

(i) Montrose (Grampian): Edzell[3] (Aggregate Industries) and Capo (Breedon);

(ii) Aberdeen (Grampian): Tom's Forest, Dyce, Tullos (Aggregate Industries), Craigenlow, Westhill, Inverurie, Deeside[4] and Bridge of Don (Breedon);

(iii) Peterhead (Grampian): Peterhead (Aggregate Industries) and Stirlinghill (Breedon); and

(iv) Inverness (Highlands): Beauly (Aggregate Industries) and Inverness (Breedon);

(c) Asphalt sites near:

[1] Occasional use site.
[2] Occasional use site.
[3] Mothballed site.
[4] Mothballed site.

(i) Aberdeen (Grampian): Tom's Forest (Aggregate Industries), Craigenlow, Stirlinghill (Breedon); and

(ii) Inverness (Highlands): Mid Lairgs (Aggregate Industries), Daviot, Netherglen (Breedon).

3. For each of these product-area combinations not filtered out , we present the following:

(a) maps of parties' and competitors' sites in the area;

(b) details on competitors' sites, including volumes and shares of production;

(c) details of local shares of production of recycled aggregates; and

(d) analysis of the degree of vertical integration from aggregates into RMX and asphalt (for aggregates sites only).

Data and methodology

Competitors

4. In order to analyse in details product-area combination not filtered out as unproblematic, we used a dataset containing various information on competitors' and parties' sites: supplier's name, site name, site location (geo-coordinates, ie eastings and northings), site production or sales volume,[5] type of site,[6] and, for aggregates only, types of product produced/sold (primary, recycled), and proportions of internal and external sales. We used the data for 2012.

5. We collated this dataset from a number of sources:

(a) Breedon and Aggregate Industries supplied us with their own data;

[5] Depending on the source of data, some sites had production volumes (data sourced from BDS primarily) and some sites had sales volumes (data sourced from the suppliers themselves). We understand that RMX and asphalt the stocks are negligible, so there should be virtually no difference between production and sales volumes in any time period. For aggregates, suppliers may be holding some stocks of material, which means that there may be discrepancies between the production and the sales volumes. We refer to these volumes as sales volumes throughout.

[6] For aggregates, this indicated whether a site was produced primary aggregates and/or recycled aggregates site. For RMX, this indicated whether a site was a static/site RMX plant or a volumetric truck.

(b) some other competitors provided us the data on their sites, including location and production or sales in 2012; and

(c) for the remainder of suppliers in north Scotland, we used data from BDS on competitor site locations with BDS estimated volumes for 2012.

6. For each relevant Breedon and Aggregate Industries site, we show competitors, competitors' shares and competitors' sites within average 80 per cent catchment areas, the average distance plus 50 per cent, and twice the average 80 per cent catchment area distance. We report volumes of competitors' sites, and radial distances of these sites to the respective Breedon/Aggregate Industries site. We report whether the site produces other products (for example, whether an aggregates site also has RMX and/or asphalt operations); this captures only those instances where the same supplier has multiple products at the same site.

7. For aggregates, we also report what type of aggregate the competitor site produces (primary and/or recycled), and estimates of the proportion of internal sales of aggregates.

8. We also show detailed maps of areas around the relevant sites, displaying and naming each competitor site.

Recycled aggregates

9. For each relevant Breedon and Aggregate Industries site, we calculated the share of production for recycled aggregates as a proportion of sales of all construction aggregates (ie primary and recycled, and including internal and external sales). We have considered all suppliers in this analysis (for example, for a Breedon site, this includes sales of this site, of all other Breedon sites within a given radial distance from the site, and of all competing sites). Our data on recycled aggregates captures

'fixed' or 'regular' points of supply of recycled aggregates and therefore our analysis may not capture other sources of recycled materials (eg construction and demolition waste).[7]

10. We have undertaken the calculations for the respective shares/proportions of supply within 18 miles and 27 miles (radial) of sites, which represent, respectively, a weighted average 80 per cent catchment area for aggregates and an increase on this weighted average radius by 50 per cent.

Internal sales of aggregates and vertical integration

11. These analyses are relevant for the assessment of the constraint from aggregates sold internally to suppliers' downstream (ie mainly RMX and asphalt) production.

12. For each relevant Breedon and Aggregate Industries site, we calculated share of sales accounted for by external sales. We calculated this including all sites within the radial (ie including the site itself, as well as other sites of Breedon/Aggregate Industries within the radial), and also calculated this for competitors' sites only (for example, for a Breedon site, we excluded this site and all other Breedon sites within the radial).

13. We report share of competitor sales accounted for by vertically integrated (VI) sites. We have classified aggregates sites as being VI if they have a co-located RMX or asphalt plant (ie where there is an RMX or an asphalt plant of the same supplier at the same location as the aggregates quarry/site). We therefore do not capture instances of vertical integration where: (i) an aggregates quarry and a co-located RMX or asphalt plant have different owners, but the RMX/asphalt plant sources aggregates from the quarry on which it is located (for example, under a long-term

[7] Breedon provided us with details on further recycled aggregates sites it had identified. However, we were not able to use this data because it either did not contain locations or output of sites, or the accuracy of the data could not be verified.

supply agreement)[8] and (ii) a stand-alone RMX or asphalt plant is supplied from a quarry owned by the same supplier. In our analysis we have considered only sales (both internal and external) of aggregates by competitors' sites (both in the nominator and the denominator), ie a given party's own sites are excluded.[9]

14. We have undertaken the calculations for the respective shares/proportions of supply within 18 miles and 27 miles (radial) of sites, which represent, respectively, a weighted average 80 per cent catchment area for aggregates and an increase on this weighted average radius by 50 per cent.

Customer locations

15. For each relevant Breedon and Aggregate Industries site, we show maps of customer delivery locations in 2012. This includes all external delivered sales for which customer location was available in the sales data, but does not include delivery locations for material sold through contract surfacing services businesses of the parties (this affects in particular the coverage of sales data for asphalt). Please see Appendix D for a description of the coverage of the external delivered sales data.

[8] We are aware of a limited number of such instances (RMX: Spey Bay Salvage volumetric truck located at a Lafarge Tarmac quarry, and a mothballed Breedon RMX site (Deeside) located at a Chap Quarries' Durris quarry. Asphalt: Aggregate Industries' Mid Lairgs asphalt plant located on Leiths's quarry, and Breedon's Daviot asphalt plant located on Lafarge Tarmac's quarry).
[9] Thus, for a Breedon site, this excludes sales of other Breedon aggregates sites within the relevant radial of that site, and includes sales by sites of Aggregate Industries and of other competitors.

Aggregates

Aggregates sites near Montrose

Sites

16. Table 1 shows details of the merging parties' and competitors' aggregates sites located near Montrose, including distance from the parties' site (indicated as 'focal' site), distance from population centre (Montrose), volumes and supplier shares of production.

TABLE 1 **Aggregates sites near Montrose**

Supplier	*Site*	*Site volume in 2012 (kt)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Product type**	*Internal sales (%)*	*Supplier share within 18 miles*	*Supplier share within 27 miles*	*Supplier share within 36 miles*
Aggregate Industries	**Edzell (focal)**	[✂]	0	10	RMX	P	[✂]	[0–25]	[0–25]	[0–25]
Breedon	Capo	[✂]	2	8	RMX	P	[✂]	[0–25]	[25–33]	[0–25]
Geddes Group	Stannochy	[✂]	7	8	-	P	[✂]	[33–50]	[0–25]	[0–25]
Robertson Quarries	Hilton Of Guthrie	[✂]	12	10	-	P	[✂]	[0–25]	[0–25]	[0–25]
Geddes Group	Hatton Mill	[✂]	13	8	-	P	[✂]	[33–50]	[0–25]	[0–25]
Geddes Group	Waulkmill	[✂]	13	7	ASP	P,R	[✂]	[33–50]	[0–25]	[0–25]
Laird Brothers	Lochhead	[✂]	15	16	-	P	[✂]	[33–50]	[0–25]	[0–25]
Tayside Contracts	Forfar Recycling Depot	[✂]	15	17	-	R	[✂]	[0–25]	[0–25]	[0–25]
Aberdeenshire Council	Craiglash	[✂]	18	26	ASP	P,R	[✂]	[0–25]	[0–25]	[0–25]
Tayside Contracts	Arbroath Recycling Depot	[✂]	18	11	-	R	[✂]	[0–25]	[0–25]	[0–25]
AI	Powmyre	[✂]	20	22	-	P	[✂]	-	[0–25]	[0–25]
Leiths	Netherpark	[✂]	20	25	-	P,R	[✂]	-	[0–25]	[0–25]
Bruce Plant	Ury	[✂]	21	23	-	P	[✂]	-	[0–25]	[0–25]
Chap Quarries	Durris	[✂]	21	26	RMX	P	[✂]	-	[0–25]	[0–25]
Breedon	Cunmont	[✂]	22	19	-	R	[✂]	-	[25–33]	[0–25]
D J Laing (Contracts) Ltd	Petterden	[✂]	22	21	-	R	[✂]	-	[0–25]	[0–25]
William Clark	Cotside	[✂]	23	19	-	P	[✂]	-	[0–25]	[0–25]
Breedon	Ethiebeaton	[✂]	24	20	ASP, RMX	P	[✂]	-	[25–33]	[0–25]
Geddes Group	Ardownie	[✂]	24	20	RMX	P,R	[✂]	-	[0–25]	[0–25]
Bruce Plant	Cairnrobin	[✂]	25	27	-	P	[✂]	-	[0–25]	[0–25]
Leiths	North Lasts	[✂]	25	30	-	P,R	[✂]	-	[0–25]	[0–25]
Tayside Contracts	Baldovie Recycling Depot	[✂]	25	23	-	R	[✂]	-	[0–25]	[0–25]
Breedon	Craigenlow	[✂]	25	32	ASP,RMX	P	[✂]	-	[25–33]	[0–25]
AI	Correnie	[✂]	26	34	-	P	[✂]	-	[0–25]	[0–25]
A&M Smith Skip Hire	Bankhead	[✂]	26	29	-	R	[✂]	-	[0–25]	[0–25]
Leiths	Blackhills	[✂]	28	30	ASP, RMX	P,R	[✂]	-	-	[0–25]
AI	Tom's Forest	[✂]	31	37	ASP, RMX	P	[✂]	-	-	[0–25]
Geddes Group	Wester Bleaton	[✂]	31	37	-	P,R	[✂]	-	-	[0–25]
AI	Dyce	[✂]	32	37	RMX	P	[✂]	-	-	[0–25]
Breedon	Balmullo	[✂]	33	29	-	P	[✂]	-	-	[0–25]
Laird Brothers	Blairgowrie	[✂]	33	36	RMX	P	[✂]	-	-	[0–25]
Leiths	Lochhills Quarry	[✂]	33	37	ASP, RMX	P,R	[✂]	-	-	[0–25]
Tayside Contracts	Collace	[✂]	34	35	ASP	P,R	[✂]	-	-	[0–25]
Aberdeenshire Council	Pitcaple	[✂]	36	43	ASP	P,R	[✂]	-	-	[0–25]
Breedon	**Capo (focal)**	[✂]	0	8	RMX	P	[✂]	[0–25]	[0–25]	[0–25]
AI	Edzell	[✂]	2	10	RMX	P	[✂]	[0–25]	[0–25]	[0–25]
Geddes Group	Stannochy	[✂]	6	8	-	P	[✂]	[33–50]	[25–33]	[0–25]
Robertson Quarries	Hilton Of Guthrie	[✂]	10	10	-	P	[✂]	[0–25]	[0–25]	[0–25]
Geddes Group	Hatton Mill	[✂]	11	8	-	P	[✂]	[33–50]	[25–33]	[0–25]
Geddes Group	Waulkmill	[✂]	11	7	ASP	P,R	[✂]	[33–50]	[25–33]	[0–25]
Laird Brothers	Lochhead	[✂]	14	16	-	P	[✂]	[33–50]	[0–25]	[0–25]

Supplier	*Site*	*Site volume in 2012 (kt)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Product type**	*Internal sales (%)*	*Supplier share within 18 miles*	*Supplier share within 27 miles*	*Supplier share within 36 miles*
Tayside Contracts	Forfar Recycling Depot	[✂]	15	17	-	R	[✂]	[0–25]	[0–25]	[0–25]
Tayside Contracts	Arbroath Recycling Depot	[✂]	16	11	-	R	[✂]	[0–25]	[0–25]	[0–25]
AI	Powmyre	[✂]	19	22	-	P	[✂]	-	[0–25]	[0–25]
Aberdeenshire Council	Craiglash	[✂]	20	26	ASP	P,R	[✂]	-	[0–25]	[0–25]
Breedon	Cunmont	[✂]	21	19	-	R	[✂]	-	[0–25]	[0–25]
D J Laing (Contracts) Ltd	Petterden	[✂]	21	21	-	R	[✂]	-	[0–25]	[0–25]
William Clark	Cotside	[✂]	21	19	-	P	[✂]	-	[0–25]	[0–25]
Leiths	Netherpark	[✂]	21	25	-	P,R	[✂]	-	[0–25]	[0–25]
Bruce Plant	Ury	[✂]	21	23	-	P	[✂]	-	[0–25]	[0–25]
Breedon	Ethiebeaton	[✂]	22	20	ASP, RMX	P	[✂]	-	[0–25]	[0–25]
Chap Quarries	Durris	[✂]	22	26	RMX	P	[✂]	-	[0–25]	[0–25]
Geddes Group	Ardownie	[✂]	23	20	RMX	P,R	[✂]	-	[25–33]	[0–25]
Tayside Contracts	Baldovie Recycling Depot	[✂]	24	23	-	R	[✂]	-	[0–25]	[0–25]
Bruce Plant	Cairnrobin	[✂]	25	27	-	P	[✂]	-	[0–25]	[0–25]
Leiths	North Lasts	[✂]	26	30	-	P,R	[✂]	-	[0–25]	[0–25]
A&M Smith Skip Hire	Bankhead	[✂]	27	29	-	R	[✂]	-	-	[0–25]
Breedon	Craigenlow	[✂]	27	32	ASP, RMX	P	[✂]	-	-	[0–25]
AI	Corrennie	[✂]	28	34	-	P	[✂]	-	-	[0–25]
Leiths	Blackhills	[✂]	28	30	ASP, RMX	P,R	[✂]	-	-	[0–25]
Breedon	Balmullo	[✂]	31	29	-	P	[✂]	-	-	[0–25]
Geddes Group	Wester Bleaton	[✂]	32	37	-	P,R	[✂]	-	-	[0–25]
AI	Toms Forest	[✂]	32	37	ASP, RMX	P	[✂]	-	-	[0–25]
Laird Brothers	Blairgowrie	[✂]	33	36	RMX	P	[✂]	-	-	[0–25]
AI	Dyce	[✂]	33	37	RMX	P	[✂]	-	-	[0–25]
Tayside Contracts	Collace	[✂]	34	35	ASP	P,R	[✂]	-	-	[0–25]
Leiths	Lochhills Quarry	[✂]	34	37	ASP, RMX	P,R	[✂]	-	-	[0–25]

Source: CC calculations.

* P=Primary, R=Recycled.
Note: Population centre is defined as Montrose (Montrose Town Hall, Montrose, DD10 8QW).

Constraint from recycled

17. Table 2 shows shares of sales/production of recycled aggregates by all suppliers in areas around Breedon and Aggregate Industries sites.

TABLE 2 **Recycled aggregates: production shares in areas around Edzell and Capo, 2012**

per cent

Site	*18 miles*	*27 miles*
Capo (B)	[0–25]	[0–25]
Edzell (AI)	[0–25]	[0–25]

Source: CC calculations, based on data received from Breedon, Aggregate Industries, third parties, and BDS.

Constraint from internal sales

18. Tables 3 and 4 show shares of aggregates external sales in areas around Breedon and Aggregate Industries sites, and shares of aggregates sales by vertically integrated competitor sites.

TABLE 3 **Aggregates: share of external sales in areas around Edzell and Capo, 2012**

per cent

	18 mile radial		*27 mile radial*	
Site	*Total share of external*	*Total share of external by competitors*	*Total share of external*	*Total share of external by competitors*
Capo (B)	[50–100]	[50–100]	[50–100]	[50–100]
Edzell (AI)	[50–100]	[50–100]	[50–100]	[50–100]

Source: CC calculations, based on data received from Breedon, Aggregate Industries, third parties, and BDS.

TABLE 4 **Aggregates: share of competing sites which are VI in areas around Capo and Edzell (2012)**

per cent

Site	*18 miles*	*27 miles*
Capo (B)	[25–33]	[33–50]
Edzell (AI)	[33–50]	[50–100]

Source: CC calculations, based on data received from Breedon, Aggregate Industries, third parties, and BDS.

Customer locations

19. Figures 1 and 2 below show delivery locations from Capo and Edzell, marked as ‘x’-es. This reflects external delivered sales only, and the size of the ‘x’-es is proportional to the sales volume.

FIGURE 1

Aggregates: delivery locations for Edzell

[✂]

Source: CC analysis.

FIGURE 2

[✂]

Aggregates: delivery locations for Capo

Source: CC analysis.

Aggregates sites near Aberdeen

Sites

20. Table 5 shows details of parties' and competitors' aggregates sites near Aberdeen, including distance from the parties' focal site, distance from population centres (Aberdeen for Craigenlow, Tom's Forest and Corrennie, and Peterhead for Stirlinghill), volumes and supplier shares of production.

TABLE 5 **Aggregates sites near Aberdeen**

Supplier	*Site*	*Site volume in 2012 (kt)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Product type**	*Internal sales (%)*	*Supplier share within 18 miles*	*Supplier share within 27 miles*	*Supplier share within 36 miles*
AI	**Tom's Forest (focal)**	[✂]	0	13	ASP, RMX	P	[✂]	[0–25]	[0–25]	[0–25]
Breedon	Craigenlow	[✂]	5	13	ASP, RMX	P	[✂]	[0–25]	[0–25]	[0–25]
Aberdeenshire Council	Pitcaple	[✂]	6	18	ASP	P,R	[✂]	[0–25]	[0–25]	[0–25]
AI	Dyce	[✂]	7	7	RMX	P	[✂]	[0–25]	[0–25]	[0–25]
AI	Corrennie	[✂]	8	19	-	P	[✂]	[0–25]	[0–25]	[0–25]
Leiths	Lochhills Quarry	[✂]	9	6	ASP, RMX	P,R	[✂]	[25–33]	[0–25]	[0–25]
Leiths	North Lasts	[✂]	9	7	-	P,R	[✂]	[25–33]	[0–25]	[0–25]
J&A Herd	Smiddyburn	[✂]	10	20	-	P	[✂]	[0–25]	[0–25]	[0–25]
Aberdeenshire Council	Balmedie	[✂]	11	7	ASP	P	[✂]	[0–25]	[0–25]	[0–25]
Leiths	Netherpark	[✂]	12	11	-	P,R	[✂]	[25–33]	[0–25]	[0–25]
Chap Quarries	Durris	[✂]	12	10	RMX	P	[✂]	[0–25]	[0–25]	[0–25]
James Jamieson	Ardlethen	[✂]	13	16	-	P,R	[✂]	[0–25]	[0–25]	[0–25]
Lovie	Methlick	[✂]	14	20	RMX	P,R	[✂]	[0–25]	[0–25]	[0–25]
Aberdeenshire Council	Craiglash	[✂]	14	20	ASP	P,R	[✂]	[0–25]	[0–25]	[0–25]
A&M Smith Skip Hire	Bankhead	[✂]	15	5	-	R	[✂]	[0–25]	[0–25]	[0–25]
Leiths	Blackhills	[✂]	16	4	ASP, RMX	P,R	[✂]	[25–33]	[0–25]	[0–25]
Bruce Plant	Cairnrobin	[✂]	16	7	-	P	[✂]	[0–25]	[0–25]	[0–25]
Bruce Plant	Ury	[✂]	18	11	-	P	[✂]	-	[0–25]	[0–25]
Hatton Estates	Greystone Quarry	[✂]	19	28	-	P	[✂]	-	[0–25]	[0–25]
Tennants	Avochie	[✂]	23	35	-	P	[✂]	-	[0–25]	[0–25]
Savoch Quarry	Savoch	[✂]	24	25	-	P	[✂]	-	[0–25]	[0–25]
Bridgend Sand & Gravel	Banff	[✂]	25	34	RMX	P	[✂]	-	[0–25]	[0–25]
Lovie	Howe of Byth	[✂]	25	32	-	P,R	[✂]	-	[0–25]	[0–25]
Alexander Duthie & Sons	Thunderton	[✂]	26	25	-	P	[✂]	-	[0–25]	[0–25]
Breedon	Stirlinghill	[✂]	27	24	ASP, RMX	P	[✂]	-	[0–25]	[0–25]
Limehillock Quarries	Blackhillock	[✂]	28	41	-	P	[✂]	-	-	[0–25]
Lafarge Tarmac	Cairdshill	[✂]	28	41	-	P	[✂]	-	-	[0–25]
Kirkmyres Sand & Gravel	Pitnacalder	[✂]	29	35	-	P	[✂]	-	-	[0–25]
Lovie	Blackhills	[✂]	29	34	RMX	P,R	[✂]	-	-	[0–25]
Lovie	Cottonhill	[✂]	29	38	-	P	[✂]	-	-	[0–25]
AI	Edzell	[✂]	31	31	RMX	P	[✂]	-	-	[0–25]
Leiths	Parkmore	[✂]	31	44	-	P	[✂]	-	-	[0–25]
Kirkmyres Sand & Gravel	Memsie	[✂]	31	35	-	P	[✂]	-	-	[0–25]
Bridgend Sand & Gravel	Memsie	[✂]	31	34	-	P	[✂]	-	-	[0–25]
Leiths	Lynemore	[✂]	32	44	-	P	[✂]	-	-	[0–25]
Breedon	Boyne Bay	[✂]	32	42	RMX	P	[✂]	-	-	[0–25]
Breedon	Capo	[✂]	32	31	RMX	P	[✂]	-	-	[0–25]
Leiths	Bluehill	[✂]	34	47	ASP	P,R	[✂]	-	-	[0–25]

Supplier	*Site*	*Site volume in 2012 (kt)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Product type**	*Internal sales (%)*	*Supplier share within 18 miles*	*Supplier share within 27 miles*	*Supplier share within 36 miles*
Al	**Corrennie (focal)**	[✂]	0	19	-	P	[✂]	[25–33]	[0–25]	[0–25]
Breedon	Craigenlow	[✂]	6	13	ASP, RMX	P	[✂]	[25–33]	[0–25]	[0–25]
Al	Tom's Forest	[✂]	8	13	ASP, RMX	P	[✂]	[25–33]	[0–25]	[0–25]
Aberdeenshire Council	Craiglash	[✂]	8	20	ASP	P,R	[✂]	[0–25]	[0–25]	[0–25]
Aberdeenshire Council	Pitcaple	[✂]	10	18	ASP	P,R	[✂]	[0–25]	[0–25]	[0–25]
Leiths	Netherpark	[✂]	12	11	-	P,R	[✂]	[0–25]	[0–25]	[0–25]
Leiths	North Lasts	[✂]	13	7	-	P,R	[✂]	[0–25]	[0–25]	[0–25]
Chap Quarries	Durris	[✂]	14	10	RMX	P	[✂]	[0–25]	[0–25]	[0–25]
J & A Herd	Smiddyburn	[✂]	14	20	-	P	[✂]	[0–25]	[0–25]	[0–25]
Al	Dyce	[✂]	15	7	RMX	P	[✂]	[25–33]	[0–25]	[0–25]
Leiths	Lochhills Quarry	[✂]	17	6	ASP, RMX	P,R	[✂]	[0–25]	[0–25]	[0–25]
A&M Smith Skip Hire	Bankhead	[✂]	19	5	-	R	[✂]	-	[0–25]	[0–25]
Aberdeenshire Council	Balmedie	[✂]	19	7	ASP	P	[✂]	-	[0–25]	[0–25]
Bruce Plant	Cairnrobin	[✂]	19	7	-	P	[✂]	-	[0–25]	[0–25]
Bruce Plant	Ury	[✂]	20	11	-	P	[✂]	-	[0–25]	[0–25]
Leiths	Blackhills	[✂]	20	4	ASP, RMX	P,R	[✂]	-	[0–25]	[0–25]
Lovie	Methlick	[✂]	21	20	RMX	P,R	[✂]	-	[0–25]	[0–25]
James Jamieson	Ardlethen	[✂]	21	16	-	P,R	[✂]	-	[0–25]	[0–25]
Tennants	Avochie	[✂]	22	35	-	P	[✂]	-	[0–25]	[0–25]
Hatton Estates	Greystone Quarry	[✂]	23	28	-	P	[✂]	-	[0–25]	[0–25]
Limehillock Quarries	Blackhillock	[✂]	26	41	-	P	[✂]	-	[0–25]	[0–25]
Lafarge Tarmac	Cairdshill	[✂]	26	41	-	P	[✂]	-	[0–25]	[0–25]
Al	Edzell	[✂]	26	31	RMX	P	[✂]	-	[0–25]	[0–25]
Leiths	Lynemore	[✂]	26	44	-	P	[✂]	-	[0–25]	[0–25]
Leiths	Parkmore	[✂]	27	44	-	P	[✂]	-	[0–25]	[0–25]
Breedon	Capo	[✂]	28	31	RMX	P	[✂]	-	-	[0–25]
Bridgend Sand & Gravel	Banff	[✂]	29	34	RMX	P	[✂]	-	-	[0–25]
Leiths	Bluehill	[✂]	30	47	ASP	P,R	[✂]	-	-	[0–25]
Lovie	Howe of Byth	[✂]	30	32	-	P,R	[✂]	-	-	[0–25]
Savoch Quarry	Savoch	[✂]	32	25	-	P	[✂]	-	-	[0–25]
Lovie	Cottonhill	[✂]	33	38	-	P	[✂]	-	-	[0–25]
Geddes Group	Stannochy	[✂]	33	37	-	P	[✂]	-	-	[0–25]
Alexander Duthie & Sons	Thunderton	[✂]	33	25	-	P	[✂]	-	-	[0–25]
Breedon	Boyne Bay	[✂]	34	42	RMX	P	[✂]	-	-	[0–25]
Kirkmyres Sand & Gravel	Pitnacalder	[✂]	35	35	-	P	[✂]	-	-	[0–25]
Breedon	Stirlinghill	[✂]	35	24	ASP, RMX	P	[✂]	-	-	[0–25]
Breedon	Rothes Glen	[✂]	35	52	RMX	P	[✂]	-	-	[0–25]
Lovie	Blackhills	[✂]	35	34	RMX	P,R	[✂]	-	-	[0–25]

Supplier	*Site*	*Site volume in 2012 (kt)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Product type**	*Internal sales (%)*	*Supplier share within 18 miles*	*Supplier share within 27 miles*	*Supplier share within 36 miles*
Breedon	**Craigenlow (focal)**	[✂]	0	13	ASP, RMX	P	[✂]	[0–25]	[0–25]	[0–25]
AI	Toms Forest	[✂]	5	13	ASP, RMX	P	[✂]	[25–33]	[0–25]	[0–25]
AI	Corrennie	[✂]	6	19	-	P	[✂]	[25–33]	[0–25]	[0–25]
Leiths	North Lasts	[✂]	7	7	-	P,R	[✂]	[25–33]	[0–25]	[0–25]
Leiths	Netherpark	[✂]	8	11	-	P,R	[✂]	[25–33]	[0–25]	[0–25]
Chap Quarries (Aberdeen)	Durris	[✂]	9	10	RMX	P	[✂]	[0–25]	[0–25]	[0–25]
Aberdeenshire Council	Craiglash	[✂]	9	20	ASP	P,R	[✂]	[0–25]	[0–25]	[0–25]
AI	Dyce	[✂]	10	7	RMX	P	[✂]	[25–33]	[0–25]	[0–25]
Aberdeenshire Council	Pitcaple	[✂]	11	18	ASP	P,R	[✂]	[0–25]	[0–25]	[0–25]
Leiths	Lochhills Quarry	[✂]	12	6	ASP, RMX	P,R	[✂]	[25–33]	[0–25]	[0–25]
A&M Smith Skip Hire	Bankhead	[✂]	13	5	-	R	[✂]	[0–25]	[0–25]	[0–25]
Bruce Plant	Cairnrobin	[✂]	14	7	-	P	[✂]	[0–25]	[0–25]	[0–25]
J&A Herd	Smiddyburn	[✂]	15	20	-	P	[✂]	[0–25]	[0–25]	[0–25]
Aberdeenshire Council	Balmedie	[✂]	15	7	ASP	P	[✂]	[0–25]	[0–25]	[0–25]
Leiths	Blackhills	[✂]	15	4	ASP, RMX	P,R	[✂]	[25–33]	[0–25]	[0–25]
Bruce Plant	Ury	[✂]	15	11	-	P	[✂]	[0–25]	[0–25]	[0–25]
James Jamieson	Ardlethen	[✂]	18	16	-	P,R	[✂]	-	[0–25]	[0–25]
Lovie	Methlick	[✂]	19	20	RMX	P,R	[✂]	-	[0–25]	[0–25]
Hatton Estates	Greystone Quarry	[✂]	23	28	-	P	[✂]	-	[0–25]	[0–25]
AI	Edzell	[✂]	25	31	RMX	P	[✂]	-	[0–25]	[0–25]
Tennants	Avochie	[✂]	26	35	-	P	[✂]	-	[0–25]	[0–25]
Breedon	Capo	[✂]	27	31	RMX	P	[✂]	-	-	[0–25]
Bridgend Sand & Gravel	Banff	[✂]	29	34	RMX	P	[✂]	-	-	[0–25]
Savoch Quarry	Savoch	[✂]	29	25	-	P	[✂]	-	-	[0–25]
Lovie	Howe of Byth	[✂]	30	32	-	P,R	[✂]	-	-	[0–25]
Limehillock Quarries	Blackhillock	[✂]	30	41	-	P	[✂]	-	-	[0–25]
Lafarge Tarmac	Cairdshill	[✂]	30	41	-	P	[✂]	-	-	[0–25]
Alexander Duthie & Sons	Thunderton	[✂]	30	25	-	P	[✂]	-	-	[0–25]
Breedon	Stirlinghill	[✂]	31	24	ASP, RMX	P	[✂]	-	-	[0–25]
Leiths	Parkmore	[✂]	32	44	-	P	[✂]	-	-	[0–25]
Leiths	Lynemore	[✂]	32	44	-	P	[✂]	-	-	[0–25]
Geddes Group	Stannochy	[✂]	33	37	-	P	[✂]	-	-	[0–25]
Lovie	Cottonhill	[✂]	34	38	-	P	[✂]	-	-	[0–25]
Kirkmyres Sand & Gravel	Pitnacalder	[✂]	34	35	-	P	[✂]	-	-	[0–25]
Lovie	Blackhills	[✂]	35	34	RMX	P,R	[✂]	-	-	[0–25]
Leiths	Bluehill	[✂]	35	47	ASP	P,R	[✂]	-	-	[0–25]
Breedon	Boyne Bay	[✂]	36	42	RMX	P	[✂]	-	-	[0–25]

Supplier	*Site*	*Site volume in 2012 (kt)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Product type**	*Internal sales (%)*	*Supplier share within 18 miles*	*Supplier share within 27 miles*	*Supplier share within 36 miles*
Breedon	**Stirlinghill (focal)**	[✂]	0	3	ASP, RMX	P	[✂]	[25–33]	[0–25]	[0–25]
Alexander Duthie & Sons	Thunderton	[✂]	4	4	-	P	[✂]	[0–25]	[0–25]	[0–25]
Savoch Quarry	Savoch	[✂]	6	6	-	P	[✂]	[0–25]	[0–25]	[0–25]
James Jamieson	Ardlethen	[✂]	14	16	-	P,R	[✂]	[0–25]	[0–25]	[0–25]
Bridgend Sand & Gravel	Memsie	[✂]	15	13	-	P	[✂]	[0–25]	[0–25]	[0–25]
Kirkmyres Sand & Gravel	Memsie	[✂]	15	13	-	P	[✂]	[0–25]	[0–25]	[0–25]
Lovie	Methlick	[✂]	17	18	RMX	P,R	[✂]	[25–33]	[0–25]	[0–25]
Lovie	Blackhills	[✂]	17	16	RMX	P,R	[✂]	[25–33]	[0–25]	[0–25]
Aberdeenshire Council	Balmedie	[✂]	18	21	ASP	P	[✂]	-	[0–25]	[0–25]
Lovie	Howe of Byth	[✂]	19	19	-	P,R	[✂]	-	[0–25]	[0–25]
Kirkmyres Sand & Gravel	Pitnacalder	[✂]	20	19	-	P	[✂]	-	[0–25]	[0–25]
Leiths	Lochhills Quarry	[✂]	21	24	ASP, RMX	P,R	[✂]	-	[0–25]	[0–25]
AI	Dyce	[✂]	23	25	RMX	P	[✂]	-	[25–33]	[0–25]
Hatton Estates	Greystone Quarry	[✂]	23	23	-	P	[✂]	-	[0–25]	[0–25]
J&A Herd	Smiddyburn	[✂]	24	25	-	P	[✂]	-	[0–25]	[0–25]
Bridgend Sand & Gravel	Banff	[✂]	25	25	RMX	P	[✂]	-	[0–25]	[0–25]
Aberdeenshire Council	Pitcaple	[✂]	26	28	ASP	P,R	[✂]	-	[0–25]	[0–25]
AI	Toms Forest	[✂]	27	29	ASP, RMX	P	[✂]	-	[25–33]	[0–25]
Leiths	Blackhills	[✂]	28	31	ASP, RMX	P,R	[✂]	-	-	[0–25]
Lovie	Cottonhill	[✂]	28	27	-	P	[✂]	-	-	[0–25]
A&M Smith Skip Hire	Bankhead	[✂]	29	32	-	R	[✂]	-	-	[0–25]
Leiths	North Lasts	[✂]	29	32	-	P,R	[✂]	-	-	[0–25]
Bruce Plant	Cairnrobin	[✂]	31	34	-	P	[✂]	-	-	[0–25]
Breedon	Craigenlow	[✂]	31	34	ASP, RMX	P	[✂]	-	-	[0–25]
Chap Quarries	Durris	[✂]	33	36	RMX	P	[✂]	-	-	[0–25]
Leiths	Netherpark	[✂]	34	37	-	P,R	[✂]	-	-	[0–25]
AI	Corrennie	[✂]	35	37	-	P	[✂]	-	-	[0–25]
Bruce Plant	Ury	[✂]	35	38	-	P	[✂]	-	-	[0–25]
Breedon	Boyne Bay	[✂]	35	34	RMX	P	[✂]	-	-	[0–25]

Source: CC calculations.

* P=Primary, R=Recycled.
Note: Population centre is defined as Aberdeen (Aberdeen City Council, Aberdeen, AB10 1AB). For Stirlinghill site, population centre is Peterhead (Aberdeenshire Council, Peterhead, AB42 1UE).

Constraint from recycled

21. Table 6 shows shares of sales of recycled aggregates by all suppliers in areas around Breedon and Aggregate Industries sites.

TABLE 6 **Aggregates: local shares of recycled in areas around Tom's Forest, Craigenlow, Corrennie, Stirlinghill, 2012**

per cent

Site	*18 miles*	*27 miles*
Tom's Forest (AI)	[0–25]	[0–25]
Corrennie (AI)	[0–25]	[0–25]
Craigenlow (B)	[0–25]	[0–25]
Stirlinghill (B)	[0–25]	[0–25]

Source: CC calculations, based on data received from Breedon, Aggregate Industries, third parties, and BDS.

Constraint from internal sales

22. Tables 7 and 8 show shares of aggregates external sales in areas around Breedon and Aggregate Industries sites, and shares of aggregates sales by vertically integrated competitor sites.

TABLE 7 **Aggregates: share of external sales in areas around Tom's Forest, Craigenlow, Corrennie, Stirlinghill, 2012**

per cent

	18 mile radial		*27 mile radial*	
Site	*Total share of external*	*Total share of external by competitors*	*Total share of external*	*Total share of external by competitors*
Tom's Forest (AI)	[50–100]	[50–100]	[50–100]	[50–100]
Corrennie (AI)	[50–100]	[50–100]	[50–100]	[50–100]
Craigenlow (B)	[50–100]	[50–100]	[50–100]	[50–100]
Stirlinghill (B)	[50–100]	[50–100]	[50–100]	[50–100]

Source: CC calculations, based on data received from Breedon, Aggregate Industries, third parties, and BDS.

TABLE 8 **Aggregates: share of competing sites which are VI in areas around Tom's Forest, Craigenlow, Corrennie, Stirlinghill, 2012**

per cent

Site	*18 miles*	*27 miles*
Tom's Forest (AI)	[50–100]	[50–100]
Corrennie (AI)	[50–100]	[50–100]
Craigenlow (B)	[50–100]	[50–100]
Stirlinghill (B)	[33–50]	[50–100]

Source: CC calculations, based on data received from Breedon, Aggregate Industries, third parties, and BDS.

Customer locations

23. Figures 3 to 5 below show delivery locations from the Tom's Forest, Craigenlow and Stirlinghill sites marked as 'x'-es. This reflects external delivered sales only, and the size of the 'x'-es is proportional to the sales volume.

FIGURE 3

Aggregates: delivery locations for Tom's Forest

[✂]

Source: CC analysis.

FIGURE 4

Aggregates: delivery locations for Craigenlow

[✂]

Source: CC analysis.

FIGURE 5

Aggregates: delivery locations for Stirlinghill

[✂]

Source: CC analysis.

RMX

RMX sites near Montrose

Sites

24. Table 9 shows details of the merging parties' and competitors' sites, including distance from the parties' focal site, distance from population centre (Montrose), volumes and supplier shares of production.

TABLE 9 **RMX sites near Montrose**

Supplier	*Site*	*Site volume (k m³)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Supplier share within 13 miles*	*Supplier share within 20 miles*	*Supplier share within 26 miles*
Al	**Edzell (focal)**	[✂]	0	10	AGG	[0–25]	[0–25]	[0–25]
Breedon	Capo	[✂]	2	8	AGG	[50–100]	[0–25]	[0–25]
Barr	Kilmarnock	[✂]	14	15	ASP	-	[0–25]	[0–25]
Laird Brothers	Forfar	[✂]	15	16	-	-	[50–100]	[0–25]
Breedon	Deeside*	[✂]	21	26	-	-	-	[0–25]
Chap Quarries	Durris	[✂]	21	26	AGG	-	-	[0–25]
Breedon	Ethiebeaton	[✂]	24	20	ASP, AGG	-	-	[0–25]
Geddes Group	Ardownie	[✂]	24	20	AGG	-	-	[25–33]
Hanson	Dundee	[✂]	25	23	-	-	-	[0–25]
Breedon	Craigenlow	[✂]	25	32	ASP, AGG	-	-	[0–20
Spotmix	Spotmix (volumetric)	[✂]	26	22	-	-	-	[0–25]
Breedon	**Capo (focal)**	[✂]	0	8	AGG	[50–100]	[0–25]	[0–25]
Al	Edzell	[✂]	2	10	AGG	[0–25]	[0–25]	[0–25]
Barr	Kilmarnock	[✂]	13	15	ASP	-	[0–25]	[0–25]
Laird Brothers	Forfar	[✂]	15	16	-	-	[50–100]	[0–25]
Breedon	Deeside*	[✂]	22	26	-	-	-	[0–25]
Breedon	Ethiebeaton	[✂]	22	20	ASP, AGG	-	-	[0–25]
Chap Quarries	Durris	[✂]	22	26	AGG	-	-	[0–25]
Geddes Group	Ardownie	[✂]	23	20	AGG	-	-	[25–33]
Hanson	Dundee	[✂]	24	23	-	-	-	[0–25]
Spotmix	Spotmix (volumetric)	[✂]	24	22	-	-	-	[0–25]
Al	Dundee	[✂]	25	24	-	-	-	[0–25]

Source: CC calculations.

*Mothballed in 2010.
Note: Population centre is defined as Montrose (Montrose Town Hall, Montrose, DD10 8QW).

Customer locations

25. Figures 6 and 7 below show delivery locations from the Capo and Edzell sites, marked as 'x'-es. This reflects external delivered sales only, and the size of the 'x'-es is proportional to the sales volume.

FIGURE 6

RMX: delivery locations for Edzell

[✂]

Source: CC analysis.

FIGURE 7

RMX: delivery locations for Capo

[✂]

Source: CC analysis.

RMX sites near Aberdeen

Sites

26. Table 10 shows details of the merging parties' and competitors' sites, including distance from the parties' focal site, distance from population centre (Aberdeen), volumes and supplier shares of production.

TABLE 10 **RMX sites near Aberdeen**

Supplier	*Site*	*Site volume (k m^3)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Supplier share within 13 miles*	*Supplier share within 20 miles*	*Supplier share within 26 miles*
AI	**Tullos (focal)**	[✂]	0	2	-	[33–50]	[33–50]	[25–33]
Leiths	Blackhills	[✂]	2	4	ASP, AGG	[33–50]	[25–33]	[0–25]
Breedon	Bridge Of Don	[✂]	6	4	-	[0–25]	[33–50]	[33–50]
Leiths	Lochhills Quarry	[✂]	7	6	ASP, AGG	[33–50]	[25–33]	[0–25]
Breedon	Westhill	[✂]	8	7	-	[0–25]	[33–50]	[33–50]
AI	Dyce	[✂]	8	7	AGG	[33–50]	[33–50]	[25–33]
Chap Quarries	Durris	[✂]	9	10	AGG	[0–25]	[0–25]	[0–25]
Breedon	Deeside*	[✂]	10	10	-	[0–25]	[33–50]	[33–50]
Breedon	Craigenlow	[✂]	14	13	ASP, AGG	-	[33–50]	[33–50]
AI	Tom's Forest	[✂]	14	13	ASP, AGG	-	[33–50]	[25–33]
Breedon	Inverurie	[✂]	16	15	-	-	[33–50]	[33–50]
Lovie	Methlick	[✂]	22	20	AGG	-	-	[0–25]
Breedon	Stirlinghill	[✂]	26	24	ASP, AGG	-	-	[33–50]
AI	**Toms Forest (focal)**	[✂]	0	13	ASP, AGG	[25–33]	[25–33]	[25–33]
Breedon	Inverurie	[✂]	3	15	-	[33–50]	[25–33]	[25–33]
Breedon	Craigenlow	[✂]	5	13	ASP, AGG	[33–50]	[25–33]	[25–33]
AI	Dyce	[✂]	7	7	AGG	[25–33]	[25–33]	[25–33]
Breedon	Westhill	[✂]	8	7	-	[33–50]	[25–33]	[25–33]
Leiths	Lochhills Quarry	[✂]	9	6	ASP, AGG	[0–25]	[0–25]	[0–25]
Breedon	Bridge Of Don	[✂]	11	4	-	[33–50]	[25–33]	[25–33]
Breedon	Deeside*	[✂]	12	10	-	[33–50]	[25–33]	[25–33]
Chap Quarries	Durris	[✂]	12	10	AGG	[0–25]	[0–25]	[0–25]
Lovie	Methlick	[✂]	14	20	AGG	-	[0–25]	[0–25]
AI	Tullos	[✂]	14	2	-	-	[25–33]	[25–33]
Leiths	Blackhills	[✂]	16	4	ASP, AGG	-	[0–25]	[0–25]
AI	**Dyce (focal)**	[✂]	0	7	AGG	[33–50]	[25–33]	[25–33]
Leiths	Lochhills Quarry	[✂]	2	6	ASP, AGG	[25–33]	[0–25]	[0–25]
Breedon	Bridge Of Don	[✂]	4	4	-	[33–50]	[25–33]	[33–50]
Breedon	Westhill	[✂]	6	7	-	[33–50]	[25–33]	[33–50]
AI	Tom's Forest	[✂]	7	13	ASP, AGG	[33–50]	[25–33]	[25–33]
Breedon	Inverurie	[✂]	8	15	-	[33–50]	[25–33]	[33–50]
AI	Tullos	[✂]	8	2	-	[33–50]	[25–33]	[25–33]
Breedon	Craigenlow	[✂]	10	13	ASP, AGG	[33–50]	[25–33]	[33–50]
Leiths	Blackhills	[✂]	10	4	ASP, AGG	[25–33]	[0–25]	[0–25]
Chap Quarries	Durris	[✂]	11	10	AGG	[0–25]	[0–25]	[0–25]
Breedon	Deeside*	[✂]	11	10	-	[33–50]	[25–33]	[33–50]
Lovie	Methlick	[✂]	14	20	AGG	-	[0–25]	[0–25]
Breedon	Stirlinghill	[✂]	23	24	ASP, AGG	-	-	[33–50]
AI	Peterhead	[✂]	23	26	-	-	-	[25–33]
Breedon	**Craigenlow (focal)**	[✂]	0	13	ASP, AGG	[33–50]	[25–33]	[25–33]
AI	Tom's Forest	[✂]	5	13	ASP, AGG	[25–33]	[25–33]	[25–33]
Breedon	Westhill	[✂]	7	7	-	[33–50]	[25–33]	[25–33]
Breedon	Deeside*	[✂]	8	10	-	[33–50]	[25–33]	[25–33]
Breedon	Inverurie	[✂]	8	15	-	[33–50]	[25–33]	[25–33]
Chap Quarries	Durris	[✂]	9	10	AGG	[0–25]	[0–25]	[0–25]
AI	Dyce	[✂]	10	7	AGG	[25–33]	[25–33]	[25–33]
Leiths	Lochhills Quarry	[✂]	12	6	ASP, AGG	[0–25]	[0–25]	[0–25]
Breedon	Bridge Of Don	[✂]	13	4	-	-	[25–33]	[25–33]
AI	Tullos	[✂]	14	2	-	-	[25–33]	[25–33]
Leiths	Blackhills	[✂]	15	4	ASP, AGG	-	[0–25]	[0–25]
Lovie	Methlick	[✂]	19	20	AGG	-	[0–25]	[0–25]

Supplier	*Site*	*Site volume (k m³)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Supplier share within 13 miles*	*Supplier share within 20 miles*	*Supplier share within 26 miles*
Al	Edzell	[✂]	25	31	AGG	-	-	[25–33]
Breedon	**Westhill (focal)**	[✂]	0	7	-	[33–50]	[25–33]	[25–33]
Chap Quarries	Durris	[✂]	5	10	AGG	[0–25]	[0–25]	[0–25]
Breedon	Deeside*	[✂]	6	10	-	[33–50]	[25–33]	[25–33]
Al	Dyce	[✂]	6	7	AGG	[33–50]	[25–33]	[25–33]
Breedon	Craigenlow	[✂]	7	13	ASP, AGG	[33–50]	[25–33]	[25–33]
Leiths	Lochhills Quarry	[✂]	7	6	ASP, AGG	[25–33]	[0–25]	[0–25]
Al	Tullos	[✂]	8	2	-	[33–50]	[25–33]	[25–33]
Breedon	Bridge Of Don	[✂]	8	4	-	[33–50]	[25–33]	[25–33]
Al	Tom's Forest	[✂]	8	13	ASP, AGG	[33–50]	[25–33]	[25–33]
Leiths	Blackhills	[✂]	8	4	ASP, AGG	[25–33]	[0–25]	[0–25]
Breedon	Inverurie	[✂]	11	15	-	[33–50]	[25–33]	[25–33]
Lovie	Methlick	[✂]	19	20	AGG	-	[0–25]	[0–25]
Breedon	**Inverurie (focal)**	[✂]	0	15	-	[33–50]	[25–33]	[33–50]
Al	Tom's Forest	[✂]	3	13	ASP, AGG	[25–33]	[25–33]	[25–33]
Al	Dyce	[✂]	8	7	AGG	[25–33]	[25–33]	[25–33]
Breedon	Craigenlow	[✂]	8	13	ASP, AGG	[33–50]	[25–33]	[33–50]
Leiths	Lochhills Quarry	[✂]	10	6	ASP, AGG	[0–25]	[0–25]	[0–25]
Breedon	Westhill	[✂]	11	7	-	[33–50]	[25–33]	[33–50]
Lovie	Methlick	[✂]	11	20	AGG	[0–25]	[0–25]	[0–25]
Breedon	Bridge Of Don	[✂]	12	4	-	[33–50]	[25–33]	[33–50]
Breedon	Deeside*	[✂]	15	10	-	-	[25–33]	[33–50]
Chap Quarries	Durris	[✂]	15	10	AGG	-	[0–25]	[0–25]
Al	Tullos	[✂]	16	2	-	-	[25–33]	[25–33]
Leiths	Blackhills	[✂]	18	4	ASP, AGG	-	[0–25]	[0–25]
Al	Peterhead	[✂]	24	26	-	-	-	[25–33]
Breedon	Stirlinghill	[✂]	25	24	ASP, AGG	-	-	[33–50]
Breedon	**Bridge Of Don (focal)**	[✂]	0	4	-	[25–33]	[25–33]	[33–50]
Leiths	Lochhills Quarry	[✂]	2	6	ASP,AGG	[25–33]	[0–25]	[0–25]
Al	Dyce	[✂]	4	7	AGG	[33–50]	[25–33]	[25–33]
Al	Tullos	[✂]	6	2	-	[33–50]	[25–33]	[25–33]
Breedon	Westhill	[✂]	8	7	-	[25–33]	[25–33]	[33–50]
Leiths	Blackhills	[✂]	8	4	ASP,AGG	[25–33]	[0–25]	[0–25]
Al	Tom's Forest	[✂]	11	13	ASP,AGG	[33–50]	[25–33]	[25–33]
Breedon	Inverurie	[✂]	12	15	-	[25–33]	[25–33]	[33–50]
Chap Quarries	Durris	[✂]	12	10	AGG	[0–25]	[0–25]	[0–25]
Breedon	Deeside*	[✂]	13	10	-	[25–33]	[25–33]	[33–50]
Breedon	Craigenlow	[✂]	13	13	ASP, AGG	-	[25–33]	[33–50]
Lovie	Methlick	[✂]	16	20	AGG	-	[0–25]	[0–25]
Breedon	Stirlinghill	[✂]	21	24	ASP, AGG	-	-	[33–50]
Al	Peterhead	[✂]	23	26	-	-	-	[25–33]
Breedon	**Deeside* (focal)**	[✂]	0	10	-	[0–25]	[33–50]	[25–33]
Chap Quarries	Durris	[✂]	1	10	AGG	[0–25]	[0–25]	[0–25]
Breedon	Westhill	[✂]	6	7	-	[0–25]	[33–50]	[25–33]
Breedon	Craigenlow	[✂]	8	13	ASP, AGG	[0–25]	[33–50]	[25–33]
Leiths	Blackhills	[✂]	9	4	ASP,AGG	[25–33]	[25–33]	[0–25]
Al	Tullos	[✂]	10	2	-	[33–50]	[33–50]	[25–33]
Al	Dyce	[✂]	11	7	AGG	[33–50]	[33–50]	[25–33]
Al	Tom's Forest	[✂]	12	13	ASP, AGG	[33–50]	[33–50]	[25–33]
Leiths	Lochhills Quarry	[✂]	12	6	ASP, AGG	[25–33]	[25–33]	[0–25]
Breedon	Bridge Of Don	[✂]	13	4	-	[0–25]	[33–50]	[25–33]
Breedon	Inverurie	[✂]	15	15	-	-	[33–50]	[25–33]
Al	Edzell	[✂]	21	31	AGG	-	-	[25–33]
Breedon	Capo	[✂]	22	31	AGG	-	-	[25–33]
Lovie	Methlick	[✂]	25	20	AGG	-	-	[0–25]
Breedon	Inverurie	[✂]	0	15	-	[33–50]	[25–33]	[33–50]

Source: CC calculations.

*Mothballed in 2010.
Note: Population centre is defined as Aberdeen (Aberdeen City Council, Aberdeen, AB10 1AB).

Customer locations

27. Figures 8 to 14 below show delivery locations from the Craigenlow, Tom's Forest, Dyce, Bridge of Don, Inverurie, Tullos, and Westhill sites, marked as 'x'-es. This reflects external delivered sales only, and the size of the 'x'-es is proportional to the sales volume.

FIGURE 8

RMX: delivery locations for Craigenlow (Breedon)

[✂]

Source: CC analysis.

FIGURE 9

RMX: delivery locations for Tom's Forest (Al)

[✂]

Source: CC analysis.

FIGURE 10

RMX: delivery locations for Dyce (Al)

[✂]

Source: CC analysis.

FIGURE 11

RMX: delivery locations for Bridge of Don (Breedon)

[✂]

Source: CC analysis.

FIGURE 12

RMX: delivery locations for Inverurie (Breedon)

[✂]

Source: CC analysis.

FIGURE 13

RMX: delivery locations for Westhill (Breedon)

[✂]

Source: CC analysis.

FIGURE 14

RMX: delivery locations for Tullos (Al)

[✂]

Source: CC analysis.

RMX sites near Peterhead

Sites

28. Table 11 shows details of the merging parties' and competitors' sites, including distance from the parties' focal site, distance from population centre (Peterhead), volumes and supplier shares of production.

TABLE 11 **RMX sites near Peterhead**

Supplier	*Site*	*Site volume (k m^3)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Supplier share within 13 miles*	*Supplier share within 20 miles*	*Supplier share within 26 miles*
Al	**Peterhead (focal)**	[✂]	0	4	-	[0–25]	[0–25]	[0–25]
Breedon	Stirlinghill	[✂]	5	3	ASP, AGG	[25–33]	[0–25]	[25–33]
Kirkmyres Sand & Gravel	Fraserburgh	[✂]	12	16	-	[25–33]	[0–25]	[0–25]
Lovie	Blackhills	[✂]	12	16	AGG	[25–33]	[33–50]	[25–33]
Lovie	Methlick	[✂]	14	18	AGG	-	[33–50]	[25–33]
Leiths	Lochhills Quarry	[✂]	22	24	ASP, AGG	-	-	[0–25]
Breedon	Bridge Of Don	[✂]	23	24	-	-	-	[25–33]
Al	Dyce	[✂]	23	25	AGG	-	-	[0–25]
Breedon	Inverurie	[✂]	24	27	-	-	-	[25–33]
Breedon	**Stirlinghill (focal)**	[✂]	0	3	ASP, AGG	[50–100]	[0–25]	[25–33]
Al	Peterhead	[✂]	5	4	-	[33–50]	[0–25]	[25–33]
Lovie	Methlick	[✂]	17	18	AGG	-	[33–50]	[0–25]
Kirkmyres Sand & Gravel	Fraserburgh	[✂]	17	16	-	-	[0–25]	[0–25]
Lovie	Blackhills	[✂]	17	16	AGG	-	[33–50]	[0–25]
Breedon	Bridge Of Don	[✂]	21	24	-	-	-	[25–33]
Leiths	Lochhills Quarry	[✂]	21	24	ASP, AGG	-	-	[0–25]
Al	Dyce	[✂]	23	25	AGG	-	-	[25–33]
Breedon	Inverurie	[✂]	25	27	-	-	-	[25–33]
Al	Tullos	[✂]	26	29	-	-	-	[25–33]

Source: CC calculations.

Note: Population centre is defined as Peterhead (Aberdeenshire Council, Peterhead, AB42 1UE).

Customer locations

29. Figures 15 and 16 below show delivery locations from Peterhead and Stirlinghill RMX sites marked as 'x'-es. This reflects external delivered sales only, and the size of the 'x'-es is proportional to the sales volume.

FIGURE 15

RMX: delivery locations for Peterhead (AI)

[✂]

Source: CC analysis.

FIGURE 16

RMX: delivery locations for Stirlinghill (Breedon)

[✂]

Source: CC analysis.

RMX sites near Inverness

Sites

30. Table 12 shows details on competitors' sites, including distance from the parties' site, distance from population centre (Inverness), volumes and supplier shares of production. We note that Leiths's Mid Lairgs RMX plant is just outside the 13-mile catchment area around Beauly; if this site was included in the production share calculations, the respective shares would be [0–25] per cent for Aggregate Industries, [25–33] per cent for Breedon, [0–25] per cent for Accumix Concrete, [25–33] per cent for HCM, and [0–25] per cent for Leiths.

TABLE 12 **RMX sites near Inverness**

Supplier	*Site*	*Site volume (k m³)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Supplier share within 13 miles*	*Supplier share within 20 miles*	*Supplier share within 26 miles*
Al	**Beauly (focal)**	[✂]	0	9	AGG	[0–25]	[0–25]	[0–25]
Accumix Concrete	Accumix Concrete (volumetric)	[✂]	9	1	-	[0–25]	[0–25]	[0–25]
Breedon	Inverness	[✂]	9	1	-	[25–33]	[0–25]	[0–25]
HCM	Inverness	[✂]	10	1	-	[25–33]	[25–33]	[0–25]
Leiths	Mid Lairgs	[✂]	13	5	AGG	-	[0–25]	[0–25]
Pat Munro Ltd	Caplich	[✂]	18	16	ASP, AGG	-	[0–25]	[0–25]
Cowal Concrete Company	Fort Augustus	[✂]	21	23	-	-	-	[0–25]
HCM	Blackcastle	[✂]	22	13	-	-	-	[0–25]
Lafarge Tarmac	RMX Mobile 1	[✂]	23	18	-	-	-	[0–25]
Breedon	**Inverness (focal)**	[✂]	0	1	-	[25–33]	[0–25]	[0–25]
HCM *	Inverness	[✂]	0	1	-	[25–33]	[25–33]	[0–25]
Accumix Concrete	Accumix Concrete (volumetric)	[✂]	1	1	-	[0–25]	[0–25]	[0–25]
Leiths	Mid Lairgs	[✂]	6	5	AGG	[0–25]	[0–25]	[0–25]
Al	Beauly	[✂]	9	9	AGG	[0–25]	[0–25]	[0–25]
HCM *	Blackcastle	[✂]	13	13	-	[25–33]	[25–33]	[0–25]
Pat Munro Ltd	Caplich	[✂]	14	16	ASP, AGG	-	[0–25]	[0–25]
Lafarge Tarmac	RMX Mobile 1	[✂]	16	18	-	-	[0–25]	[0–25]
Cowal Concrete Company	Fort Augustus	[✂]	24	23	-	-	-	[0–25]
Breedon	Aviemore	[✂]	25	24	-	-	-	[0–25]
Leiths	New Forres	[✂]	26	26	ASP, AGG	-	-	[0–25]

Source: CC calculations.

*Hope Construction Materials.
Note: Population centre is defined as Inverness (The Highland Council, Glenurquhart Road, Inverness IV3 5NX).

Customer locations

31. Figures 17 and 18 below show delivery locations from Beauly and Inverness RMX sites, marked as 'x'-es. This reflects external delivered sales only, and the size of the 'x'-es is proportional to the sales volume.

FIGURE 17

RMX: delivery locations for Beauly (Al)

[✂]

Source: CC analysis.

FIGURE 18

RMX: delivery locations for Inverness (Breedon)

[✂]

Source: CC analysis.

Asphalt

Asphalt sites near Aberdeen

Sites

32. Table 13 shows details of the merging parties' and competitors' sites, including distance from the parties' focal site, distance from population centre (Aberdeen), volumes and supplier shares of production.

TABLE 13 **Asphalt sites near Aberdeen**

Supplier	*Site*	*Site volume in 2012 (kt)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Supplier share within 17 miles*	*Supplier share within 25 miles*	*Supplier share within 35 miles*
Al	**Toms Forest (focal)**	[✂]	0	13	AGG, RMX	[0–25]	[0–25]	[0–25]
Breedon	Craigenlow	[✂]	5	13	AGG, RMX	[0–25]	[0–25]	[0–25]
Aberdeenshire Council	Pitcaple	[✂]	6	18	AGG	[25–33]	[25–33]	[25–33]
Leiths	Lochhills Quarry	[✂]	9	6	AGG, RMX	[33–50]	[33–50]	[33–50]
Aberdeenshire Council	Balmedie	[✂]	11	7	AGG	[25–33]	[25–33]	[25–33]
Aberdeenshire Council	Craiglash	[✂]	14	20	AGG	[25–33]	[25–33]	[25–33]
Leiths	Blackhills	[✂]	16	4	AGG, RMX	[33–50]	[33–50]	[33–50]
Breedon	Stirlinghill	[✂]	27	24	AGG, RMX	-	-	[0–25]
Leiths	Bluehill	[✂]	34	47	AGG	-	-	[33–50]
Breedon	**Craigenlow (focal)**	[✂]	0	13	AGG, RMX	[0–25]	[0–25]	[0–25]
Al	Toms Forest	[✂]	5	13	AGG, RMX	[0–25]	[0–25]	[0–25]
Aberdeenshire Council	Craiglash	[✂]	9	20	AGG	[25–33]	[25–33]	[25–33]
Aberdeenshire Council	Pitcaple	[✂]	11	18	AGG	[25–33]	[25–33]	[25–33]
Leiths	Lochhills Quarry	[✂]	12	6	AGG, RMX	[33–50]	[33–50]	[33–50]
Aberdeenshire Council	Balmedie	[✂]	15	7	AGG	[25–33]	[25–33]	[25–33]
Leiths	Blackhills	[✂]	15	4	AGG, RMX	[33–50]	[33–50]	[33–50]
Breedon	Stirlinghill	[✂]	31	24	AGG, RMX	-	-	[0–25]
Leiths	Bluehill	[✂]	35	47	AGG	-	-	[33–50]
Breedon	**Stirlinghill (focal)**	[✂]	0	24	AGG, RMX	[50–100]	[0–25]	[25–33]
Aberdeenshire Council	Balmedie	[✂]	18	7	AGG	-	[33–50]	[25–33]
Leiths	Lochhills Quarry	[✂]	21	6	AGG, RMX	-	[33–50]	[33–50]
Aberdeenshire Council	Pitcaple	[✂]	26	18	AGG	-	-	[25–33]
Al	Toms Forest	[✂]	27	13	AGG, RMX	-	-	[0–25]
Leiths	Blackhills	[✂]	28	4	AGG, RMX	-	-	[33–50]
Breedon	Craigenlow	[✂]	31	13	AGG, RMX	-	-	[25–33]

Source: CC calculations.

Note: Population centre is defined as Aberdeen (Aberdeen City Council, Aberdeen AB10 1AB).

Customer locations

33. Figures 19 to 21 below show delivery locations from Tom's Forest, Craigenlow, Stirlinghill asphalt sites, marked as 'x'-es. This reflects external delivered sales only, and the size of the 'x'-es is proportional to the sales volume.

FIGURE 19

Asphalt: delivery locations for Tom's Forest (Al)

[✂]

Source: CC analysis.

FIGURE 20

Asphalt: delivery locations for Craigenlow (Breedon)

[✂]

Source: CC analysis.

FIGURE 21

Asphalt: delivery locations for Stirlinghill (Breedon)

[✂]

Source: CC analysis.

Asphalt sites near Inverness

Sites

34. Table 14 shows details of the merging parties' and competitors' sites, including distance from the parties' focal site, distance from population centre (Inverness), volumes and supplier shares of production.

TABLE 14 **Asphalt sites near Inverness**

Supplier	*Site*	*Site volume in 2012 (kt)*	*Distance to focal site (radial miles)*	*Distance to population centre (radial miles)*	*Other products?*	*Supplier share within 17 miles*	*Supplier share within 25 miles*	*Supplier share within 35 miles*
Al	**Mid Lairgs (focal)**	[✂]	0	6	-*	[33–50]	[0–25]	[0–25]
Breedon	Daviot	[✂]	1	5	-**	[50–100]	[0–25]	[33–50]
Leiths	Achilty	[✂]	21	15	AGG	-	[0–25]	[0–25]
Pat Munro Ltd	Caplich	[✂]	21	16	AGG, RMX	-	[33–50]	[25–33]
Leiths	New Forres	[✂]	25	26	AGG, RMX	-	-	[0–25]
Breedon	Netherglen	[✂]	35	37	AGG, RMX	-	-	[33–50]
Breedon	**Daviot (focal)**	[✂]	0	5	-**	[50–100]	[0–25]	[33–50]
Al	Mid Lairgs	[✂]	1	6	-*	[33–50]	[0–25]	[0–25]
Pat Munro Ltd	Caplich	[✂]	20	16	AGG, RMX	-	[33–50]	[25–33]
Leiths	Achilty	[✂]	20	15	AGG		[25–33]	[0–25]
Leiths	New Forres	[✂]	24	26	AGG, RMX	-	[25–33]	[0–25]
Breedon	Netherglen	[✂]	34	37	AGG, RMX	-		[33–50]
Breedon	**Netherglen (focal)**	[✂]	0	37	AGG, RMX	[33–50]	[33–50]	[33–50]
Leiths	Bluehill	[✂]	7	39	AGG	[50–100]	[50–100]	[25–33]
Leiths	New Forres	[✂]	11	26	AGG, RMX	[50–100]	[50–100]	[25–33]
Breedon	Daviot	[✂]	34	5	-**	-	-	[33–50]
Al	Mid Lairgs	[✂]	35	6	-*	-		[0–25]
Aberdeenshire Council	Pitcaple	[✂]	35	67	AGG	-	-	[0–25]

Source: CC calculations.

*Aggregate Industries' Mid Lairgs plant is located on a quarry owned by Leiths. ** Daviot is located on a quarry owned by Lafarge Tarmac.
Note: Population centre is defined as Inverness (The Highland Council, Glenurquhart Road, Inverness IV3 5NX).

Customer locations

35. Figures 22 to 24 below show delivery locations from Mid Lairgs, Daviot and Netherglen asphalt sites, marked as 'x'-es. This reflects external delivered sales only, and the size of the 'x'-es is proportional to the sales volume.

FIGURE 22

Asphalt: delivery locations for Mid Lairgs(Al)

[✂]

Source: CC analysis.

FIGURE 23

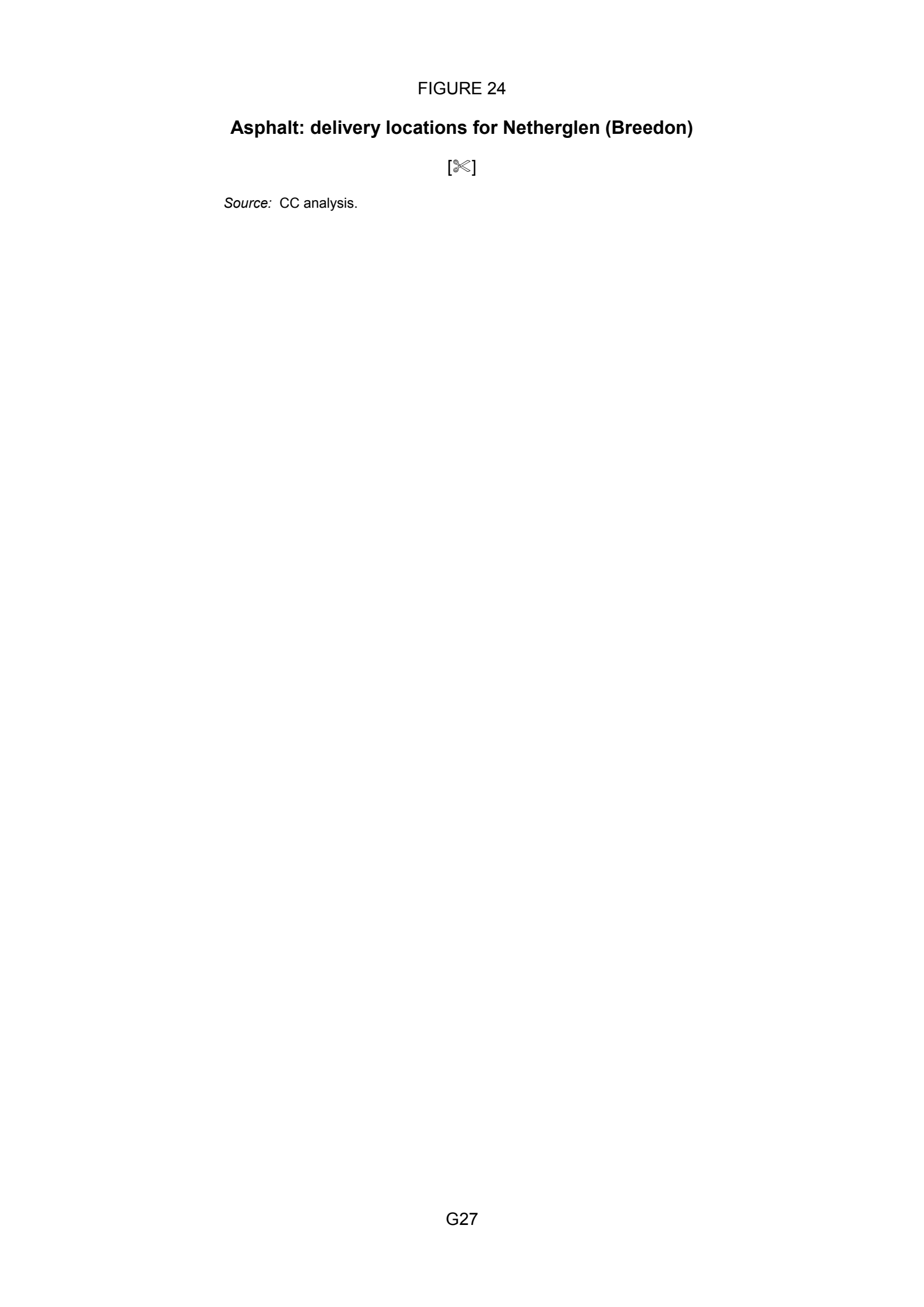
Asphalt: delivery locations for Daviot (Breedon)

[✂]

Source: CC analysis.

FIGURE 24

Asphalt: delivery locations for Netherglen (Breedon)



Source: CC analysis.

Pricing analysis

Introduction

1. This appendix presents our analysis of pricing across local markets for aggregates, RMX and asphalt by Breedon and Aggregate Industries. The purpose of this is to understand whether there are any differences in pricing across local areas. We examined both actual average sales prices (ex-works) for Breedon and Aggregate Industries, as well as Breedon's list prices for its north Scotland sites, for each product.[1] Since actual prices, and hence the observed average prices, are likely to be influenced by a number of factors such as individually negotiated prices, differences in customer base, product mix, costs and demand factors, we interpret these results with caution.

Analysis of Breedon's pricing across sites

2. We examined the 2012 average sales prices by product subcategory across Breedon's sites. We use the annual average ex-works prices, where the ex-works price has been calculated by subtracting haulage cost from net sales revenue for delivered transactions.[2] We include delivered and collected external sales in this analysis.[3]

3. Table 1 presents our analysis of Breedon's volume-weighted average ex-works prices for aggregates. We observe the following:

   (a) Type 1 sub-base and other sub-bases and fills have a slightly lower price per tonne across sites located in [✂].

   (b) Average price of sands (which include coarse and fine sands) varies from [✂].

[1] Sales through contracting surfacing services are not included in this analysis, since the price paid by end-customer price is not observed in the data (it only includes internal transfer price to the parties' respective contracting divisions).
[2] Breedon told us that haulage rates did not always fully cover the cost of transport.
[3] Data submitted by Breedon shows four external transactions of aggregates (delivered and collected) from Cunmont in 2012. Considering the limited number of transactions, Cunmont was not included in this analysis.

(c) Average prices of dust vary across sites, ranging from [✂].

(d) There is significant variation across sites of average prices for single-size graded <40mm aggregates—from [✂] per tonne to [✂] per tonne. This is likely to be at least partly driven by product differentiation within this subcategory of aggregates (ie single-size graded<40mm aggregates comprises product grades ranging from 2.8/6.3mm to 20/40mm), [✂].[4] The picture is similar for 'other' construction aggregates, where average prices range from [✂] per tonne across Breedon's sites.

(e) For recycled aggregates, the price per tonne ranges from £[✂] to £[✂] per tonne across sites and regions except for Capo quarry in the Grampian region where the average price per tonne is £[✂].

4. We observe variation in average prices of aggregates across sites and product categories, but it is difficult to see any consistent picture emerging in aggregates pricing.

TABLE 1 **Breedon sales prices: volume-weighted average ex-works prices for aggregates, 2012**

£/tonne

Region	*Site*	*Type 1 sub-base*	*Other sub-bases & fills*	*Sands*	*Dust*	*Single size <40mm*	*Other construction*	*Decorative*	*Recycled*
Grampian	Capo	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Grampian	Craigenlow	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Grampian	Netherglen	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Grampian	Rothes Glen	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Grampian	Stirlinghill	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Highland	Meadowside	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Highland	Morefields	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Tayside & Fife	Balmullo	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Tayside & Fife	Clatchard	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Tayside & Fife	Ethiebeaton	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Tayside & Fife	Orrock	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Tayside & Fife	Shierglas	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CC calculations.

*Sands include coarse and fine sands.
Note: Averages based on less than 500 tonnes of sales are not reported in the table.

[44] Breedon told us that its data may include some decorative aggregates products which may attract prices at the higher end of the range.

5. Table 2 presents the volume-weighted average ex-works sales prices across sites for standard RMX and asphalt products.

6. The average ex-works price for standard RMX in the Tayside & Fife region is around [✂] per m^3 across sites ([✂]).[5] For the Grampian region, the price per m^3 shows a bit more variability across sites, with the price ranging from [✂] per m^3. The price per m^3 [✂] in the Highland region compared with the Tayside & Fife and Grampian regions, with the average ex-works price ranging from [✂] per m^3.

7. For asphalt, the price per tonne is [✂]. Average prices range between £[✂] and £[✂] per tonne in the Tayside & Fife region. And for the Grampian region, the price per tonne ranges from £[✂] to £[✂]. Overall, Breedon's asphalt prices [✂].

TABLE 2 **Breedon sales prices: volume-weighted average ex-works prices for RMX and asphalt, 2012**

Region	*Site*	*Standard RMX £/m3*	*Asphalt £/tonne*
Grampian	Boyne Bay	[✂]	[✂]
Grampian	Bridge of Don	[✂]	[✂]
Grampian	Capo	[✂]	[✂]
Grampian	Craigenlow	[✂]	[✂]
Grampian	Inverurie	[✂]	[✂]
Grampian	Netherglen	[✂]	[✂]
Grampian	Rothes Glen	[✂]	[✂]
Grampian	Stirlinghill	[✂]	[✂]
Grampian	Westhill	[✂]	[✂]
Highland	Aviemore	[✂]	[✂]
Highland	Daviot	[✂]	[✂]
Highland	Inverness	[✂]	[✂]
Highland	Morefields	[✂]	[✂]
Tayside & Fife	Clatchard	[✂]	[✂]
Tayside & Fife	Dunfermline	[✂]	[✂]
Tayside & Fife	Ethiebeaton	[✂]	[✂]
Tayside & Fife	Kirkcaldy	[✂]	[✂]
Tayside & Fife	Orrock	[✂]	[✂]
Tayside & Fife	Shierglas	[✂]	[✂]

Source: CC calculations.

Note: Averages based on less than 500 m^3 (for RMX) or 500 tonnes (for asphalt) of sales are not reported in the table. No results are presented for special RMX as sales were less than 500 m^3.

[5] Breedon told us that the [✂] price at [✂] was the result of a contract to supply [✂] with [✂] RMX which was [✂] to produce. In addition, transport costs were [✂] as [✂].

Analysis of Aggregate Industries' pricing across sites

8. We examined the average 2012 prices by product subcategory across Aggregate Industries' sites. We used the annual average ex-works prices, where the ex-works price has been calculated by subtracting haulage cost from net sales revenue for delivered transactions.[6] We include delivered and collected external sales transactions in this analysis.[7]

9. Table 3 presents the volume-weighted ex-works sales prices for aggregates products. For sub-bases and fills, the price per tonne is [✂] across sites in the Grampian region, at £[✂] at Tom's Forest quarry and £[✂] at Edzell quarry. [8] We observe also relatively low prices of other aggregates and dust. Average price of sands is £[✂] to £[✂] across the four Aggregate Industries' sites. Price differences may reflect different qualities of sand supplied by the various sites or types and sizes of projects/customers. Aggregate Industries' price data does not include the Aggregate Levy of around £2 per tonne in the table below.

TABLE 3 **Aggregate Industries sales prices: volume-weighted average ex-works prices for aggregates, 2012**

£/tonne

Region	*Site*	*Sub-bases and fills*	*Sands*	*Dust*	*Other construction*	*Decorative*
Grampian	Edzell	[✂]	[✂]	[✂]	[✂]	[✂]
Grampian	Toms Forest	[✂]	[✂]	[✂]	[✂]	[✂]
Highland	Beauly	[✂]	[✂]	[✂]	[✂]	[✂]
Tayside & Fife	Powmyre	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CC calculations.

Note: Averages based on less than 500 tonnes of sales are not reported in the table.

10. Table 4 presents the volume-weighted ex-works prices for RMX and asphalt. For standard RMX, average price per m^3 ranges from £[✂] to £[✂] across Aggregate

[6] Aggregate Industries told us that the prices derived from its transaction data for aggregates did not include the Aggregates Levy and that the haulage costs recorded in its data were not exact representations of the actual haulage costs paid for each delivery. These were estimated figures based on the distance and volume of the transaction.
[7] We note that the way different individual products are grouped together to form product subcategories may affect the estimated average prices.
[8] Aggregate Industries told us that [✂].

Industries sites, with prices being [✂]. For special RMX, the price per m^3 shows more variation across sites.

11. For asphalt, average ex-works prices are broadly similar across the two Aggregate Industries asphalt plants (it is around £[✂] per tonne at Mid Lairgs and around £[✂] per tonne at Tom's Forest).

TABLE 4 **Aggregate Industries sales prices: volume-weighted average ex-works prices for RMX and asphalt, 2012**

Region	*Site*	*Standard RMX £/m3*	*Special RMX £/m3*	*Asphalt* £/tonne*
Grampian	Dyce	[✂]	[✂]	[✂]
Grampian	Edzell	[✂]	[✂]	[✂]
Grampian	Peterhead	[✂]	[✂]	[✂]
Grampian	Toms Forest	[✂]	[✂]	[✂]
Grampian	Tullos	[✂]	[✂]	[✂]
Highland	Beauly	[✂]	[✂]	[✂]
Highland	Mid Lairgs	[✂]	[✂]	[✂]
Tayside & Fife	Dundee	[✂]	[✂]	[✂]
Tayside & Fife	Perth	[✂]	[✂]	[✂]

Source: CC calculations.

*Figures for asphalt are based on relatively low sales volumes of [✂].
Note: Averages based on less than 500 m^3 (for RMX) or 500 tonnes (for asphalt) of sales are not reported in the table.

Overview of average prices by site and by region

Prices

12. Figures 1 to 4 below show estimated average ex-works prices for aggregates, RMX and asphalt across the three regions in north-east Scotland and across Breedon and Aggregate Industries sites. For aggregates, we show prices of two product categories: fills and sub-bases (this includes Type 1), and 'other construction aggregates', which include single-size graded and aggregates products classified as 'other construction aggregates' in the sales data (but does not include sands and dust).

13. Figure 1 shows average prices by region and site, across all Breedon and Aggregate Industries aggregates sites, for fills and sub-bases, and Figure 2 shows the same for 'other construction aggregates'. We see that there is some variability across sites and regions.

FIGURE 1

Aggregates: average prices of fills and sub-bases

[✂]

Source: CC analysis.
Note: We added £2 equal to the Aggregates Levy to Aggregate Industries' average prices to be able to compare them with Breedon's average prices.

FIGURE 2

Aggregates: average prices of other construction aggregates

[✂]

Source: CC analysis.
Note: We added £2 equal to the Aggregates Levy to Aggregate Industries' average prices to be able to compare them with Breedon's average prices.

14. Figure 3 shows average ex-works prices for RMX across all Breedon and Aggregate Industries sites. These charts illustrate what we found above in relation to average actual RMX prices—which is that they tend to be lower at sites located in Tayside & Fife than at sites located in the Grampian and Highlands regions ([✂]).

FIGURE 3

RMX: average prices

[✂]

Source: CC analysis.

15. Figure 4 illustrates average prices per tonne of asphalt across Breedon's and Aggregate Industries' sites. For both Breedon and Aggregate Industries, average prices tend to be higher at their Grampian sites than at their Highlands or Tayside & Fife sites.

16. The average ex-works asphalt price per tonne sold in the Highlands region by Aggregate Industries' Mid Lairgs plant is [✂]. We further examined the ex-works prices and the volumes purchased from Mid Lairgs' transaction data for the period 2009 to 2012. We found the average ex-works price in 2012 was [✂] than the

average ex-works prices for 2009 to 2011. The asphalt volumes purchased by customers over each year at Mid Lairgs [✂].

FIGURE 4

Asphalt: average prices

[✂]

Source: CC analysis.

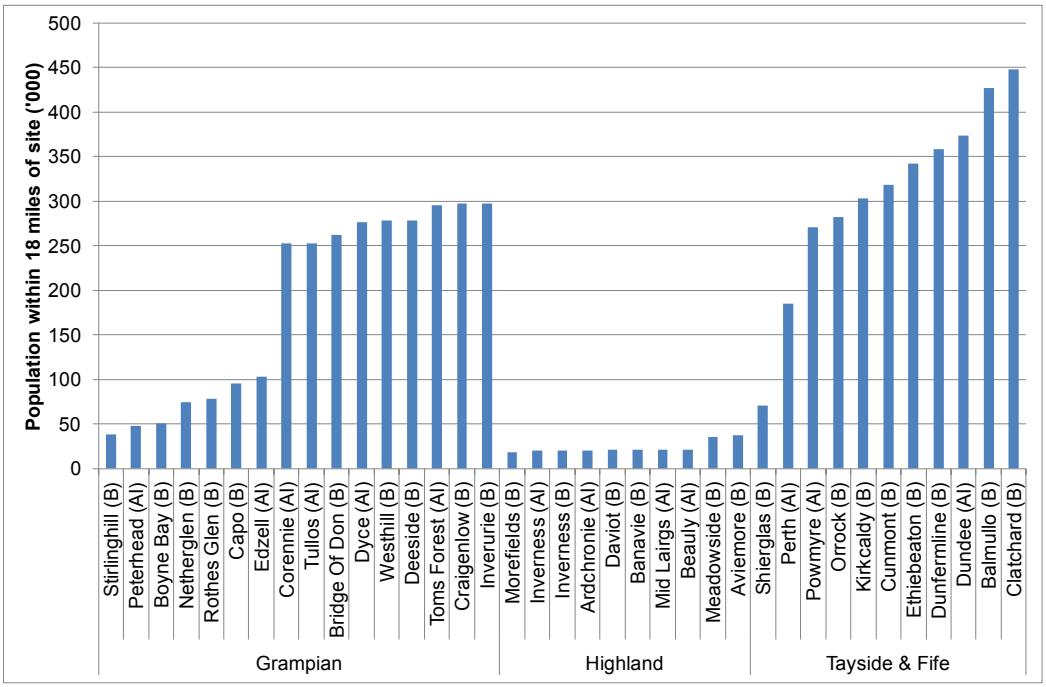
Local demand

17. We have been told by some parties that prices in the Grampian region tend to be higher because of demand factors. Figures 5 and 6 below show population count[9] and construction output[10] estimates, respectively, in areas 18 miles around the main parties' sites (these are 2011 figures).[11,12] We observe that although population count is lower around some Grampian sites (eg Tom's Forest, Craigenlow) than some Tayside & Fife sites (eg Dundee, Clatchard), the construction output is significantly higher in the vicinity of these sites in the Grampian. Both population count and the construction activity is comparatively much lower around sites in the Highlands.

[9] We used ONS data on mid-year population estimates, which is provided at local authority district (LAD) level.
[10] We used ONS data of construction output at basic prices, available at NUTS 4 local level (which is similar to LAD level) from its Annual Business Survey.
[11] 18 miles was our estimate of average 80 per cent catchment areas for aggregates across the parties' sites. We use it here simply to illustrate demographic and construction output situation in the local areas around parties' sites. The overall picture in terms of differences across sites is the same if we use 13 miles (which is average 80 per cent catchment area for RMX) or 17 miles (which is average 80 per cent catchment area for asphalt).
[12] When calculating total population and total construction output within a radial around each site, there were some instances where 18-mile radials overlapped with, for example, Lothian (particularly for sites located in Fife); in those instances we did not include population count in respect of that part of the radial which overlapped with, for example, Lothian. This may mean that total population count and total construction output for sites such as Orrock and Kirkcaldy, which are located in the south of Fife region, may be understated.

FIGURE 5

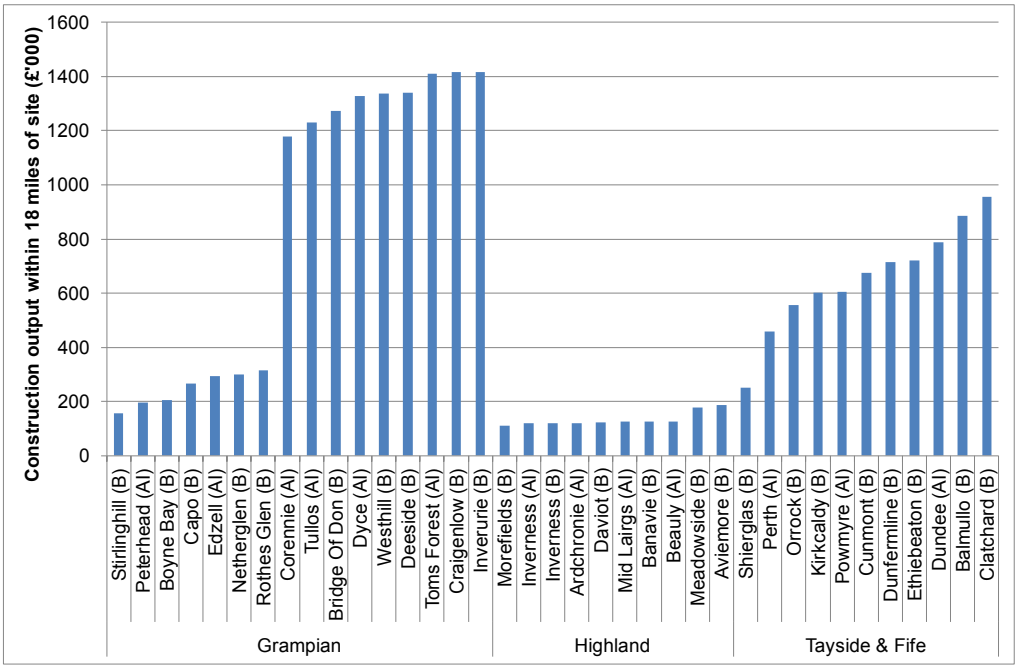
Population count within 18 miles of sites, 2011



Source: CC analysis.

FIGURE 6

Construction output within 18 miles of sites, 2011



Source: CC analysis.

Analysis of Breedon's price lists

18. Breedon provided us with its most recent (2012/13) price lists for all its sites in north Scotland for aggregates, RMX and asphalt. Breedon explained that these price lists established benchmark rates, which formed the basis for negotiation and sales rarely took place at list prices. The sales team had discretion to seek higher prices or offer lower prices where they considered it appropriate. Breedon noted that it operated authorization levels to control who was allowed to authorize discounts from its established price lists. It explained that commercial managers used their knowledge of their respective local markets to determine prices, and that larger purchases in terms of volumes may be referred to regional directors or the CEO Scotland for discount and price authorization purposes.

19. We examined these price lists, and calculated the differences between ex-works list prices for each product and each site to those at Craigenlow for the same product.[13] Table 5 below reports the median of the percentage differences from Craigenlow's prices[14] for each product description, where a negative difference indicates lower prices and a positive difference indicates higher prices than at Craigenlow for the same product. Figures 7 to 9 show box-plot charts of the price differences for aggregates, RMX and asphalt respectively—these indicate the dispersion of price differences, where each observation is a price difference for a finely defined product description.

20. We observe that ex-works list prices are [✂] at sites located in Tayside & Fife region relative to Craigenlow (located in Grampian, near Aberdeen) [✂]. For asphalt list prices, we observe that list prices are [✂] relative to Craigenlow prices [✂]. We observe the same in relation to RMX in Figure 8.

[13] We chose Craigenlow as it is a site that produces all three products, ie aggregates, RMX and asphalt.
[14] We calculate percentage difference for each product for each site, and then calculate the median of the different products for each site.

21. [✂] For sites in the Grampian region, [✂].

TABLE 5 **Breedon list prices: median of percentage differences from Craigenlow prices, 2012/13**

per cent

Region	*Site*	*Aggregates*	*RMX*	*Asphalt*
Grampian	Boyne Bay	[✂]	[✂]	[✂]
Grampian	Bridge of Don	[✂]	[✂]	[✂]
Grampian	Capo	[✂]	[✂]	[✂]
Grampian	*Craigenlow*	[✂]	[✂]	[✂]
Grampian	Deeside	[✂]	[✂]	[✂]
Grampian	Inverurie	[✂]	[✂]	[✂]
Grampian	Netherglen	[✂]	[✂]	[✂]
Grampian	Rothes Glen	[✂]	[✂]	[✂]
Grampian	Stirlinghill	[✂]	[✂]	[✂]
Grampian	Westhill	[✂]	[✂]	[✂]
Highland	Aviemore	[✂]	[✂]	[✂]
Highland	Daviot	[✂]	[✂]	[✂]
Highland	Inverness	[✂]	[✂]	[✂]
Highland	Meadowside	[✂]	[✂]	[✂]
Highland	Morefields	[✂]	[✂]	[✂]
Tayside & Fife	Balmullo	[✂]	[✂]	[✂]
Tayside & Fife	Clatchard	[✂]	[✂]	[✂]
Tayside & Fife	Dunfermline	[✂]	[✂]	[✂]
Tayside & Fife	Ethiebeaton	[✂]	[✂]	[✂]
Tayside & Fife	Kirkcaldy	[✂]	[✂]	[✂]
Tayside & Fife	Orrock	[✂]	[✂]	[✂]
Tayside & Fife	Shierglas	[✂]	[✂]	[✂]

Source: CC calculations.

Note: We first calculated percentage difference from Craigenlow's prices for each detailed product description, and then calculated the median of these percent differences (from across all the detailed product descriptions).

FIGURE 7

Breedon list prices: percentage differences from Craigenlow prices for aggregates

[✂]

Source: CC analysis.

FIGURE 8

Breedon list prices: percentage differences from Craigenlow prices for RMX

[✂]

Source: CC analysis.

FIGURE 9

Breedon list prices: percentage differences from Craigenlow prices for asphalt

[✂]

Source: CC analysis.

Aggregate Industries price lists

22. Aggregate Industries' price lists available to us were not sufficiently comprehensive or in a form such that we could examine list prices across products and across sites. [✂]

23. [✂]

Survey evidence at site level

Introduction

1. This appendix sets out customer survey evidence for selected questions at site level. Responses to questions on diversion, on the ease of switching sites, and on the views on the merger are examined.

2. Survey evidence for selected questions is summarized at site level for the following product-area combinations, identified through the filtering analysis (see Appendix F):

(a) aggregates sites near:

(i) Montrose (Grampian): Edzell (Aggregate Industries) and Capo (Breedon); and

(ii) Aberdeen (Grampian): Tom's Forest, Corrennie (Aggregate Industries), Craigenlow, and Stirlinghill (Breedon);

(b) RMX sites near:

(i) Montrose (Grampian): Edzell (Aggregate Industries) and Capo (Breedon);

(ii) Aberdeen (Grampian): Tom's Forest, Dyce, Tullos (Aggregate Industries), Craigenlow, Westhill, Inverurie, and Bridge of Don (Breedon);

(iii) Peterhead (Grampian): Peterhead (Aggregate Industries) and Stirlinghill (Breedon); and

(iv) Inverness (Highlands): Beauly (Aggregate Industries) and Inverness (Breedon);

(c) asphalt sites near:

(i) Aberdeen (Grampian): Tom's Forest (Aggregate Industries), Craigenlow, Stirlinghill (Breedon); and

(ii) Inverness (Highlands): Mid Lairgs (Aggregate Industries), Daviot, Netherglen (Breedon).

3. A customer survey was carried out for smaller customers of the merging parties for aggregates, RMX and asphalt. In most instances, the number of customers surveyed for each site-product combination is small, and robust quantitative (statistical) analysis cannot be undertaken at site-product level (such as diversion ratios). Nevertheless, site level survey evidence serves as a source of qualitative evidence from Breedon's and Aggregate Industries' customers, in addition to other evidence gathered from third parties through hearings and questionnaires.

Approach

4. We examined survey evidence for diversion at site level by considering answers given to Q23 and Q23(a/b). Most respondents named one of more identifiable sites—the remainder of respondents either would not divert, do not know what they would do or which site they would divert to, or named an unidentifiable site. Each respondent could name one or more sites they would have diverted to if the 'focal' site[1] of their purchases of a given product in 2012 had been closed since January 2012. We considered the number of mentions of diversion sites and suppliers.

5. Summaries of the following two questions are also provided, along with tables containing actual verbatim responses given by individuals:
   (a) Q21/22: How easy or difficult would it be for you to switch your purchase from [focal site] to a different site (asked at site/product level); if difficult to change why?
   (b) Q26: What impact, if any, do you think [the merger] will have on you (asked in general—not about specific site/product combinations)?

6. Responses to the impact question (Q26) have a number of caveats:

[1] The 'focal' site is the site that the respondent was asked about during most questions in the survey. Each respondent had a focal site assigned to them for each product they purchased. The focal site is the Breedon or Aggregate Industries site where the respondent made the most purchases (by value) in 2012.

(a) The question was asked very generally, so might apply in part, or in whole, to other site/product combinations (shown in the last column of each table).

(b) The allocation of comments as 'adverse', 'neutral' or 'positive' has been created by the CC and should be treated as a subjective grouping of respondents' views. In some cases there may be an argument for a comment being allocated to more than one category, or to a different category altogether.

Aggregates

Aggregates sites near Montrose

Edzell (Aggregate Industries)

7. Of the two respondents asked about their purchases of aggregates from Edzell, both respondents name at least one diversion site, although none of these were either of the parties' sites. Third parties mentioned were D Geddes (Stannochy—two mentions) and Laird Aggregates (Lochhead—one mention).

8. Both respondents felt it would be quite easy to switch purchases to a different site.

9. Table 1 displays the comments made, in general, about the merger by respondents who have purchased aggregates from Edzell.

TABLE 1 **Comments made in relation to the merger, aggregates—Edzell**

No	*View*	*Comment*	*Sites*
1	Adverse	Lessen the competition in the area.	[✂]
2	Neutral	Not a big difference. We need more competitive prices of sand and gravel from Breedon compared with Geddes.	[✂]

Source: CC customer survey, Question 26.

Capo (Breedon)

10. Of the 15 respondents asked about their purchases of aggregates from Capo, ten respondents name at least one diversion site. There were mentions of Breedon's sites (Craigenlow—one mention, Cunmont—one mention, Ethiebeaton—one

mention) and Aggregate Industries' sites (Powmyre—two mentions and Edzell—two mentions). Third parties mentioned were D Geddes (Stannochy—six, Ardownie—five, Hatton Mill and Waulkmill each received four mentions), Laird Aggregates (Lochhead—two mentions, Blairgowie—one mention, Lairds, Forfar—one mention), Leiths (North Lasts—two mentions, Netherpark—one mention), Travis Perkins (Travis Perkins Keyline—two mentions). Bruce Plant's Cairnrobin and Ury sites, Cemex's Loanleven site, James Jamieson's James Jamieson Recycling, Dundee site, Lovie's Blackhills site, Robertson Quarries Hilton Of Guthrie site and Tayside Contractors' Collace site each received one mention.

11. In terms of the ease of changing sites, seven respondents thought it would be very easy to change, three quite easy and five quite difficult. None said very difficult. The reasons given for it being quite difficult to change are shown in Table 2.

TABLE 2 **Reasons for difficulties in changing sites, aggregates—Capo**

No	*View*	*Comment*
1	Quite difficult	Lack of options.
2	Quite difficult	Capo is 1–2 miles away, other sites are further away.
3	Quite difficult	Further away.
4	Quite difficult	[✂]
5	Quite difficult	Easy for me to get from there.

Source: CC customer survey, Question 22.

12. In terms of the impact, in general, of the merger two respondents gave an adverse impact; 11 were neutral; and two positive. Table 3 displays the comments.

TABLE 3 **Comments made in relation to the merger, aggregates—Capo**

No	*View*	*Comment*	*Sites*
1	Adverse	Not sure yet whether they will put the price up or not.	[✂]
2	Adverse	I can see the prices going up for the prices in Angus, because that is exactly what happened when Cemex took over the RMC plants. When there is a lack of competition the prices go up.	[✂]
3	Neutral	None really, nothing at all.	[✂]
4	Neutral	Not much.	[✂]
5	Neutral	None.	[✂]
6	Neutral	It won't affect me.	[✂]
7	Neutral	None.	[✂]
8	Neutral	None.	[✂]
9	Neutral	None.	[✂]
10	Neutral	None.	[✂]
11	Neutral	Not a great effect.	[✂]
12	Neutral	Little impact.	[✂]
13	Neutral	Use quarry that is near to hand as well as Capo.	[✂]
14	Positive	I hope it will make it better, Breedon are stronger and a better company to deal with.	[✂]
15	Positive	I would probably use them if they were nearer to hand.	[✂]

Source: CC customer survey, Question 26.

Aggregates sites near Aberdeen

Tom's Forest (Aggregate Industries)

13. Of the 31 respondents asked about their purchases of aggregates from Tom's Forest, 21 respondents name at least one diversion site. There were mentions of Breedon's sites (Craigenlow—seven mentions, Stirlinghill—one mention), but there were no mentions of Aggregate Industries' sites. Third parties mentioned were Leiths (Lochhills—eight, North Lasts—seven, Netherpark—four, Dyce—one mention), Lovie (Blackhills—seven mentions, Howe of Byth—one mention), Aberdeenshire Council (Craiglash—three, Pitcaple—two, Balmedie—one mention), Chap Quarries (Aberdeen) (Durris—three mentions), J&A Herd (Smiddyburn—three mentions), Kirkmyres Sand & Gravel (Kirkmyres—one, Memsie—one, Pitnacalder—one mention), James Jamieson (Ardlethen—two), Lafarge Tarmac (Cairdshill—one, Dalbeattie—one), Tennants (Elgin) Ltd (Avochie—two mentions). Bridgend Sand & Gravel's Bridgend site, Bruce Plant's Cairnrobin and Ury sites and Limehillock's Blackhillock site each received one mention.

14. In terms of the ease of changing sites, seven respondents thought it would be very easy to change, nine quite easy, six quite difficult and six very difficult. Three said don't know. The reasons given for it being difficult to change are shown in Table 4.

TABLE 4 **Reasons for difficulties in changing sites, aggregates—Tom's Forest**

No	*View*	*Comment*
1	Quite difficult	[✂]
2	Quite difficult	The area is not peppered with quarries or availability of aggregate suppliers.
3	Quite difficult	Because they are the only two in that area Leiths and Tom's Forest.
4	Quite difficult	We have no choice of certain materials.
5	Quite difficult	We purchase Scottish Granite chippings and they are a specific product and colour, we would need another quarry working the same seam.
6	Quite difficult	Because once you change materials for ongoing jobs there will be a colour change and not look good.
7	Very difficult	Lack of other sources of stone, colour matching.
8	Very difficult	Breedon owns Craigenlow, Council quarries are more expensive.
9	Very difficult	Because it is not that easy for decorative it has to be a close match and competitive, so if we found same aggregate 40 miles away—transport cost would be significant and would make it non-competitive plus you have to think about environmental miles as well.
10	Very difficult	Unique product to the site, colour match.
11	Very difficult	As we are stuck by ourselves for granite.
12	Very difficult	There is no quarry that has a perfect colour match.

Source: CC customer survey, Question 22.

15. In terms of the impact, in general, of the merger 16 respondents gave an adverse impact; 14 were neutral; and one positive. Table 5 displays the comments.

TABLE 5 **Comments made in relation to the merger, aggregates—Tom's Forest**

No	*View*	*Comment*	*Sites*
1	Adverse	Adverse—because in the past if I talk about ready mix we phoned up Aggregate Industries with enquiry or Breedon—they kept each other competitive—got 50/50 from the two of them, we will be unable to bounce prices off the two now because one of them doesn't have ready mix anymore. Aggregates—once a year they would tell us their prices but now this is unavailable—so we will be in a weaker position to get a competitive price.	[✂]
2	Adverse	Other than dealing with one supplier now, it may dictate the price in those areas.	[✂]
3	Adverse	From now on minimal—but it had a bit of an impact at the time. Tom's Forest closed for a while so we had to rearrange our bookings through Breedon at Inverurie and a number of other branches—it was not that difficult but not easy either. The main impact is probably on the technical side of things, if we were asking advice, and that disappeared. We do have it back now but it is not available now to the same extent as it was.	[✂]
4	Adverse	No idea as to what impact it will have, my worse fear would be that they would increase the price and reduce the supply to give themselves an advantage in the aggregate market.	[✂]
5	Adverse	Hopefully none, bit of teething problems from the offset—don't know whether they have changed staff—been getting the wrong size of stone in the ready mix, delivery notes don't match—teething problems hope they will be resolved.	[✂]
6	Adverse	A fewer number of suppliers with fewer options to go to will narrow the market, forcing us to pay a dictated price. This is not competitive; we want as many suppliers as possible.	[✂]
7	Adverse	[✂]	[✂]
8	Adverse	Not the same competition so pricing might be higher and we might not get the same work.	[✂]
9	Adverse	Costs will go up.	[✂]
10	Adverse	Depends if Breedon uses Bardons then it will get worse.	[✂]
11	Adverse	I think it will create a monopoly especially for the ready mix because we are going to be stuck with Leiths or Breedon.	[✂]
12	Adverse	They will put the price up. We buy similar aggregates from another Breedon quarry at Peterhead, and the price went up. We will expect the price at Tom's Forest to go up as well.	[✂]
13	Adverse	There will be a reduced choice of competition, Breedon will have a monopoly on the pricing, this will be detrimental as the prices will go up.	[✂]
14	Adverse	Less suppliers because Breedon would be monopolizing.	[✂]
15	Adverse	It would be detrimental to us, a monopoly is not advantageous to the end user.	[✂]
16	Adverse	A lot, we take a lot of stuff from Breedon, some jobs will change because of the availability of the materials.	[✂]
17	Neutral	None.	[✂]
18	Neutral	Not too sure yet, too early to tell.	[✂]
19	Neutral	[✂]	[✂]
20	Neutral	It has not had any impact at the moment, but potentially they could shut Tom's Forest or put the prices up.	[✂]
21	Neutral	Not a lot.	[✂]
22	Neutral	We don't deal with them much, so not an impact at all.	[✂]
23	Neutral	Not aware of any impact.	[✂]
24	Neutral	I am such a low user that I don't think it will make a huge impact on me—not taking large quantities.	[✂]
25	Neutral	Probably none as we deal with them already, it might make our lives simpler as we deal with them through the other sites. We don't have so many aggregate sites we buy from, it is easier if you are existing customer as you have a greater degree of purchase of purchasing leverage—if they are short of an aggregate and if you already buying aggregate from another site of theirs they will get it for you but if you are a small supplier they would shunt you down their list and you may find yourself short of material.	[✂]
26	Neutral	None, as I don't think it matters whether its Breedon or Aggregate Industries	[✂]
27	Neutral	No impact unless it costs more.	[✂]
28	Neutral	Very little.	[✂]
29	Neutral	None.	[✂]
30	Neutral	None.	[✂]
31	Positive	Better for credit terms, Breedon is an easier company to work with, the staff are happier.	[✂]

Source: CC customer survey, Question 26.

Craigenlow (Breedon)

16. Of the 13 survey respondents asked about their purchases of aggregates from Craigenlow, 12 named at least one diversion site. There were no mentions of Breedon sites, but there were mentions of Aggregate Industries' sites (Tom's Forest—five mentions, Edzell—one). Third parties mentioned were Lovie (Blackhill—eight mentions), Leiths (Lochills—five, North Lasts—one), Aberdeenshire Council (Craiglash—three, Pitcaple—three), Chap Quarries (Aberdeen) (Durris—three). Bruce Plant's Cairnrobin site and James Jamieson's Ardlethen site each got a single mention.

17. In terms of the ease of changing sites, three respondents thought it would be very easy to change, eight quite easy and two quite difficult. None said very difficult. Table 6 displays the reasons given for it being quite difficult to change.

TABLE 6 **Reasons for difficulties in changing sites, aggregates—Craigenlow**

No	*View*	*Comment*
1	Quite difficult	Because the colour is different from different quarries.
2	Quite difficult	It will affect the price.

Source: CC customer survey, Question 22.

18. In terms of the impact, in general, of the merger nine respondents gave an adverse impact; two were neutral; and two positive. Table 7 shows the comments given.

TABLE 7 **Comments made in relation to the merger, aggregates—Craigenlow**

No	*View*	*Comment*	*Sites*
1	Adverse	The main factors to consider are location and price. Where the jobs are, the local quarry will be the cheapest, in certain areas they will be a monopoly, so we will have to cross Aberdeen to get the products, which increases the prices.	[✂]
2	Adverse	Limited competition means that prices could increase.	[✂]
3	Adverse	I would prefer to have another option, it is a pricey market in Aberdeen, there are limits where I can go. Breedon give us dust rather than sand for ready-mix concrete which we can't use in our business because we are looking for a product that can give us a polished floor.	[✂]
4	Adverse	There is an effect on the ready-mix side, in the ability to supply.	[✂]
5	Adverse	I think it is really poor for the area, we don't have enough choice in this area anyway and for a company to come in and take over another it means one less company to try and get a cost from as they are merging, so it means there are less options and I think it is a poor thing for the area—Al then Bardon and then Breedon, I would like it to go back to the way it was so you could get three prices. As it stands the ball is at their foot and you (the customer) are stuck. I speak to lots of business owners and have yet to speak to anyone who thinks it is a good thing. I am all for companies getting bigger and expanding, however it is great if you have a great choice of things and can just say I am leaving that company and will go somewhere else, if I do that it leaves me with one company to go to (for construction materials).	[✂]
6	Adverse	It will have quite a big impact, in fact it has already had a big impact, we don't get the same competitive rates as we used to.	[✂]
7	Adverse	It takes one supplier out of the equation, but it hasn't affected us much. I suppose it could lead to problems with availability of materials at some point in the future and there are then no other suppliers available to us.	[✂]
8	Adverse	Could put the prices up a bit?	[✂]
9	Adverse	It has had a large impact because the competition has gone. I have noticed a severe change in their pricing regime on jobs for us because they have no competition and from a financial point of view if you take into account with Aggregate Industries I had a [✂] credit limit and also with Breedon [✂] credit limit so now only have a credit limit of [✂] altogether—which makes an impact on cash flow.	[✂]
10	Neutral	Breedon normally competitive—no impact.	[✂]
11	Neutral	Probably won't have any impact.	[✂]
12	Positive	It might be more competitive, and service might improve.	[✂]
13	Positive	It probably has widened our scope for purchasing but Craigenlow is a completely different quality of stone that we get from there.	[✂]

Source: CC customer survey, Question 26.

Stirlinghill (Breedon)

19. Of the six survey respondents asked about their purchases of aggregates from Stirlinghill, five named at least one diversion site although none of these were either of the parties' sites. Third parties mentioned were Lovie (Blackhill—one mention, Cowbog—one, Cottonhill—one), Aberdeenshire Council (Balmedie—two, Pitcaple—two, Craiglash—one) and Savoch—two. James Jamieson's Ellon site and Leiths's Lochhills site each got a single mention.

20. In terms of the ease of changing sites, two respondents thought it would be very easy to change, three quite easy and one quite difficult. None said very difficult. The reason given for it being quite difficult to change is shown in Table 8.

TABLE 8 **Reasons for difficulties in changing sites, aggregates—Stirlinghill**

No	*View*	*Comment*
1	Quite difficult	For that area the nearest quarry is quite a distance away—so price will be a factor.

Source: CC customer survey, Question 22.

21. In terms of the impact, in general, of the merger two respondents gave an adverse impact and four were neutral. Table 9 shows the comments given.

TABLE 9 **Comments made in relation to the merger, aggregates—Stirlinghill**

No	*View*	*Comment*	*Sites*
1	Adverse	Price basically will be the main one and competition and delivery service.	[✂]
2	Adverse	Not a huge impact, it may have an impact on price of asphalt as there will be fewer suppliers.	[✂]
3	Neutral	I don't know because I don't know where they are, if they are closer we will use them.	[✂]
4	Neutral	[✂]	[✂]
5	Neutral	No impact really as we don't use concrete or tar, so not much as we use different places anyway.	[✂]
6	Neutral	None, it was a one-off purchase.	[✂]

Source: CC customer survey, Question 26.

RMX

RMX sites near Montrose

Edzell (Aggregate Industries)

22. Of the three respondents asked about their purchases of RMX from Edzell, two respondents named at least one diversion site. There were no mentions of Breedon sites, but there were mentions of Aggregate Industries' sites (Dundee—two mentions). Third parties mentioned were D Geddes (Monifieth—one mention), JA Laird (Forfar—one mention) and Spotmix (Dundee) (Balunie Drive, Dundee, (volumetric)—one mention).

23. In terms of the ease of changing sites, two respondents thought it would be very easy to change and one quite easy. None said quite or very difficult.

24. In terms of the impact, in general, of the merger all three respondents were neutral; responses are shown in Table 10.

TABLE 10 **Comments made in relation to the merger, RMX—Edzell**

No	*View*	*Comment*	*Sites*
1	Neutral	Hopefully none, we are hoping that the prices will stay the same.	[✂]
2	Neutral	No impact at all to us as the type of business that we are.	[✂]
3	Neutral	None	[✂]

Source: CC customer survey, Question 26.

Capo (Breedon)

25. Of the four respondents asked about their purchases of RMX from Capo, three respondents named at least one diversion site although none of these were either of the parties' sites. Third parties mentioned were JA Laird (Forfar—two mentions), D Geddes (Monifieth—one mention), Lafarge Tarmac (Glasgow—one mention) and Travis Perkins (Travis Perkins Keyline—one).

26. In terms of the ease of changing sites, three respondents thought it would be quite easy to change and one quite difficult. None said very difficult. The reason given for it being quite difficult to change is shown in Table 11.

TABLE 11 **Reasons for difficulties in changing sites, RMX—Capo**

No	*View*	*Comment*
1	Quite difficult	Driver usually gets lost from Dundee, problem with directions and distance.

Source: CC customer survey, Question 22.

27. In terms of the impact, in general, of the merger two respondents gave a neutral impact and two positive. No respondents gave an adverse impact. Comments are displayed in Table 12.

TABLE 12 **Comments made in relation to the merger, RMX—Capo**

No	*View*	*Comment*	*Sites*
1	Neutral	It won't affect me.	[✂]
2	Neutral	Don't think it will have any impact—it will only be availability and best price at the time—don't have a specific supplier.	[✂]
3	Positive	I would probably use them if they were nearer to hand.	[✂]
4	Positive	We had no account with Aggregate Industries but we have one with Breedon so with the extra sites now it will give us an extra option for purchasing.	[✂]

Source: CC customer survey, Question 26.

RMX sites near Aberdeen

Tullos (Aggregate Industries)

28. Of the ten respondents asked about their purchases of RMX from Tullos, seven respondents named at least one diversion site. There were mentions of Breedon's sites (Stirlinghill—three mentions, Westhill—three, Bridge of Don—two, Inverurie—two, Craigenlow—one mention) and Aggregate Industries' sites (Dyce—three mentions, Tom's Forest—two, Bardon—one, Peterhead—one). Third parties mentioned were Leiths (Cove—four mentions, Lochhills—four, North Lasts—one), Lovie (Blackhills—one, Methlick—one) and Chap Quarries (Aberdeen) (Durris—one mention).

29. In terms of the ease of changing sites, two respondents thought it would be very easy to change, five quite easy and one very difficult. Two didn't know. The reason given for it being very difficult to change is displayed in Table 13.

TABLE 13 **Reasons for difficulties in changing sites, RMX—Tullos**

No	*View*	*Comment*
1	Very difficult	As before [Asphalt in particular on the back of a lorry doesn't travel well, so geographically it's not that easy and then there's the inconsistency rate of supply] plus continuity of supply.

Source: CC customer survey, Question 22.

30. In terms of the impact, in general, of the merger eight respondents gave an adverse impact and two were neutral. Table 14 displays the comments.

TABLE 14 **Comments made in relation to the merger, RMX—Tullos**

No	*View*	*Comment*	*Sites*
1	Adverse	Not seen as yet but it could have an impact on price but this is unforeseen at the moment.	[✂]
2	Adverse	I think it is really poor for the area, we don't have enough choice in this area anyway and for a company to come in and take over another it means one less company to try and get a cost from as they are merging, so it means there are less options and I think it is a poor thing for the area—AI then Bardon and then Breedon, I would like it to go back to the way it was so you could get three prices. As it stands the ball is at their foot and you (the customer) are stuck. I speak to lots of business owners and have yet to speak to anyone who thinks it is a good thing. I am all for companies getting bigger and expanding, however it is great if you have a great choice of things and can just say I am leaving that company and will go somewhere else, if I do that it leaves me with one company to go to (for construction materials).	[✂]
3	Adverse	Not a huge impact, it may have an impact on price of asphalt as there will be fewer suppliers.	[✂]
4	Adverse	Other than dealing with one supplier now, it may dictate the price in those areas.	[✂]
5	Adverse	A fewer number of suppliers with fewer options to go to will narrow the market, forcing us to pay a dictated price. This is not competitive; we want as many suppliers as possible.	[✂]
6	Adverse	Not the same competition so pricing might be higher and we might not get the same work.	[✂]
7	Adverse	Narrowing the chain of supply, divisions closed it makes it very easy to acquire price implementation.	[✂]
8	Adverse	It will be very hard to win work against Breedon and the price will go up.	[✂]
9	Neutral	No impact on us at all.	[✂]
10	Neutral	None	[✂]

Source: CC customer survey, Question 26.

Tom's Forest (Aggregate Industries)

31. Of the eight respondents asked about their purchases of RMX from Tom's Forest, seven respondents named one diversion site. There were mentions of Breedon's sites (Inverurie—one mention), but there were no mentions of Aggregate Industries' sites. Third parties mentioned were Lovie (Blackhills—three mentions, Methlick—three), Leiths (Lochhills—two, Cove—one mention) and Kirkmyres Sand & Gravel (Fraserburgh—one mention).

32. In terms of the ease of changing sites, three respondents thought it would be very easy to change, two quite easy and one very difficult. Two said that they didn't know. The reason given for it being very difficult to change is shown in Table 15.

TABLE 15 **Reasons for difficulties in changing sites, RMX—Tom's Forest**

No	*View*	*Comment*
1	Very difficult	Distance

Source: CC customer survey, Question 22.

33. In terms of the impact, in general, of the merger six respondents gave an adverse impact, one was neutral and one positive. Table 16 displays the comments.

TABLE 16 **Comments made in relation to the merger, RMX—Tom's Forest**

No	*View*	*Comment*	*Sites*
1	Adverse	Limited competition means that prices could increase.	[✂]
2	Adverse	Adverse—because in the past if I talk about ready mix we phoned up Aggregate Industries with enquiry or Breedon—they kept each other competitive—got 50/50 from the two of them, we will be unable to bounce prices off the two now because one of them doesn't have ready mix anymore. Aggregates—once a year they would tell us their prices but now this is unavailable—so we will be in a weaker position to get a competitive price.	[✂]
3	Adverse	From now on minimal—but it had a bit of an impact at the time. Tom's Forest closed for a while so we had to rearrange our bookings through Breedon at Inverurie and a number of other branches—it was not that difficult but not easy either. The main impact is probably on the technical side of things, if we were asking advice, and that disappeared. We do have it back now but it is not available now to the same extent as it was.	[✂]
4	Adverse	Hopefully none, bit of teething problems from the offset—don't know whether they have changed staff—been getting the wrong size of stone in the ready mix, delivery notes don't match—teething problems hope they will be resolved.	[✂]
5	Adverse	Costs will go up.	[✂]
6	Adverse	It may restrict the market and costs may rise.	[✂]
7	Neutral	No difference.	[✂]
8	Positive	Better for credit terms, Breedon is an easier company to work with, the staff are happier.	[✂]

Source: CC customer survey, Question 26.

Dyce (Aggregate Industries)

34. Of the two respondents asked about their purchases of RMX from Dyce, one respondent named one diversion site although this was not one of the parties' sites. The one third party mentioned was Leiths' Lochhills.

35. In terms of the ease of changing sites, one respondent thought it would be very easy to change and one quite difficult. None said very difficult. The reasons given for it being quite difficult to change is displayed in Table 17.

TABLE 17 **Reasons for difficulties in changing sites, RMX—Dyce**

No	*View*	*Comment*
1	Very difficult	Just because of location, its cost prohibited.

Source: CC customer survey, Question 22.

36. In terms of the impact, in general, both respondents mentioned a neutral impact. This is displayed in Table 18.

TABLE 18 **Comments made in relation to the merger, RMX—Dyce**

No	*View*	*Comment*	*Sites*
1	Neutral	I don't know, there has been no difference in cost so far.	[✂]
2	Neutral	None to us, just because of location and they have said that they will still supply to us.	[✂]

Source: CC customer survey, Question 26.

Craigenlow (Breedon)

37. The one respondent asked about their purchases of RMX from Craigenlow named one diversion site although this was not one of the parties' sites. The one third party mention was Chap Quarries (Aberdeen) Durris site.

38. In terms of the ease of changing sites, the single respondent thought it would be very easy to change.

39. In terms of the impact, in general, the respondent gave a neutral impact, shown in Table 19.

TABLE 19 **Comments made in relation to the merger, RMX—Craigenlow**

No	*View*	*Comment*	*Sites*
1	Neutral	We always shop around and get a good price, there will be no problem.	[✂]

Source: CC customer survey, Question 26.

Westhill (Breedon)

40. Of the 11 respondents asked about their purchases of RMX from Westhill, eight respondents named at least one diversion site. There were mentions of Breedon's

sites (Bridge of Don—one mention, Craigenlow—one) and Aggregate Industries' sites (Tom's Forest—two mentions, Dyce—one, Tullos—one). Third parties mentioned were Leiths (Lochhills—six mentions, Cove—four), Chap Quarries (Aberdeen) (Durris—five mentions) and JA Laird (Forfar—one mention).

41. In terms of the ease of changing sites, four respondents thought it would be very easy to change, two quite easy, four quite difficult and one very difficult. The reasons given for it being difficult to change are shown in Table 20.

TABLE 20 **Reasons for difficulties in changing sites, RMX—Westhill**

No	*View*	*Comment*
1	Quite difficult	Haven't looked into what is available recently.
2	Quite difficult	Breedon have taken over Aggregate, now getting supply has become more difficult, this is partly down to the windmills being constructed, all the concrete is required for the windmills and a lack of different suppliers.
3	Quite difficult	All the rest of the Bardon ones are now Breedon so there would only be Leiths.
4	Quite difficult	There is not much choice.
5	Very difficult	[✂]

Source: CC customer survey, Question 22.

42. In terms of the impact, in general, of the merger eight respondents gave an adverse impact, two were neutral and one positive. The comments are shown in Table 21.

TABLE 21 **Comments made in relation to the merger, RMX—Westhill**

No	*View*	*Comment*	*Sites*
1	Adverse	The main factors to consider are location and price. Where the jobs are, the local quarry will be the cheapest, in certain areas they will be a monopoly, so we will have to cross Aberdeen to get the products, which increases the prices.	[✂]
2	Adverse	I would prefer to have another option, it is a pricey market in Aberdeen, there are limits where I can go. Breedon give us dust rather than sand for ready-mix concrete which we can't use in our business because we are looking for a product that can give us a polished floor.	[✂]
3	Adverse	There is an effect on the ready-mix side, in the ability to supply.	[✂]
4	Adverse	[✂]	[✂]
5	Adverse	I think it will create a monopoly especially for the ready mix because we are going to be stuck with Leiths or Breedon.	[✂]
6	Adverse	It ties us to the one place, we should have more competition to keep the prices stable instead of a monopoly.	[✂]
7	Adverse	Reduce the competitiveness of the quotes and the service to us.	[✂]
8	Adverse	Competition will be lessened which will make our procurement more expensive.	[✂]
9	Neutral	Minimal.	[✂]
10	Neutral	That depends where the quarries are.	[✂]
11	Positive	It might be more competitive, and service might improve.	[✂]

Source: CC customer survey, Question 26.

Inverurie (Breedon)

43. Of the ten respondents asked about their purchases of RMX from Inverurie, six respondents named at least one diversion site. There were no mentions of Breedon's sites, but there were mentions of Aggregate Industries' sites (Dyce—three mentions, Edzell—one mention, Tom's Forest—one mention). Third parties mentioned were Lovie (Blackhills—one mention, Lethick—one mention) and Chap Quarries (Aberdeen) (Durris—one mention).

44. In terms of the ease of changing sites, four respondents thought it would be very easy to change, five quite easy and one very difficult. The reason given for it being very difficult to change is shown in Table 22.

TABLE 22 **Reasons for difficulties in changing sites, RMX—Inverurie**

No	*View*	*Comment*
1	Very difficult	Location is much further away, the orders might take 4 days to arrive.

Source: CC customer survey, Question 22.

45. In terms of the impact, in general, of the merger five respondents gave an adverse impact, four were neutral and one positive. The comments are shown in Table 23.

TABLE 23 **Comments made in relation to the merger, RMX—Inverurie**

No	*View*	*Comment*	*Sites*
1	Adverse	A lot because the price will be fixed—no competition left and the service will get poorer. Have to phone Fife now instead of Inverurie and they don't know about logistics in Fife.	[✂]
2	Adverse	They will put up the prices because of the monopoly, if they become so big and squeeze the other suppliers potentially.	[✂]
3	Adverse	None yet, but there may be an impact in the future, a price difference, the prices might go up.	[✂]
4	Adverse	It takes one supplier out of the equation, but it hasn't affected us much. I suppose it could lead to problems with availability of materials at some point in the future and there are then no other suppliers available to us.	[✂]
5	Adverse	Could put the prices up a bit?	[✂]
6	Neutral	None	[✂]
7	Neutral	Don't know.	[✂]
8	Neutral	None we hope.	[✂]
9	Neutral	No effect.	[✂]
10	Positive	None I hope it might make concrete cheaper because they have so many quarries they can produce aggregates cheaper.	[✂]

Source: CC customer survey, Question 26.

Bridge of Don (Breedon)

46. The one survey respondent asked about their purchase of asphalt from Bridge of Don did not name a diversion site.

47. In terms of the ease of changing sites, the single respondent thought it would be quite easy to change.

48. In terms of the impact, in general, of the merger the respondent gave a neutral response, shown in Table 24.

TABLE 24 **Comments made in relation to the merger, RMX—Bridge of Don**

No	*View*	*Comment*	*Sites*
1	Neutral	None whatsoever.	[✂]

Source: CC customer survey, Question 26.

RMX sites near Peterhead

Peterhead (Aggregate Industries)

49. Of the four respondents asked about their purchases of RMX from Peterhead, two respondents named at least one diversion site. There were no mentions of Breedon's

sites, but there were mentions of Aggregate Industries' sites (Langside—one mention). One third party mentioned was Lovie (Blackhills—one mention, Cowbog—one mention).

50. In terms of the ease of changing sites, one respondent thought it would be very easy to change, two quite easy and one very difficult. The reason given for it being very difficult to change is displayed in Table 25.

TABLE 25 **Reasons for difficulties in changing sites, RMX—Peterhead**

No	*View*	*Comment*
1	Very difficult	Mixed designs need approval, the ultimate design may need testing, alternative supply maybe less subtle due to geography.

Source: CC customer survey, Question 22.

51. In terms of the impact, in general, of the merger one respondent gave an adverse impact, two were neutral and one positive. Table 26 displays the comments.

TABLE 26 **Comments made in relation to the merger, RMX – Peterhead**

No	*View*	*Comment*	*Sites*
1	Adverse	Price basically will be the main one and competition and delivery service.	[✂]
2	Neutral	None, but there won't be the same competition for price.	[✂]
3	Neutral	Not sure yet, too early to tell.	[✂]
4	Positive	Won't be able to tell until we get another job up there, hopefully it will improve.	[✂]

Source: CC customer survey, Question 26.

Stirlinghill (Breedon)

52. There were no respondents surveyed in relation to purchases of RMX from Stirlinghill.

RMX sites near Inverness

Beauly (Aggregate Industries)

53. Of the one respondent asked about their purchases of RMX from Beauly, this respondent named at least one diversion site. There were mentions of Breedon's sites (Inverness—one mention), but there were no mentions of Aggregate Industries'

sites. Third parties mentioned were Leiths (Mid Lairgs—one mention) and Pat Munro (Caplich—one mention).

54. In terms of the ease of changing sites, the single respondent thought it would be very easy to change.

55. In terms of the impact, in general, of the merger the respondent gave a positive response. This is shown in Table 27.

TABLE 27 **Comments made in relation to the merger, RMX—Beauly**

No	*View*	*Comment*	*Sites*
1	Positive	It has been better in terms of service.	[✂]

Source: CC customer survey, Question 26.

Inverness (Breedon)

56. Of the 14 respondents asked about their purchases of RMX from Inverness, 11 respondents named at least one diversion site. There were mentions of Breedon's sites (Inverness—five mentions, Bridge of Don—one mention, Craigenlow—one mention) and Aggregate Industries' sites (Beauly—two mentions). Third parties mentioned were Pat Munro (Alness—six mentions), Leiths (Daviot—two, Mid Lairgs—one), Accumix Concrete (Carsegate Road, Inverness (volumetric)—one mention), Achley Concrete (Proncy Farm (volumetric)—one mention), Chap Quaries (Aberdeen) (Durris—one mention) and Lafarge Tarmac (Edinburgh—one mention).

57. In terms of the ease of changing sites, three respondents thought it would be very easy to change, four quite easy, two quite difficult and five very difficult. The reasons given for it being difficult to change are displayed in Table 28.

TABLE 28 **Reasons for difficulties in changing sites, RMX—Inverness**

No	*View*	*Comment*
1	Quite difficult	Because of the location no other around, very remote.
2	Quite difficult	Add to the cost if purchased at Elgin—for a good price need to have three suppliers in this area, if you have two one will understand what the other will do but three is better.
3	Very difficult	The geography of the area.
4	Very difficult	Because of the nature of ready mix concrete supplies, the distance has to be reasonable to turn around the products.
5	Very difficult	Very difficult because product has to be up to a certain standard and within so many miles of the site for pouring in the sea in a continuous pour.
6	Very difficult	Because the price would go up, location is a factor and the further away it is the more it costs.
7	Very difficult	Because of quality and distance.

Source: CC customer survey, Question 22.

58. In terms of the impact, in general, of the merger three respondents gave an adverse impact, seven were neutral and four positive. The comments are shown in Table 29.

TABLE 29 **Comments made in relation to the merger, RMX—Inverness**

No	*View*	*Comment*	*Sites*
1	Adverse	It will put prices up, Breedon have a bigger control to the west side especially, there will also be a restriction of supply due to credit issues, there is a limited number of suppliers and very few options up here.	[✂]
2	Adverse	Quite a major impact, reducing competition will drive the price up.	[✂]
3	Adverse	We will pay more for the concrete and get a reduced service because of the number of customers being serviced from the one site.	[✂]
4	Neutral	It has got to be regular and local company near enough to the site in the sea.	[✂]
5	Neutral	None. Breedon have been my favourite supplier for a long time.	[✂]
6	Neutral	Not a great deal because there is other competition up there.	[✂]
7	Neutral	Not a great deal of impact on the business, as long as someone can supply us.	[✂]
8	Neutral	No impact for our size of business.	[✂]
9	Neutral	None	[✂]
10	Neutral	Not really because there is still competition.	[✂]
11	Positive	In all probability better because we didn't think Aggregate Industries were up to much recently.	[✂]
12	Positive	It gives us a better price and quality of service, because there are more quarries.	[✂]
13	Positive	It gives us another alternative to purchase—a good alternative.	[✂]
14	Positive	Increased usage, if there are more depots in area we will use them more.	[✂]

Source: CC customer survey, Question 26.

Asphalt

Asphalt sites near Aberdeen

Tom's Forest (Aggregate Industries)

59. Of the eight respondents asked about their purchases of asphalt from Tom's Forest, all respondents named at least one diversion site. There were mentions of Breedon sites (Craigenlow—seven mentions) but there were no mentions of Aggregate Industries' sites. Third parties mentioned were Leiths (Lochhills—five mentions,

Blackhills—three mentions, Cove—two mentions) and Aberdeenshire Council's Balmedie, Craiglash and Pitcaple sites each received one mention.

60. In terms of the ease of changing sites, three respondents thought it would be very easy to change, two quite easy, one quite difficult and one very difficult. One respondent said that they didn't know. The reasons given for it being difficult to change are shown in Table 30.

TABLE 30 **Reasons for difficulties in changing sites, asphalt—Tom's Forest**

No	*View*	*Comment*
1	Quite difficult	To be honest there would only be Leiths which is [✂] miles away—would be possible but not financially viable.
2	Very difficult	Asphalt in particular on the back of a lorry doesn't travel well, so geographically it's not that easy and then there's the inconsistency rate of supply.

Source: CC customer survey, Question 22.

61. In terms of the impact, in general, of the merger all eight respondents gave an adverse impact. Table 31 shows these comments.

TABLE 31 **Comments made in relation to the merger, asphalt—Tom's Forest**

No	*View*	*Comment*	*Sites*
1	Adverse	The main factors to consider are location and price. Where the jobs are, the local quarry will be the cheapest, in certain areas they will be a monopoly, so we will have to cross Aberdeen to get the products, which increases the prices.	[✂]
2	Adverse	Limited competition means that prices could increase.	[✂]
3	Adverse	I would prefer to have another option, it is a pricey market in Aberdeen, there are limits where I can go. Breedon give us dust rather than sand for ready-mix concrete which we can't use in our business because we are looking for a product that can give us a polished floor.	[✂]
4	Adverse	There is an effect on the ready-mix side, in the ability to supply.	[✂]
5	Adverse	Narrowing the chain of supply, divisions closed it makes it very easy to acquire price implementation.	[✂]
6	Adverse	Huge impact on smaller companies in general because they won't be competitive—political game being played if the quarry loses the contract they will blacklist you and not sell you the material.	[✂]
7	Adverse	It will be very hard to win work against Breedon and the price will go up.	[✂]
8	Adverse	Competition will be lessened which will make our procurement more expensive.	[✂]

Source: CC customer survey, Question 26.

Craigenlow (Breedon)

62. Of the six respondents asked about their purchases of asphalt from Craigenlow, all respondents named at least one diversion site. There were mentions of Breedon

sites (Stirlinghill—one mention) and Aggregate Industries' sites (Tom's Forest—three mentions). Third parties mentioned were Aberdeenshire Council (Pitcaple—four, Craiglash—three, Balmedie—two) and Leiths (Blackhills—four, Lochhills—four, Dyce—one).

63. In terms of the ease of changing sites, three respondents thought it would be very easy to change, two quite easy and one quite difficult. None said very difficult. The reason given for it being quite difficult to change is shown in Table 32.

TABLE 32 **Reasons for difficulties in changing sites, asphalt—Craigenlow**

No	*View*	*Comment*
1	Quite difficult	When we have got a job on, then location, price and delivery time are important—if an asphalt delivery has to be on site at 10am and the tar plant has broken down then it is difficult change plant as the alternative plants will be booked up, we don't have a lot of alternatives in the area anyway so it is very difficult for us to change.

Source: CC customer survey, Question 22.

64. In terms of the impact, in general, of the merger four respondents gave an adverse impact and two were neutral. Table 33 displays the comments given.

TABLE 33 **Comments made in relation to the merger, asphalt—Craigenlow**

No	*View*	*Comment*	*Sites*
1	Adverse	I think it is really poor for the area, we don't have enough choice in this area anyway and for a company to come in and take over another it means one less company to try and get a cost from as they are merging, are less options and I think it is a poor thing for the area—Al then Bardon and then Breedon, I would like it to go back to the way it was so you could get three prices. As it stands the ball is at their foot and you (the customer) are stuck. I speak to lots of business owners and have yet to speak to anyone who thinks it is a good thing. I am all for companies getting bigger and expanding, however it is great if you have a great choice of things and can just say I am leaving that company and will go somewhere else, if I do that it leaves me with one company to go to (for construction materials).	[✂]
2	Adverse	Price basically will be the main one and competition and delivery service.	[✂]
3	Adverse	Not a huge impact, it may have an impact on price of asphalt as there will be fewer suppliers.	[✂]
4	Adverse	Reduced credit limit from Tom's Forrest—always worried when two companies merge—less competition.	[✂]
5	Neutral	Very small impact, sometimes we required asphalt on Saturday, so we had to go to Craigenlow.	[✂]
6	Neutral	[✂]	[✂]

Source: CC customer survey, Question 26.

Stirlinghill (Breedon)

65. The 1 survey respondent asked about their purchase of asphalt from Stirlinghill named at least one diversion site although none of these were either of the parties' sites. The one third party mentioned was Aberdeenshire Council—Balmedie and Pitcaple each received one mention.

66. In terms of the ease of changing sites, the single respondent thought it would be quite easy to change.

67. In terms of the impact, in general, of the merger the respondent mentioned a neutral impact; this is displayed in Table 34.

TABLE 34 **Comments made in relation to the merger, asphalt—Stirlinghill**

No	*View*	*Comment*	*Sites*
1	Neutral	I don't know because I don't know where they are, if they are closer we will use them.	[✂]

Source: CC customer survey, Question 26.

Asphalt sites near Inverness

Mid Lairgs (Aggregate Industries)

68. Of the six respondents asked about their purchases of asphalt from Mid Lairgs, all respondents named at least one diversion site. There were mentions of Breedon sites (Daviot—one mention) and Aggregate Industries' sites (Mid Lairgs—one mention). Third parties mentioned were Leiths (Achilty—six mentions, New Forres—two), Pat Munro (Caplich—two mentions) and Lafarge Tarmac (HCM—one mention).

69. In terms of the ease of changing sites, five respondents thought it would be very easy to change and one quite easy. None said quite or very difficult.

70. In terms of the impact, in general, of the merger three respondents gave a neutral impact and three were positive. Table 35 shows the comments.

TABLE 35 **Comments made in relation to the merger, asphalt—Mid Lairgs**

No	*View*	*Comment*	*Sites*
1	Neutral	No impact, the other two companies will keep them in check. I don't anticipate an impact on prices.	[✂]
2	Neutral	Don't think that it will impact on the business just because we have other suppliers and quarries.	[✂]
3	Neutral	I don't really think it will have any impact, instead of having two accounts I now have one, and they don't operate from Beauly anymore. But that doesn't really matter and I don't think there will be any other impact.	[✂]
4	Positive	It has been better in terms of service.	[✂]
5	Positive	In all probability better because we didn't think Aggregate Industries were up to much recently.	[✂]
6	Positive	It gives us a better price and quality of service, because there are more quarries.	[✂]

Source: CC customer survey, Question 26.

Daviot (Breedon)

71. Of the three respondents asked about their purchases of asphalt from Daviot, one respondent named Breedon's Daviot site as the diversion site. No third parties were mentioned.

72. In terms of the ease of changing sites, two respondents thought it would be very easy to change and one quite difficult. None said very difficult. The reason given for it being quite difficult to change is displayed in Table 36.

TABLE 36 **Reasons for difficulties in changing sites, asphalt—Daviot**

No	*View*	*Comment*
1	Quite difficult	There are not that many to choose from.

Source: CC customer survey, Question 22.

73. In terms of the impact, in general, of the merger one respondent gave an adverse impact and two were neutral. The comments are displayed in Table 37.

TABLE 37 **Comments made in relation to the merger, asphalt—Daviot**

No	*View*	*Comment*	*Sites*
1	Adverse	Prices have gone up ridiculously, compared to English prices.	[✂]
2	Neutral	Mainly tar we deal with so not important.	[✂]
3	Neutral	None, they are very competitive and I will have no issue. It wouldn't make a difference to my business as I don't use enough of that type of material for it to be an issue.	[✂]

Source: CC customer survey, Question 26.

Netherglen (Breedon)

74. Of the four respondents asked about their purchases of asphalt from Netherglen, three respondents named at least one diversion site although none of these were either of the parties' sites. The one third party mentioned was Leiths (Bluehill—two mentions, New Forres—one mention, Parkmore—one mention).

75. In terms of the ease of changing sites, three respondents thought it would be very easy to change and one quite easy. None said quite or very difficult.

76. In terms of the impact, in general, of the merger one respondent gave an adverse impact and three were neutral. Table 38 shows the different comments.

TABLE 38 **Comments made in relation to the merger, asphalt—Netherglen**

No	*View*	*Comment*	*Sites*
1	Adverse	Well I think they are cornering the market a little bit and I hope they will not reflect this in their prices, I hope there will not be any price increases! We hope there shouldn't be any other major impact on us.	[✂]
2	Neutral	None	[✂]
3	Neutral	Hard to say because if we land a job near to one of their outlets we will probably use them again.	[✂]
4	Neutral	Not a lot of impact because we are only up there occasionally—means one less supplier.	[✂]

Source: CC customer survey, Question 26.

Barriers to entry and expansion

Introduction

1. This appendix sets out our assessment of the barriers to entry and expansion in the relevant markets and the effect of local conditions on these in the specific areas affected by the merger. Where applicable the appendix includes our findings on barriers to entry and expansion from the CC's market investigation report.

2. The appendix is structured as follows. We consider the barriers to entry or expansion in the following products:

   (a) aggregates, paragraphs 3 to 24;

   (b) RMX, paragraphs 25 to 54;

   (c) asphalt, paragraphs 55 to 74; and

   (d) contract surfacing, paragraphs 75 to 78.

Aggregates

Views on barriers to entry and expansion in aggregates

3. The CC market investigation report concluded on barriers to entry and expansion in aggregates within GB that:

   (a) expanding an existing site, either by increasing its output or by extending the site, is likely to be easier, faster and cheaper than developing a new site because the planning process is likely to be simpler, and much of the required equipment will already be in place. While barriers to expansion are lower, this implies that existing producers have an incumbency advantage over new entrants;[1] and

[1] Market investigation report, paragraph 6.56.

(b) the barriers to entry into the production of secondary and recycled aggregates are considerably lower than for primary aggregates, provided there is a suitable supply of secondary material or material for recycled aggregates in a given area.[2]

4. Breedon argued that barriers to entry and expansion within aggregates were low. It believed that barriers to expansion in the aggregates market in the relevant areas of Scotland were relatively low given the current state of the construction industry and the excess capacity that existed in current operational units and dormant quarry sites. Breedon believed that most operators, assuming sufficient financial resources, would be capable of increasing output when demand recovered.[3]

5. Lafarge Tarmac argued that the barriers to entry for primary aggregates were relatively high due to the need to obtain appropriate planning consent and the cost of acquiring aggregate reserves. Entry barriers for recycled aggregates though were low as the necessary equipment was low cost and could be procured by lease or hire agreement.

6. Lafarge Tarmac argued that the barriers to expansion from existing facilities were low as most operators were likely to be operating with a significant degree of spare capacity due to the decline in construction activity since 2007, and additional capacity could often be acquired at little or no capital cost through the hire or lease of additional mobile equipment.

7. Angle Park Sand & Gravel Co (Angle Park) told us that the uncertainty and cost in obtaining planning consent and the set-up cost of a quarry operation meant that significant financial resources were needed to enter the aggregates market.

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[2] ibid, paragraph 6.72.
[3] Breedon initial submission, paragraph 5.1.

Potential barriers to entry and expansion

8. In paragraphs 9 to 23 we set out the views of respondents and the CC market investigation report on the potential barriers to entry and expansion arising from the need for planning consent and the availability of suitable deposits; and set-up/capital costs.

Planning consent and availability of suitable deposits

9. Breedon viewed the main limitation on entry to be the requirement to obtain planning consent. It stated that securing planning consent to open a quarry could take between one and two years. However, Breedon stated that the time required to obtain consent for a mobile crushing/screening plant was considerably shorter and in the region of six months.

10. Leiths argued that barriers to entry in aggregates centred on the requirement to obtain planning consent: 'planning permission was a barrier to entry for new operations as local authorities were unwilling to grant access for greenfield sites'.[4] Leiths believed that planning authorities were probably more sympathetic to extensions to existing operations. However, it was becoming increasingly difficult and more expensive to expand existing operations in light of environmental concerns.

11. Leiths told us that local authorities tended to look at the existence of land banks and the time over which existing resources would be extracted when they decided whether to grant permission. This meant that any company with large reserves that had planning permission in place tended to be in a very strong position as local authorities would be unwilling to grant additional permission within this time period. It argued that Breedon and Aggregate Industries post-merger would not only have a dominant position in aggregates, but also a dominant position in terms of the

[4] Leiths hearing summary, paragraph 26.

reserves in their portfolio.[5] It argued, for example, that Tom's Forest quarry (Aggregate Industries pre-merger) had a very substantial declared reserve and that this had been raised with Leiths as an issue by planning authorities in relation to some of its proposed developments.

12. RJ McLeod said that the ownership of a quarry was a key issue, as opening up a new one would be difficult with all the environmental and planning constraints.[6]

13. Angle Park stated that the costs involved with the planning process were high with planning applications often costing upwards of £150,000. In addition the land-banking of reserves and mothballed units by large companies prohibited new entry.

14. Pat Munro told us that the nature of geological deposits, and the cost of haulage, tended to mean that there were very few primary aggregate options which were commercially exploitable at any one time. Further, any competing operations would either be very close (ie in the same deposit) or well apart (ie in separate deposits) with large parts of the region having no suitable, or viable, resource. Pat Munro also stated that where national operators had gained control over several adjacent deposits, several workable deposits had been mothballed and in that event it had been almost impossible to open a new viable operation, even if an operator has access to the necessary deposit.

15. The CC concluded in its market investigation report that, not withstanding that historically most planning permissions were successful, the planning process limits the competition faced over the medium term by existing aggregates producers from entry by operators developing new sites. The length of the planning process also

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[5] ibid, paragraph 27.
[6] RJ McLeod hearing summary, paragraph 21.

creates an incumbency advantage for existing aggregates producers as the planning process for site extensions is generally much simpler.[7]

16. The CC also concluded in the market investigation report that the availability of aggregate resource was not a barrier to entry although it was noted that availability may be a barrier for higher specification RMX, asphalt and specialist aggregates.[8]

17. In relation to northern Scotland Breedon told us that there was no shortage of hard rock. Similarly no third party told us that access to hard rock was a barrier to entry.

Set-up/capital costs

18. Breedon argued that a new entrant could minimize set-up costs through the use of mobile crushing and screening equipment on a contract hire or hire-purchase basis. Alternatively, a new entrant could acquire mobile crushing and screening equipment to operate the quarry either on a new or used basis. Its estimates of the second-hand equipment costs to produce up to 200,000 tonnes a year from either primary or secondary aggregates are set out in Table 1. It stated that capital costs would increase significantly for a larger operation with a fixed plant.

TABLE 1 **Breedon estimates of second-hand mobile equipment costs**

	£'000
Primary crusher	[✂]
Secondary crusher	[✂]
Screen x2	[✂]
Loading shovel	[✂]
Excavator	[✂]
Weighbridge	[✂]
Total	[✂]

Source: Breedon.

19. Breedon also argued that the costs of opening a new site by a new entrant or an operator already active in the business in another geographic area were not

[7] Market investigation report, paragraph 6.47.
[8] ibid, paragraph 6.43.

materially different. However, a completely new entrant to the industry might face higher financial risk due to lack of expertise in acquiring and setting up equipment and estimating the cost of operation.

20. Lafarge Tarmac argued that additional capacity at existing sites could often be acquired at little or no capital cost through the hire or lease of additional mobile equipment.

21. Aberdeen City Council stated (in the context of barriers to entry in contract surfacing) that it did not foresee any local contractors opening up a quarry as there had not been any quarries opened up in the last 20 years and it believed the start-up costs of a quarry would be prohibitive. However, due to the Aberdeen Bypass it speculated that a major outside party might look at the possibility of opening up quarries around the route and if this were the case, someone might be able to take them over afterwards once the set-up costs had been borne.[9]

22. The CC in its market investigation report concluded that while there can be a considerable cost in developing an aggregates site, the cost needs to be seen in the light of the anticipated revenues and margins of the operation; and access to finance. In addition, the cost need not be prohibitive, particularly for small-scale sites, if the land and mineral rights are leased and the equipment is leased or rented.[10]

23. Leiths said that most quarries in Scotland operated differently from England where they invested in 'static' processing plants. In Scotland the quarries tended to work on mobile processing and would crush and screen what they thought the market demand would be for the coming months, as opposed to working on a daily set amount. Therefore if it was believed that market demand was likely suddenly to

[9] Aberdeen City Council hearing summary.
[10] Market investigation report, paragraph 6.50.

increase, the mobile processing plants could increase their extraction levels potentially threefold by adding more equipment.[11]

Provisional assessment of barriers to entry

24. In relation to aggregates we received evidence on two potential barriers to entry: the need to obtain planning consent and the role reserves play in the process; and set-up/capital costs. We found that:

(a) planning consent is difficult to gain and can take up to two years for a new quarry. The likelihood of permission being granted would be affected by the available consented reserves in the area; and

(b) the initial capital costs required to open a new quarry can be substantial.

RMX

Views on the barriers to entry and expansion in RMX

25. Breedon argued that it was easy to enter the RMX market. It stated that entry could be achieved through either the purchase of fixed or mobile plant or the use of volumetric trucks.[12]

26. Leiths told us that providing somebody has a source for the right quality of aggregates, the cost of entry into RMX was relatively low compared with an asphalt plant.[13]

27. Lafarge Tarmac told us that barriers to entry in RMX were lower than in primary aggregates as planning was generally less contentious and the capital cost of the equipment was modest. It also stated that barriers to expansion of output from existing facilities were low.

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[11] Leiths hearing summary, paragraph 29.
[12] Breedon response to the issues statement, paragraph 5.43.
[13] Leiths hearing summary, paragraph 32.

28. The CC in its market investigation report concluded that barriers to entry and expansion in the GB RMX markets were generally low, though this may vary depending on the particular circumstances of local markets.[14]

Potential barriers to entry and expansion

29. In paragraphs 30 to 50 we set out the views of respondents and the CC market investigation report on three specific potential barriers to entry and expansion: planning consent; set-up/ capital cost; and the availability of raw materials of the appropriate quality.

Planning consent

30. HCM stated that gaining planning permission for an RMX facility was relatively easily achieved.

31. [✂]

32. The CC in its market investigation report found that there were low regulatory barriers to entry. It stated that it did not receive evidence to indicate that planning permission raised a barrier to entry for RMX plants with planning consents being able to be obtained within three months of application.[15]

Set-up/capital cost

33. Breedon estimated that a second-hand (fixed) RMX plant could be acquired for around £[✂]. It also estimated that the approximate cost of purchasing a mobile RMX plant[16] with a pan mixer was £[✂] and a new dry-mix mobile plant with no pan

[14] Market investigation report, paragraph 9.53.
[15] ibid, paragraph 9.50.
[16] Capable of producing 60 m^3 per hour.

mixer would in the region of £[✂]. It also stated that cheaper, second-hand plants were readily available as they were often used in the Scottish market.

34. Breedon told us that plants situated in an urban environment would require more site infrastructure than those in rural locations.[17] This could cost between £[✂] and £[✂]. In addition a small second-hand loading shovel might be required and could be purchased for approximately £[✂].

35. Breedon stated that volumetric trucks were the cheapest way to enter the RMX market. It told us that the cost of a new volumetric RMX truck capable of a production rate of up to 60 m^3 per hour was approximately £[✂].[18] Breedon estimated that it would cost approximately £[✂] a year, comprised of fuel, labour, insurance, road tax, and repair and maintenance.[19] Alternatively, Breedon told us that trucks were available on a long-term hire basis for approximately £[✂] per week.

36. Breedon did not believe that the costs of opening a new site for a new entrant or an operator already active in the business in another geographic area were materially different although a completely new entrant to the industry might face higher financial risk due to lack of expertise in acquiring and setting up equipment and estimating the cost of operation and ensuring the necessary quality controls were in place to produce RMX within specification.

37. Breedon stated that the cost of increasing capacity for an existing operator was likely to be lower than the cost for a new entrant. Generally, the rated capacity (ie cubic metres per hour that a plant is designed to produce) would provide an upper limit on that plant's ability to increase output. Within this constraint, as long as demand was

[17] Such as waste concrete storage facilities, cladding for the plant and surfacing and drainage of the yard.
[18] Mobile (volumetric) truck with pan mixer (60 m^3) £[✂] (dry mix plant—no mixer—£[✂]).
[19] Breedon stated that it did not operate any volumetric trucks so it did not have any detailed information on these trucks.

consistent throughout the day and transport capacity existed to deliver to the customer, then it was relatively easy and cheap for existing operators to increase their capacity. However, increasing capacity above the rated capacity might require a complex engineering solution, in which case, given the relatively low cost of a new plant, then the purchase of a new plant might be required.

38. HCM stated that the cost of capital was not prohibitive for an RMX facility.

39. Leiths had made an investment of £[✂] into an RMX plant in Dufftown, which would have a capacity of [✂] m^3 per hour once operational. It had been in development for approximately four months, although this was with planning permission in place, otherwise it could have taken a year. Leiths said that planning permission for a concrete or asphalt plant could take up to three years.[20] In addition, cash flow in the early stages of RMX businesses was also a constraint: customers would have 60 or 90 days' credit.[21]

40. Lafarge Tarmac told us that an RMX plant could be established for as little as £300,000 on an existing site and volumetric trucks can be obtained for around £160,000 new with second-hand and hire-purchase options also available.

41. Aggregate Industries told us that [✂].

42. [✂] stated that the capital cost required to purchase the equipment necessary to produce RMX and asphalt would be high, unless the new entrant was a large

[20] Leiths hearing summary.
[21] ibid.

operator somewhere else in the country who had spare capacity or wanted to move into the area strategically.[22]

43. The CC in its market investigation report found that low levels of capital investment were required and there was a lack of economies of scale. In addition, the use of volumetric trucks enabled entry on a small scale with limited investment.[23]

Availability and cost of raw materials of the appropriate quality

44. Breedon told us that the market in the north-east of Scotland was slightly unusual, in that the producers of asphalt and RMX (with the exception of HCM, which had supply agreements with Tarmac and one or two small players), were all vertically integrated.

45. HCM told us that the main barrier to entry for RMX related to obtaining material supplies.

46. HCM told us that with regard to the Highlands, the fact it was a rural market meant the distance from the cement plants was such that the cost of cement was high. The rural nature of the area also affected operational risk as the travel time for cement is greatly increased and as such the available storage of cement at the RMX facility needs to be considered, with greater cement capacity being prudent. It also stated that aggregates were another consideration and sourcing these at competitive rates would be a function of the financial risk that the supplier placed on the new RMX entrant. The RMX market was not likely to increase significantly in the Highlands so any new entrant would have to consider the maturity of the RMX market.

47. Leiths stated that buying in aggregates from third parties was not practical as these suppliers would be seeking a margin and there would also be the additional costs of

[22] [Company A] hearing summary, paragraph 23.
[23] Market investigation report, paragraph 9.53.

hauling them from the quarry to the plant. Leiths always ensured that it sourced its aggregates in-house, even if it had to bring them in from one of its other quarries. Whilst there was the issue of cost, it also emphasized that concrete and asphalt were highly specified products and therefore it was necessary to ensure that the ingredients going into them were of a good quality. Leiths told us that in the north of Scotland there was only one producer of RMX and asphalt which did not own a quarry and that was HCM.[24]

48. We have also been told by both Breedon and Leiths that access to trucks was a potential barrier to entry, albeit one that could be addressed relatively quickly.[25]

49. RJ McLeod said that the ownership of a quarry was a key issue, as opening up a new one would be difficult with all the environmental and planning constraints. It was possible to supply RMX without owning a quarry, but it would be necessary to buy in the aggregates from an existing supplier, so without the quarry to produce the raw materials RJ McLeod thought that it would be difficult to be competitive. RJ McLeod said that it tended to contract with providers who were vertically integrated.[26]

50. The CC in its market investigation report found little evidence that the terms on which aggregates and cement are available for purchase by RMX producers raises the barrier to entry into the supply of RMX.[27]

Provisional assessment of barriers to entry

51. In relation to RMX we considered three potential barriers to entry and expansion: the need to obtain planning consent; set-up/capital costs; and the availability of raw materials of the appropriate quality.

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[24] Leiths hearing summary, paragraph 33.
[25] ibid, paragraph 31.
[26] RJ McLeod hearing summary.
[27] Market investigation report, paragraph 9.53.

52. Barriers to entry or expansion in RMX are low. The main barrier is access to aggregates of the right quality either through ownership of a quarry or potentially through a long-term supply agreement. The importance of this barrier must be considered on a case-by-case basis and we consider the local impact when we look at the likelihood of new entry.

53. The other barriers to entry—planning consent and access to finance for new plant—are more easily overcome.

(a) Planning consent can usually be obtained within three months of application. However, planning departments generally prefer that producers fully exploit existing resources before opening new sites so that expansion of existing sites is generally easier than new entry.

(b) The set-up costs of £300,000 for new plant and £160,000 for a volumetric truck (see paragraph 40) are not insurmountable.

Asphalt

Views on the extent of barriers to entry and expansion

54. Breedon stated that entry into the asphalt market was relatively easy.[28]

55. Leiths told us that access to a quarry with the right quality of aggregates in sufficient quantity[29] was required.

[28] Breedon response to the issues statement, paragraph 5.36.
[29] Leiths hearing summary, paragraph 32.

56. Aberdeen City Council told us that access to a quarry was required and that there was an advantage in having the asphalt plant sited at the quarry.[30]

Potential barriers to entry and expansion

57. We consider below the views of Breedon and third parties on two specific potential barriers to entry and expansion: set-up/capital cost; and access to materials of the appropriate quality.

Set-up/capital cost

58. Breedon told us that it was possible to purchase a second-hand plant for around £[✂] million (with a new plant being up to £[✂] million). This plant would have sufficient capacity to cover levels of demand in northern Scotland.[31] Alternatively a new entrant could enter using a mobile plant. Breedon told us mobile plants were often used in northern Scotland (for example at Inverness Airport) and were likely to be used in the upcoming AWPR project.[32]

59. Breedon argued that generally as long as demand was consistent throughout the day and transport capacity existed to deliver to the customer, then it was relatively easy and cheap for existing asphalt operators to increase their capacity up to the rated capacity of the plant. However, increasing capacity above the rated capacity may require a complex engineering solution in which case consideration may need to be given to the purchase of a new plant.

60. Leiths stated that the capital cost of a new asphalt plant would be over £3 million. In addition, access to sufficient levels of working capital would be required as it would

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[30] Aberdeen City Council hearing summary, paragraph 14.
[31] Breedon response to the issues statement, paragraph 5.36.
[32] ibid, paragraph 5.37.

be necessary to support debtors who take an average of over 60 to 90 days of credit.[33]

Access to materials

61. Leiths told us a new entrant required a quarry with the right quality of aggregates in sufficient quantity to justify the investment in the capital cost of the plant.[34]

62. Breedon argued that a new entrant could locate on or near its existing quarries providing it with a vertically integrated supply chain.[35]

63. Aberdeen City Council said that without a quarry an asphalt producer (including the use of mobile asphalt plants) would need to purchase material from a rival contractor and Aberdeen City Council felt that a premium would need to be paid for this. Therefore Aberdeen City Council believed that being vertically integrated was a significant advantage for an asphalt producer.

64. In addition, Aberdeen City Council believed that an asphalt producer would have to be vertically integrated in order to be able to compete effectively. This would mean that its transport costs were minimized and it would not have to rely on obtaining its aggregates from a competitor.

Planning permission

65. [✂]

66. [✂]

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[33] Leiths hearing summary, paragraph 28.
[34] ibid.
[35] Breedon initial submission, paragraph 5.36.

67. Leiths told us[36] that for asphalt, the main barrier to entry was a sufficient source of quality aggregates to justify an asphalt plant costing over £3 million. Mobile RMX plants were cheaper and hence an RMX business could be set up at a much lower cost, providing there was a source of quality aggregates. Operational costs for the latter were also lower. Cash flow in the early stages of both asphalt and concrete businesses was also a constraint: customers would have 60 or 90 days' credit, while payment terms for bitumen and cement were much less favourable.

68. Breedon told us that access to bitumen could be a difficulty for new entrants as the companies that supply bitumen could be strict on credit terms and new entrants might get less favourable terms initially.

69. Also for large contracts, for example the resurfacing of Inverness Airport, contracts could be awarded to competitors outside the region. For example, Colas[37] won the contract to surface the main runway and taxiway, for which it was using mobile plant.

Provisional assessment of barriers to entry

70. In relation to asphalt we identified the following potential barriers to entry and expansion:

(a) Asphalt plants will always be considered 'a bad neighbour development' and so the planning process can be longer and more difficult than for RMX plants. Planning consent, if it is granted at all, can usually be obtained within six months of application.

(b) Access to bitumen may also be difficult: a new entrant may initially be offered less favourable terms for its supply and worse credit terms. Asphalt plants also require access to supplies of aggregates of the appropriate quality.

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[36] Leiths hearing summary, paragraph 28.
[37] www.colas.co.uk/news-media/news/2013/surfacing-work-begins-at-inverness-airport/.

(c) The set-up costs require access to finance of about £1 million for a second-hand plant (when available) and about £3 million for a new plant, substantially higher than for RMX.

71. We conclude therefore that the barriers to de novo entry are substantially higher than for RMX.

72. Barriers to expansion are lower than for new entry but nevertheless higher than for RMX.

Contract surfacing

Views on the extent of barriers to entry and expansion

73. Breedon submitted that the barriers to entry in contract surfacing were low.[38] It stated that the business comprised people, including operatives and support staff such as estimators and quantity surveyors, together with relatively inexpensive equipment (a new paving machine, for example, costs less than £200,000). Equipment such as compressors, tractors and rollers can be hired from most major plant hire companies. Breedon stated that there was considerable overlap with civil engineering and groundwork contracts with some larger civil engineering companies doing their own surfacing and there were many smaller contractors.[39]

74. In addition, Breedon believed it was relatively easy for existing asphalt producers to expand into downstream markets or expand existing capacity by increasing the number of gangs they ran and the number of paving machines they operated. Breedon considered that the costs for existing operators to expand capacity would be similar as those incurred by new entrants.

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[38] Breedon response to the issues statement, paragraph 5.52.
[39] ibid, paragraph 5.52.

75. Aggregate Industries told us that [✂].

Provisional assessment of barriers to entry

76. In relation to contract surfacing, we found that there were few barriers to entry. The main barrier related to the availability of asphalt. As we discuss in paragraph 6.250 of the provisional findings, we did not consider that access to a quarry was necessary to compete as a contract surfacing supplier. Small operators will purchase asphalt, whereas the larger player will wish to use its own aggregates to guarantee supply of the appropriate quality and price.

Glossary

80 per cent catchment area	The distance from production sites within which 80 per cent of external customer sales volumes are delivered.
Accumix	Accumix Concrete Inverness Limited.
Act	The Enterprise Act 2002.
Aggregate Industries	Aggregate Industries UK Limited, the UK operations of Holcim Limited, a global building materials producer, which is listed on the SIX Swiss Exchange. Aggregate Industries produces and supplies a wide range of construction materials in the UK, including **aggregates**, **asphalt**, **RMX** and precast **concrete** products, as well as importing and supplying **cement** and providing a national road surfacing and contracting service.
Aggregates	The granular base materials used (including as a constituent of **RMX**) in the construction of roads, buildings and other infrastructure, including **primary aggregates**, **secondary aggregates** and **recycled aggregates**.
Aggregates levy	A tax on the commercial exploitation in the UK of rock, sand and gravel. At present it is £2.00 per tonne and applies to **primary aggregates**, but not **recycled** or **secondary aggregates**.
Angle Park	Angle Park Sand & Gravel Co Ltd, a producer of aggregates based in Fife.
Asphalt	Produced from **aggregates** and a viscous binding agent, usually bitumen, and primarily used in **contract surfacing** and maintenance activities.
Balfour Beatty	Balfour Beatty plc.
BDS	BDS Market Research Limited, a source of market data on (among other things) **aggregates**, **RMX** and **asphalt**.
BEAR Scotland	BEAR Scotland Ltd is a limited company formed by the alliance of Eurovia, Jacobs and Breedon Aggregates.
Borrow pits	Temporary quarries set up on the site of major construction works to enable **aggregates** which need to be removed from the site to be used in construction work.
Breedon	Breedon Aggregates Limited is a public company listed on the Alternative Investment Market of the London Stock Exchange. Breedon's operations are divided between its two wholly-owned subsidiaries, Breedon Aggregates England Limited, which holds the group's operations in England and Breedon Aggregates Scotland Limited, which holds the group's operations in Scotland.
BS	British Standard.

CC	Competition Commission.
CC2	*Merger assessment guidelines, CC2 (revised)*, September 2010.
Cement	Produced from a mixture of finely ground limestone or chalk, clay and sand, which is heated almost to melting point (around 1,450°C) in a large rotating kiln. The cement clinker that emerges is then ground to a fine powder or combined with other **cementitious products** to produce different grades of product. It is used as a binder in building materials including **RMX**.
Cementitious material	Any of various building materials which are capable of a hydraulic reaction with water to form a solid crystalline structure.
Cemex	Cemex UK Operations Limited.
Central Belt of Scotland	Geographic area comprising the following **Council Areas of Scotland**: Inverclyde, West & East Dunbartonshire, South & North Lanarkshire, Renfrewshire, East Renfrewshire, Glasgow City, Falkirk, City of Edinburgh, West & East Lothian, and Midlothian.
Chap Quarries	The CHAP Group is one of Scotland's privately owned construction groups. The Group is split into four main operating entities: Construction, Homes, Quarries and Civils.
Closed	A quarry or site is 'closed' if it is not currently used but may be brought back into use in the future.
Concrete	A building material consisting of a mix of **aggregates**, **cement** and water. See also **RMX**.
Construction aggregates	**Aggregates** used for construction purposes, whether directly in construction without further processing (eg as sub-bases and fills) or as inputs to other building materials such as **RMX** and **asphalt**.
Contract surfacing	The laying of **asphalt** on a road is normally referred to as 'surfacing' and hence these operations tend to be referred to as contract surfacing activities.
Council Area of Scotland	Since April 1996 Scotland has been divided into 32 units known as Council Areas, whose councils are unitary administrations with responsibility for all areas of local government.
Crushed rock	**Primary aggregates** made from crushing rock. In addition to high-**PSV aggregates** (such as granite and gritstone), crushed rock **aggregates** include softer limestone and other rock types.
Decorative aggregates	Aggregates used for aesthetic purposes including in parks, gardens, paths, lawns, drives and sometimes in **asphalt** road surfaces to produce a red or white effect.

Delivered price	Price per unit of measure based on gross revenues divided by sales volumes. The delivered price is the total price paid by the customer, ie the **ex-works price** plus distribution and haulage charges.
East Highlands	Geographic area comprising the following **NUTS 3 regions**: UKM61 (ie, Caithness & Sutherland and Ross & Cromarty) and UKM62 excluding the Council Area of Moray (Inverness & Nairn and Badenoch & Strathspey). Broadly, this is the Highlands region excluding its western coast and the Hebrides.
EBITDA	Earnings before interest, tax, depreciation and amortization.
Ex-works price	Price per unit of measure based on net revenues (gross revenues less distribution and haulage costs) divided by sales volumes. The ex-works price is the price paid by the customer before distribution and haulage costs are added on. See also **delivered price**.
Geddes Group	D Geddes (Contractors) Ltd, a producer of aggregates, asphalt and RMX products based in Angus.
Grade	The size of aggregate particles. Typical grade categories are: • 'Fine': aggregate with a particle size of less than 5mm. • 'Coarse': aggregate with a particle size of more than 5mm. • 'Granular': aggregate containing a mixture of coarse and fine material.
Grampian	Geographic area comprising the following **Council Areas of Scotland**: Aberdeen City, Aberdeenshire, Moray.
Guidelines	See **CC2**.
Hanson	Hanson and HeidelbergCement AG.
HCM	Hope Construction Materials, Mittal Investments Sarl's UK **cement concrete**, **aggregates** and **asphalt**ing business
Highlands	Geographic area comprising the following **Council Areas of Scotland**: Highlands.
James Jamieson	James Jamieson—Ardlethen Developments Ltd.
kt	Kilotonne or 1,000 tonnes.
Laird Brothers	Laird Brothers (Forfar) Limited.
Lafarge Tarmac	Lafarge Tarmac Limited.
Leiths	Leiths (Scotland) Ltd and its subsidiaries: Joss (Aberdeen) Ltd, Howie Minerals Ltd and Alexander Ross and Sons Ltd.
Lovie	Lovie Limited.
Main party/main parties	**Breedon** and **Aggregate Industries**.

Mobile asphalt plant	An **asphalt** production plant which can be moved to a job or contract site for the period of the contract.
Mobile RMX plant (also known as a site plant)	An **RMX** plant in modular form that is readily transportable by road. It may be located on a construction site itself or nearby.
Mothballing	The process of deciding to cease production at a site, whilst retaining the site and maintaining it in reasonable working order with reasonable accessibility, such that it could become operational in a relatively short period of time, eg to respond to an increase in demand.
Mt	Megatonne or 1 million tonnes. See also **kt**.
Non-operational sites	Leasehold and freehold land interests relating to past activities and which are deemed to have no production potential and can therefore not be expected to be brought back into production.
North-east Scotland	Geographic area comprising Grampian, Tayside and Fife regions, and East Highlands.
North Scotland	Geographic area north of the **Central Belt of Scotland**. This is the geographic area comprising Grampian, Tayside and Fife, and Highland regions, and Argyll & Bute, Stirling and Clackmannanshire Council Areas.
NUTS 3 regions	Nomenclature of territorial units for statistics classification of economic territory of the EU, used by the Eurostat and defined in: http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_CLS_DLD&StrNom=NUTS_33&StrLanguageCode=EN.
Occasionally used	A quarry and/or plant is 'occasionally used' if it is used to meet specific contracts or used during certain times of the year.
OFT	Office of Fair Trading.
PSV	Polished stone value, an attribute of **aggregates**. The higher the PSV of a particular aggregate, the greater the skid resistance of the **asphalt** produced using that **aggregate**.
Primary aggregates	**Aggregates** quarried from the land or dredged from the sea (the latter are also known as marine **aggregates**).
Recycled aggregates	**Aggregates** derived from recycled sources such as demolition sites and construction waste.
Relevant product markets	The markets the **CC** defined for **aggregates**, **RMX**, **asphalt** and **contract surfacing services** for the purposes of assessing the effect of the merger on competition.
RJ McLeod	RJ McLeod (Contractors) Ltd.
RMX	Ready-mix concrete. A building material consisting of a mix of **aggregates**, **cement** and water supplied in a ready-mixed form that can be poured and that sets in situ.

Savoch Quarry	Savoch Quarry & Recycling Limited based in Aberdeenshire.
Secondary aggregates	**Aggregates** produced as the by-products of other industrial or mining activities.
Skene Group	Skene Group Limited, a producer of **aggregates**, **RMX** and **concrete** blocks based in Fife.
SLC	Substantial lessening of competition.
Tayside and Fife	Geographic area comprising the following **Council Areas of Scotland**: Angus, Dundee City, Fife, Perth and Kinross.
Tayside Contracts	Local authority contracting organization providing catering, cleaning, roads maintenance, vehicle maintenance and winter maintenance throughout the Tayside area of Scotland. It is the commercial trading arm of the Councils of Angus, Dundee City and Perth and Kinross.
TOH	Theory of harm.
Transport Scotland	National transport agency for Scotland.
Volumetric truck	A vehicle which carries **aggregates**, **cement** and water in separate compartments to be mixed into **concrete** at the customer's site.