

AGGREGATES, CEMENT AND READY-MIX CONCRETE MARKET INVESTIGATION

Market background

Company profiles of the five Majors: Aggregate Industries, Cemex, Hanson, Lafarge and Tarmac

Originally published 20 December 2012 and republished on 25 January 2013

Introduction

1. This working paper sets out background information on the five largest heavy building materials producers in Great Britain (the Majors), namely Aggregate Industries UK Limited (Aggregate Industries), Cemex UK Operations Limited (Cemex), Hanson, Lafarge Aggregates Limited and Lafarge Cement UK Limited (together Lafarge) and Tarmac Group Limited (Tarmac). We refer to their activities in the production and sale of aggregates, cement (as applicable) and ready-mix concrete (RMX) in Great Britain as the 'Relevant GB Operations'. When defining the scope of the 'Relevant GB Operations', we accounted for the production, sale or consumption of cementitious products as part of their overall RMX or blended cement production activities, rather than as a separate and stand-alone Relevant GB Operation.¹

2. For each of the Majors, we provide details of its ultimate parent company; its UK operational and management structure; and its Relevant GB Operations' activities and strategy. The following appendices accompany this paper:
 - (a) Appendix A: details of each Major's joint ventures (JVs) in the relevant markets;
 - (b) Appendix B: each Major's corporate timeline since 1990; and

¹ Some of the Majors produce cementitious products, eg ground granulated blast furnace slag (GGBS) or pulverized fuel ash (PFA), which are consumed in the production of certain downstream products, eg RMX and concrete products, or in the production of blended cements, eg CEM II, CEM III and CEM IV. In relation to their production of cementitious products (where applicable), this is undertaken either through wholly-owned operations (eg Hanson in the case of GGBS), or through contractual or JV arrangements (eg the ProAsh JV between Lafarge and Cemex in the case of PFA).

(c) Appendix C: the number of Majors' sites as at the end of 2011, by product produced (ie aggregates, cement or RMX), function (eg aggregates quarry, wharf, depot or secondary/recycling site) and activity status (eg active, dormant, closed or mothballed).

Snapshot summary of the Majors

3. Table 1 sets out a snapshot summary of each of the Majors and their Relevant GB Operations.

TABLE 1 Summary of the Majors' Relevant GB Operations

Major	Name of ultimate parent company and its average 2011 market capitalization*	FY11 total gross revenues and EBITDA† of UK (or GB) operations (including non-Relevant GB Operations)‡	Relevant GB Operations' FY11 gross revenues by product division	2011 GB market shares (based on shares of GB production)§	Number of active sites in GB (as at 31.12.2011)¶
Aggregate Industries	<ul style="list-style-type: none"> Holcim Group (Switzerland) Market cap: £13.5bn 	<ul style="list-style-type: none"> GB revenues: £[redacted] ([redacted]% of Holcim Group) GB EBITDA: £[redacted] ([redacted]% of Holcim Group) 	<ul style="list-style-type: none"> Aggregates: £[redacted] Cement: N/A RMX: £[redacted] 	<ul style="list-style-type: none"> Aggregates: 19% Cement: N/A RMX: 11% 	<ul style="list-style-type: none"> Aggregates: 79 RMX: 93 Cement: none
Cemex	<ul style="list-style-type: none"> Cemex Group (Mexico) Market cap: £3.5bn 	<ul style="list-style-type: none"> UK revenues: £[redacted] ([redacted]% of Cemex Group) UK EBITDA: £[redacted] ([redacted]% of Cemex Group) 	<ul style="list-style-type: none"> Aggregates: £[redacted] Cement: £[redacted] RMX: £[redacted] 	<ul style="list-style-type: none"> Aggregates: 11% Cement: [redacted]% RMX: 16% 	<ul style="list-style-type: none"> Aggregates: 57 Cement: 2 RMX: 213
Hanson#	<ul style="list-style-type: none"> Heidelberg (Germany) Market cap: £6.3bn 	<ul style="list-style-type: none"> GB revenues: £1.2bn (11% of Heidelberg) GB EBITDA: £[redacted] ([redacted]% of Heidelberg) 	<ul style="list-style-type: none"> Aggregates: £[redacted] Cement: £[redacted] RMX: £[redacted] 	<ul style="list-style-type: none"> Aggregates: 14% Cement: [redacted]% RMX: 17% 	<ul style="list-style-type: none"> Aggregates: 59 Cement: 3 RMX: 187
Lafarge#	<ul style="list-style-type: none"> Lafarge Group (France) Market cap: £9.1bn 	<ul style="list-style-type: none"> UK revenues: £[redacted] ([redacted]% of Lafarge Group) UK EBITDA: £[redacted] (5% of Lafarge Group) 	<ul style="list-style-type: none"> Aggregates: £[redacted] Cement: £[redacted] RMX: £[redacted] 	<ul style="list-style-type: none"> Aggregates: 11% Cement: [redacted]% RMX: 8% 	<ul style="list-style-type: none"> Aggregates: 34 Cement: 4 RMX: 97
Tarmac	<ul style="list-style-type: none"> Anglo American (UK) Market cap: £38.1bn 	<ul style="list-style-type: none"> UK revenues: £1.4bn (6% of Anglo American) UK EBITDA: £0.1m (0.8% of Anglo American) 	<ul style="list-style-type: none"> Aggregates: £[redacted] Cement: £[redacted] RMX: £[redacted] 	<ul style="list-style-type: none"> Aggregates: 21% Cement: [redacted]% RMX: 14% 	<ul style="list-style-type: none"> Aggregates: 83 Cement: 1 RMX: 154

Sources: Majors' FQ responses and BDS.

*Average 2011 market capitalization is based on the opening and closing market capitalization values on or around 1 January 2011 and 31 December 2011 respectively. For comparability purposes, reporting currencies have been converted into pounds sterling based on the applicable historic exchange rates.

†Earnings before interest, tax, depreciation and amortization.

‡The term 'gross revenues' is used as a measure of total revenues based on sales volumes and prices which include haulage charges to the customer. The term EBITDA is used as a measure of profit and means earnings before deducting interest costs on debt, tax, depreciation and amortization.

§Sources for market share data: (a) Aggregates: table titled 'Summary outputs and shares of aggregates companies – GB (Exc. Marine)' (p169) from BDS report *Estimated market shares of pits, quarries and marine wharves in Great Britain (2011)* (July 2012). Only land-won primary aggregates (ie excluding marine aggregates) are taken into account; (b) Cement: based on CC analysis of data from the cement producers in Great Britain; and (c) RMX: table of market shares of RMX companies in Great Britain (p54) of BDS report *Estimated market shares of ready mixed concrete companies in Great Britain (2011)* (July 2012). Market shares of the RMX market including onsite batching, eg volumetric trucks.

¶Only active production sites for land-won primary aggregates (ie crushed rock and sand and gravel but excluding marine aggregates), RMX and cement are shown. In relation to aggregates, only the number of crushed rock and sand and gravel quarries is shown (ie excluding depots). In relation to cement, only the number of active cement works is shown, ie excluding any grinding or blending stations, depots, import terminals, or GGBS mills (as applicable). Sites for other products, such as specialist aggregates and recycled aggregates, and sites that are mothballed, dormant or closed are not shown in the table above.

#Lafarge's and Hanson's aggregates market shares include the shares of Lafarge Cement and Hanson Cement respectively. If these are excluded, Lafarge's share decreases from 11 to 8 per cent, and Hanson's share decreases from 14 to 12 per cent.

Notes:

1. N/A = not applicable.

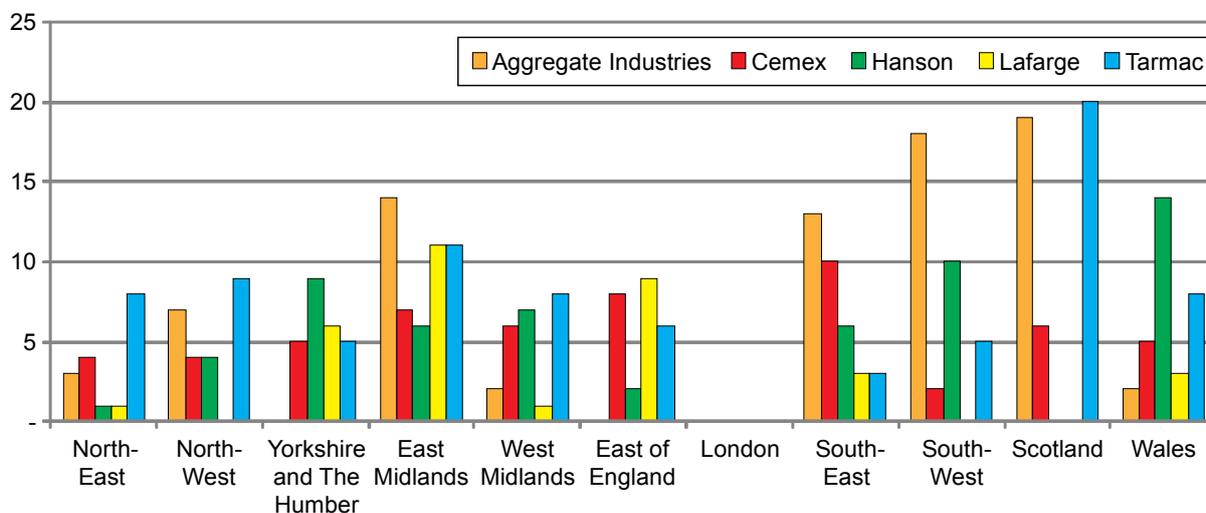
2. The relevant legal entity of the Majors and their ultimate parent companies are set out in the main body of this paper.

4. The regional distribution, by number of sites, of each Major's active production sites in primary aggregates, cement and RMX is set out in Figure 1.

FIGURE 1

**Regional distribution of the Majors' active sites in Great Britain
(by number of sites)**

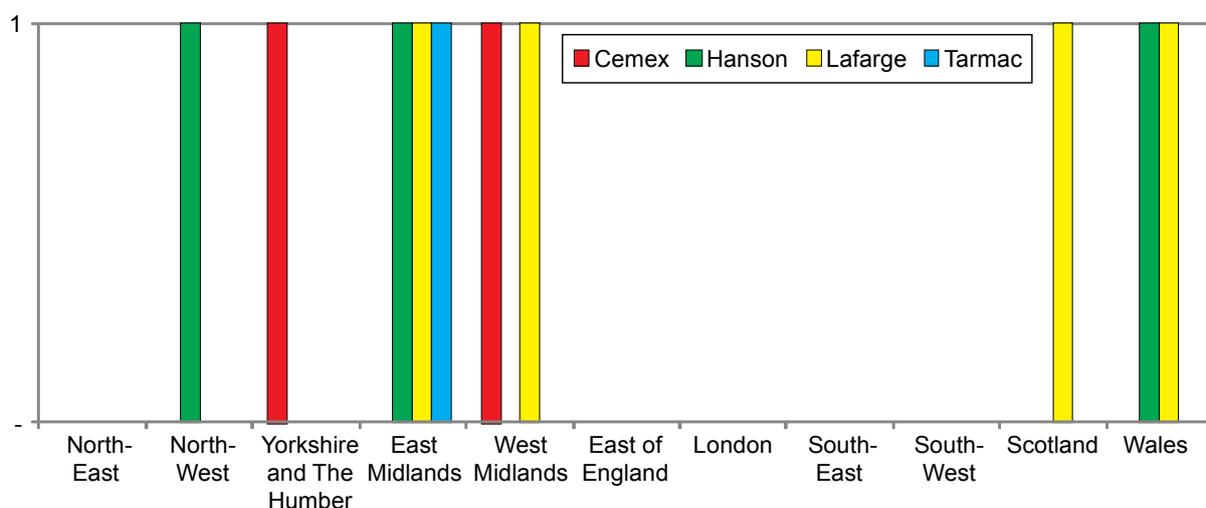
(a) The regional distribution of the Majors' active primary aggregates sites*



Source: The majors.

*Active primary aggregates production sites comprising the total number of quarries and pits. The chart excludes any sites for recycled, secondary, specialist and marine aggregates. Details of these excluded aggregates sites are set out in Appendix C.

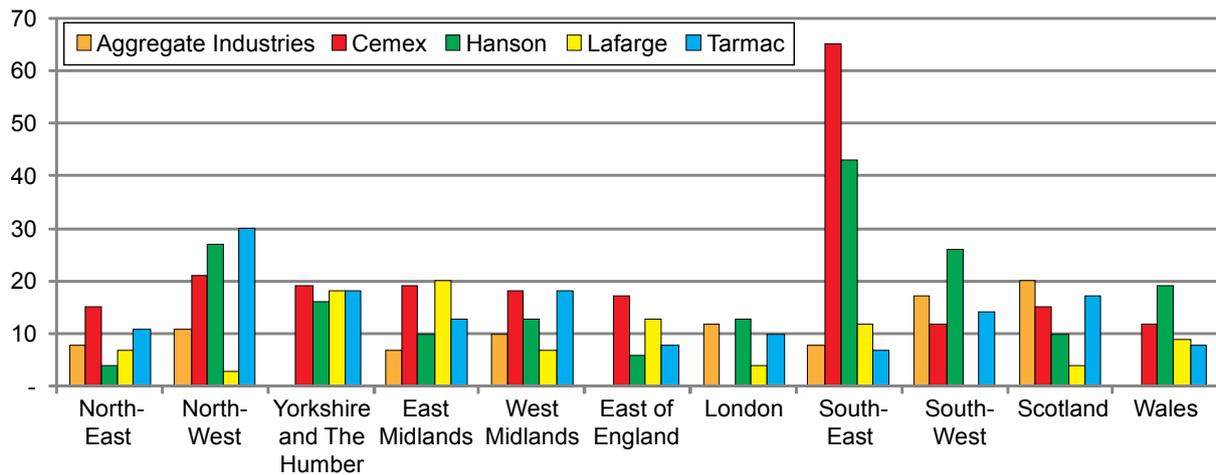
(b) The regional distribution of the Majors' active cement works*



Source: The majors.

*Only the number of active cement works is shown, ie excluding any depots, grinding or blending stations, import terminals, or GGBS mills (as applicable).

(c) The regional distribution of the Majors' active RMX production sites*



Source: The Majors.

*RMX production plants include both fixed and site plants.

5. The individual profiles of each Major are set out below.

Aggregate Industries

Company overview

6. Headquartered in Markfield, Leicestershire, Aggregate Industries UK Ltd (Aggregate Industries) is a major heavy building materials producer in Great Britain. Its ultimate parent company is Holcim Ltd (Holcim Group). Aggregate Industries is the main UK holding company for all of Holcim Group's operations in Great Britain.

7. Aggregate Industries' Relevant GB Operations comprise its aggregates and RMX operations. Whilst it does not produce cement in Great Britain, Aggregate Industries sources cement and cementitious products for its downstream operations (eg RMX) from domestic producers and imports from a Holcim Group cement works in north Germany almost exclusively for its own internal use. For the purposes of this paper, we have treated its cement import activities as an internal procurement activity for its RMX operations and not as a separate Relevant GB Operation.

8. Outside the scope of its Relevant GB Operations are its activities in asphalt and concrete products, as well as its paving and construction services. Table 2 below shows the total gross revenues generated by each of its operations, both within and outside the scope of the Relevant GB Operations. When measured in gross revenue terms, Aggregate Industries' operations outside the scope of the Relevant GB Operations are substantial, in particular its activities in asphalt production and paving services.

TABLE 2 **Aggregate Industries: FY11 gross revenues by product division**

	<i>FY11 gross revenues*</i> £m
<i>Relevant GB Operations</i>	
Aggregates	[X]
RMX	[X]
<i>Outside scope operations</i>	
Cement/GGBS imports†	[X]
Asphalt‡	[X]
Concrete Products Services§	[X]
Paving and Construction Services	[X]

Source: Aggregate Industries.

*Gross revenues are based on both internal and external sales and before any consolidation adjustments. Therefore, consolidated figures have not been presented in the table above.

†Aggregate Industries' activities in purchasing third-party cement and cementitious products are taken into account as a procurement activity for its RMX operations and not as a separate Relevant GB Operation. The majority of Aggregate Industries' purchases of cement and cementitious products are used in the production activities of its downstream operations, eg RMX and concrete products.

‡Asphalt gross revenues include sales made in the Channel Islands, which are not part of Great Britain.

§Whilst the production of both asphalt and concrete products rely on aggregates as an input from both external and internal sources, these activities are treated as being outside the scope of the Relevant GB Operations.

Ultimate parent company

9. Incorporated in Switzerland, Holcim Group is the ultimate parent company of Aggregate Industries and is listed on the SIX Swiss Exchange. Holcim Group's average market capitalization in 2011² was around £13.5 billion.³
10. Holcim Group is a multinational producer of cement, aggregates, as well as RMX and asphalt, including related services. In FY11, Holcim Group generated total consolidated revenues of £14.6 billion and an EBITDA of £2.8 billion, of which £1.1 billion

² Average market capitalization based on opening and closing market capitalization on or around 1 January 2011 and 31 December 2011 respectively.

³ Conversion to a pound sterling market capitalization figure was based on Aggregate Industries' estimate.

(8 per cent) and £98 million (4 per cent) were generated from its operations in Great Britain (including those outside the scope of the Relevant GB Operations).

11. In FY11, Holcim Group's European operations accounted for 29 per cent of its global consolidated revenues in FY11 and generated an EBITDA margin of 15 per cent, which was relatively low in comparison with the EBITDA margins generated by its operations in the Middle East and Africa (margin of 33 per cent), and in Latin America (margin of 27 per cent).

Operational and management structure

Operational structure

12. Aggregate Industries' UK operations are divided into the following four business divisions:

(a) Aggregates & Cementitious Materials division, comprising:

- (i) its aggregates operations which are carried out by four business units:

Bardon Aggregates South East, Bardon Aggregates South West, Bardon Aggregates North, and Bardon Aggregates Scotland; and

- (ii) its cementitious products operations, which are carried out by its Paragon Materials (Paragon) business unit, which imports cement and GGBS, and purchases PFA for its RMX operations. Aggregate Industries also owns a

51 per cent stake in Lytag Ltd which produces lightweight secondary aggregates and cementitious products from the ash of coal-fired power stations.

Lytag Ltd is operated as a stand-alone business and does not form part of its Aggregates & Cementitious Materials division.

(b) Construction Solutions division, comprising its RMX, asphalt and paving services.

Its RMX operations trade as Bardon Concrete and London Concrete.

(c) Concrete Products division, comprising its concrete product operations, eg concrete blocks and precast concrete.

(d) *Overseas*, which comprises its European aggregates operations (including its Glensanda operations in Scotland), and shipping operations which transport land-won aggregates by ship.⁴

13. Aggregate Industries told us that each of its four business divisions was structured as a stand-alone business with each business division being a 'product specific profit centre with a dedicated management team'. In relation to each business division's supply chain, Aggregate Industries told us that this was done on 'commercial terms' in a 'recognisable customer/supplier way'.⁵

Management structure

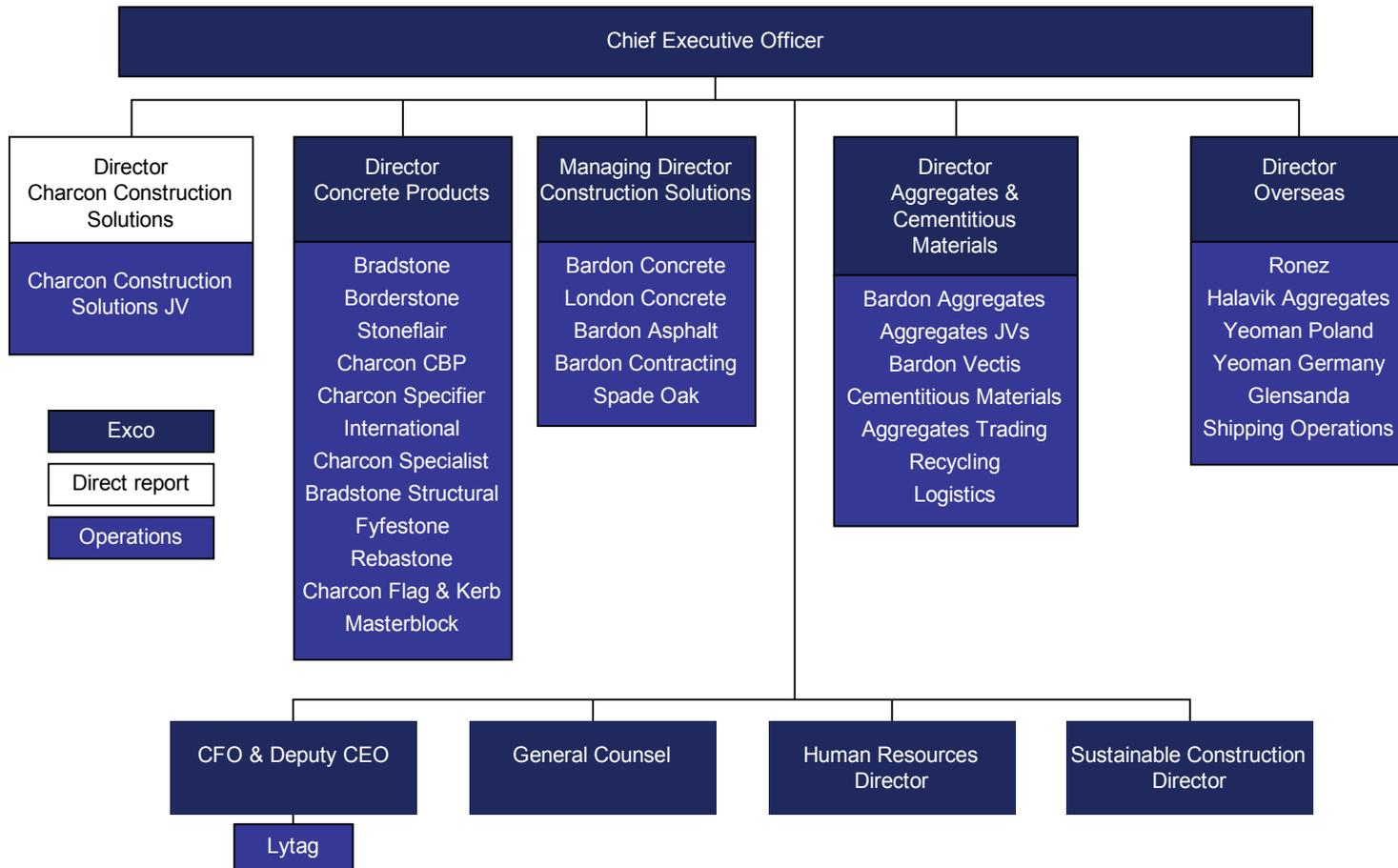
14. The UK management structure chart for Aggregate Industries is set out in Figure 2 below.

⁴ We have treated Aggregate Industries' Glensanda operations as being within the scope of its Relevant GB Operations.

⁵ Aggregate Industries told us that the only exceptions were its 'Island' businesses on the Outer Hebrides and the Isle of Wight where separate, but integrated, aggregates and RMX businesses were operated.

FIGURE 2

Aggregate Industries' UK management and operational structure



Source: Aggregate Industries.

15. Aggregate Industries is managed by an Executive Committee (Exco) which is led by its Chief Executive Officer (CEO) for the UK. The Exco includes the heads of each business division (either a director or a Managing Director), and is responsible for developing the company's business [redacted]. Below the Exco level, production decisions are generally made at a regional level whilst external and internal prices are agreed at a local level. Customer price discounts are authorized [redacted] depending on the proposed discount amount.

16. Supporting its business divisions is the Shared Service Centre, or the SSC, which employs around [redacted] and carries out the company's central functions and shared services.⁶ [redacted]

Relevant GB Operations overview and strategy

Overview of the Relevant GB Operations' active sites

17. Table 3 below shows a snapshot of the total number of active sites for Aggregate Industries' Relevant GB Operations as at 31 December 2011 and the distribution of sites across the regions of England, and in Scotland and Wales. See also Appendix C for further details.

⁶ Average staff numbers are based on average figures during FY11.

TABLE 3 **Aggregate Industries' active sites in England, Scotland and Wales**

	Aggregates						RMX		Cement		
	CR	SG	Spec	Marine	Sec	Rec	Fixed	Site	Works	Blend	Terminal
North-East	2	1	1	-	-	-	8	-	-	-	-
North-West	6	1	4	-	1	1	11	-	-	-	1
Yorkshire and the Humber	-	-	-	-	-	-	-	-	-	-	-
East Midlands	6	8	3	-	1	7	7	-	-	-	-
West Midlands	1	1	1	-	-	1	10	-	-	-	-
East of England	-	-	-	-	-	-	-	-	-	-	-
London	-	-	-	-	-	1	12	-	-	-	-
South-East	3	11	1	-	1	8	8	-	-	-	1
South-West	9	9	2	-	4	8	17	-	-	-	1
England (total)	27	31	12	-	7	26	73	-	-	-	3
Scotland	15	5	2	-	-	1	20	-	-	-	1
Wales	2	-	2	-	-	-	-	-	-	-	-
Great Britain (total)	44	36	16	-	7	27	93	-	-	-	4

Source: Aggregate Industries.

Note: For aggregates (sites only include quarries and pits, ie excludes depots): CR = crushed rock; SG = sand and gravel (land-won); Spec = specialist aggregates; Marine = marine aggregates; Sec = secondary aggregates; Rec = recycled aggregates.

For RMX: Fixed = fixed plants; Site = site plants.

For cement: Works = cement works; Blend = blending station; Terminal = cement import terminal.

18. For each of its Relevant GB Operations, in terms of the number of sites across Great Britain:

(a) *Aggregates*. Its primary aggregates operations form [X] part of its aggregates operations, where it has quarrying operations across [X]. Aggregate Industries operates [X] of primary aggregates sites in England, in particular in the South-East, the South-West and the East Midlands, compared with its quarrying operations in Wales and Scotland.

(b) *RMX and cement procurement*. Aggregate Industries operates in England and Scotland, but does not operate any plants in the regions of Yorkshire and the Humber and the East of England, and in Wales. Cement for its RMX production activities is sourced through its four cement import terminals: one in Scotland and three in England.

Aggregates operations overview

19. Aggregate Industries' aggregates operations produce land-won primary, specialist, secondary and recycled aggregates, [X]. In addition to distributing its products by

road, Aggregate Industries also owns facilities to distribute aggregates by rail, river and sea.

20. Aggregate Industries' aggregates customer base comprises central and local government, national and regional construction and building companies, builders' merchants and merchant hauliers, and producers of RMX, asphalt and concrete products. In addition, its aggregates operations also supply aggregates to its own downstream operations, namely RMX, asphalt, concrete products and paving.

21. [REDACTED]

RMX operations overview

22. In Great Britain, its RMX operations trade as Bardon Concrete and London Concrete, and operate a 'network of plants' which Aggregate Industries told us had the ability to reach all the 'major population centres in England and Scotland', and supply 'projects of all sizes and complexity'. Its RMX customer base includes [REDACTED].

23. Aggregate Industries' RMX operations source aggregates both internally and externally, and told us that it [REDACTED]. Aggregate Industries also told us that [REDACTED].⁷ Aggregate Industries sources cement and GGBS from within the UK and from imports from Europe through its Paragon Materials business unit, which operates four cement import terminals in Chatham (Kent), Ellesmere Port (Cheshire), Glasgow (Scotland) and Plymouth (Devon). In addition, Paragon Materials also sources PFA from the UK.

24. Aggregate Industries told us that it could not provide a meaningful estimate of the limits on the amount of cement that it could import through its four import terminals,

⁷ [Aggregates Industries response to the issues statement](#), Section 1.

since they were not sophisticated facilities and the infrastructure (eg storage capacity or docking facilities) were not the determining factor for estimating the capacity of the import terminals.

25. Aggregate Industries told us that it sourced [REDACTED] of its cement requirements from Holcim Group's cement works in Germany, and [REDACTED] from UK producers. [REDACTED]
26. Aggregate Industries told us that before the recent recession, its strategy for RMX had been [REDACTED].

JVs and partnership arrangements

27. A list of Aggregate Industries' JVs and partnership arrangements is set out in Appendix A. In relation to its JVs, Aggregate Industries told us that its JVs were primarily production JVs with the exception of two, namely the A1 JV (with Cemex) and the Tendley JV (with Tarmac). Aggregate Industries told us that it did not have any production JVs with the other Majors.⁸
28. Aggregate Industries operates JVs primarily in relation to aggregates, but in some cases for RMX production. In relation to its aggregates JVs, Aggregate Industries told us that these were a result of [REDACTED]. In relation to its RMX JVs, it told us that its RMX JVs were typically formed [REDACTED].

Vertical integration business model

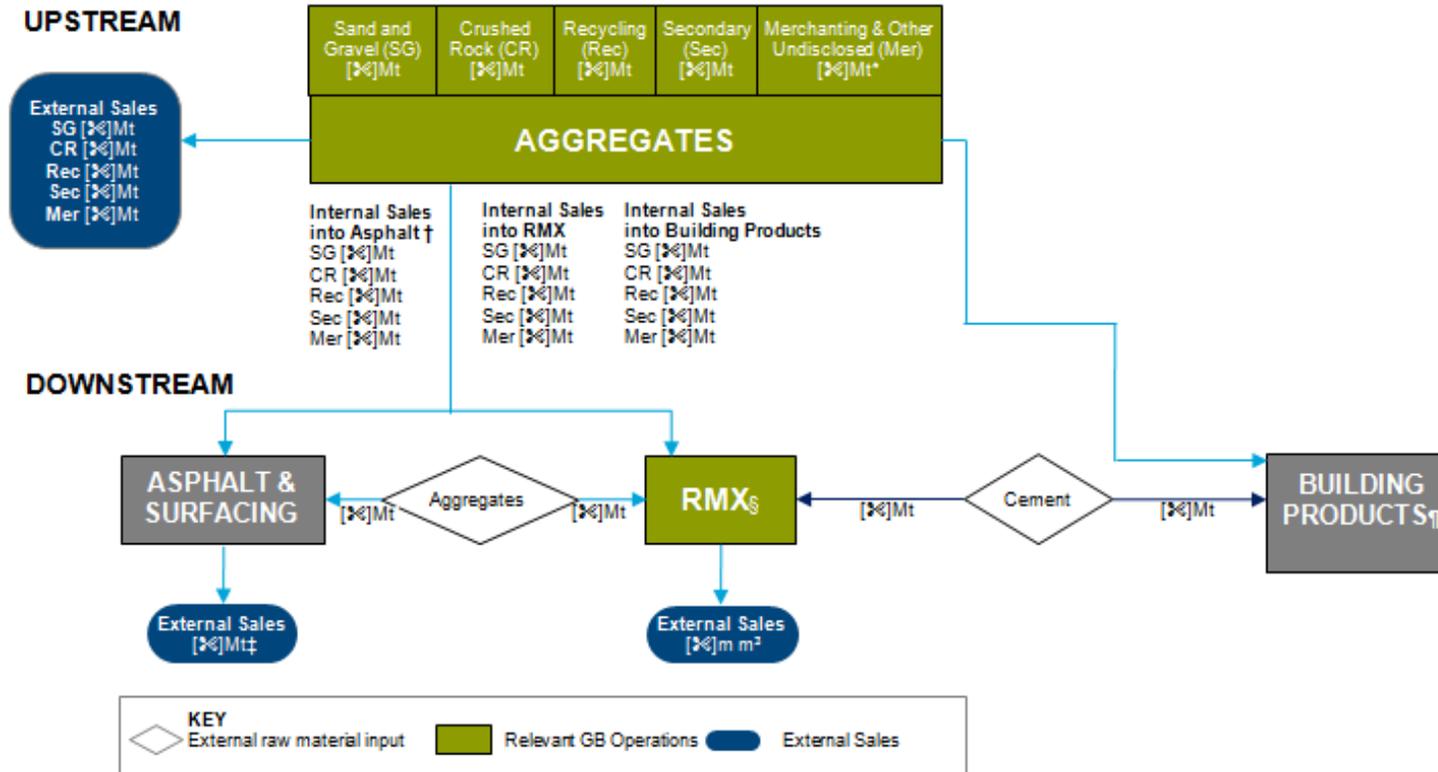
29. Figure 3 shows the flow of products between Aggregate Industries' upstream and downstream operations in Great Britain based on FY11 sales volumes. For example, it shows that during FY11, Aggregate Industries sold [REDACTED] Mt of sand and gravel in total, of which around [REDACTED] Mt ([REDACTED] per cent) was sold externally, with the remaining

⁸ [Aggregates Industries response to the issues statement](#), section 4.

tonnage ([x]) Mt) sold internally to its downstream operations, of which [x] Mt went into its own RMX operations.

FIGURE 3

Aggregate Industries' operations in Great Britain and product flows (FY11 sales volumes)



Source: Aggregate Industries.

*Merchandising activity not split into SG, CR, Rec or Sec. 'Undisclosed' refers to miscellaneous activities such as 'bagging'.

†Includes sales of aggregates to Surfacing.

‡Includes asphalt sold and laid.

§RMX third-party cement figure includes [] Mt of cement imported by Aggregate Industries.

¶'Building Products' is defined as any building product or material, excluding RMX and asphalt. Building Products third-party cement figure includes [] Mt of cement imported by Aggregate Industries.

Note: Internal sales data taken from management accounts. External sales have been estimated based on assumed amounts of aggregates used in each tonne of asphalt and m³ of RMX.

30. Figure 3 shows that internal sales were made by its aggregates operations to its downstream RMX, asphalt and building products operations. There was also a further internal sale from its asphalt operations to its asphalt surfacing operations which is not shown in Figure 3. During FY11, its RMX operations sourced around [X] Mt of aggregates and around [X] Mt of cement from other parties (of which around [X] Mt was imported from Holcim Group's cement works in Germany).

Cemex

Company overview

31. Headquartered in Thorpe, Surrey,⁹ Cemex UK Operations Ltd (Cemex), formerly known as RMC (UK) Ltd, is the principal UK operating subsidiary¹⁰ engaged in the production of aggregates, cement and RMX. Cemex in turn is wholly owned by Cemex UK, the UK holding company. Cemex's ultimate parent company is Cemex S.A.B de C.V. (Cemex Group).
32. Table 4 shows the total gross revenues generated by each of its operations, both within and outside the scope of the Relevant GB Operations. Activities outside the scope of the Relevant GB Operations include the production of asphalt, admixtures (which are used in the production of concrete and RMX), and building products.

⁹ Section 2 of Cemex response to Issues Statement (24 April 2012)

¹⁰ Section 1 of Cemex response to Issues Statement (24 April 2012)

TABLE 4 **Cemex: FY11 gross revenues by product division**

	<i>FY11 gross revenues*</i> £m
<i>Relevant GB Operations</i>	
Aggregates	[X]
Cement	[X]
RMX	[X]
<i>Outside scope operations</i>	
Asphalt†	[X]
Admixtures‡	[X]
Ash and Slag§	[X]
Building products¶	[X]
Surfacing#	[X]
Dry silo mortar~	[X]
Angling★	[X]
Rentals◆	[X]

Source: Cemex.

*Based on both internal and external sales and before any consolidation adjustments.

†Purchases aggregates from Cemex's aggregates operations.

‡Production of admixtures for use as additives in the production of RMX and concrete and sells admixtures to Cemex's RMX operations.

§[X]

¶Includes the production of precast concrete and concrete block paving. Its roof tiles business was divested in November 2011. Cemex's Building products operations purchase aggregates and cement from Cemex's upstream operations and external third parties.

#The surfacing of highways, airfields and other infrastructure with asphalt.

~Produces mortar, dry silo mortar, screeds, ready-to-use, lime, sand, plaster and render. Purchases aggregates and cement from Cemex's upstream aggregates and cement operations.

★The use of restored quarries as angling sites, generating revenues via the sale of permits to anglers. Cemex told us that it was currently marketing its Angling business for divestment.

◆Rental income from sundry sites—land and buildings.

Ultimate parent company

33. Cemex's ultimate parent company, Cemex Group, is incorporated in Mexico, and is listed on the New York Stock Exchange and the Bolsa Mexicana de Valores, the Mexican exchange. Cemex Group's average market capitalization in 2011¹¹ was around £3.5 billion.
34. Cemex Group is a multinational producer of heavy building materials and operates in over 50 countries across the Americas, Europe, Africa, the Middle East and Asia. Cemex Group's global operations focus on the production and sale of aggregates, cement, RMX and related building materials. In FY11, Cemex Group generated total consolidated revenues of £9.4 billion and an EBITDA of £1.5 billion, of which its UK

¹¹ Average market capitalization based on opening and closing market capitalization on or around 1 January 2011 and 31 December 2011 respectively.

operations generated total revenues of £789 million (8 per cent of the total) and EBITDA of £52 million (4 per cent).

35. Cemex Group sets the general business strategy and targets for each of its countries of operation and is also responsible for approving the five-year business plans of the Relevant GB Operations, which set out their strategies for meeting Cemex Group's targets, eg each of Cemex Group's operations is tasked with achieving returns in line with Cemex Group's cost of capital. Cemex told us that its UK operations competed for capital with Cemex Group's other national operations, and that if any of its Relevant GB Operations could not achieve 'stand-alone profitability' in the medium term, Cemex Group's strategy was to divest the underperforming business. [REDACTED]
36. [REDACTED]

Operational and management structure

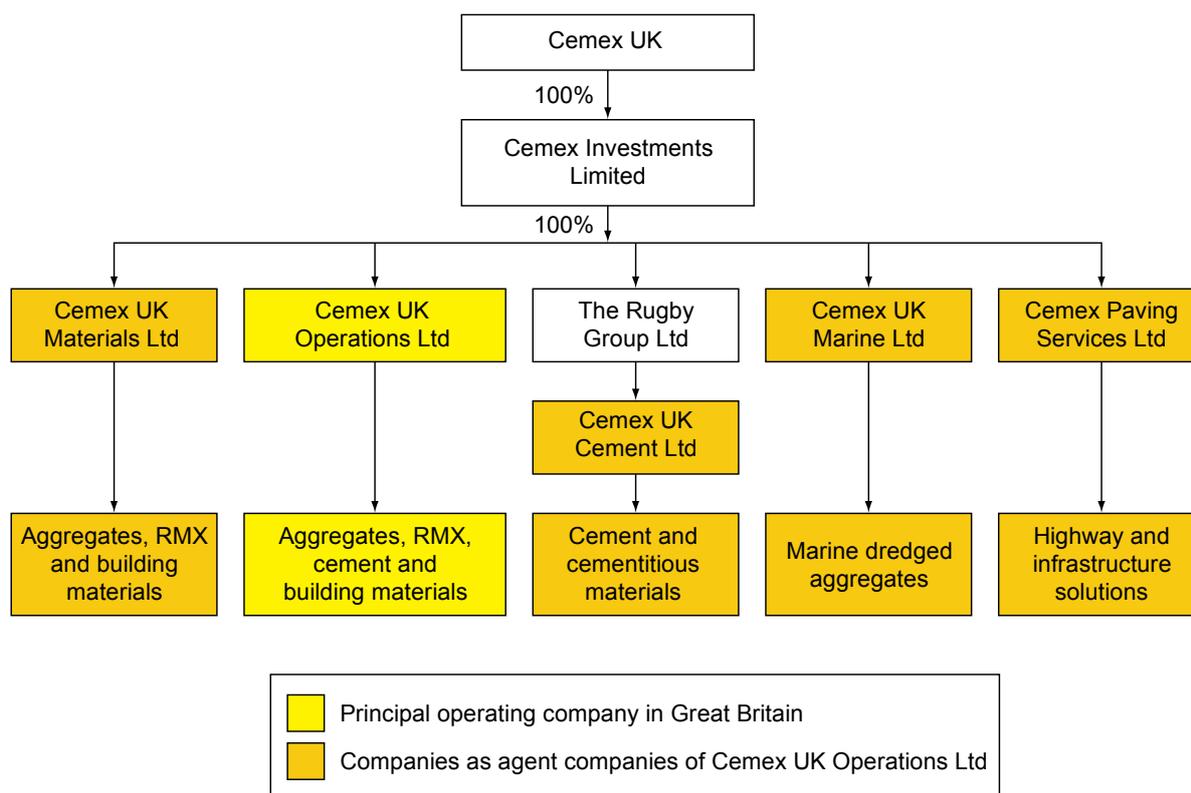
Operational structure

37. Cemex operates four business divisions, internally referred to as its 'Local Operations':
- (a) *Aggregates & Asphalt division*, comprising its land-based and marine aggregates operations and its asphalt and surfacing operations.
 - (b) *Cement Operations & Rugby Plant division*, comprising its production activities for cement.
 - (c) *Ready Mix & Mortar division*, comprising its RMX, mortar and admixtures operations.
 - (d) *Cement, Commercial, Logistics & Building Products division*, comprising its activities in selling cement, building products, eg concrete products, and logistics.

38. Whilst Cemex (ie Cemex UK Operations Ltd) is the primary operating subsidiary, there are four other operating subsidiaries which act on behalf of Cemex as ‘agents’ carrying out the actual production and selling activities, and then recharging Cemex for providing these services. These agents are:
- (a) *Cemex UK Materials Ltd*, which produces aggregates, RMX and specialist products, and markets dry building products.
 - (b) *Cemex UK Cement Ltd*, which manufactures, trades and sells cement and cementitious products.
 - (c) *Cemex UK Marine Ltd*, which is involved in the dredging and sale of marine aggregates.
 - (d) *Cemex Paving Solutions Ltd*, which provides highway and infrastructure solutions (renamed from Cemex Surfacing Ltd in October 2012).
39. A simplified diagram of Cemex’s legal structure showing Cemex and its agency companies is set out in Figure 4.

FIGURE 4

Cemex's simplified legal structure*



Source: Cemex.

*All of the entities shown are incorporated in the UK.

Management structure

40. Cemex is managed by a UK board of directors led by the Country President for the UK, who reports to the President of Cemex Northern Europe (on the Executive Board at Cemex Group). Cemex told us that its aggregates, cement and RMX operations were run as 'separate profit-driven businesses', each with its own Vice President, targets and stand-alone business model.

41. Cemex's UK central functions (which Cemex refers to as 'Coordinated Areas') comprise legal, human resources, strategic planning, and public affairs and communications.

Relevant GB Operations overview and strategy

42. Cemex told us that its strategy for each of its Relevant GB Operations was primarily to 'deliver growth organically' and that innovation was at the 'core' of each Relevant GB Operation's strategy, eg its RMX operations aimed to add four value-added products to its product portfolio each year. It added that each Relevant GB Operation was tasked with revenue growth and cost reduction to deliver a return on capital employed above its cost of capital and positive 'Economic Value Added', both targets set by Cemex Group.
43. Cemex told us that in response to the market downturn, it had implemented a strategy of 'rapid and substantial downsizing', where since 2007, Cemex closed two cement works (Barrington and Rochester works) and mothballed one of its two kilns at its South Ferriby works; closed 30 quarries and 100 RMX sites; and reduced its UK workforce by 41 per cent.¹²

Overview of the Relevant GB Operations' active production sites

44. Table 5 shows a snapshot of the total number of active sites for Cemex's Relevant GB Operations as at 31 December 2011 and the distribution of sites across the regions of England, and in Scotland and Wales. See also Appendix C for further details.

¹² [Cemex response to issues statement](#), 24 April 2012, Section 2.

TABLE 5 **Cemex's active sites in England, Scotland and Wales**

	<i>Aggregates</i>						<i>RMX</i>		<i>Cement</i>		
	<i>CR</i>	<i>SG</i>	<i>Spec</i>	<i>Marine</i>	<i>Sec</i>	<i>Rec</i>	<i>Fixed</i>	<i>Site</i>	<i>Works</i>	<i>Blend</i>	<i>Terminal</i>
North-East	3	1	-	1	-	-	15	-	-	-	-
North-West	3	1	-	-	-	-	21	-	-	-	-
Yorkshire and the Humber	4	1	-	-	-	-	19	-	1	-	-
East Midlands	-	7	-	-	-	-	18	1	-	-	-
West Midlands	-	6	-	-	-	-	18	-	1	-	-
East of England	-	8	-	-	-	-	17	-	-	-	-
London	-	-	-	-	-	-	-	-	-	-	-
South-East	-	10	-	9	-	-	62	3	-	1	1
South-West	2	-	-	1	-	-	12	-	-	-	-
England (total)	12	34	-	11	-	-	182	4	2	-	1
Scotland	3	3	-	-	-	-	15	-	-	-	1
Wales	5	-	-	3	-	-	12	-	-	-	-
Great Britain (total)	20	37	-	14	-	-	209	4	2	-	2

Source: Cemex.

Note: For aggregates (sites include quarries and pits only and no depots): CR = crushed rock; SG = sand and gravel (land-won); Spec = specialist aggregates; Marine = marine aggregates; Sec = secondary aggregates; Rec = recycled aggregates. For RMX: Fixed = fixed plants; Site = site plants.

For cement: Works = cement works; Blend = blending station; Terminal = cement import terminal.

45. Based on Table 5:

- (a) *Aggregates*. Cemex operated crushed rock quarries in the regions of the North-East, the North-West and the South-West of England, and in Scotland and Wales. It also operated sand and gravel pits across all the regions of England (with the exception of London and the South-West) and in Scotland. Cemex did not operate any sand and gravel pits in Wales.
- (b) *RMX*. Cemex operated fixed RMX plants across all the regions of England (with London being the only exception), and in Scotland and Wales. Around 90 per cent of its fixed RMX plants were based in England.
- (c) *Cement*. Cemex also operated two cement works in Great Britain: at Rugby (the West Midlands) and South Ferriby (Yorkshire and the Humber), as well as a stand-alone clinker grinding and blending station at Tilbury (in the South-East).¹³

¹³ [Cemex response to issues statement](#), 24 April 2012, Section 3.

Aggregates operations overview

46. Cemex's aggregates operations produce decorative aggregates, high polished stone value aggregates, limestone, marine aggregates, recycled aggregates, rock armour, and sand and gravel. Cemex told us that it did not operate any dedicated recycling sites, but did on occasion sell recycled aggregates out of existing sites by using hired or mobile crushing equipment.
47. Cemex provides bulk aggregates deliveries to building and construction companies for major projects (eg road building), as well as on-site collection by customers for smaller jobs. Cemex also supplies aggregates to producers of RMX, asphalt, concrete block and precast concrete.

Cement operations overview

48. Cemex produces CEM I and CEM II bulk cement for producers of RMX, concrete block and precast concrete (among other applications), and bagged cement for builders' merchants.
49. Cemex told us that cement could be transported from its plants to customers anywhere in Great Britain by road, and that it used its import terminals to serve customers in more remote parts of Great Britain, eg Cemex served many Scottish customers by transporting cement produced at its South Ferriby plant to a terminal in Leith (Scotland) by ship.¹⁴
50. Whilst Table 5 shows that Cemex operated [X] import terminals as at the end of FY11, namely Tilbury in the South-East (which imports clinker) and Leith in Scotland (which imports cement from its own South Ferriby works), this understates Cemex's actual number of import terminals since most have been put to use for alternative

¹⁴ [Cemex response to issues statement](#), 24 April 2012, Section 3.

purposes. In addition to its Tilbury and Leith import terminals, Cemex also has two active import terminals (Southampton and Dagenham) which are used as storage depots for cement manufactured at its Rugby works, as well as a mothballed import terminal at Newport. Cemex also closed and disposed of its import terminal at Sheerness in December 2011. [✂]

RMX operations overview

51. Cemex produces RMX, as well as different concrete mix designs ranging from enhanced strength to easy placement, in addition to special products such as rapid hardening concrete, free-flowing self-compacting concrete and fibre reinforced concrete. It also produces dry and wet mortar and screed including traditional and enhanced performance mixes.

52. Cemex's RMX customer base comprises house builders and industrial, commercial and agricultural customers, as well as members of the public.

JVs and partnership arrangements

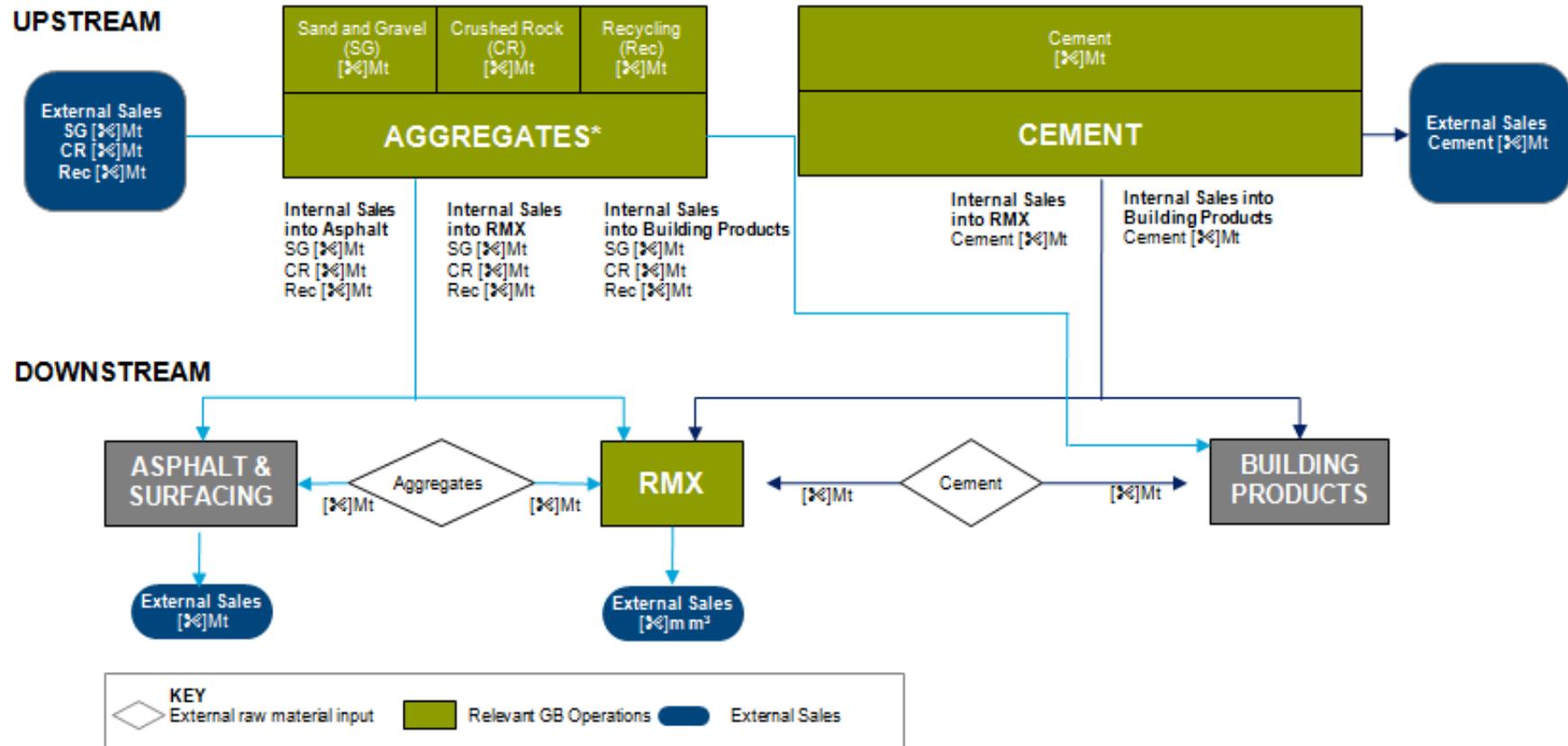
53. A list of Cemex's JVs and partnership arrangements are set out in Appendix A. Cemex told us that Cemex Group's general policy was to operate wholly-owned businesses, and that in recent years, it tended to avoid entering into JVs. Cemex told us that it entered into JVs where Cemex alone would not be able to sustain the costs of the operation and consequently compete in the market, eg in terms of scale, complementary asset footprint, or where a JV arrangement was expressly required by the customer.

Vertical integration business model

54. Figure 5 shows a diagram of the flow of products between Cemex's upstream and downstream operations in Great Britain based on FY11 sales volumes.

FIGURE 5

Cemex's operations in Great Britain and product flows (FY11 sales volumes)



Source: Cemex.

*[]

Hanson

Company overview

55. We refer to the UK operations of HeidelbergCement AG (Heidelberg), the ultimate parent company, as 'Hanson'. Headquartered in Maidenhead, Berkshire, Hanson's core business lies in the production and sale of aggregates, cement and RMX.
56. Table 6 shows the total gross revenues generated by each of its operations, both within and outside the scope of the Relevant GB Operations. Activities outside the scope of the Relevant GB Operations include the production of asphalt, building products and GGBS.

TABLE 6 **Hanson: FY11 gross revenues by product division**

	<i>FY11 gross revenues*</i> £m
<i>Relevant GB Operations</i>	
Aggregates	[X]
Cement	[X]
RMX	[X]
<i>Outside scope operations</i>	
Asphalt and Contracting†	[X]
Building Products‡	[X]
Other (part of Cement division)§	[X]

Source: Hanson.

*Total gross revenues are stated before intercompany eliminations and have been calculated as: delivered price multiplied by sales volumes after netting off for rebates.

†The Asphalt and Contracting division produces asphalt, including for road surfacing. It purchases aggregates from both internal and external sources.

‡Hanson's Building Products division produces bricks, concrete blocks, concrete paving, concrete floors and precast concrete. It purchases aggregates and cement from both internal and external sources.

§Hanson's Cement division supplies GGBS to Hanson's RMX operations and third-party RMX operations. It also supplies white cement to its own and third-party RMX producers. Hanson also has a subsidiary called Calumite Ltd (in which it holds a 51 per cent stake), which produces GGBS in bulk and bagged form to glass manufacturing plants in the UK.

Ultimate parent company

57. Heidelberg is incorporated in Germany, and is listed on the Prime Standard segment of the Frankfurt Stock Exchange and on the Regulated Market of the Stuttgart,

Dusseldorf and Munich stock exchanges. In 2011, Heidelberg's average market capitalization¹⁵ was around £6.3 billion.

58. Operating in over 40 countries, Heidelberg's core activities are in the production and distribution of cement and aggregates. In addition, it also operates in a number of downstream activities, including RMX and concrete products.
59. In FY11, Heidelberg generated total consolidated revenues of £11.2 billion and an EBITDA of £2.0 billion, of which all of its operations in Great Britain accounted for £1.2 billion of revenues (11 per cent of Heidelberg's total consolidated revenues) and around £163 million of EBITDA (8 per cent).
60. Hanson told us that Heidelberg had historically invested heavily in the UK, primarily through its acquisition of Castle Cement Ltd in 1998 and Hanson plc in 2007,¹⁶ as part of its strategy to broaden its presence in the global building materials market. In Heidelberg's FY11 Annual Report, its UK operations were described as its 'largest market region in Western and Northern Europe and the second largest [in revenue terms] in the [Heidelberg] Group' behind its US operations. Hanson told us that the Relevant GB Operations were important to Heidelberg as they accounted for a substantial part of its revenues. It added, however, that Heidelberg considered the UK heavy building materials markets to be 'mature, uncertain and weak', and that given Heidelberg's 'current limitations in available funding and their priorities for investing in fast growing economies (in Asian and African emerging markets)', the UK was currently not a 'priority area for investment', and that 'further investment in the UK would be treated with caution'.

¹⁵ Average market capitalization based on the closing market capitalization values on 31 December 2010 and 31 December 2011.

¹⁶ The scheme of arrangement was effective in August 2007.

61. In relation to the level of internal trading between Hanson and Heidelberg, Hanson told us that internal trading was conducted on arm's length terms between:
- (a) its aggregates operations and Stema Shipping (UK) Ltd (Heidelberg's Norwegian JV) (see Appendix A for further details); and
 - (b) its cement operations and HC Trading (Heidelberg's cement trading division).
- Further details of HC Trading are given below.

62. HC Trading is Heidelberg's wholly-owned global trading subsidiary which is responsible for: (a) arranging the global shipping trade activities of its subsidiaries by chartering floating terminals and ships; (b) trading in clinker and grey cement, and to a lesser extent, slag, gypsum and limestone; and (c) selling GGBS produced in the UK in markets outside the UK. Hanson told us that it used HC Trading to buy 'special cements' (such as Calcium Sulphate Alumina) from the Far East, and on occasions, it had purchased other non-construction materials through HC Trading.

Operational and management structure

Operational structure

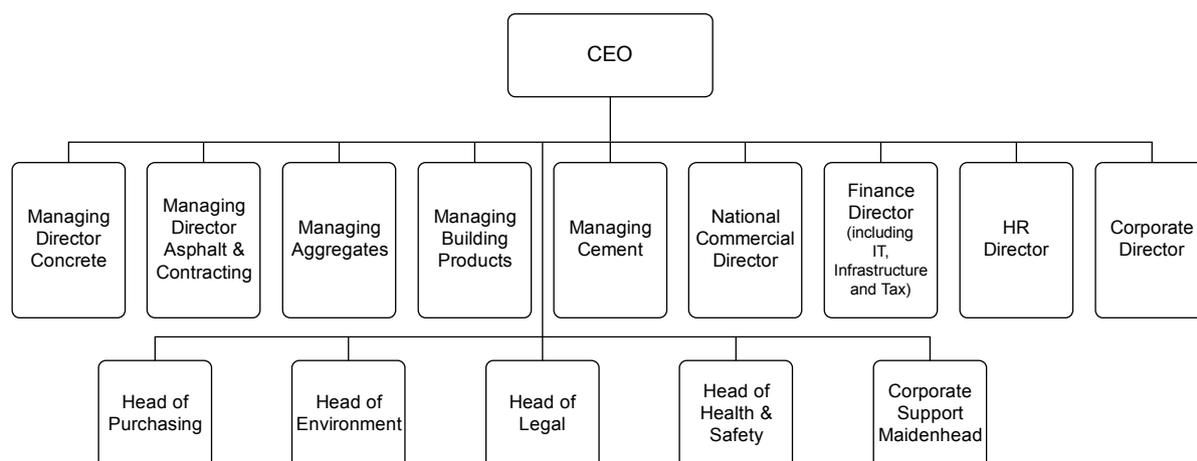
63. Hanson told us that towards the end of 2011, it initiated an internal restructuring process, which was still under way. Since October 2011, Hanson operated the following five business divisions: Aggregates, RMX, Asphalt & Contracting, Cement and Building Products. Prior to October 2011, the Aggregates, RMX and Asphalt & Contracting divisions were part of Hanson Quarry Products.
64. Hanson's Relevant GB Operations are carried out through its Aggregates, Cement and RMX business divisions.

Management structure

65. Hanson's management structure chart is set out in Figure 6.

FIGURE 6

Hanson's simplified UK management structure



Source: Hanson.

66. As shown in Figure 6, each of Hanson's business divisions (ie Aggregates, Cement, RMX, Asphalt & Contracting and Building Products) is headed by a divisional Managing Director who reports to the UK CEO. Hanson told us that below the level of Managing Director, the management structure was partly dependent on the extent to which the relevant product market was considered to be national or local, eg the Cement division generally operated as a national business whilst RMX was managed more locally by a team of ten Area General Managers.
67. Hanson told us that the overall strategy for its Relevant GB Operations was set at a divisional and national level, which was periodically reported to Heidelberg. In the case of strategy for aggregates and RMX, Hanson told us that there was significant local input.
68. In relation to pricing decisions, Hanson told us that pricing decisions for external sales for its aggregates and RMX operations were generally dictated by local cost factors (including haulage rates) and 'perceived local market rates', and were therefore made at a local level. In relation to cement pricing, however, Hanson told

us that this was determined and negotiated centrally and that there was generally no 'sub-division of pricing by plant'. Hanson added that its Cement division had a central sales team which negotiated cement prices with customers, where the 'final price agreed with the customer' must be signed off by the Cement division's Sales Director.

69. Hanson told us that production decisions for its aggregates and RMX operations, including the closure, mothballing, acquisition or opening of a site, would be made either at a local level or as a result of central analysis, but required approval at a divisional and national level. For cement production decisions, however, Hanson told us that these were made centrally and typically involved the Cement division's Managing Director and Distribution Director.
70. Hanson's central functions are carried out by its headquarters in Maidenhead, Berkshire, and its Shared Service Centre in Chipping Sodbury, Bristol.

Relevant GB Operations overview and strategy

71. Hanson told us that Heidelberg's overall strategy for the UK business was to achieve profit growth through organic improvements by 'implementing cost efficiency measures, maintaining or improving margins through price negotiation with customers and maintaining/gaining market share at sustainable margins'.
72. Hanson told us that it continually reviewed the 'profile of its network', including focusing on both underperforming assets (for which performance should be improved), and those assets which should be closed, mothballed or sold. It added that it would also consider 'potential asset acquisitions which might enhance its network (in particular, those which might allow for increased internal purchasing of cement and/or aggregates)'.

Overview of the Relevant GB Operations' active production sites

73. Table 7 shows a snapshot of the total number of active sites for Hanson's Relevant GB Operations as at 31 December 2011 and the distribution of sites across the regions of England, and in Scotland and Wales. See also Appendix C for further details.

TABLE 7 Hanson's active production sites in England, Scotland and Wales

	Aggregates						RMX		Cement		
	CR	SG	Spec	Marine	Sec	Rec	Fixed	Site	Works	Blend	Terminal
North-East	1	-	-	-	-	-	3	1	-	-	-
North-West	2	2	1	-	-	1	25	2	1	-	-
Yorkshire and the Humber	4	5	1	-	-	1	16	-	-	-	1
East Midlands	1	5	-	-	-	-	10	-	1	-	-
West Midlands	1	6	-	-	-	-	13	-	-	-	-
East of England	-	2	-	-	-	2	6	-	-	-	-
London	-	-	-	1	-	1	12	1	-	-	-
South-East	-	6	-	1	-	2	41	2	-	-	-
South-West	6	4	3	-	-	-	26	-	-	-	1
England (total)	15	30	5	2	-	7	152	6	2	-	2
Scotland	-	-	-	-	-	-	9	1	-	-	-
Wales	14	-	3	2	-	-	19	-	1	-	-
Great Britain (total)	29	30	8	4	-	7	180	7	3	-	2

Source: Hanson.

*We requested that marine wharves should be treated as 'active production sites'. Hanson told us that it categorized a site as a wharf where it had 'in place substantial processing infrastructure'; and as a depot where material was landed but was then not subject to significant processing. Hanson told us that these affected the sites at Appledore, Bridgwater and Garston.

Note: For aggregates (sites include quarries and pits, but no depots): CR = crushed rock; SG = sand and gravel (land-won); Spec = specialist aggregates; Marine = marine aggregates; Sec = secondary aggregates; Rec = recycled aggregates.

For RMX: Fixed = fixed plants; Site = site plants.

For cement: Works = cement works; Blend = blending station; Terminal = cement import terminal.

74. Based on Table 7:

(a) *Aggregates*. Hanson's primary aggregates operations have quarrying operations across England and Wales, but do not have any quarrying operations in Scotland or in London.

(b) *RMX*. Hanson's RMX operations have fixed plants in all of the regions of England, and in Scotland and Wales. It told us that its RMX operations had a particularly strong presence in London, Manchester and Birmingham, but a very limited presence in Scotland, eg during FY11, it had active plants in Glasgow and Edinburgh but not in Aberdeen or Dundee (in relation to Dundee, its RMX site remained inactive throughout FY11).

(c) *Cement*. Hanson also operated two cement works in England (Ketton and Ribblesdale works) and one in Wales (Padeswood works), in addition to two import terminals in England.

Aggregates operations overview

75. In relation to primary aggregates, Hanson produces crushed rock (mainly limestone, granite and basalt) and sand and gravel (from both land and marine sources). It also produces specialist sands for glass making, horticulture and leisure, and recycled aggregates. Its aggregates customer base includes producers of RMX, concrete products and asphalt, and the agricultural, infrastructure, housing, industrial and builders' merchants sectors.
76. Hanson's marine aggregates operations are primarily operated in the South-East and the Bristol Channel (where marine aggregates are landed on the North Devon/Somerset coast). Hanson operates nine dredgers which use wharves in Southampton, Dagenham and Rochester, along with some other wharves along the South Coast. It told us that around half of its dredged marine aggregates were landed on to Continental European wharves and the other half on to UK wharves.

Cement operations overview

77. Hanson produces and distributes CEM I, including both bulk and bagged products. Its customer base comprises a range of RMX producers (including the other Majors and independent operators) and concrete product manufacturers. Hanson also supplies a range of major builders' merchants, eg Travis Perkins, and the major builders' merchants buying groups, eg Cemco.

RMX operations overview

78. Hanson produces a range of RMX products for domestic and commercial use for a customer base which includes the domestic, agricultural, civil engineering, contractor and other industrial customers. It told us that it sourced most of its aggregates requirements for RMX production from its own aggregates operations, with the exception of Scotland.

JVs and partnership arrangements

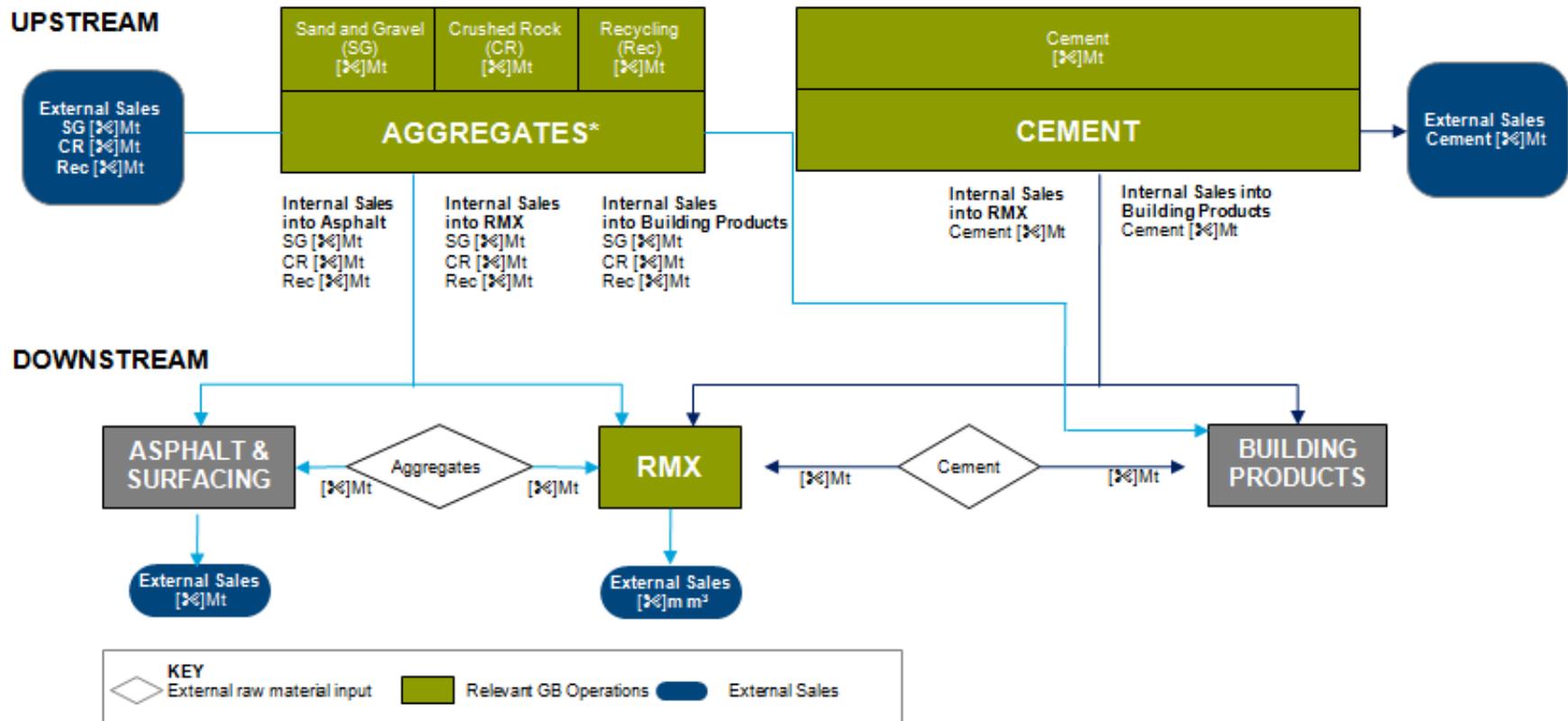
79. A list of Hanson's JVs and partnership arrangements are set out in Appendix A. Hanson told us that it operated a number of aggregates and RMX JVs, some of which were with its competitors. It said that entering into JVs with competitors did not form a 'core part of Hanson's strategy generally', and added that it had a 'strong preference for its operations to be independent from those of its competitors'. It told us that the majority of these JVs were entered into more than ten years ago, and were legacies of its predecessor companies. It added that a number of these legacy JVs were not operational, and that it had given notice to terminate on its 'Purfleet Aggregates' JV.
80. Hanson told us that sometimes JVs would be considered if it allowed the 'exploitation of resources or construction of new facilities to be economically viable'. It added that it operated the 'vast majority' of its JVs on an 'arm's length basis'.

Vertical integration business model

81. Figure 7 shows a diagram of the flow of products between Hanson's upstream and downstream operations in Great Britain based on FY11 sales volumes.

FIGURE 7

Hanson's operations in Great Britain and product flows (FY11 sales volumes)



Source: Hanson.

*SG sales volume includes [£] Mt of external sales of marine aggregates which represent materials sold to external (ie non-Hanson) customers in the UK.

Note: Hanson has categorized all sales to JVs as 'External Sales'. Purchases from JVs have also been categorized as 'External Purchases'.

Lafarge

Company overview

82. We refer to the UK operations of Lafarge S.A. (Lafarge Group) as Lafarge. Lafarge's core activities are in the production and sale of cement, aggregates and RMX, as well as the production of asphalt, and the provision of asphalt surfacing and maintenance services and waste management services.
83. On 18 February 2011, the ultimate parent companies of Lafarge and Tarmac, Lafarge Group and Anglo American respectively, announced a JV of their UK construction materials businesses, including their aggregates, cement, RMX, asphalt and contracting operations, in which each would take a 50 per cent stake in the proposed JV entity (Anglo-Lafarge JV). The Anglo-Lafarge JV was conditionally cleared by the CC on 1 May 2012 subject to the satisfaction of a number of divestment remedies. In this paper, we focus on Lafarge's operations prior to the anticipated completion of the Anglo-Lafarge JV.
84. Table 8 shows the total gross revenues generated by each of Lafarge's operations, both within and outside the scope of the Relevant GB Operations. Activities outside the scope of the Relevant GB Operations include the production of asphalt and gypsum (business sold in October 2011) and waste management services.

TABLE 8 Lafarge: FY11 gross revenues by product division

	<i>FY11 gross revenues £m</i>
<i>Relevant GB Operations</i>	
Aggregates	[X]
Cement	[X]
RMX	[X]
<i>Outside scope operations</i>	
Asphalt and contracting*	[X]
Plasterboard†	[X]
Waste management services‡	[X]
Other§	[X]

Source: Lafarge.

*Gross revenues exclude any share of JV's net sales after intercompany sales adjustments.

†In October 2011, Lafarge Group sold its European (including the UK) and South American gypsum business to Etex Group SA. Lafarge Group retained a [X] per cent stake in the combined entity. During FY11 (up to the end of December 2011), Lafarge's plasterboard operations purchased [X] Kt of its own aggregates.

‡Lafarge offers waste management services for inert (eg soil and rubble), hazardous (eg contaminated soils and asbestos) and non-hazardous (eg municipal waste) waste materials. These services are provided on a very limited basis, and were primarily used for Lafarge's quarry restoration activities.

§Other activities include: (a) reselling concrete pump services to its RMX customers (Lafarge does not own any concrete pumps); and (b) generating rental income from Lafarge's non-operational real estate and property portfolio, as well as proceeds from the sale of any real estate.

Ultimate parent company

85. Lafarge Group is Lafarge's ultimate parent company and is incorporated in France and listed on the Paris Stock Exchange. Lafarge Group's average market capitalization in 2011¹⁷ was around £9.1 billion.
86. Lafarge Group is a multinational producer of building materials, whose core activities are in the production and sale of cement, aggregates and RMX. Lafarge Group's global operations include its operations in Africa and the Middle East (around [X] per cent of total FY11 consolidated revenues), Western Europe (around [X] per cent), North America (around [X] per cent), Asia (around [X] per cent) and Latin America (around [X] per cent).
87. For FY11, Lafarge Group generated total consolidated revenues of £[X] billion and EBITDA of £[X] billion, of which its entire UK operations (ie in Great Britain and

¹⁷ Average market capitalization based on opening and closing market capitalization on 1 January 2011 and 31 December 2011 respectively.

Northern Ireland) accounted for £[x] million ([x] per cent) and £[x] million ([x] per cent) respectively.

88. Lafarge told us that Lafarge Group's objective was to 'create shareholder value by strengthening its position as a world leader in building materials through innovation, recognition by customers, geographical portfolio and profitability'. Lafarge highlighted the importance of innovation for Lafarge Group's product portfolio and told us that Lafarge Group invested more than €[x] million each year in research and development in relation to 'product development and industrial performance and process improvement'.
89. Lafarge told us that the Relevant GB Operations remained 'strategically important' for Lafarge Group, and that the UK was its 'second most significant country by revenue in Western Europe', accounting for [x] per cent of its Western European revenues. Lafarge told us that Lafarge Group's objective for the Anglo-Lafarge JV was to 'improve economies of scale and scope and improve the consumer product offering through an expanded range of products, in particular value-added products in RMX, which bring about efficiencies in cost in use'. Lafarge added that the implementation of the Anglo-Lafarge JV was a 'strategic priority' for Lafarge Group, and that once completed, Lafarge would remain 'committed in the long term to its operations and continued presence' in Great Britain.

Operational and management structure

Operational structure

90. Lafarge operates in the UK through two primary trading subsidiaries:
- (a) *Lafarge Aggregates Ltd*, comprising its aggregates, RMX, asphalt, contracting and waste management divisions, and accounting for around [x] per cent of Lafarge's total FY11 revenues in Great Britain; and

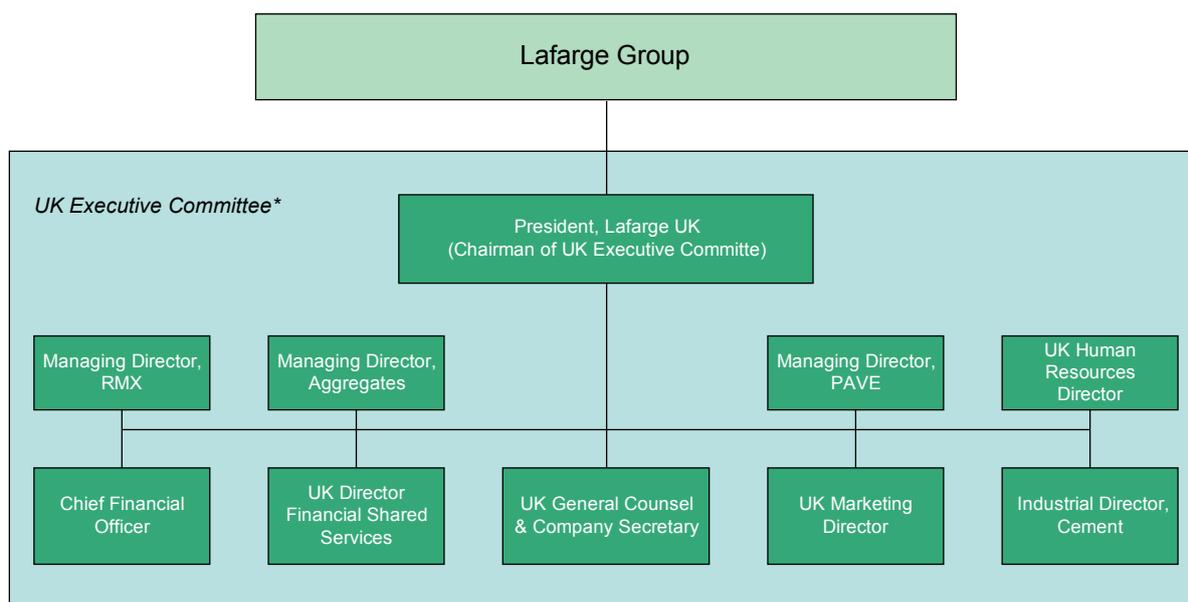
(b) *Lafarge Cement UK Ltd*, comprising Lafarge's UK cement division, and accounting for around [X] per cent of Lafarge's total FY11 revenues in Great Britain.

Management structure

91. Lafarge told us that the skills required for the operation of a cement plant differed significantly from those for aggregates and RMX facilities, and that the organization of its business reflected this, where Lafarge Aggregates Ltd focused on the production and sale of aggregates, RMX and asphalt; and Lafarge Cement UK Ltd focused on the production and sale of cement.
92. Lafarge told us that all Managing Directors of Lafarge's Relevant GB Operations reported to the President of Lafarge UK (also the Chairman of the UK Executive Committee), who in turn reported to the Executive Vice President Operations (on the Executive Committee of Lafarge Group). The management structure within Lafarge Aggregates Ltd and Lafarge Cement UK Ltd is described below:
- (a) Within Lafarge Aggregates Ltd, the UK management team includes three Managing Directors, each responsible for one of its three business divisions: the Aggregates Division, the RMX Division and the Asphalt & Contracting Division (also referred to as 'Pave'). The Managing Directors each sit on the UK Executive Committee and report to the President and Chairman of the UK Committee.
- (b) For Lafarge Cement UK Ltd, the UK management team is led by an Industrial Director who also sits on the UK Executive Committee, and reports to the President and Chairman of the UK Executive Committee.
93. Lafarge's UK management structure is shown in Figure 8.

FIGURE 8

Lafarge management structure



Source: Lafarge.

*The UK Executive Committee also includes the Chief Financial Officer, Shared Services Director, Marketing Director and Industrial Director for Cement.

Relevant GB Operations overview and strategy

Overview of the Relevant GB Operations' active production sites

94. Table 9 shows a snapshot of the total number of active sites for Lafarge's Relevant GB Operations as at 31 December 2011 and the distribution of sites across the regions of England, and in Scotland and Wales. See also Appendix C for further details.

TABLE 9 Lafarge's active production sites in England, Scotland and Wales

	Aggregates						RMX		Cement		
	CR	SG	Spec	Marine	Sec	Rec	Fixed	Site	Works	Blend	Terminal
North-East*	1	1	1	-	-	1	7	-	-	1	-
North-West	-	-	-	-	-	1	3	-	-	-	-
Yorkshire and the Humber	2	4	2	-	-	1	18	-	-	1	-
East Midlands	3	8	3	-	-	4	17	3	1	-	-
West Midlands	-	1	-	-	-	1	7	-	1	-	-
East of England	-	9	-	-	-	7	13	-	-	-	-
London	-	-	-	-	-	-	4	-	-	-	-
South-East	-	3	-	2	-	5	11	1	-	2	1
South-West	-	-	-	-	-	-	-	-	-	-	-
England (total)	6	26	6	2	-	20	80	4	2	4	1
Scotland	-	-	-	-	-	-	4	-	1	-	-
Wales	3	-	3	1	-	-	9	-	1	-	-
Great Britain (total)	9	26	9	3	-	20	93	4	4	4	1

Source: Lafarge.

*Lafarge's Thrislington site produces both crushed rock and sand and gravel, and therefore this site is double counted under 'CR' and 'SG' in this table. Whilst JVs are not shown in the table, Lafarge has one JV (Quarrington) in the North-East.

Note: For aggregates (sites include quarries and pits but exclude depots): CR = crushed rock; SG = sand and gravel (land-won); Spec = specialist aggregates; Marine = marine aggregates; Sec = secondary aggregates; Rec = recycled aggregates. For RMX: Fixed = fixed plants; Site = site plants.

For cement: Works = cement works; Blend = blending station; Terminal = cement import terminal.

95. Based on Table 9:

- (a) *Aggregates*. In terms of the number of active production sites, Lafarge's sand and gravel quarrying sites in England and Wales (when compared with its crushed rock sites) account for a substantial part of its primary aggregates operations. However, given the relatively smaller scale of its sand and gravel sites, Lafarge told us that it produced a greater volume of crushed rock than sand and gravel. Lafarge does not have any quarrying activities in London, the South-West and Scotland.
- (b) *RMX*. Its RMX operations are based in all the regions of England (with the exception of the South-West), and in Scotland and Wales.
- (c) *Cement*. Lafarge operates the only cement works in Scotland, and also operates three others in the East Midlands, the West Midlands, and in Wales. It also operates one cement import terminal in the South-East.

Aggregates operations overview

96. Lafarge told us that all its quarries produced either generic crushed rock or sand and gravel. At some of its quarries, it also produces the following specialist aggregates (depending on the geology of a particular quarry): rail ballast (Mountsorrel quarry); high purity limestone (Dowlow quarry); high polished stone value aggregates (Dry Rigg and Hafod quarries); chemical-grade dolomite (Thrislington and Whitwell quarries); and agricultural lime also known as Aglime (from six of its quarries¹⁸). Lafarge also operates one dedicated recycling site, with additional recycling activities at its aggregates quarries and depots.
97. Lafarge produces marine aggregates through two JVs: Northwood (Fareham Ltd) and Britannia Aggregates, in which Lafarge holds effective stakes of [X] and [X] per cent respectively (see also Appendix A).¹⁹

Cement operations overview

98. Lafarge operates four cement works in Great Britain: Aberthaw (South Glamorgan, Wales), Caudon (Staffordshire), Dunbar (East Lothian, Scotland) and Hope (Derbyshire), with a total cement production capacity of around 4 Mt. Lafarge produces and sells both bulk and bagged cement and hydraulic binders to the construction industry. In relation to bulk cement, Lafarge produces CEM I, CEM II, CEM III and CEM IV products.
99. Lafarge estimated that for the whole of Great Britain, around [X] per cent of total grey cement sales were made to producers of RMX ([X] per cent of total grey cement sales in Great Britain) and concrete products ([X] per cent); and builders' merchants and national construction companies ([X] per cent). It estimated that

¹⁸ Lafarge's quarries which also produce Aglime are: Thrislington, Wath, Whitwell, Dowlow, Graig and Ewenny.

¹⁹ RW Aggregates is the holding company of Northwood (Fareham Ltd), the operating company, and Britannia Aggregates.

bagged cement was predominantly sold to national retailers (eg DIY stores), builders' merchants and buying co-operatives.

JVs and partnership arrangements

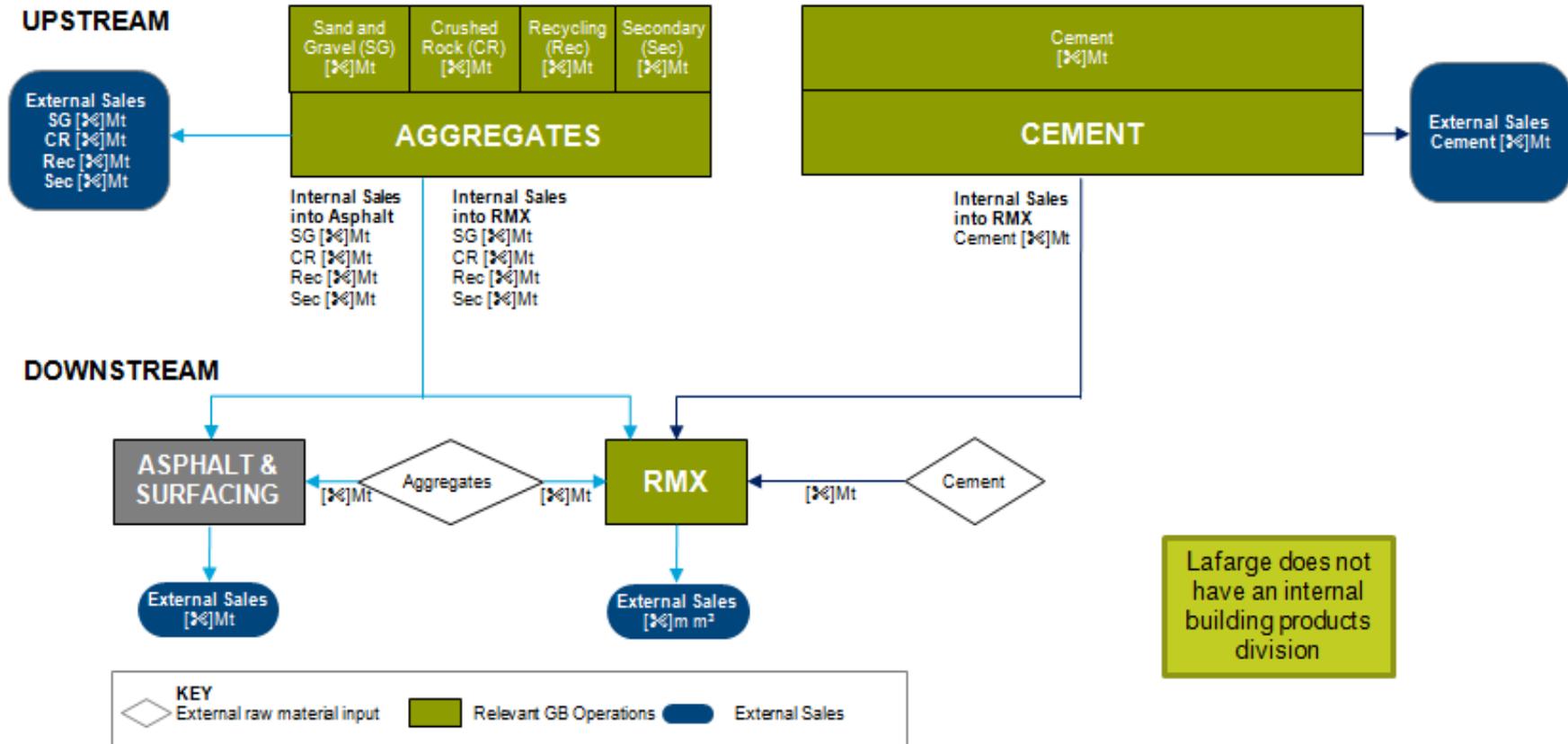
100. A list of Lafarge's JVs and partnership arrangements are set out in Appendix A. In particular, Lafarge operates a number of JVs and contractual arrangements (four in total) in relation to the production of cementitious products.

Vertical integration business model

101. Figure 9 shows the flow of products between Lafarge's upstream and downstream operations in Great Britain based on FY11 sales volumes.

FIGURE 9

Lafarge's operations in Great Britain and product flows (FY11 sales volumes)



Source: Lafarge.

Note: Lafarge does not have an internal building products division.

Tarmac

Company overview

102. Headquartered in Ettingshall, Wolverhampton, Tarmac Group Ltd (Tarmac) is the holding company for Anglo American plc's (Anglo American's) construction materials businesses in the UK and abroad.²⁰ Unless stated otherwise, references to Tarmac in this paper mean Tarmac's UK construction materials businesses only, of which its Relevant GB Operations are a part.
103. Tarmac comprises the group of companies in the UK engaged in the production of aggregates, RMX, cement, lime and asphalt, as well as in the provision of road surfacing and maintenance services, waste management services, and its building products operations, Tarmac Building Products (TBP), which produces concrete blocks, bagged aggregates and foundry sands.
104. In FY11, Tarmac's UK and international operations generated total consolidated revenues of £[X] and EBITDA of £[X], the vast majority [X] were generated in Great Britain.
105. Table 10 shows the total gross revenues generated by each of its operations, both within and outside the scope of the Relevant GB Operations. Activities outside the scope of the Relevant GB Operations include the production of asphalt and building products, ie TBP.

²⁰ Tarmac also has JV operations in the United Arab Emirates, Qatar and Oman, which are involved in the production of aggregates and asphalt, and also provide road surfacing services.

TABLE 10 Tarmac: FY11 gross revenues by product division

	FY11 gross revenues £m
<i>Relevant GB Operations</i>	
Aggregates	[x]
Cement	[x]
RMX	[x]
<i>Outside scope operations</i>	
Asphalt*	[x]
National Contracting†	[x]
Granulate‡	[x]
Lime§	[x]
Building products ((ie TBP)¶	[x]

Source: Tarmac.

*In FY11, Tarmac's [x] asphalt plants sourced [x] Mt of aggregates internally (ie from Tarmac) and [x] Mt externally.

†[x]

‡Tarmac has three operations which granulates slag to produce granulate or GBS (granulated blastfurnace slag), which is then supplied to Hanson for grinding to produce GGBS. Tarmac purchases GGBS from Hanson and blends it with CEM I at its RMX plants.

§Tarmac operates two lime production sites at Tunstead and Hindlow (both in Derbyshire) and produces a range of lime products, eg quicklime, hydrated lime, milk of lime and natural hydraulic lime. The raw aggregates materials used in lime production are [x].

¶In FY11, TBP sourced [x] Mt of aggregates and [x] Mt of cement from Tarmac.

Ultimate parent company

106. Headquartered in London, Anglo American is Tarmac's ultimate parent company and a global diversified mining and industrial business. Anglo American has a primary listing on the London Stock Exchange and a secondary listing in Johannesburg. In 2011, its average market capitalization was £38.1 billion.²¹ In FY11, Anglo American generated total consolidated revenues of US\$36.5 billion and EBITDA of US\$13.3 billion.²²

107. In October 2009, Anglo American undertook an internal restructuring to streamline its management structure and focus on its core mining portfolio.²³ The restructuring set in motion a planned divestment programme for a number of its non-core assets,

²¹ Anglo American's average market capitalization for 2011 was based on a market capitalization of £44.8 billion and £31.5 billion on 31 December 2010 and 31 December 2011 respectively.

²² www.angloamerican.com/investors/keyfininfo/sbs.

²³ www.angloamerican.com/aal/media/releases/2009pr/2009-10-22/.

including Tarmac,²⁴ which culminated in its announcement of the proposed Anglo-Lafarge JV in February 2011 (discussed above under the section on Lafarge).

Operational and management structure

Operational structure

108. Tarmac is organized into multi-product regions (covering aggregates, RMX and asphalt production) (Tarmac UK Regions) alongside its cement, lime and industrial powders operations Buxton Lime & Cement (BL&C), and its National Contracting operations, which are outside the scope of the Relevant GB Operations.
109. Tarmac UK Regions comprises its four regional businesses: North & Scotland, Central, West and South East. Each region is largely self-contained handling the following functions: operations, logistics, finance, commercial, health and safety and environment, estates and geology.
110. BL&C comprises a cement plant, lime plants, industrial powders operations and a chemical stone plant. BL&C is also largely self-contained and carries out the following functions: operations, commercial, logistics, engineering, technical (including research and product development), human resources, health and safety, and environment.

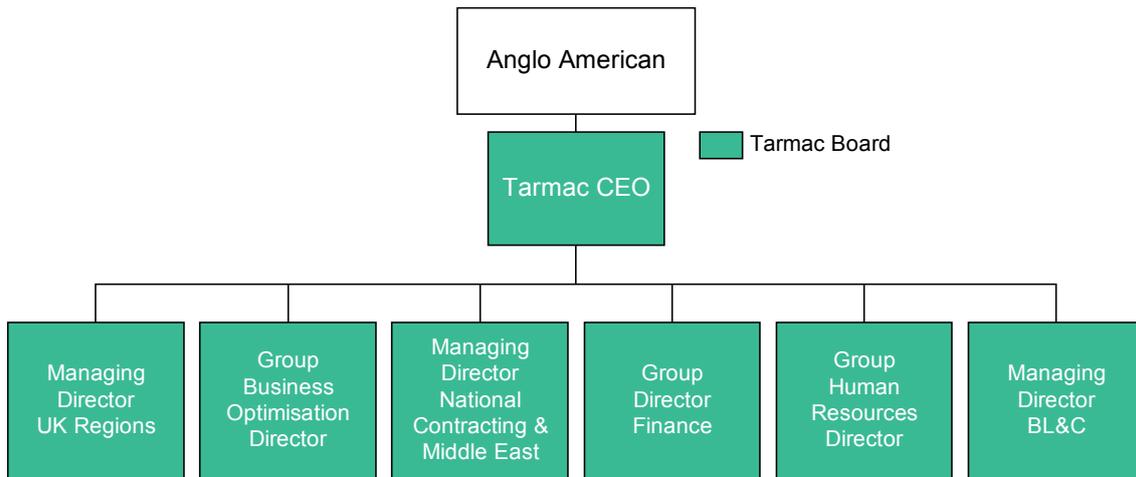
Management structure

111. A simplified management structure chart is set out in Figure 10.

²⁴ www.angloamerican.com/business/other_mining/products/products_01.

FIGURE 10

Tarmac's simplified UK management structure



Source: Tarmac.

- 112. Tarmac is headed by its CEO who oversees its UK and international operations, and reports directly to Anglo American. The Tarmac UK Regions division is overseen by a Managing Director who reports to the CEO. Day-to-day management of the operations for each of the four regional businesses within Tarmac UK Regions is the responsibility of a Regional Director.
- 113. BL&C is headed by a Managing Director who reports to the CEO. The BL&C management team also includes a Commercial Director, a Cement Operations Director and a Business Optimisation Director.
- 114. Tarmac's head office functions are carried out at Ettingshall by its 570 employees.

Relevant GB Operations overview and strategy

- 115. In relation to its aggregates operations, Tarmac told us that its main strategic focus was to reduce its cost base and improve the operating cost efficiencies of production sites through the introduction of 'lean manufacturing principles; energy and logistics

improvement programmes; mothballing units and taking out capacity in response in demand’.

116. In relation to its cement operations, Tarmac told us that its main strategy was to maximize the ‘capacity throughput’ at its Tunstead cement works, and that its business model was ‘focused on self-supply’ to its downstream RMX operations.
117. Tarmac told us that given the ‘local and highly competitive nature of the market’, its RMX strategy was focused on ‘offering competitive prices’ and customer service. In response to the market downturn, Tarmac told us that it had mothballed a number of its RMX plants and introduced cost reduction and logistics improvement programmes.

Overview of the Relevant GB Operations’ active production sites

118. Table 11 shows a snapshot of the total number of active sites for Tarmac’s Relevant GB Operations as at 31 December 2011 and the distribution of sites across the regions of England, and in Scotland and Wales. See also Appendix C for further details.

TABLE 11 Tarmac’s active production sites in England, Scotland and Wales

	Aggregates						RMX		Cement		
	CR	SG	Spec	Marine	Sec	Rec	Fixed	Site	Works	Blend	Terminal
North-East	5	3	-	2	1	1	11	-	-	-	-
North-West	4	5	-	1	-	7	30	-	-	-	-
Yorkshire and the Humber	3	2	-	-	-	1	18	-	-	-	-
East Midlands	5	6	3	-	3	2	13	-	1	-	-
West Midlands	2	6	3	-	-	3	18	-	-	-	-
East of England	-	6	-	-	-	1	8	-	-	-	-
London	-	-	-	2	-	3	8	2	-	-	-
South-East	-	3	-	4	-	2	6	1	-	-	-
South-West	3	2	-	2	1	7	14	-	-	-	-
England (total)	22	33	6	11	5	27	126	3	1	-	-
Scotland	10	10	-	-	-	5	16	1	-	-	-
Wales	7	1	1	3	6	4	8	-	-	-	-
Great Britain (total)	39	44	7	14	11	36	150	4	1	-	-

Source: Tarmac.

Note: for aggregates (sites include quarries, pits and depots): CR = crushed rock; SG = sand and gravel (land-won); Spec = specialist aggregates; Marine = marine aggregates; Sec = secondary aggregates; Rec = recycled aggregates. For RMX: Fixed = fixed plants; Site = site plants. For cement: Works = cement works; Blend = blending station; Terminal = cement import terminal.

119. Based on Table 11:

- (a) *Aggregates*. Tarmac's crushed rock operations have quarries across England, except in the regions of the East of England, London and the South-East. In relation to sand and gravel pits, Tarmac operates sites across all the regions of England except London. Tarmac has crushed rock and sand and gravel production sites in Scotland and Wales (one site for sand and gravel in Wales). Tarmac also has marine sand and gravel dredging sites and wharves in London, and across England and Wales. Tarmac told us that the location of its quarries was based on geology and the location of its minerals ownership.
- (b) *RMX*. Its RMX operations have national coverage and operate in all regions of England, as well as in Scotland and Wales. Tarmac operates site plants in London and the South-East. Tarmac told us that its site plants could be operated anywhere and was not limited to the South-East.
- (c) *Cement*. Tarmac operates a single cement works (Tunstead) in the East Midlands, and does not operate any cement or clinker import terminals.

Aggregates operations overview

120. Tarmac produces and sells primary, secondary, recycled and specialist aggregates, eg rail ballast, high purity limestone and high polished stone value aggregates. It told us that its construction aggregates customer base comprised: customers with fixed locations and a fairly steady demand (eg producers of RMX, asphalt, bagged aggregates and concrete products); construction and civil engineering firms for specific construction projects; and merchant hauliers and resellers, typically customers with their own vehicle fleet, multi-sourcing aggregates direct from quarries or depots.
121. In relation to its marine aggregates operations, Tarmac operates four dredgers which contribute around a third of its total tonnage of sand and gravel (around [redacted] Mt out of a total of [redacted] Mt). Tarmac's wharf facilities are mainly located on the South Coast,

London and South Wales, but it also serves ports in the North-West, North-East and Continental Europe.

Cement operations overview

122. Tarmac produces and sells predominantly bulk cement with some bagged cement sales. Tarmac's customer base for bulk cement includes producers of RMX, concrete blocks, paving and precast concrete. It told us that bagged cement was usually distributed through national and local builders' merchants or DIY chains, and traditionally served producers of mortar for block and brick construction, but it was also used to produce small volumes of RMX and precast concrete. Tarmac added that purchases of bagged cement could either be made direct or through an established buying consortium.
123. Tarmac operates one cement works at Tunstead, Buxton, which carries out all of its CEM I production and produces around 800 to 900 Kt of cement a year (based on a theoretical maximum capacity of around 1 Mt). Whilst Tarmac does not have any separate grinding or blending facilities, it told us that it produced small amounts of CEM II, eg for the bagged cement market, but added that it produced very little bagged cement. It added that cement substitutes were used at its RMX sites.
124. Tarmac also told us that whilst it did not own any cement or clinker import terminals, it purchased some specialist white cement imported from Scandinavia.

RMX operations overview

125. Tarmac produces and sells a range of different RMX products, including a number of specialist branded RMX products, which it told us had 'enhanced beneficial' properties, eg Topforce (fibre reinforced RMX) and TopTint (coloured RMX). Tarmac's RMX

customers are typically general construction or civil engineering companies, ranging from national to local businesses.

JVs and partnership arrangements

126. A list of Tarmac's JVs and partnership arrangements are set out in Appendix A.

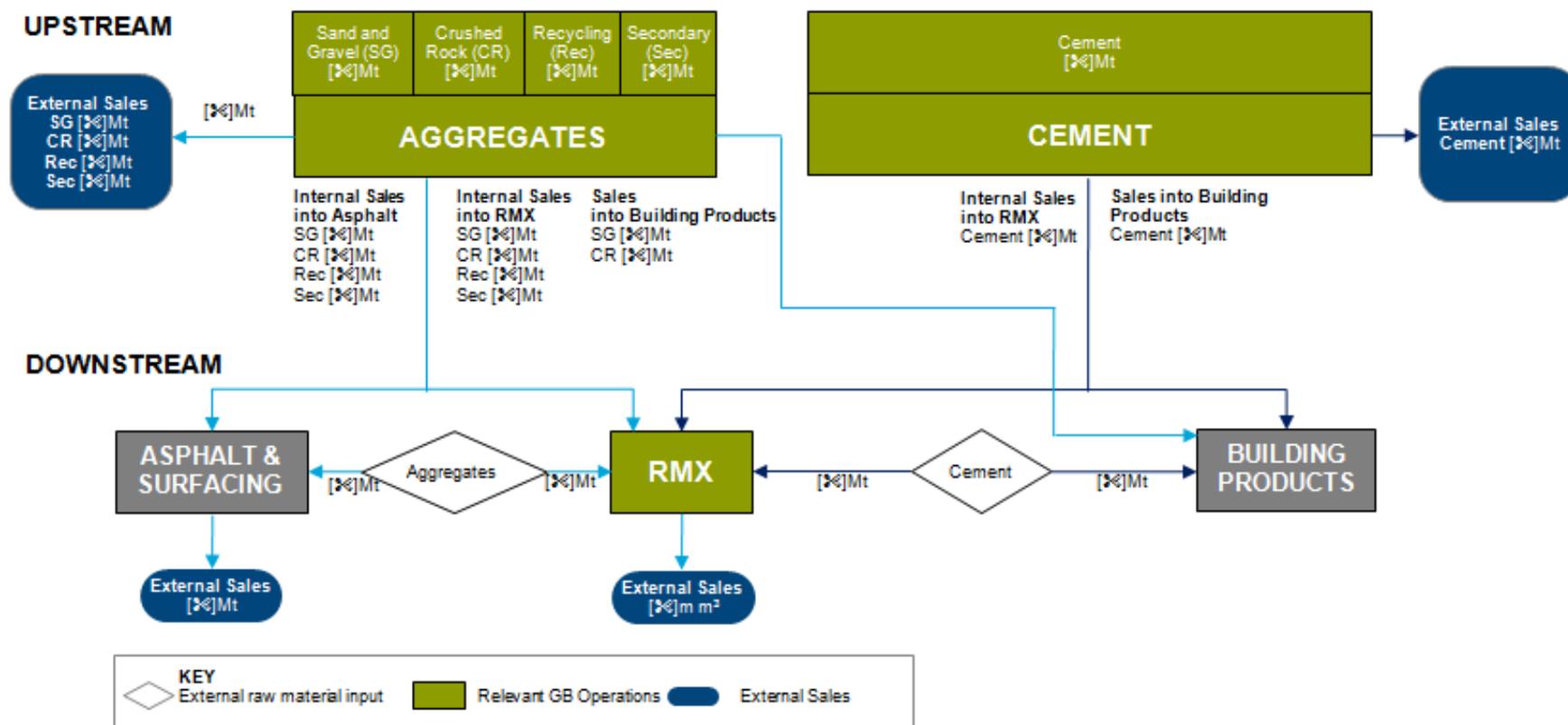
Tarmac told us that its JVs operated on two 'principal bases': either as 'autonomous independently managed enterprises' or as 'production only ventures'. It added that the rationale for entering into JVs was based on the 'need to share investment costs'.

Vertical integration business model

127. Figure 11 shows the flow of products between Tarmac's upstream and downstream operations in Great Britain based on FY11 sales volumes.

FIGURE 11

Tarmac's operations in Great Britain and product flows (FY11 sales volumes)



Source: Tarmac.

Joint ventures and partnership arrangements

1. This appendix sets out each of the Majors' Relevant GB Operations' JVs.



Corporate timelines

1. This appendix sets out a corporate timeline for each of the Majors from 1 January 1990 to 31 March 2012.

Aggregate Industries: corporate timeline (1990 to 31 March 2012)

2. Table B1 shows the key milestone events in Aggregate Industries' development from 1990 to 1999. Table B2 shows a more detailed history of its corporate activities from 2000 up to 31 March 2012.

TABLE B1 **Aggregate Industries: key milestone events, 1990 to 1999***

<i>Date†</i>	<i>Type of milestone event</i>	<i>Description of major milestone event</i>	<i>Affected Relevant GB Operation</i>
Feb 1990	Acquisition	Acquisition by Evered plc (established in 1922) of Civil & Marine Ltd for £105m (marine dredging and slag cement businesses). Slag business sold in 1992, and marine aggregates business sold in 1995 to Hanson plc	Aggregates
1991	Merger	Merger of Evered plc and Bardon Group plc (listed on the London Stock Exchange in 1988) to form Evered Bardon plc. Combined entity became one of the largest aggregates producers in the UK	Aggregates
1992	Disposal	Disposals by Evered Bardon plc raising £34m: main disposal was the sale of Civil & Marine Ltd's slag cement business for £25m (£60m extraordinary item and a write-down of Civil & Marine Ltd)	N/A
1993	Strategic	Evered Bardon plc name changed to Bardon Group plc	N/A
1993	Disposal	Bardon Group plc disposals of mainly concrete products businesses	N/A
1993	Rights issue	Bardon Group plc rights issue which raised £72m	N/A
1994	Disposal	Bardon Group plc disposals raised £4m. Mainly concrete products businesses	N/A
1995	Disposal	Sale by Bardon Group plc of Civil & Marine Ltd to ARC (now Hanson) which raised £72m	Aggregates
Dec 1996	Acquisition	Acquisition by Bardon Group plc of 22.7% stake plus £1m loan stock in UK-listed Bruntcliffe Aggregates plc, consideration was issue of Bardon Group plc shares. Stake eventually sold	Aggregates
1997	Merger	Merger of Bardon Group plc with CAMAS plc (an aggregates producer formed in 1994 from its demerger from English China Clays (ECC) plc). Combined entity was named Aggregate Industries plc. Bardon Group plc and CAMAS plc each had revenues of over £300 million	Aggregates and RMX
Dec 1997	Acquisition	Aggregate Industries plc's acquisition of 51% of London Concrete, a London-based RMX business	RMX
Mar 1998	Acquisition	Aggregate Industries plc's acquisition of Douglas Concrete, a Midlands-based RMX and sand and gravel producer	Aggregates and RMX
1998	Strategic	Aggregate Industries plc aborted merger talks with Tarmac plc	N/A

Source: Aggregate Industries.

*Key milestones include any major corporate activity undertaken by the Relevant GB Operations, which is important for understanding the major developments of these relevant businesses.

†Date is the completion date or year.

Note: Certain notable milestones have been separately highlighted.

TABLE B2 **Aggregate Industries: timeline of corporate activity, 2000 to 2011***

<i>Date†</i>	<i>Type of corporate activity</i>	<i>Corporate activity description</i>	<i>Affected Relevant GB Operation</i>	<i>Gross revenues £m‡</i>	<i>Deal value £m§</i>
Feb 00	Acquisition	Aggregate Industries plc's purchase of assets from Tarmac—aggregates, asphalt and RMX assets sold as requirement of OFT clearance of Anglo American's purchase of Tarmac—mainly in northern England	Aggregates and RMX	£18m	£29.7m
2001	Acquisition	Acquisition of 20% shareholding in Paragon Materials	Cement	N/A	N/A
2002	Acquisition	Acquisition of a further 35% shareholding in Paragon Materials	Cement	N/A	N/A
Feb 02	Acquisition	Aggregate Industries plc's acquisition of Littler Readymix	RMX	£1.2m	£0.2m
Feb 02	Acquisition	Aggregate Industries plc's acquisition of Bradwell/Karrimix, an Essex based RMX and sand and gravel producer	Aggregates and RMX	£9.1m	£4.2m
Oct 02	Acquisition	Aggregate Industries plc's acquisition of 50% interest in Sewells Reservoir Construction	Aggregates	N/A	£3.5m
Nov 02	Acquisition	Aggregate Industries plc's acquisition of Hartigan, a Northamptonshire/Buckinghamshire RMX and sand and gravel producer	Aggregates and RMX	£6.4m	£4.5m
Dec 02	Acquisition	Aggregate Industries plc's acquisition of Cambridgeshire Aggregates	Aggregates	N/A	£2.7m
2003	Acquisition	Acquisition of a further 32.5% shareholding in Paragon Materials	Cement	N/A	N/A
Jan 03	Acquisition	Aggregate Industries plc's acquisition of three Counties Concrete Ltd, a Worcestershire RMX business	RMX	£1.9m	£1.8m
Jun 03	Acquisition	Aggregate Industries plc's acquisition of Brown & Potter Ltd, a Yorkshire aggregates and RMX business	Aggregates and RMX	£2.9m	£2.2m
Oct 03	Acquisition	Aggregate Industries plc's acquisition of Paynemix assets	RMX	£1.5m	£1.0m
Jan 04	Acquisition	Aggregate Industries plc's acquisition of Aggregate Supplies (national bagged aggregates)	Aggregates	£41.1m	£1.0m
Mar 04	Acquisition	Aggregate Industries' Witherley Services JV formed - 50% stake in aggregates merchanting business—Midlands	Aggregates	N/A	£1.4m
Apr 04	Acquisition	Aggregate Industries plc's acquisition of Woodhall Spa—Lincolnshire aggregates business	Aggregates	£4.5m	£11.3m
2005	Acquisition	Acquisition of the remaining 12.5% shareholding in Paragon Materials	Cement	N/A	N/A
Jan 05	Acquisition	Aggregate Industries plc's acquisition of remaining 49% stake for London Concrete	RMX	N/A	£32m
Mar 05	Acquisition	Acquisition of Aggregate Industries plc by Holcim Group. Aggregate Industries plc becomes Aggregate Industries, which was reorganized to separate its aggregates division from its asphalt and concrete products division; and transfer Aggregate Industries' US operations into Holcim Group's overseas holdings	All operations	N/A	N/A
Sep 06	Acquisition	Aggregate Industries' acquisition of Foster Yeoman, which completed in December 2006	Aggregates	£[3]	£[3]
Oct 07	Acquisition	Aggregate Industries acquired Cemex's 51% equity stake in their Readymix Southwest JV (16 RMX plants producing 0.3m m ³)	RMX	£[3]	£[3]
Jul 07	Disposal	Disposal by Aggregate Industries of US operations to Holcim US	N/A	N/A	N/A
Jul 08	Acquisition	Atlantic Aggregates—secondary aggregates producer in Cornwall—subsequently part disposed as result of OFT inquiry	Aggregates	£[3]	£[3]
Jul 08	Acquisition	Stone Haul—aggregates bagging and transport business	Aggregates	£[3]	£[3]

Source: Aggregate Industries.

*Based on transactions involving businesses with more than £1 million of annualized gross revenues.

†Date is the completion date.

‡Based on annualized gross revenues as at the completion date.

(cont)

§Deal value represents the total consideration.

Notes:

1. N/A = not available.
2. Certain notable milestones have been separately highlighted.

Cemex: corporate timeline (1990 to 31 March 2012)

3. Table B3 shows the key milestone events in Cemex's development from 1990 to 1999. Table B4 shows a more detailed history of its corporate activities from 2000 up to 31 March 2012.

TABLE B3 Cemex: key milestone events, 1990 to 1999*

<i>Completion date</i>	<i>Type of milestone event</i>	<i>Description of major milestone event</i>	<i>Affected Relevant GB Operation</i>
1995	Acquisition	RMC Group plc (established in 1930 and active in RMX and aggregates), formerly Ready Mixed Concrete Ltd, acquired Hargreaves Quarries Ltd (active in aggregates)	Aggregates
1996	Acquisition	Rugby Group plc (established in 1925 and active in cement in the UK) acquired Lytag Ltd (producer of lightweight aggregates and cementitious products)	Cement
1998	Divestment	RMC Group plc sold several non-core assets: Thorpe Park amusement park, builders' supplier Hall & Co, and its interest in the Chaufourneries lime JV	Non-core assets
1999	Acquisition	RMC Group plc acquired Taffs Well Quarry (active in aggregates). By 2000, RMC Group plc had operations in 26 countries	Aggregates

Source: Cemex.

*Key milestones include any major corporate activity undertaken by the Relevant GB Operations, which is important for understanding the major developments of these relevant businesses.

†Date is the completion date or year.

TABLE B4 **Cemex: timeline of corporate activity, 2000 to 2011***

<i>Date</i>	<i>Type of corporate activity</i>	<i>Corporate activity description</i>	<i>Affected Relevant GB Operation</i>	<i>Gross revenues</i>	<i>Deal value</i>
Jan 00	Acquisition	Acquisition by RMC Group plc of Rugby Group plc. Combined group called RMC Group plc, the third largest cement producer in the UK out of four producers	Aggregates, cement & RMX	N/A	N/A
2000	Divestment/closure	RMC Group plc sold its lime business, RMC Industrial Minerals. RMC Group plc also closed its Rochester (Kent) cement works	Cement	N/A	N/A
Apr 01	Acquisition	Acquisition by RMC Group plc (active in RMX and aggregates) of Alexander Russell plc (active in aggregates, RMX and building products, predominantly in Scotland)	RMX & aggregates	N/A	N/A
2001	Acquisition	RMC Group plc acquired a number of cement import terminals from Seament and Alexander Russell plc, a producer of building products	Cement	N/A	N/A
Mar 05	Acquisition	Cemex Group's entry into the UK through the acquisition of RMC Group plc. Rugby Group plc renamed Cemex	Aggregates, cement & RMX	N/A	N/A
Jun 05	JV	ProAsh JV formed between Cemex and Lafarge	Cement	N/A	N/A
Oct 07	JV dissolution	Cemex exited Readymix South West, a JV with Lafarge	RMX	£19.6m	N/A
2008	Divestment	Cemex sold Lytag Ltd (acquired in 1996) to Aggregate Industries	Cement	N/A	N/A
2009	Closure	Cemex closed its Barrington (Cambridgeshire) cement works	Cement	N/A	N/A
Sep 09	New operation	Cemex opened a new cement grinding and blending facility at the port of Tilbury in Essex	Cement	N/A	N/A
2011	Acquisition	Cemex acquired Lafarge's stake in their Readymix East Anglia JV	RMX	N/A	N/A

Source: Cemex.

*Based on transactions involving businesses with more than £1 million of annualized gross revenues.

†Date is the completion date.

‡Based on annualized gross revenues as at the completion date.

§Deal value represents the total consideration.

Notes:

1. N/A = not available.

2. Certain notable milestones have been separately highlighted.

Hanson: corporate timeline (1990 to 31 March 2012)

4. Table B5 shows the key milestone events in Hanson's development from 1990 to 1999. Table B6 shows a more detailed history of its corporate activities from 2000 up to 31 March 2012.

TABLE B5 **Hanson: key milestone events, 1990 to 1999***

<i>Completion date</i>	<i>Type of milestone event</i>	<i>Description of major milestone event</i>	<i>Affected Relevant GB Operation</i>
1989	Acquisition	Hanson Trust (later renamed Hanson plc) acquired Goldfields which owned ARC (formerly Amey Roadstone Corporation and Amalgamated Roadstone Corporation)	N/A
1995	Acquisition	Acquisition by Hanson plc of Civil & Marine Ltd's marine aggregates business in November 1995 (prior to the acquisition of the remainder of the GGBS business in 2006). Acquired business combined with Hanson plc's own marine aggregates operations	Aggregates
1995–1997	Demergers	Demerger of Hanson plc's consumer, industrials and chemicals businesses, resulting in its global heavy building materials business remaining, namely ARC, London Brick and Cornerstone (producer of aggregates and concrete products in the USA)	All operations
1998	Acquisition	Heidelberg acquired cement producer Castle Cement Ltd‡ from Scancem Industries. Castle Cement Ltd had around 25% share of the UK cement market, ahead of Rugby with a 20% share, but behind Blue Circle Industries plc with around 50% share	Cement
1999	Restructure	Hanson plc's heavy building materials business in the UK reorganized into Hanson Quarry Products Europe (aggregates, RMX and asphalt operations) and Hanson Bricks Europe (brick and concrete block operations)	Aggregates and RMX

Source: Hanson.

*Key milestones include any major corporate activity undertaken by the Relevant GB Operations, which is important for understanding the major developments of these relevant businesses.

†Date is the completion date or year.

‡Castle Cement Ltd was formed from the amalgamation of a number of cement companies, including Ketton Portland Cement, Ribblesdale Cement and Tunnel Cement, all of which were brought under common ownership by RTZ Corp plc (a subsidiary of Rio Tinto plc) in 1981. In 1988, Rio Tinto plc sold RTZ Corp plc (including all of its UK cement operations) to Scancem Industries, a multinational Scandinavian cement and building materials company jointly owned by Skansa and Aker.

Note: Certain notable milestones have been separately highlighted.

TABLE B6 **Hanson: timeline of corporate activity, 2000 to 2011***

<i>Date</i>	<i>Type of corporate activity</i>	<i>Corporate activity description</i>	<i>Affected Relevant GB Operation</i>	<i>Gross revenues</i>	<i>Deal value</i>
Apr 00	Acquisition	Acquisition by Hanson plc (active in aggregates and RMX) of Pioneer Group, an Australian aggregates group, active in aggregates and RMX in the UK¶	RMX and aggregates	£1,447m	£1,543m
2000	Acquisition	12 bolt-on acquisitions by Hanson plc of Tarmac's assets (following Anglo American's acquisition of Tarmac)	N/A	N/A	N/A
Mar 06	Acquisition	Acquisition by Hanson plc (active in aggregates and RMX) of Civil & Marine Ltd (producer of GGBS) in the UK. Prior to this, Hanson had purchased cementitious materials from the market.	Cement	£115m	£245m
Aug 07	Acquisition	Acquisition by Heidelberg (active in cement in the UK) of Hanson plc (active in GGBS, aggregates and RMX) in the UK	All operations	N/A	£8bn
Jan 08	Divestment	Divestment by Hanson Quarry Products (active in aggregates and RMX) to Tarmac of its 50% interest in United Marine Holdings (a JV with Tarmac active in marine aggregates) in the UK. Divestment triggered by Heidelberg's acquisition of Hanson	Marine aggregates	£64m	£55m
2009	Strategic	Heidelberg rebranded its Castle Cement and Civil & Marine operations to Hanson Cement	Cement	N/A	N/A
Mar 10	Divestment	Divestment by Hanson Quarry Products (active in aggregates and RMX) of its Scottish Aggregates and Asphalt businesses to Tillicoultry Quarries Ltd and Angle Park Sand and Gravel Ltd	Primary aggregates	£11m	£10m
Jul 11	Divestment	C&G Concrete Ltd (a Hanson JV, in which Hanson's shareholding was 23% at the time of administration) was put into administration in May 2011 and its assets sold to Breedon Aggregates in July 2011	RMX and aggregates	N/A	N/A
Sep 11	Divestment	Sale of SRM (Solvent Resource Management Ltd), active in substitute liquid fuels for cement production and solvent recycling in the UK to Tradebe UK (active in the hazardous waste sector)	Cement	£37m	£11m
Oct 11	Restructure	Since October 2011, Hanson's operations were reorganized into Aggregates, Cement, RMX, Asphalt & Contracting, and Building Products	All operations	N/A	N/A

Source: Hanson.

*Based on transactions involving businesses with more than £1 million of annualized gross revenues.

†Date is the completion date.

‡Based on annualized gross revenues as at the completion date.

§Deal value represents the total consideration.

¶In relation to the Pioneer Group acquisition, the deal value and annualized revenues relate to the global deal value and revenues.

#In relation to the 2006 acquisition of Civil and Marine, the deal value and annualized revenues relate to whole business (UK, Czech and US). The annualized revenues of the US business were £14 million.

Notes:

1. N/A = not available.

2. Certain notable milestones have been separately highlighted.

Lafarge: corporate timeline (1990 to 31 March 2012)

5. Table B7 shows the key milestone events in Lafarge's development from 1990 to 1999. Table B8 shows a more detailed history of its corporate activities from 2000 up to 31 March 2012.

TABLE B7 Lafarge: key milestone events, 1990 to 1999*

Completion date	Type of milestone event	Description of major milestone event	Affected Relevant GB Operation
1990	JV	Redland plc enters into a JV with Lafarge Group to produce plasterboard. Lafarge Group first entered the UK construction market in 1987	Plasterboard
1992	Acquisition (not by Lafarge Group)	Redland plc acquires Steetley Brick & Tile (active in aggregates, RMX, limestone, etc) from Steetley plc	RMX and aggregates
1997	Acquisition	Lafarge Group acquires Redland plc (one of the UK's largest aggregates producers). Redland plc becomes Redland Ltd. Redland Aggregates Ltd, a subsidiary of Redland plc, was renamed Lafarge Redland Aggregates in 1998 and then Lafarge Aggregates in 2001	RMX and aggregates

Source: Lafarge.

*Key milestones include any major corporate activity undertaken by the Relevant GB Operations, which is important for understanding the major developments of these relevant businesses.

†Date is the completion date or year.

Note: Certain notable milestones have been separately highlighted.

TABLE B8 Lafarge: timeline of corporate activity, 2000 to 2011*

Date†	Type of corporate activity	Corporate activity description	Affected Relevant GB Operation	Gross revenues	Deal value
Apr 00	Acquisition	Lafarge Group left with a 22.6% stake in Blue Circle Industries plc (cement producer) after its rejected takeover attempt	Cement	[£]	[£]
2001	Acquisition	Lafarge Group acquired the remaining 77.4% stake in Blue Circle Industries plc, the UK's largest cement producer. Lafarge Group retains Blue Circle cement brand. Blue Circle Industries plc was renamed Lafarge Cement UK plc in 2007 (now Lafarge Cement UK Ltd)	Cement	N/A	[£]
2003	Acquisition	Lafarge acquired Premier Concrete Ltd	RMX	[£]	[£]
2004	Acquisition	Lafarge acquired four RMX plants in Glasgow from Riskend Aggregates Ltd	RMX	[£]	[£]
2005	Acquisition	Lafarge acquired Minimix Ltd (RMX and aggregates operations)	RMX and aggregates	[£]	[£]
2007	Divestment	Lafarge divested Llynclly quarry to Tarmac Ltd	Aggregates	[£]	[£]
2007	JV	Formation of Northampton Aggregates Ltd, a JV with GRS	Aggregates	[£]	[£]
2008	Acquisition	Lafarge acquired Marcon (RMC) Ltd	RMX	[£]	[£]
2008	Strategic	Lafarge approached Anglo American to discuss possible merger with Tarmac—discussions lapsed	All operations	[£]	[£]
Feb 11	JV	Proposed construction materials JV with Anglo American's Tarmac business announced—receives conditional approval from the CC on May 2012 subject to satisfaction of various conditions including divestments prior to implementation	RMX, aggregates and cement	£1.8bn	EBITDA: £210m
2011	Strategic	Lafarge Group announced the sale of its gypsum operations in Europe (including the UK), South America, Australia and Asia	N/A	[£]	[£]
2011	JV exit	Lafarge exited its longstanding JV with Cemex (Cemex Readymix (East Anglia) Ltd) through an asset exchange involving no cash component.	RMX	[£]	[£]

Source: Lafarge.

*Based on transactions involving businesses with more than £[£] of annualized gross revenues.

†Date is the completion date.

‡Based on annualized gross revenues as at the completion date.

§Deal value represents the total consideration.

Notes:

1. N/A = not available.

2. Certain notable milestones have been separately highlighted.

Tarmac: corporate timeline (1990 to 31 March 2012)

6. Table B9 shows the key milestone events in Tarmac's development from 1990 to 1999. Table B10 shows a more detailed history of its corporate activities from 2000 up to 31 March 2012.

TABLE B9 Tarmac: key milestone events, 1990 to 1999

Completion date	Type of milestone event	Description of major milestone event	Affected Relevant GB Operation
1991	Acquisition	Anglo American Corporation acquires Buxton Lime Industries (cement and lime producer) from the Lime Division of ICI	Aggregates and cement
1994	Strategic	Tarmac plc places strategic focus on house building, construction and quarry products	N/A
1995	Acquisition	Anglo American acquires Tilcon (aggregates, asphalt, RMX, mortar and industrial products business)	Aggregates and RMX
1996	Acquisition	Tarmac plc (UK-listed) sells its house building business and acquires George Wimpey plc's quarrying (Wimpey Minerals) and construction services (Wimpey Construction) businesses through a £600m asset swap arrangement. Wimpey Minerals was the fifth largest aggregates producer in the UK	Aggregates
1996	JV	Midland Quarry Products Ltd—JV formed with Hanson	Aggregates
1999	Demerger	Tarmac plc's business services and construction arms demerged to form Carillion. Tarmac plc's building materials operations retained	Aggregates and RMX

Source: Tarmac.

*Key milestones include any major corporate activity undertaken by the Relevant GB Operations, which is important for understanding the major developments of these relevant businesses.

†Date is the completion date or year.

Note: Certain notable milestones have been separately highlighted.

TABLE B10 Tarmac: timeline of corporate activity, 2000 to 2011*

Date	Type of corporate activity	Corporate activity description	Affected Relevant GB Operation	Gross revenues (£m)	Deal value (£m)
2000	Acquisition	Anglo American Corp became Anglo American plc following its acquisition of Minorco SA	N/A	N/A	N/A
2000	Acquisition	Anglo American's acquisition of Tarmac completed. Tarmac combined with Anglo American's Tilcon business—combined business became Tarmac	Aggregates and RMX	N/A	N/A
2000	Disposal	Disposal of businesses pursuant to a direction of the OFT to Hanson, BCB Coated Stone, Lafarge, Aggregate Industries, Tancred Gravel and Jobling Purser	Aggregates and RMX	N/A	N/A
2000	Disposal	Disposal of an RMX plant at Dalry and mortar and screed plant at Irvine to Hillhouse Quarry Ltd	RMX	N/A	N/A
2000	Disposal	Disposal of Loanhead sand and gravel quarry to Russell Building Materials Ltd	Aggregates	N/A	N/A
2000	Acquisition	Business acquisition of some of Hanson's aggregates and RMX assets	Aggregates and RMX	N/A	N/A
2000	Disposals	Tarmac's businesses in America sold	N/A	N/A	N/A
2002	Acquisition	Acquisition of Roseland Aggregates Ltd	Aggregates	N/A	N/A
2002	Acquisition	Acquisition of the aggregates processing business of WBB Devon Clays Ltd	Aggregates	N/A	N/A
2002	Acquisition	Acquisition of a 23% stake in Johnston Group plc (shareholding subsequently sold to Ennstone plc)	Aggregates and RMX	N/A	N/A
2003	Acquisition	Acquisition of 50% share capital in Environmental Aggregates Ltd, to bring Tarmac's shareholding to 100%	Aggregates	N/A	N/A
2003	JV	Incorporated JV Bristol Aggregates Recycling Ltd,	Aggregates	N/A	N/A

<i>Date</i>	<i>Type of corporate activity</i>	<i>Corporate activity description</i>	<i>Affected Relevant GB Operation</i>	<i>Gross revenues (£m)</i>	<i>Deal value (£m)</i>
		between Tarmac and SBH Crushing Ltd, RM Penny and Bristol Aggregates Recycling Ltd			
2003	Acquisition	Acquisition by Tarmac of Armac DEL Ltd's 50% shareholding in Tarmac Recycling Services Ltd	Aggregates	N/A	N/A
2003	Acquisition	Acquisition of Durham County Waste Management Ltd's 50% shareholding in the JV Teeside Waste Management Ltd to become a wholly-owned subsidiary of Tarmac	Aggregates	N/A	N/A
2003	JV	Isle of Wight Aggregates JV formed with Cemex	Aggregates	N/A	N/A
2005	Acquisition	Acquisition by UMH of Hanson Quarry Products Europe Ltd shares in Solent Aggregates Ltd and Bristol Channel Aggregates Ltd	Aggregates	N/A	N/A
2005	Acquisition	Acquisition by Tarmac of the JV shareholding in Bristol Aggregates Recycling Ltd from RM Penny and SBH Crushing Ltd	Aggregates	N/A	N/A
2005	Acquisition	Acquisition by Tarmac of the recycling business of Encore Environment Aggregates of Lanarkshire	Aggregates	N/A	N/A
2005	Reorganization	Tarmac's aggregates business reorganized nationally into seven Areas and National Contracting. Creation of nationally organized Building Products business (included BL&C)	Aggregates, cement and RMX	N/A	N/A
2006	Disposal	Tarmac's disposal of 49% shareholding in Berwyn Granite Quarries Ltd to Ennstone Johnston Ltd	Aggregates	N/A	N/A
2006	Acquisition	Tarmac's acquisition of Bwlch Ffos quarry and associated assets from Minerals UK Ltd	Aggregates	N/A	N/A
2006	Disposal	Tarmac's disposal of Cefn Grainog Quarry and Port Penrhyn Wharf business to Ellesmere Sand & Gravel Ltd	Aggregates	N/A	N/A
2006	JV	Tarmac Churngold Recycled Aggregates JV formed with Churngold Recycling	Aggregates	N/A	N/A
2007	Acquisition	Tarmac's acquisition of business and assets from Lafarge Aggregates Ltd	Aggregates	N/A	N/A
2007	Strategic	Anglo American's first announcement of its intention to sell Tarmac	All operations	N/A	N/A
2007	Disposal	Tarmac's disposal of RMX plants at Kirkcaldy and Dunfermline to Ennstone Thistle Ltd	Aggregates	N/A	N/A
2007	Disposal & acquisition	Tarmac's disposal of Aviemore business to Ennstone Thistle Ltd and purchase of Ennstone plc's RMX plant at Blackcastle	Aggregates and RMX	N/A	N/A
2007	Acquisition	Tarmac's acquisition of Llyncllys quarry from Lafarge	Aggregates	N/A	N/A
2008	Acquisition	Tarmac's acquisition of the remaining 50% of United Marine Holdings Ltd from Hanson, active in marine aggregates dredging, processing and sale, to give Tarmac 100% holding	Aggregates	N/A	N/A
2008	Disposal	Tarmac's disposal of sand and gravel site at Flixton to Cemex	Aggregates	N/A	N/A
2008	Disposal	Tarmac's disposal of Portfield sand and gravel site to Dudman	Aggregates	N/A	N/A
2008	Disposal	Tarmac's businesses in Spain sold	N/A	N/A	N/A
2009	Strategic	Anglo American's second announcement of its intention to sell Tarmac	N/A	N/A	N/A
2009	Reorganization	Creation of Tarmac Quarry Materials. Reorganization from seven areas to four regions	Aggregates and RMX	N/A	N/A
2009	Disposal	Tarmac's disposal of Redditch RMX plant to a JV between Aggregate Industries and SE Davies	RMX	N/A	N/A
2009	Disposal	Tarmac's disposal of Swansea RMX plant to Cemex	RMX	N/A	N/A
2010	Strategic	Tarmac's businesses in France, Czech Republic, Poland and Germany sold	N/A	N/A	N/A
2010	Reorganization	Separation of Tarmac Building Products (TBP) out of	N/A	N/A	N/A

<i>Date</i>	<i>Type of corporate activity</i>	<i>Corporate activity description</i>	<i>Affected Relevant GB Operation</i>	<i>Gross revenues (£m)</i>	<i>Deal value (£m)</i>
		Tarmac Ltd to form Tarmac Building Products Ltd			
2010	Disposal	Tarmac's disposal of Bwlch Ffos quarry to Horizon Mining	Aggregates	N/A	N/A
2011	Disposals	During 2011, Tarmac's international businesses in China, Turkey and Romania were sold	N/A	N/A	N/A
Feb 11	JV	Anglo American and Lafarge Group announce the JV between their respective UK heavy building materials businesses (subject to clearance from the UK competition authorities)	All operations	N/A	N/A
2012	Acquisition	Tarmac's acquisition of two RMX plants from MCG Enterprises Ltd	RMX	N/A	N/A
May 12	JV	Anglo American and Lafarge Group required by the CC to divest various assets for their proposed JV to complete the transaction	All operations	N/A	N/A

Source: Tarmac.

Notes:

1. N/A = not available.
2. Certain notable milestones have been separately highlighted.

Majors' sites by product, function and activity status

- Appendix C sets out each Major's sites by product produced, its function and its status (eg active or mothballed) as at the end of FY11. Where a site handles multiple products, eg both crushed rock and sand and gravel, the site was counted as a site under both products. Where a site performs multiple functions, eg a depot co-located at a quarry, the site was counted as a site under both functions. Therefore, the figures shown contain some duplication where a site handles multiple products or carries out multiple functions.

Aggregate Industries

- Table C1 shows aggregates sites by product produced, its function, and its status (eg active or mothballed) as at the end of FY11.

TABLE C1 Aggregate Industries: aggregates sites at the end of FY11

	<i>Crushed rock Quarries & plants</i>		<i>Sand and gravel Quarries & plants</i>		<i>Specialist Quarries & plants</i>		<i>Secondary</i>		<i>Recycled</i>	
	<i>Depots</i>		<i>Depots</i>		<i>Depots</i>		<i>Plants</i>	<i>Depots</i>	<i>Plants</i>	<i>Depots</i>
Active	44	56	36	38	16	1	7	9	27	3
Mothballed	4	2	4	2	1	-	-	-	-	-
Dormant	4	-	-	-	-	-	-	-	-	-
Closed	6	-	2	-	1	-	-	-	1	-

Source: Aggregate Industries.

Note: Where a site handles multiple products, eg both crushed rock and sand and gravel, the site is counted as a site under both products. Where a site performs multiple functions, eg a depot co-located at a quarry, the site is counted as a site under both functions. Therefore, the figures shown contain some duplication where a site handles multiple products or carries out multiple functions.

- Table C2 shows RMX sites by function and its status (eg active or mothballed) as at the end of FY11.

TABLE C2 **Aggregate Industries: RMX sites at the end of FY11**

	<i>Fixed stand-alone RMX plants</i>	<i>Fixed RMX plants co-located at own aggregates quarry</i>	<i>Site RMX plants</i>	<i>Mixer trucks (fleet size)</i>	<i>Minimix trucks (fleet size)</i>
Active	93	13	-	[∞]	[∞]
Mothballed	12	-	-	N/A	N/A
Dormant	-	-	-	N/A	N/A
Closed	4	-	-	N/A	N/A

Source: Aggregate Industries.

Note: N/A = not applicable.

Cemex

4. Table C3 shows aggregates sites by product produced, its function, and its status (eg active or mothballed) as at the end of FY11.

TABLE C3 **Cemex: aggregates sites at the end of FY11**

	<i>Crushed rock</i>			<i>Sand and gravel</i>			<i>Marine</i>
	<i>Quarries & plants</i>	<i>Depots</i>	<i>Factored</i>	<i>Quarries & plants</i>	<i>Depots</i>	<i>Quarry & depot</i>	<i>Wharves</i>
Active	20	14	16	36	5	1	11
Mothballed	1	-	-	1	-	-	-
Dormant	3	-	-	6	-	-	-
Closed	6	1	1	31	1	-	1

Source: Cemex.

Note: Where a site handles multiple products, eg both crushed rock and sand and gravel, the site is counted as a site under both products. Where a site performs multiple functions, eg a depot co-located at a quarry, the site is counted as a site under both functions. Therefore, the figures shown contain some duplication where a site handles multiple products or carries out multiple functions.

5. Table C4 shows cement sites by function, and status (eg active or mothballed) as at the end of FY11.

TABLE C4 **Cemex: cement sites at the end of FY11**

	<i>Cement plants*</i>	<i>Stand-alone grinding stations†</i>	<i>Rail-linked depots</i>	<i>Non-rail-linked depots‡</i>	<i>Import terminals§</i>	<i>Quarries for inputs into cement¶</i>
Active	2	1	-	4	2	3
Mothballed	-	-	-	-	1	2
Dormant	-	-	-	-	-	-
Closed	1	-	-	-	1	2

Source: Cemex.

*Active: Rugby and South Ferriby works; closed: Barrington works.

†Tilbury grinding station.

‡Dagenham, Leith, Southampton and Liverpool.

§Active: Tilbury and Leith; mothballed: Newport; closed: Sheerness.

¶Active: Kensworth, Southam and Ferriby; mothballed: Barrington and Dean Valley; closed: Lodge Farm and Parkfield Road.

Note: Where a site handles multiple products, the site is counted as a site under both products. Where a site performs multiple functions, the site is counted as a site under both functions. Therefore, the figures shown contain some duplication where a site handles multiple products or carries out multiple functions.

6. Table C5 shows RMX sites by function, and status (eg active or mothballed) as at the end of FY11.

TABLE C5 **Cemex: RMX sites at the end of FY11**

	<i>Fixed stand-alone RMX plants</i>	<i>Fixed RMX plants co-located at own aggregates quarry</i>	<i>Site RMX plants</i>	<i>Mixer trucks (fleet size)</i>	<i>Minimix trucks (fleet size)</i>	<i>Factored*</i>
Active	175	34	4	482	3	5
Mothballed	10	3	-	N/A	N/A	-
Dormant	-	-	-	N/A	N/A	-
Closed	33	3	7	N/A	N/A	-

Source: Cemex.

*Factored: Cemex uses five 'factored plants', which are not physical plants, but relate to the purchase of materials from a competitor for selling on to a customer. Cemex told us that it rarely factored material, but would do so in the following circumstances: (a) when Cemex had a deal to supply a customer in a specific geographically location but did not have a plant near the jobsite, then Cemex might factor the material from another competitor that was closer to the jobsite; (b) when Cemex was unable to produce a specific product to a geographical market (ie mortar) and had to use a competitor to supply; or (c) to cover for plant breakdowns if there was no other Cemex plant that was able to supply.
Note: N/A = not applicable.

Hanson

7. Table C6 shows aggregates sites by product produced, its function, and its status (eg active or mothballed) as at the end of FY11.

TABLE C6 **Hanson: aggregates sites at the end of FY11**

	<i>Crushed rock* Quarries & plants</i>		<i>Sand and gravel Quarries & plants</i>		<i>Specialist Quarries & plants</i>		<i>Marine‡ Wharves Plants Depots</i>			<i>Recycled Plants Depots</i>	
	<i>Depots†</i>		<i>Depots†</i>		<i>Depots</i>						
Active	29	14	30	9	8	8	8	4	5	7	4
Mothballed	3	4	5	1	-	-	-	-	-	-	-
Dormant	-	-	-	-	-	-	-	-	-	-	-
Closed	7	-	8	-	-	-	-	-	-	-	-

Source: Hanson.

*Where a plant produces generic crushed rock but also products with high purity applications, eg Batts Combe, Shap and Gelligaer, Hanson defined these sites according to the estimated predominant application of its products.

†Hanson told us that many depots could handle a variety of products and were generally reported as both crushed rock and sand and gravel.

‡Hanson also operates a fleet of nine dredgers.

Note: Where a site handles multiple products, eg both crushed rock and sand and gravel, the site is counted as a site under both products. Where a site performs multiple functions, eg a depot co-located at a quarry, the site is counted as a site under both functions. Therefore, the figures shown contain some duplication where a site handles multiple products or carries out multiple functions. Excluded sites are: (a) resales sites (particularly relevant to the South with extensive resales from Tarmac-operated wharves); (b) collect business; (c) sites which Hanson did not control but which Hanson may have used as depots (eg Ellesmere Port and Chesterton Sidings); (d) JVs; and (e) sites which are in Hanson's control but have not been active during the 'focus period' (2002–2011).

8. Table C7 shows cement sites by function, and status (eg active or mothballed) as at the end of FY11.

TABLE C7 **Hanson: cement sites at the end of FY11**

	Cement plants	Stand-alone grinding or blending stations	Rail-linked depots	Non-rail-linked depots	Import terminals	Quarries for inputs into cement
Active	3	-	2	4	2	3
Mothballed	-	-	-	-	-	-
Dormant	-	-	-	-	-	-
Closed	-	-	-	-	-	-

Source: Hanson.

Note: Where a site handles multiple products, the site is counted as a site under both products. Where a site performs multiple functions, the site is counted as a site under both functions. Therefore, the figures shown contain some duplication where a site handles multiple products or carries out multiple functions.

9. Table C8 shows RMX sites by function, and status (eg active or mothballed) as at the end of FY11.

TABLE C8 **Hanson: RMX sites at the end of FY11**

	Fixed stand-alone RMX plants	Fixed RMX plants co-located at own aggregates quarry or wharf	Site RMX plants	Mixer trucks (fleet size)*	Minimix trucks (fleet size)
Active	151	29	7	497	26
Mothballed	12	1	7	N/A	N/A
Dormant	-	-	-	N/A	N/A
Closed	14	5	-	N/A	N/A

Source: Hanson.

*The vast majority of RMX truck numbers are franchised. Hanson has 33 company-owned mixer trucks and 490 franchised mixer trucks. In addition to the figure above, Hanson also supplements the fleet as required with hired haulage.

Note: N/A = not applicable.

Lafarge

10. Table C9 shows aggregates sites by product produced, its function, and its status (eg active or mothballed) as at the end of FY11.

TABLE C9 **Lafarge: aggregates sites at the end of FY11**

	Crushed rock		Sand and gravel		Specialist		Marine		Recycled	
	Quarries & plants	Depots	Quarries & plants	Depots	Quarries & plants	Depots	Wharves	Depots	Plants	Depots
Active	9	13	26	1	9	-	3	-	20	-
Mothballed	3	3	3	-	1	-	-	-	-	-
Dormant	-	-	3	-	-	-	-	-	-	-
Closed	-	2	13	-	-	-	2	-	23	-

Source: Lafarge.

Note: Where a site handles multiple products, eg both crushed rock and sand and gravel, the site is counted as a site under both products. Where a site performs multiple functions, eg a depot co-located at a quarry, the site is counted as a site under both functions. Therefore, the figures shown contain some duplication where a site handles multiple products or carries out multiple functions.

11. Table C10 shows cement sites by function, and status (eg active or mothballed) as at the end of FY11.

TABLE C10 Lafarge: cement sites at the end of FY11

	Cement plants*	Stand-alone grinding stations†	Stand-alone blending stations‡	Rail-linked depots§	Non-rail-linked depots¶	Import terminals#	Quarries for inputs into cement~
Active	4	-	4	9	1	1	6
Mothballed	-	-	-	2	-	1	2
Dormant	-	1	-	-	-	1	-
Closed	1	-	-	-	-	-	2

Source: Lafarge.

*Active cement works: Aberthaw, Cauldon, Dunbar and Hope; closed: Westbury.
 †Dormant grinding station at Westbury: retained cement mills as potential grinding station.
 ‡Active blending stations at: Theale, Dewsbury, West Thurrock and Seaham depots.
 §Active rail-linked depots at: Liskeard, Westbury, Theale, West Thurrock, Dewsbury, Seaham, Uddingston, Aberdeen and Inverness. Mothballed rail-linked depots at: Manchester and Carlisle.
 ¶Active non-rail-linked depot at: Vectis (Isle of Wight).
 #Active import terminal at: Northfleet; mothballed: Leith; dormant: West Thurrock (currently fully configured as a domestic depot with no capability to import).
 ~Active quarries: Cauldon and Hope cement works each have two quarries (one for shale and the other for limestone). Dunbar has one quarry for shale and limestone. Aberthaw has one limestone quarry for around [30] per cent of its raw material needs, with the remainder purchased from Tarmac. Mothballed: Aberthaw maintains two mothballed quarries (Ruthin and Garwa quarries) as back-up. Closed: Westbury's chalk and clay quarries closed.
 Notes:
 1. N/A = Lafarge.
 2. Where a site handles multiple products, the site is counted as a site under both products. Where a site performs multiple functions, the site is counted as a site under both functions. Therefore, the figures shown contain some duplication where a site handles multiple products or carries out multiple functions.

12. Table C11 shows RMX sites by function, and status (eg active or mothballed) as at the end of FY11.

TABLE C11 Lafarge: RMX sites at the end of FY11

	Fixed stand-alone RMX plants	Fixed RMX plants co-located at own aggregates quarry or wharf	Site RMX plants	Mixer trucks (fleet size)	Minimix trucks (fleet size)
Active	76	17	4	[30]	[30]
Mothballed	2	1	-	N/A	N/A
Dormant	-	-	-	N/A	N/A
Closed	-	3	1	N/A	N/A

Source: Lafarge.

Note: N/A = not applicable.

Tarmac

13. Table C12 shows aggregates sites by product produced, its function, and its status (eg active or mothballed) as at the end of FY11.

TABLE C12 **Tarmac: aggregates sites at the end of FY11**

	<i>Crushed rock Quarries & plants</i>		<i>Sand and gravel Quarries & plants</i>		<i>Specialist Quarries & plants</i>		<i>Marine</i>			<i>Secondary</i>	<i>Recycled</i>
	<i>Depots</i>		<i>Depots</i>		<i>Depots</i>		<i>Wharves</i>	<i>Depots</i>	<i>Dredgers</i>	<i>Plants</i>	<i>Plants</i>
Active	39	5	44	1	7	-	14	-	4	11	36
Mothballed	-	-	3	-	-	-	-	-	N/A	-	5
Dormant	34	-	11	-	-	-	-	-	N/A	-	-
Closed	8	3	13	-	-	-	-	-	N/A	-	6

Source: Tarmac.

Note: Where a site handles multiple products, eg both crushed rock and sand and gravel, the site is counted as a site under both products. Where a site performs multiple functions, eg a depot co-located at a quarry, the site is counted as a site under both functions. Therefore, the figures shown contain some duplication where a site handles multiple products or carries out multiple functions.

14. Table C13 shows cement sites by function, and status (eg active or mothballed) as at the end of FY11.

TABLE C13 **Tarmac: cement sites at the end of FY11**

	<i>Cement plants</i>	<i>Rail-linked depots</i>	<i>Quarries for inputs into cement</i>
Active	1	3	1
Mothballed	-	-	-
Dormant	-	-	-
Closed	-	-	-

Source: Tarmac.

Note: Where a site handles multiple products, the site is counted as a site under both products. Where a site performs multiple functions, the site is counted as a site under both functions. Therefore, the figures shown contain some duplication where a site handles multiple products or carries out multiple functions.

15. Table C14 shows RMX sites by function, and status (eg active or mothballed) as at the end of FY11.

TABLE C14 **Tarmac: RMX sites at the end of FY11**

	<i>Fixed stand-alone RMX plants</i>	<i>Fixed RMX plants co-located at own aggregates quarry or wharf</i>	<i>Site RMX plants</i>	<i>Mixer trucks* (fleet size)</i>	<i>Minimix trucks (fleet size)</i>
Active	125	25	4	28	4
Mothballed	13	1	3	N/A	N/A
Dormant	-	-	-	N/A	N/A
Closed	21	-	-	N/A	N/A

Source: Tarmac.

*Tarmac told us that it used external contract hauliers as part of its standard business model in order to satisfy its requirement for mixer trucks. This table shows Tarmac's 'own fleet' only, and therefore does not reflect the overall fleet available to Tarmac's RMX operations.

Note: N/A = not applicable.