

2 Conclusions

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The reference

2.1. This report responds to a reference made to us on 21 December 1998 by the Secretary of State for Trade and Industry (the Secretary of State) under the merger provisions of the Fair Trading Act 1973 (the Act) concerning the proposed acquisition by Rockwool of the stone wool manufacturing business of OCBP. Our terms of reference are set out in Appendix 1.1.

The companies involved and the merger situation

Rockwool Limited

2.2. Rockwool is the principal UK subsidiary of Rockwool International A/S (Rockwool International), a Danish company whose main activity is the manufacture and sale of stone wool, a kind of insulation material. Indeed Rockwool International is the world's leading producer of stone wool, with 17 factories in nine countries in Europe and North America and an estimated 58 per cent of total stone wool production capacity in Europe. In 1997 it had worldwide sales of £588 million and pre-tax profits of £47 million.

2.3. Rockwool has one factory in the UK, at Bridgend in South Wales, which was opened in 1979. There are two production lines with a combined capacity of around 84,000 tonnes a year and some 450 people are employed at the site. Rockwool's sales in 1997 were £51.2 million, with pre-tax profits of £1.1 million. Profitability had been higher in the preceding years and management accounts indicate that it recovered to some degree in 1998.

Owens-Corning Building Products (UK) Limited

2.4. OCBP is a subsidiary of a US company, Owens Corning, which manufactures building materials and products and glass composites. Owens Corning was a pioneer in the development of glass wool (also known as glass fibre), another kind of insulation material. In 1997 Owens Corning's worldwide group sales were £2,617 million on which it made pre-tax profits of £42 million.

2.5. In 1994, as part of a strategic move to expand in Europe, Owens Corning acquired two companies from Pilkington plc (Pilkington): Pilkington Insulation Ltd (Pilkington Insulation), whose name was then changed to OCBP, and Kitson's Insulation Products Ltd (Kitson's), a specialist insulation distributor. OCBP has two factories manufacturing glass wool and one, at Queensferry in North Wales, manufacturing stone wool. The glass wool business accounts for 80 per cent of OCBP's sales and the stone wool business 20 per cent. In 1997 OCBP had sales of £74 million and made a pre-tax loss of £1 million. In 1998, according to the company's management accounts, sales fell slightly but at the operating level profits improved.

2.6. The Queensferry plant has a capacity of around 23,000 tonnes a year and employs 115 people. Its operating technology was supplied by Partek Oy AB (Partek), a Finnish company to which OCBP paid a licence fee until the licence was terminated at OCBP's instigation in September 1998. OCBP now runs the plant without the benefit of technical support from Partek. Besides manufacturing stone wool at Queensferry, OCBP also imports stone wool products from Partek and from an Icelandic company known as Icerock¹ in which

¹The company's actual name is Steinullarsverksmidjan H/F.

Partek has a 28 per cent shareholding. These imports accounted for over 20 per cent of OCBP's £14.3 million sales of stone wool in 1998.

The merger situation

2.7. In 1997 and 1998, as part of a global restructuring programme, Owens Corning decided to divest certain non-core and underperforming assets including Kitson's and the Queensferry plant of OCBP. Kitson's was sold to SIG plc (SIG), the leading insulation distributor in the UK, in July 1998 and on 30 September 1998 OCBP entered into an agreement (the Business Sale Agreement) to sell its stone wool manufacturing business to Rockwool for £[] million. It is the latter transaction which is the subject of our inquiry.

2.8. Owens Corning told us that it appointed Robert Fleming & Co Limited (Flemings) in December 1997 to advise on and handle the negotiations for the sale of the stone wool business. Owens Corning itself approached certain other insulation manufacturers—[

Details omitted. See note on page iv.

]. Substantive negotiations, handled by Flemings, took place only with Rockwool. Owens Corning's initial asking price was £[] million and following a counter-offer of £[] million from Rockwool the parties accepted a figure of £[] million as the starting point for detailed negotiations and due diligence. Reductions in the price were made to take account of exceptions to the non-compete covenant which would bind Owens Corning following the sale (a reduction of around £[] million) and expenditure on environmental improvements at the Queensferry site which were included in OCBP's capital spending plan (£[] million). Certain other factors were taken into account in the price of £[] million finally agreed.

2.9. We asked Owens Corning why it had not conducted an auction for the sale of the business. Owens Corning said that there were reasons to expect Rockwool to offer the best price: first, the acquisition would give Rockwool a means of increasing capacity at lower cost than by expanding its Bridgend plant; and secondly, synergies in production and delivery costs would be available to Rockwool from having two plants rather than one. [

Details omitted. See note on page iv.

] were not considered as being in a position to achieve the same synergies as Rockwool and were therefore thought unlikely to make an offer in the range Owens Corning considered acceptable. [] subsequently expressed an interest in the possibility of acquiring the business but by that stage Owens Corning was in negotiation with Rockwool and did not want to risk delaying agreement on a sale. (See also paragraph 2.144 for Owens Corning's comments at a late stage in our inquiry when we asked how it would react if the merger were prohibited.)

2.10. A paper submitted for an Owens Corning board meeting in June 1998 stated that 'for strategic and other considerations Owens Corning has decided to sell the Queensferry plant to Rockwool International' which was 'the key strategic buyer for this business in the UK'.

2.11. The minutes of a Rockwool International board meeting (translated from Danish) in January 1998 record that 'the advantages by acquiring the factory seem to be that we will lack capacity in the future, we will take a competitor out of the market and the factory could

be used for production of special products, with [Rockwool's Bridgend] factory concentrating on main products'. The minutes of a subsequent Rockwool International board meeting in April 1998 refer to the scope for expansion of the Queensferry plant at low cost (£[§] million to £[§] million) and for cost savings of a similar amount. They then state: 'An acquisition of the Queensferry plant could postpone building of a line 3 in [Bridgend] for 2-3 years and prevent somebody from penetrating the stone wool market for some years'. Referring to Owens Corning's asking price of £[§] million, these minutes say that Owens Corning 'openly referred to the fact that we are getting a premium for being the only stone wool producer on the market and they [Owens Corning] want a part of this premium'.

2.12. Questioned about these extracts, Rockwool said that they accurately reflected Owens Corning's sales pitch, that is that for Rockwool to be the only stone wool producer in the UK was a significant factor. For its part Rockwool felt that imports were far more significant than they were given credit for in influencing the UK market. Rockwool itself saw the acquisition as an advantageous means to expand capacity. Owens Corning told us that it had been aware that Rockwool was interested in increasing capacity: the acquisition of the Queensferry plant would be a much cheaper way for Rockwool to do so than by building a new facility and Owens Corning had wanted a share of those savings (and of the synergies from running two plants). Owens Corning denied that it thought a premium might result from Rockwool becoming a monopoly supplier.

2.13. The negotiations resulted in the signing of the Business Sale Agreement on 30 September 1998, the agreement being conditional on clearance by the competition authorities (see paragraphs 3.2 and 3.3). Owens Corning issued a press release stating that the sale would enable the group to focus on its core UK insulation businesses of glass wool and extruded polystyrene and would generate cash for investment.

2.14. In the agreement OCBP undertook not to engage in the manufacture of stone wool in the UK for five years and not to sell or market stone wool to its then UK customers for four years, but the latter restriction was subject to significant exceptions (see paragraphs 2.67 to 2.77).

2.15. Rockwool provided us with details of a business plan drawn up during 1998 showing projections for the company with and without the acquisition of the Queensferry business. Its case for the investment rested on the increase in the present value of the cash flows which the acquisition would bring. After allowing for the acquisition cost of £[§] million (after expenses) and capital expenditure of £[§] million in the first two years (mainly on environmental improvements and an increase in capacity), the expected effect of the acquisition was to increase the present value of future cash flows, discounted at 10 per cent, from £[§] million to £[§] million, an increase of £[§] million. This represents an internal rate of return of [§] per cent. The projections are sensitive to the assumptions made regarding the cost savings to be obtained from improved production efficiency and from reducing Rockwool's need to import products to meet UK demand by an increase in output at Queensferry from 22,000 tonnes to 37,000 tonnes.

Jurisdiction

2.16. Our terms of reference (see Appendix 1.1) require us to report on whether arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a merger situation qualifying for investigation, as defined in the Act, in that:

- (a) enterprises carried on by or under the control of Rockwool will cease to be distinct from enterprises carried on by or under the control of OCBP; and

- (b) either the value of the assets which will be taken over exceeds £70 million (the assets test) or the merger will create or enhance a share of at least one-quarter in the supply of goods or services of any description in the UK, or a substantial part of the UK (the share of supply test).

If so, we have to report on whether the creation of that situation may be expected to operate against the public interest. Section 63(2) of the Act provides that ‘enterprise’ means the activities, or part of the activities, of a business. Section 65 of the Act specifies the circumstances when two enterprises are to be regarded as ceasing to be distinct. One of the circumstances is where they are brought under common ownership or control.

2.17. As described in paragraphs 2.7 and 2.13, Rockwool entered into an agreement on 30 September 1998 to acquire the stone wool manufacturing business of OCBP. Both companies told us that arrangements were still in progress or in contemplation to complete this transaction subject to the outcome of our inquiry. If the transaction were to proceed, it is clear that enterprises carried on by Rockwool and enterprises carried on by OCBP would come under common control and hence cease to be distinct within the meaning of the Act.

2.18. The terms of reference say that it appeared to the Secretary of State that the share of supply test was satisfied by reference to the supply in the UK of stone wool insulation. Table 4.5 shows that in 1998 Rockwool supplied some 78 per cent of sales of stone wool in the UK by manufacturers and importers and that OCBP supplied 18 per cent of such sales. Of OCBP’s sales of £12.0 million, £9.0 million consisted of products manufactured at the Queensferry plant which Rockwool would acquire under the merger transaction, the remainder being products imported from Icerock and Partek. Thus the merger would raise Rockwool’s share of UK stone wool sales by manufacturers and importers from about 78 per cent to over 90 per cent. The share of supply test is therefore satisfied. Rockwool and OCBP accepted that this was so.

2.19. We therefore conclude that arrangements are in progress or contemplation which, if carried into effect, will result in the creation of a merger situation qualifying for investigation as postulated in our terms of reference.

2.20. Accordingly we have to consider whether the creation of that situation may be expected to operate against the public interest. We describe first the markets which would be affected by the merger before analysing what its effects would be.

The markets affected

Mineral wool

2.21. Mineral wool is the term used for materials comprising a matrix of inorganic fibres of a woolly consistency. Such materials may be made from molten glass (glass wool) or from molten rock (stone wool). The process of manufacturing mineral wool is described in paragraphs 4.5 and 4.6. The material is used to make a range of different product types—such as rolls, slabs and pipe sections—and densities, and may be sold by the manufacturers in the form of finished products (for example, roofing slabs) or for further processing by fabricators.

2.22. The particular properties of stone wool are good thermal and acoustic insulation, high mechanical strength (when at high density) and high fire resistance. It is used for thermal insulation over a wide temperature range, from around 2°C to 800°C. Compared with other insulation materials usable at high temperatures it is relatively cheap to buy and install,

although generally more expensive than the organic foam materials which are usable at low temperatures (up to 150°C).

2.23. Glass wool has some of the same properties as stone wool but there are also significant differences between the two:

- (a) glass wool can be used for thermal insulation only up to a theoretical maximum of about 540°C because of its lower devitrification temperature than stone wool;
- (b) for the same reason, although classified as non-combustible, glass wool cannot be used for the specific purpose of fire protection; and
- (c) glass wool costs about twice as much as stone wool to make, tonne for tonne, but provides an insulating performance equivalent to stone wool products of about twice the density: hence for a given application glass wool and stone wool are similar in price.

2.24. Stone wool is used for heat insulation in two broad sectors—structural and industrial—and for incorporation in the products of original equipment manufacturers (OEMs).

2.25. In the structural (or building) sector it is used for cavity walls, lofts, pitched and flat roofing, floors, internal walls and pipe and cylinder lagging. These applications normally involve temperatures of no more than 100°C.

2.26. The industrial sector encompasses:

- (a) heating and ventilation (H&V), that is the insulation of H&V pipework and ducts; and
- (b) industrial process uses, that is the insulation of pipework, ducts and equipment in facilities such as petrochemical plants, power stations and offshore installations.

H&V applications generally fall in the range 2°C to 150°C. Process applications range from cryogenic to well over 1,000°C but stone wool is used only for applications from 2°C to 800°C.

2.27. The principal OEM users of stone wool are manufacturers of domestic appliances (such as ovens) and transport equipment (such as cars, trains, aeroplanes and ships).

2.28. Besides heat insulation, stone wool is also used for acoustic insulation and for fire protection (that is, protecting structures and equipment from fire).

The insulation market

2.29. A wide range of insulation materials is used in both structural and industrial applications. They fall into two broad groups, organic and inorganic. Plastic foam is the generic term for the various organic materials, such as polystyrene and polyurethane. Mineral wool is the main category of inorganic material but there are many other such materials, notably calcium silicate, cellular glass and ceramic fibre. Broadly speaking, plastic foams cannot be used at temperatures above 150°C, whilst the various inorganic materials can be used at higher temperatures. The limiting temperature for a given product depends not only on the type of material but also on the particular formulation.

2.30. The choice of material for any individual application may depend on a range of factors besides thermal conductivity, for example operating conditions, regulatory constraints and whether other performance properties such as fire resistance are required. The initial

price of the material and its installation and lifetime costs will usually also affect the decision.

Market definition

2.31. Chapter 4 sets out the Commission's normal approach to defining the market or markets affected by a merger and the particular considerations which arise in the present case (see paragraphs 4.83 to 4.99). The relevant market is usually defined as that group of products (or services) for which there are no close substitutes on either the demand or supply side.

2.32. As we have seen, stone wool has a wide range of uses. Rockwool and Owens Corning argued that there were adequate and cost-effective substitutes for stone wool in almost all these uses. Although insulation materials had different properties and some were more suited to certain applications than others, the manufacturer very often did not know for what particular application its products would be used. The presence of distributors in the supply chain between manufacturers and users made it natural to see the insulation market as a single whole.

2.33. Our approach has been to examine the various applications for stone wool and to consider whether, for some of them, there is a lack of cost-effective substitutes such that a dominant supplier of stone wool would be able to raise prices (or reduce quality in order to cut costs). Our findings on the definition of the relevant product market(s) therefore emerge from our consideration of the different applications which might be affected by the merger (see below).

2.34. The main factor affecting the geographical definition of the market is that stone wool has a relatively low value in relation to its volume. It is therefore expensive to transport (see paragraphs 2.40 to 2.42). Imports and exports represent a small proportion of UK sales and production respectively. Rockwool and Owens Corning agreed that, for products of average density or less, imports could not economically be brought into the UK, although they argued that at high densities imports became practicable. Such products represent a small proportion of total stone wool sales. We therefore take the view that the UK is not part of a wider geographic market in stone wool although the potential for imports of high-density products needs to be considered in our assessment of the merger's likely effects.

2.35. Within Great Britain, while delivery costs from the two main stone wool factories vary considerably, products tend to be sold at the same prices in all regions. This appears to be a consequence of the important role of large distributors, whose depots cover the whole of Great Britain. There is no manufacture of stone wool in either Northern Ireland or the Republic of Ireland and purchasers in Northern Ireland obtain most of their supplies from Great Britain. Rockwool and OCBP make a delivery charge for supplying customers in Northern Ireland and realized prices there may sometimes be a little above the Great Britain level in consequence, although Owens Corning told us that prices of stone wool for building applications tended to be lower than in Great Britain because glass wool was manufactured in the Republic of Ireland and there was particularly keen price competition in these applications. Where stone wool prices are not strongly influenced by glass wool, price levels in Northern Ireland appear to follow those in Great Britain. Given that our major concern is to examine whether there are applications where stone wool suppliers do not face strong constraints from suppliers of cost-effective substitutes, we consider that the relevant geographical market for our inquiry is the UK as a whole.

Sales and market shares

2.36. We estimate that total UK sales of insulation materials in 1998 were worth some £326 million at manufacturers' prices, of which glass wool accounted for £87.5 million (27 per cent) and stone wool £66 million (20 per cent). Plastic foam materials accounted for 44 per cent of sales and other materials the remaining 9 per cent see Table 4.11).

2.37. Table 4.5 shows manufacturers' and importers' sales of stone wool and glass wool in 1998. Between them, Rockwool and OCBP account for nearly all stone wool sales. There is one other, very small manufacturer of stone wool in the UK, Lancaster Glass Fibre Ltd (LGF), which has about 1.7 per cent of sales. As for glass wool, OCBP had [30] per cent of sales, British Gypsum-Isover Limited (BGI) (a joint venture between BPB and St-Gobain) [30] per cent and Superglass (a subsidiary of Encon Group Ltd (Encon), one of the two big insulation distributors) [30] per cent.

2.38. Whilst the end-uses to which insulation products are put are often not known to the manufacturer, Rockwool estimated that two-thirds of its UK stone wool sales in 1998 (some £36 million) were for structural applications (within which it includes OEM sales), 18 per cent for industrial process applications (£9.5 million) and 15 per cent for H&V (£8 million). OCBP's equivalent estimates were 45 per cent for H&V and OEM applications (£5.4 million), 39 per cent for structural applications (£4.7 million) and 16 per cent for industrial process uses (£2.0 million).

2.39. Further analyses of sales of insulation materials are set out in Chapter 4.

Transport costs and imports

2.40. Rockwool's average transport costs for stone wool supplied from Bridgend to destinations in Great Britain in 1998 were some £70 per tonne, equivalent to 12.2 per cent of net sales value. For OCBP the corresponding figures were £50 per tonne and 8.5 per cent of sales value. It appears that OCBP's transport costs are a lower proportion of sales value partly because Queensferry is better located in relation to OCBP's customers than is Bridgend in relation to Rockwool's, and partly because the average density of OCBP's products is higher than Rockwool's. Transport costs vary substantially both by distance and by product (see paragraph 4.70).

2.41. As regards imports, Rockwool's average cost for importing stone wool from sister factories in Denmark and the Netherlands in 1998 was £76.50 per tonne. These imports were of high density products, however. The cost of importing material from Denmark and the Netherlands of the average density of Rockwool's products would be around £235 a tonne.

2.42. This and other information indicated that, for a distributor to import the entire range of stone wool products, the average transport costs would be £200 a tonne or more from Continental locations near to the UK and over £300 a tonne from Eastern Europe. These amounts would be equivalent to 40 per cent and 60 per cent respectively of the delivered cost to the distributor if selling prices remained unchanged.

2.43. In 1998 imports accounted for around £7 million of stone wool sales in the UK, about 10 per cent of the total. Rockwool's imports from sister companies were £2.7 million, whilst Owens Corning's imports from Icerock and Partek were worth £3.0 million. Imports by all other parties—including BGI's imports from St-Gobain, which has stone wool factories on the Continent (see Figure 4.3)—were about £1 million in total.

Channels of distribution

2.44. Specialist insulation distributors are by far the largest group of customers for mineral wool manufacturers, accounting for about 74 per cent of Rockwool's sales and 51 per cent of OCBP's in 1998. Two of these distributors, SIG and Encon, operate throughout the whole of the UK whilst others are regionally based. The distributors, in turn, sell mainly to builders' merchants and contractors.

2.45. In the structural sector the manufacturers also sell direct to builders' merchants, contractors, fabricators and do-it-yourself (DIY) retailers (see Figure 4.4). In the industrial sector, however, nearly all stone wool sales are made to distributors. Rockwool told us that over 90 per cent of its sales for industrial process applications went to the two big distributors, and they in turn sold on about 80 per cent of these products to large contractors, most of the rest going to smaller contractors. Most stone wool sales for H&V applications are made to SIG, Encon and a third distributor, UK Insulation Supplies Ltd (UK Insulation). Again, contractors take most of the distributors' sales of stone wool for these applications.

Prices

2.46. Both Rockwool and OCBP publish price lists for their standard products, with separate lists for structural and industrial products. The list prices, however, are no more than a starting point for negotiation and actual realized prices for most products are far lower. Adjustments to list prices take the form of pre-set discounts for individual products (which we refer to below as basic discounts), retrospective volume rebates, special discounts negotiated for individual large orders (normally project-related) and settlement discounts for early payment. Sales to roofing contractors are normally priced per contract as they are mostly project-related, whilst OEM sales tend to be based on a direct price per product supplied under annual contracts.

2.47. Owens Corning told us that OCBP had annual negotiations with individual large customers (distributors and builders' merchants) to set basic discount and rebate levels for the coming year but there were often further negotiations at local branch level throughout the year as distributors pressed for better terms for particular orders. Distributors gave us a similar account of the price-setting process.

2.48. Rockwool, however, said that the only price adjustments set annually were the volume rebates. Basic discounts were negotiated for indefinite periods and might be renegotiated at any time. For industrial sales, distributors negotiated terms (basic discounts and rebates) for sales destined for the individual large contractors with which they worked closely. Rockwool at first told us that the terms for all industrial sector sales for new installations were negotiated case by case but it subsequently said that such sales were made on the basis of the contractor-specific terms negotiated from time to time with distributors and that project-specific terms were rare. In 1998, it said, there had been only one case where an industrial order had been the subject of special discounts, although there had been several structural projects for which special terms had been negotiated.

2.49. Basic discounts for the principal products are currently around 70 per cent: see paragraphs 4.116 to 4.118 for examples. They vary by a few percentage points from customer to customer. Rockwool's typical discount for sales of slabs for industrial uses is higher than for structural uses ([80] per cent compared with [70] per cent). Annual volume rebates range from 5 per cent for smaller distributors up to 15 per cent for the largest, expressed as a percentage of the net invoice price after discount.

2.50. Over the past few years Rockwool's average realized prices have been broadly stable in cash terms and therefore falling in real terms: between 1995 and 1998 Rockwool's net revenue per tonne, after discounts and rebates, fell by nearly 10 per cent in real terms (see Appendix 3.4). The trends have been different between structural products, which have fallen significantly in real terms, and industrial products, which have been broadly stable (see paragraph 4.121). OCBP's net revenue per tonne fell by 3 per cent in the same period for stone wool but fell by 19 per cent for glass wool, although in the two latest years the trend has been similar for both materials (see Appendix 3.7). Both companies warned us that trends in average prices could easily be distorted by changes in the mix of products or customers. Information from Rockwool on individual products shows that prices of industrial products have been consistently rising in cash terms whereas the pattern for building products has been more variable, with some rising but others falling significantly.

2.51. Figure 4.5 shows trends in two indices of mineral wool prices. Rockwool and Owens Corning said that these indices did not provide a reliable guide to trends in the prices of stone wool and glass wool because they covered other products as well. Nevertheless, taken together with the price information from Rockwool and Owens Corning themselves, the graph supports the broad picture that stone wool prices have been stable or falling slightly since 1995 whilst glass wool prices have fallen significantly. This difference appears to be due to the firmness of prices in the industrial sector, where stone wool has a bigger share of sales than glass wool, whilst prices in the structural sector (particularly for roll products), where glass wool has the greater share, have been weak. Data from Eurisol, the trade association for UK mineral wool manufacturers, show that over the period 1992 to 1998 average prices for structural products fell by 13 per cent whilst prices for industrial products rose by 8 per cent (see paragraph 4.103—these figures are for glass wool and stone wool combined).

Entry

2.52. The manufacture of stone wool is a capital-intensive activity. Owens Corning estimated that the capital cost of a new plant with capacity of 30,000 tonnes a year, the size needed to produce a good, though not comprehensive, range of products economically, would be around £28 million. Rockwool estimated the cost of a new stone wool manufacturing plant in the UK at £30 million to £35 million based on the planning it had done for adding a third production line at Bridgend. (The two existing lines have a combined capacity of some 84,000 tonnes.) Rockwool added, however, that it would be possible to build a plant specializing on a narrow product range at lower cost. Given that total UK demand for stone wool is not much above 100,000 tonnes and is growing only slowly, an entrant building a new plant would face a major risk that it would not for some years be able to run the plant at full capacity, with damaging effects on profitability. (One attraction of the Queensferry acquisition for Rockwool is that it would provide an economic means of expanding capacity by only 12,000 to 15,000 tonnes, whereas the increment to capacity from a third line at Bridgend would be much higher.)

2.53. Only a handful of companies in the world—including Rockwool, Partek and St-Gobain—have their own technology for the production of stone wool. Unless the new entrant was one of these, therefore, it would need to obtain a licence to build a plant utilizing the technology of another company and pay royalties.

2.54. Although stone wool is largely a commodity product, Rockwool is the world market leader and has succeeded in establishing its brand name as the generic term for stone wool (we use the term stone wool in this report, rather than rock wool, in order to avoid confusion between the material and the company but the term rock wool is in widespread use in the industry). Rockwool has an established reputation for product quality and support and often succeeds in getting specifications written by reference to its brand. In view of OCBP's

experience (see paragraphs 2.60 and 2.61), there is reason to believe that an entrant would not only have to spend significant amounts on marketing in order to establish itself in competition with Rockwool but also to price at a discount to it.

2.55. Given the high costs of transport (see paragraphs 2.40 to 2.42), it is unlikely that the bulk importation of stone wool could provide a viable alternative route into the UK market compared with establishing a manufacturing facility.

2.56. It is relevant to recall that, on the evidence of its board minutes, another attraction of the Queensferry acquisition for Rockwool is that it would prevent anyone else from entering the UK market for some years (see paragraph 2.11). Rockwool explained that it would do so simply by preventing anyone else from acquiring the Queensferry plant.

2.57. Rockwool added that its acquisition of the Queensferry plant would not necessarily prevent any other stone wool manufacturer from entering the UK market, although it might delay such entry. In any event, it would expect a new entrant to commence any entry strategy with the use of imports followed by investment in a new site or the conversion of an existing glass plant. We note that, with the possible exception of Icerock, no overseas producer shows signs of adopting such a policy towards the UK market.

OCBP's existing importance as a supplier of stone wool

2.58. At present OCBP has some 18 per cent of the supply of stone wool in the UK by manufacturers and importers. Of its UK sales of £12 million in 1998, output from the Queensferry factory accounted for £9 million and imports from Icerock and Partek for £3 million.

2.59. Assessment of OCBP's importance for competition in the supply of stone wool depends not only on its sales and market share but also on its prices, supply policies and involvement in the competitive processes by which orders are won.

2.60. As will be clear from the description above (see paragraphs 2.46 to 2.49), price comparisons between different suppliers are problematic because of the lack of transparency of realized prices. Rockwool and Owens Corning shared the view, however, that OCBP's realized prices were generally a little below Rockwool's for equivalent products, while Rockwool said that they were 5 to 10 per cent lower in some areas. Information from distributors confirmed this picture. This difference appears to reflect Rockwool's position as market leader, its success in persuading buyers to specify Rockwool as the preferred product—which requires OCBP to undercut if it is to win the business—and its reputation for providing strong after-sales and technical support services. Some witnesses also told us that the quality of some of OCBP's products, for example pipe sections, did not match Rockwool's, although opinions varied on this point.

2.61. As regards supply policies, the consensus among those giving evidence was that OCBP is considerably more flexible than Rockwool. The differences lie in its willingness to supply part-loads, mixed loads made up of different products (for which it appears to impose fewer limitations than Rockwool), smaller minimum quantities and more non-standard products. It aims to recoup through higher prices the extra costs which these policies entail but does not always succeed. OCBP, in addition, requires payment in 60 days compared with Rockwool's 30 days. Owens Corning explained that, as number two in the supply of stone wool, OCBP pursued an Avis-style policy of trying harder through offering a more flexible package which particularly favoured smaller distributors. By contrast, customers said that Rockwool was inflexible and unreceptive to their requests for any departure from its supply and payment policies.

2.62. Although OCBP has only some 18 per cent of the supply of stone wool, the strong representations against the merger which we received from customers—primarily distributors and fabricators—indicate that the existence of OCBP as an alternative source to Rockwool is seen as important to the operation of the market. Customers' main concern in this regard was with price. The picture they conveyed was that Rockwool and OCBP competed head-to-head across most of Rockwool's product range in frequent negotiations about the level of discounts for particular orders. In the absence of OCBP or another significant manufacturer, they said, Rockwool would be able to raise its prices for orders where stone wool had advantages over other materials and where competition from OCBP was therefore the main direct constraint on Rockwool's prices. Even a distributor which was not an OCBP customer could press Rockwool for higher discounts for particular orders on the grounds that other distributors might be supplied by OCBP at better prices.

2.63. Besides these concerns about prices, a number of third parties argued that Rockwool's supply policies favoured the two big national distributors, SIG and Encon. If Rockwool became the sole UK manufacturer of stone wool, it could therefore be expected that competition among insulation distributors would be weakened. Several fabricators expressed fears that Rockwool would refuse to supply them or would offer uncompetitive terms, obliging them to look to overseas manufacturers or buy through distributors at higher prices.

2.64. In some respects OCBP is a weak competitor in the supply of stone wool. It relies on technology from another manufacturer and is known primarily as a glass wool company. Its manufacturing plant is below optimum size, it has to import a significant proportion of its product requirements and its profitability (in the supply of stone wool) is low. In terms of OCBP's effect on the market and on customers, however, we see the company as a significant source of competition in the supply of stone wool for the reasons given in paragraphs 2.60 to 2.63. The ultimate importance of this factor for end-users depends on other considerations, notably the substitutability of other materials for stone wool, and we address those considerations below (see paragraphs 2.83 to 2.137). In view of the weaknesses in OCBP's position as a supplier of stone wool, moreover, there must also be a question about the continuing effectiveness of its competitive challenge to Rockwool if the merger did not proceed: this question, too, we address below (see paragraphs 2.143 to 2.149).

The effects of the merger

2.65. We now consider what the situation would be if the merger were to proceed.

2.66. The merger would entail OCBP's withdrawal as a manufacturer of stone wool in the UK and a substantial reduction in its sales of stone wool to UK customers. Owens Corning would continue as a manufacturer of glass wool and extruded polystyrene. Indeed the parties argued that the merger would strengthen competition in the general insulation market by enabling Owens Corning to focus its efforts on the supply of these other materials, particularly glass wool in which Owens Corning is the market leader. We consider this argument below (see paragraph 2.112). First, however, we address the merger's effects on the supply of stone wool.

The merger's effect on OCBP as a supplier of stone wool

2.67. As noted in paragraph 2.14, the Business Sale Agreement includes a non-compete covenant which would prevent OCBP from manufacturing stone wool in the UK for five years, and prevent it supplying stone wool to existing customers for four years, from completion of the agreement. There are, however, exceptions to the no-supply provision:

- (a) OCBP would be allowed to continue importing unlimited quantities of specified product lines from Icerock and Partek—rolls and slabs from Icerock and cavity blowing wool and covered (H&V) pipe sections from Partek—and supplying them to existing customers for the relevant product.
- (b) Under a proposed Supply Agreement with Rockwool, OCBP would buy at least 3,000 tonnes a year of a specified range of products at pre-arranged prices comparable to Rockwool's prices to other customers of equivalent size. Alternatively OCBP would be able to buy these products from other suppliers if it received a better offer from them (for amounts of 500 tonnes or more) which Rockwool was unwilling to match. The products concerned are specified densities of slab, fire barriers, rollbatt, liner board and Lamella board. OCBP would be able to supply these products to customers on a 'compete' list set out in the Business Sale Agreement. These 'compete' customers accounted for 37 per cent by value of OCBP's sales in the first half of 1998. They were selected on the basis that they are significant purchasers of glass wool from OCBP.
- (c) In addition, OCBP would be free to supply any stone wool products to new customers, that is any who did not purchase stone wool from OCBP during the first half of 1998.

OCBP would normally have the products brought to its St Helens site, from where they would be distributed alongside its glass wool products. The exceptions to the non-compete covenant are described more fully in Appendix 3.1.

2.68. OCBP would no longer be able to sell stone wool under its present Rocksil brand name, which is included in the assets which Rockwool would acquire. (Rockwool told us that it would probably sell one product under the Rocksil name if the merger went ahead.) Owens Corning told us that it would probably use instead the Crown name under which it currently sells glass wool in the UK.

2.69. Owens Corning explained that it had negotiated these exceptions to the non-compete clause with Rockwool because it saw the continued ability to supply certain stone wool products to certain customers as valuable to its competitive position as a supplier of glass wool. Although, following the merger, it would seek to persuade customers to switch from stone wool to glass wool, there would still be some applications for which stone wool was preferred. OCBP would enjoy, for the first time, the competitive advantage of being able to supply both glass wool and stone wool from the same site in mixed loads.

2.70. In recent years OCBP's sales of Icerock and Partek products have been around £3 million a year. Owens Corning said it expected that, if the merger proceeded, OCBP's sales of these products would continue at broadly the same level.

2.71. Owens Corning also told us that OCBP might buy up to 4,000 tonnes from Rockwool under the Supply Agreement (or from other manufacturers pursuant to its terms), compared with 4,600 tonnes sold to the relevant customers, worth £4.5 million, in 1998.

2.72. Putting the two elements together suggests that OCBP might achieve annual sales of stone wool worth £7 million following the merger. For reasons given in paragraphs 2.73 to 2.75 we believe this is a high estimate. Owens Corning accepted that 35 per cent of its 1998 sales, or about £5 million, was a reasonable estimate of what OCBP's total sales of stone wool would be after the merger.

2.73. SIG, the leading distributor of insulation products in the UK, is on the non-compete list in the Business Sale Agreement. Encon, the other large national insulation distributor, does not appear on either list because it was not a customer of OCBP in the relevant period. OCBP would therefore be unrestricted in its ability to supply Encon following the merger. However, Owens Corning told us that the reason OCBP did not supply Encon was that Encon owned Superglass, one of Owens Corning's two significant competitors in its core glass wool business in the UK, for which Encon represented a prime route to market. Owens Corning said that OCBP might supply Encon after the merger but only where it suited Owens Corning's commercial purposes. It is therefore unlikely that OCBP would begin to supply Encon with stone wool on any significant scale following the merger, particularly given Owens Corning's view that the ability to sell stone wool products is a significant benefit for its glass wool business.

2.74. As regards prices, the prime motivating factor for OCBP to undercut Rockwool at present is the need, as OCBP has perceived it, to utilize the capacity at Queensferry. Following the merger OCBP would be dependent on imports and on products purchased from Rockwool under the Supply Agreement. Given the transport costs involved (see paragraphs 2.41 and 2.42), it is unlikely that OCBP's imports would be made at prices which enabled it to provide price competition to Rockwool (its margins on the sale of these products in the last three years have been well below those made on its glass wool sales, although above those made on the output of the Queensferry plant). The same is obviously true of the products which OCBP would buy from Rockwool itself.

2.75. A more intangible but nonetheless relevant consideration is that OCBP would lose credibility as a supplier of stone wool. Its sale of Queensferry, and its efforts to persuade customers to switch to glass wool, would show that it was not committed to the supply of stone wool. This perception would be reinforced by the sale to Rockwool of OCBP's well-known brand name, Rocksil, and its intention to sell stone wool under the Crown name, which is associated with glass wool. Moreover OCBP would be unable to supply a full range of stone wool products to anyone except new customers. Owens Corning told us that, since the announcement of the intended sale of Queensferry, OCBP's stone wool business had fallen by about [30] per cent relative to the previous year.

2.76. The effects of the Business Sale Agreement on OCBP's future position as a supplier of stone wool may be summarized as follows:

- (a) except for completely new customers, OCBP would be able to supply only a limited range of products;
- (b) it would be able to sell the Icerock and Partek products only to existing customers for the relevant product and any completely new customers;
- (c) it would be prevented from supplying products bought under the provisions of the Supply Agreement with Rockwool to the majority (by value) of its existing customers (that is, those not on the 'compete' list);
- (d) it would, however, be able to supply those customers to which it was permitted to sell stone wool with mixed loads of stone wool and glass wool; and

- (e) it would pay prices similar to those available to other customers of equivalent size for products bought from Rockwool under the Supply Agreement, whilst for the rest it would be dependent on imports.

2.77. It will be evident from paragraphs 2.67 to 2.76 that, whilst OCBP would continue to supply stone wool following the merger, its value as a competitor to Rockwool in the supply of this material would be substantially diminished.

The merger's effects on Rockwool

2.78. Rockwool, for its part, would immediately gain an additional 22,000 tonnes in output for an outlay of some £[] million (around £[] million after expenses for the business plus £4.6 million for investments in improved environmental performance at Queensferry), together with OCBP's customer list, subject to the qualifications discussed above. It is reasonable to assume, as Rockwool itself has done, that Rockwool would increase its sales to UK customers by this amount—albeit at least 3,000 tonnes would, under the terms of the Supply Agreement, be sold to OCBP—raising its share of UK sales of stone wool from around 78 per cent in 1998 to over 90 per cent. It would be the only significant UK manufacturer of stone wool.

2.79. The Queensferry factory has been working fairly close to capacity, the bulk of its output going to UK customers. The acquisition would not, therefore, enable Rockwool to cater for the steady growth which it foresees in overall UK demand for stone wool. To meet this growth, Rockwool plans to invest some £[] million in 'debottlenecking' enhancements to the Queensferry plant which would lift output by between 12,000 and 15,000 tonnes within two years of the acquisition. The alternative, for which it was actively planning when it was approached by Owens Corning about the possible acquisition of Queensferry, would be for Rockwool to invest in a third line at Bridgend at a cost of £30 million to £35 million.

2.80. The acquisition would, therefore, give Rockwool the opportunity to expand output more quickly and at significantly lower cost than by building a third line at Bridgend. Rockwool told us that if a capacity increase had not been possible it would probably not have pursued the acquisition of the Queensferry plant. A further consideration is that the ability to add a smaller increment to capacity than that from a new third line would reduce the risk of Rockwool finding itself temporarily with excess capacity, which given the capital intensity of stone wool manufacture would damage profitability. By the same token it would also reduce the imperative on Rockwool to win new business.

2.81. The merger would also enable Rockwool to achieve efficiencies in production and delivery. There would be some scope for specialization of production between the two plants as far as low-volume products are concerned. Delivery savings would result from Rockwool's ability to serve customers from whichever of the two plants was closer to them, as well as from the fact that Queensferry is better situated than Bridgend for the main industrial centres in the Midlands and North of England and in Scotland.

2.82. Immediate access to additional productive capacity would enable Rockwool to supply more customers than it currently supplies from Bridgend. Rockwool told us that it was keen to widen its customer base. It did not, however, intend to change its supply policies regarding minimum order quantities, range-stocking requirements and supply of part-loads, or its payment terms. Its policy was that end-users should buy through distributors, even if they wanted a full load; similarly for customers wanting only occasional loads. One large distributor said that it might benefit from the merger because Rockwool's policies would

mean that some of OCBP's smaller direct customers for part-loads would have to turn to distributors.

Effects on prices

2.83. We now consider the likely effects on prices if the merger were to proceed. The merger might in principle enable Rockwool to put up prices in any of the following circumstances:

- (a) where there are stone wool products with specific end-uses for which there are no adequate and cost-effective substitutes;
- (b) where there are stone wool products for which there are adequate and cost-effective substitutes but there is a widespread and long-established preference for stone wool;
- (c) where there are applications for which stone wool is preferred by a significant proportion of buyers because of its particular combination of properties, and where the manufacturer can identify the relevant orders and hence differentiate in pricing for them; and
- (d) where there are individual orders for which stone wool has already been chosen as the desired material, or it is known that stone wool is the likely choice, and for which prices are negotiated specifically.

These categories of circumstances, which are not mutually exclusive, might in principle be found in any of the demand sectors. We consider these sectors in the following order: structural, industrial H&V, industrial process, fire protection and supplies to OEMs, and acoustic insulation.

The structural sector

2.84. As noted above (see paragraphs 2.29 and 2.30), a wide range of different insulation materials is used in structural applications. Some are more suitable for one application, for example cavity wall insulation, some for another. Stone wool's share is around 16 per cent in the sector as a whole, worth some £39 million in 1998, and it ranks behind glass wool, polyurethane and polystyrene among the different materials used (see Table 4.11).

2.85. One application about which concerns were expressed by a number of third parties was flat roofing. It was put to us that stone wool had a combination of properties—mechanical strength, acoustic attenuation and fire resistance as well as heat insulation—which was not matched by other materials.

2.86. In fact, the bulk of the supply of insulation for flat roofing is provided not by stone wool but by foam materials, notably polyurethane and polystyrene. These materials at least match stone wool in thermal conductivity and provide greater mechanical strength, as well as being significantly cheaper. Although they are less fire resistant than stone wool, it appears that neither building regulations nor insurers prevent their being widely used for flat roofing. Glass wool is also used on a significant scale.

2.87. Rockwool told us that hitherto the price of its flat roofing products had been roughly twice that of polyurethane foam. Most customers were not prepared to pay such a large premium for stone wool's better fire resistance properties. It had just introduced a new stone-

wool-based product with a view to increasing its share of sales in this segment which would be only about [x] per cent more expensive than foam. However, Rockwool also told us that roofing products was one of the two areas where it had assumed, in preparing its business plan during 1998, that it would be able to increase prices as a result of the merger.

2.88. Rockwool explained that its main established product for flat roofing, Hardrock, was a premium product. Sales of this product were mostly project-related and were priced separately for each contract (see paragraph 2.46). Rockwool sought to persuade architects and other specifiers to specify Hardrock for customers willing to pay a high price for a fully fire-resistant roof. When it succeeded, however, the specification would usually allow an alternative to be chosen and OCBP took advantage of the situation to undercut Rockwool's price. It was for this reason that Rockwool had assumed that the merger would enable it to raise prices for this application. That assumption had been overtaken, however, by Rockwool's introduction of the new, much cheaper product, as a result of which its average roofing price might fall. Rockwool said that it would continue to sell its premium Hardrock product but expected to see sales increasingly transfer to the new product over the coming years.

2.89. Rockwool sold nearly £4 million of high-priced roofing products in 1998 (7 per cent of its total sales). Since this is a fairly high-margin product, we assume that Rockwool will do what it can to maintain sales. It is likely that it will have some success and to the extent that it succeeds we believe that, in view of what Rockwool told us about the assumption in its business plan, Rockwool would charge higher prices because it would no longer face competition from OCBP in the sale of these products.

2.90. Most of Rockwool's sales of other structural products are made to distributors and builders' merchants and are not project-specific. Even if there are some applications for which stone wool might command a premium because of its particular mix of properties, therefore, Rockwool is not in a position to identify them and charge differentially high prices.

2.91. There are cases, however, where Rockwool competes for the supply of a package of insulation products for major structural projects, such as large retail developments, and negotiates special price terms. Owens Corning estimated that up to 30 per cent of the revenue from sales of mineral wool in the structural sector was attributable to special pricing, usually for large construction projects. Rockwool gave us five examples of such cases in 1998, for one of which Rockwool lost the order to OCBP competing with stone wool. Generally, Rockwool appears to compete with suppliers of foam and glass wool for such contracts but there are likely to be some for which stone wool is the preferred material. In cases where the main competition is provided by OCBP offering an alternative source of stone wool, the merger would put Rockwool in a position to raise its prices somewhat. Rockwool told us that the assumed price increases in its business plan, on the with-merger scenario, were expected to come from a reduction in the number of special discounts.

2.92. No significant concerns were raised with us about the merger's possible impact on prices of stone wool for other structural applications.

Industrial sector: heating and ventilation

2.93. Four types of material account for the bulk of insulation used for industrial H&V applications: stone wool, glass wool and two plastic foam products, phenolic foam and expanded nitrile rubber. These applications all involve surface temperatures below 150°C, the maximum temperature at which plastic foams are normally used. Hence the ability of stone wool to withstand temperatures far higher than this is of no account as regards choice

of material in this sector. The consensus of the evidence received was that the other three materials between them, and particularly glass wool, provided fully adequate substitutes for stone wool in this sector. Given the resulting competitiveness of the market, there was little concern that the merger would cause prices to rise. One distributor, whilst accepting that glass wool was an adequate substitute, thought that there might be an effect on prices but we do not find this convincing.

Industrial sector: process applications

2.94. By far the main focus of anxiety about the merger among distributor customers of Rockwool and OCBP which gave evidence was the supply of stone wool for use in process industries. These customers argued that stone wool was the principal insulation material used in this sector and that, for a combination of technical, financial and other reasons, there were no adequate substitutes. If the merger went ahead, Rockwool would have considerable room to push up prices before it would risk losing significant amounts of business to suppliers of other materials or to imports of stone wool.

2.95. Rockwool and Owens Corning submitted that any concern about the absence of substitutes for stone wool was confined to applications in the temperature range 540°C to 800°C. Below 540°C glass wool was a fully adequate substitute, indeed Owens Corning considered that it was superior in some respects, whilst below 150°C it became possible for the various plastic foam materials to be used also, generally at much lower cost. Above 800°C stone wool could not be used and so the merger was irrelevant. The value of sales of all insulation materials for applications between 540°C and 800°C was small, around £1.2 million a year in Rockwool's estimate.

2.96. Even within the 540°C to 800°C range, the parties argued, there were safeguards against any attempt by Rockwool to abuse its position. There were alternative materials, such as calcium silicate, albeit they were significantly more expensive. Imports of stone wool were more likely to be economic for industrial process applications because the products used were generally denser and more expensive than those used in other applications, hence transport costs were lower relative to sales value. Finally the stone wool products used for the higher-temperature applications were the same as those used for lower-temperature applications. At the time of sale, the manufacturers often did not know for what uses the products were destined. Even when they did know that particular products were wanted for higher-temperature uses, they could not charge more for the same products as were used at lower temperatures. The main immediate customers in the industrial process sector were the big distributors: they exercised great buyer power and would not allow Rockwool to get away with raising prices above a competitive level.

2.97. We have carefully considered these conflicting arguments with the help of technical consultants, Mott MacDonald, whose report is set out at Appendix 4.3. On the technical level the main area of dispute is whether glass wool can be used for applications involving maximum temperatures of between 230°C and 540°C. At present, of the three principal suppliers of glass wool in the UK, only the smallest (Superglass) advertises its products for use up to 540°C and in practice it sells very little for such applications. However, Owens Corning, which is easily the market leader, told us that OCBP advertised glass wool for use only up to 230°C for marketing, not technical, reasons. Since OCBP had both stone wool and glass wool factories to fill, it had positioned glass wool as the material for lower-temperature industrial applications, particularly H&V, leaving stone wool as the preferred material for higher-temperature applications. This policy had allowed it to make a modest reduction in the manufacturing cost of glass wool because the product did not have to be usable above 230°C. It would, however, be a simple matter for OCBP to reverse this change by putting an additional ingredient in the binder when manufacturing glass wool for pipe

sections (see paragraph 6.68). This ingredient had been used until 1991 when the marketing strategy described above had been adopted by Pilkington, the previous owner of the company: up to that time the company had marketed glass wool for use up to 540°C. The adoption of this measure would add only some [≈] per cent to production costs.

2.98. Owens Corning added that glass wool was extensively used in the USA for applications involving temperatures up to 540°C. For higher temperatures calcium silicate was the most common insulation material used in the USA, stone wool being little used. Owens Corning thought the differences between North American and European markets in this respect were due to historical reasons: very broadly, the manufacture of glass wool had been developed in the USA while the manufacture of stone wool was a European invention.

2.99. Owens Corning added that in the last two years it had won contracts in China involving the use of some 2,000 tonnes of glass wool in some 30 separate facilities—power stations, chemical plants and other types of plant—for temperatures up to 450°C. Previously stone wool had been used in China for such applications.

2.100. Rockwool said that, whilst BGI did not sell glass wool in the UK for process applications above 230°C, its 50 per cent parent, the St-Gobain group, did so elsewhere in Europe. We established that St-Gobain did indeed advertise glass wool pipe sections, which it produced in Sweden, as suitable for temperatures up to 500°C, although certain restrictions to use are indicated (see Appendix 4.3, paragraph 55). BGI said that considerable alteration to the production process, going beyond changing the binder content, would be needed for it to make glass wool products suitable for use up to 450°C. It would not normally want to make such changes because it had only one production plant in the UK, which made a wide range of products not requiring these changes. Moreover the dominance of the Rockwool brand in the applications and specifications in the 230°C to 540°C range made it difficult for glass wool to penetrate this area.

Consultants' report

2.101. Our consultants, Mott MacDonald, reported that stone wool was normally selected for applications in the temperature range 230°C to 540°C although some glass wool products were available which were advertised as being suitable, as indeed was the case in the USA and Continental Europe. They noted that some manufacturers stated that modifications to the binder could be readily formulated so that glass wool could be manufactured to withstand temperatures up to around 500°C to 550°C, although that view was not accepted throughout the industry. In the USA Owens Corning manufactured a variety of glass wool products with maximum operating temperatures from 340°C to 540°C and another manufacturer offered products suitable for certain applications up to 540°C. Owens Corning had also provided information on recent applications of glass wool insulation operating at temperatures up to 450°C in China and 350°C in the USA, although it had not given any examples of such installations in Europe. (Owens Corning told the Commission that its glass wool plant in Belgium manufactured products only for building, not industrial, applications.)

2.102. Besides the technical questions concerning maximum operating temperatures, Mott MacDonald also commented on questions of installation and maintenance. They noted that if there were a number of separate insulation installations within a particular process project, each operating at a different temperature, there might be a tendency to select a single material which was suitable for the most onerous condition. This material would then be used at all locations on the site in order to minimize stocks of different materials and to avoid the risk of confusion. Discussion with installers and users indicated a general preference in many areas for stone wool rather than glass wool in those situations where there was a choice, although it had not been possible to establish a hard reason for that preference.

2.103. In conclusion, Mott MacDonald reported that stone wool was currently the preferred low-cost insulating material in the UK for the range 230°C to 540°C and that there were few glass wool products on the UK market which were suitable for use in this range. They commented that this situation could change if glass wool manufacturers decided to promote products suitable for this temperature range as there was evidence that glass wool products could be manufactured to operate effectively at least in the lower part of this temperature range (up to 350°C or 450°C). (This was a reference to Owens Corning's evidence.) From a technical perspective, the use of glass wool products in the UK at temperatures above 230°C would be acceptable subject to the demonstration of performance under UK conditions supplemented by the demonstration of previous experience either in the UK or overseas.

Assessment

2.104. It would appear that technically, therefore, glass wool could be used for applications up to 450°C, and possibly 540°C, in the UK, and could theoretically be a substitute for stone wool in these applications, although we have not been told of cases where it has been used above 450°C anywhere. The significance of this is that the only other materials which can be used above 150°C, such as calcium silicate, cellular glass and ceramic fibre, are substantially more expensive than mineral wool (see paragraph 4.35).

2.105. The fact remains that in the UK at present glass wool is little used for industrial process applications, regardless of temperature. We estimate that stone wool accounted for 39 per cent of the sales of insulation materials by value in the industrial process sector in 1998, worth some £13 million; the high-cost materials referred to in paragraph 2.104 accounted for 57 per cent; glass wool for 4 per cent; and phenolic foam for 3 per cent (see Table 4.11). It is reasonable to assume that, in general, the high-cost materials are used only where cost is not a constraint and there is a requirement for their particular performance qualities. (Rockwool told us that it did not monitor the price of calcium silicate, which implies that it does not represent a constraint on Rockwool's pricing of stone wool.) In other cases, stone wool is currently the material of choice in this sector, outselling glass wool by a factor of nine to one.

2.106. There is no statistical indication of any changing trend in the relative shares of the different materials, although we received some evidence that stone wool was making inroads in sales of insulation for power stations since privatization at the expense of calcium silicate. This was because private sector engineers were subject to different pressures and worked to shorter timescales: where the Central Electricity Generating Board would have chosen calcium silicate because of lifetime costs over the full working life of a power station, perhaps 30 years, private sector generators would make their financial appraisals over half that period, putting a greater value on the lower initial price and installation costs of stone wool. We were also told, however, that where one US company had built a gas-fired power station in the UK recently, it had chosen calcium silicate because that was what it was accustomed to use in its home market (see Appendix 4.3, paragraph 49).

2.107. A number of reasons were advanced for the current dominance of stone wool in the industrial process sector. Rockwool said that it was partly the result of Rockwool's own marketing success. One argument which it used in its marketing was that, since stone wool could be used for applications up to 800°C, the choice of stone wool would allow a single type of mineral wool to be used throughout a given site. End-users and contractors preferred this situation because it removed the risk of glass wool being mistakenly applied to equipment whose temperature rose above the safe level of glass wool, with potentially serious consequences. Other parties argued, in addition, that stone wool was valued partly

for its superior fire resistance qualities compared with glass wool, although Rockwool and Owens Corning denied that this was a significant consideration.

2.108. Given the differences between the UK and US markets as regards choice of material for industrial process uses, it is clear that custom and practice are also important factors in the situation. Specifiers and consultants naturally tend to choose or recommend materials which they are used to and have seen in operation, with satisfactory results, over long periods. Moreover a sizeable proportion of demand, perhaps 50 per cent, relates to repair and maintenance rather than new installations, and the natural tendency is to specify the same material as has been used before.

2.109. Owens Corning submitted that following the merger, when it no longer had a stone wool plant to load, it would begin vigorously to promote glass wool for process applications up to 540°C. It recognized that a major marketing drive would be needed to persuade purchasers to switch from stone wool to glass wool and had appointed a marketing manager for this purpose. It would expect to achieve tangible results within the first year of adopting the strategy. To the extent that Rockwool tried to raise prices of stone wool following the merger, Owens Corning's task would be easier. It referred to its successes in displacing stone wool as the established material in Chinese process plants.

2.110. Rockwool argued that, whilst stone wool had advantages over glass wool in this sector, these were decisive only when the prices of the two materials were comparable. If Rockwool began charging a premium for the benefits of stone wool it would lose business.

2.111. We view these arguments with some scepticism. It appears to us that it would be a slow process for Owens Corning to persuade purchasers of the merits of switching to glass wool for these applications given established attitudes and experience, and we were not persuaded, by the information which Owens Corning provided, that it was gearing up for a major attack on this sector. Mott MacDonald's report brings out the importance for glass wool manufacturers of being able to demonstrate performance under UK conditions. Such experience inevitably takes time to build up for products which are expected to last for many years' service. Owens Corning itself referred to the difficulty which stone wool manufacturers had encountered, for the same reason, in seeking to penetrate the US market. We do not believe that we can place much weight on experience in China where Owens Corning, operating from a new plant, has faced competition only from stone wool producers using older technology. We note, also, that, in seeking to explain why it expected to raise slab prices following the merger, Rockwool said it expected that it would take a few years for glass wool to compete effectively (see paragraph 2.131). There is no indication so far of glass wool increasing its share of mineral wool sales for industrial purposes, even at temperatures below 230°C, despite the relative rise in prices in that sector compared with the structural sector.

2.112. For this reason competition from glass wool would not, in our view, be sufficient in the foreseeable future to prevent some increase in the price of stone wool products sold into this sector. Although in principle the merger would strengthen competition between stone wool and glass wool by enabling Owens Corning to concentrate on promoting sales of glass wool, in practice we do not believe that such competition between the two materials would compensate for the loss of competition between different stone wool producers. We therefore see the supply of stone wool for industrial process applications as a separate market segment. We now examine the extent to which Rockwool might be able to exploit this segment following the merger.

2.113. We have considered the argument that Rockwool would be unable to differentiate its pricing for buyers of stone wool which needed a material capable of sustaining temperatures above 540°C and which could not, therefore, switch to glass wool. Since stone wool is

the material of choice for the industrial process sector as a whole (except where high-cost materials are used), this argument is largely irrelevant: it would become relevant only if glass wool made significant inroads for lower-temperature applications.

2.114. The question is rather whether Rockwool can identify the sales it makes for use in the industrial process sector generally. We therefore considered the way in which orders are placed and prices set in that sector: see paragraphs 2.45 to 2.48. As emerges from paragraph 2.48, there was some confusion in Rockwool's evidence on this point. The first account it gave us of the price-setting process accorded with what other parties (including Owens Corning) said, namely that terms for orders involving new installations were negotiated case by case. Subsequently it said that most such sales were made on the basic discount terms which it agreed with distributors in respect of each of the larger contractors, and that special discounts for individual orders were unusual (there had been only one such in 1998).

2.115. We have not been able to reconcile these differing accounts of the pricing process in this area. One possible explanation is that the number of projects for which special discounts were agreed in 1998 was unusually low. We did not find it necessary to pursue the matter because in any event the identity of the contractor concerned is likely to show whether an order is for process or H&V work. Given also the differences in the products concerned (see paragraph 2.116), and Rockwool's reputation for having good market intelligence, we are clear that Rockwool is in a position to know whenever a sizeable order is for a new process application.

2.116. Not all sales in the industrial process sector are for new installations: repair and maintenance of existing installations is a significant element. Indeed Owens Corning told us that the whole of its process sales recently had been in this category because of its lack of success in winning new project business. Contractors' orders for repair and maintenance jobs are likely to be met from distributors' stocks rather than specially ordered from the manufacturer. Nevertheless the manufacturers are in a position to identify most of their sales for this kind of work. Whilst some of the products used are no different from those used in structural applications, notably slabs, most are specific to process applications, for example pipe sections and wired mat. Process pipe sections are distinguished from H&V pipe sections in that they are for the most part sold unfaced, whereas H&V pipe sections typically have an aluminium facing. Moreover most pipe sections in the larger sizes are used for process, not H&V, applications.

2.117. Rockwool is therefore able to identify the large majority of its sales to the process sector. In these circumstances there is clearly the opportunity for Rockwool to raise prices to the extent that the external constraints on it—such as the acceptance of glass wool as an alternative—are insufficient. The immediate mechanisms for this would be a reduction in special discounts and in the company-wide discounts negotiated from time to time. Beyond that, since customers are used to Rockwool's list prices for industrial products rising by around 7.5 per cent a year, all Rockwool has to do to secure a price increase is to increase basic discounts by less than is needed to offset the rise in list prices. We have therefore considered the two remaining constraints mentioned by the main parties, namely the power of customers and the threat of imports.

2.118. Rockwool argued that most of its sales went to a small number of substantial customers. This was particularly the case with SIG and Encon in the process sector, where the contractors—effectively the final customers in this sector—were also large and powerful. These customers were in a position to bring pressure on Rockwool because they could threaten to switch (or persuade end-users to switch) from stone wool to glass wool or another type of material in applications where materials were fully substitutable.

2.119. Buyer power normally stems not only from the size of the buyer's purchases but also from its ability to choose between different suppliers. In the present case, distributors would still need to buy stone wool in substantial quantities—any success they might have in persuading customers to take other products instead would be marginal, at least in the short and medium term—and following the merger they would be obliged either to deal with Rockwool or turn to imports, which are not a viable alternative for most products (see paragraph 2.42). In a situation where there is one supplier and two buyers, the power lies with the supplier because of its ability to favour one buyer over the other in various ways and because neither of the buyers can go elsewhere. Currently the two big distributors have some power over Rockwool given the existence of OCBP as an alternative source of stone wool, but the situation following the merger would be quite different. Moreover, such power as the two big distributors would have could be eroded in that Rockwool, by giving favourable terms, could help one or more of the next tier of distributors to expand and win business from the market leaders. We note that UK Insulation, although still small relative to SIG and Encon, has made some inroads as a distributor in the industrial process sector in the last two years. For these reasons we are not persuaded by the argument that buyer power would prevent Rockwool from raising prices.

2.120. There remains the question whether the large contractors would be able to put pressure on Rockwool to keep its prices down, for example by threatening to turn to imports or proposing to specifiers that they switch from stone wool to glass wool. Contractors do not generally buy direct from manufacturers, however—although a few examples were quoted to us where they had done so—because they rely on distributors to hold stocks and supply their needs at short notice. Nor do they usually have much influence on specifications. Unless there were a big increase in the price of stone wool relative to glass wool, we do not consider that contractors would be likely to change their purchasing behaviour in a way which would constrain Rockwool's prices.

2.121. As regards imports, we have seen that transport costs are generally high in relation to sales value and are likely to render imports uncompetitive or unprofitable in most cases. Imports by parties other than Rockwool or OCBP have been small in recent years. Our attention was drawn to a few cases where imports had been made by distributors or fabricators. Occasional loads may be available at competitive prices as a result of particular circumstances, such as an overseas manufacturer's wish to utilize excess capacity by selling at marginal cost. Given the underlying economics, however, and the evidence of trade flows, pressure from imports of stone wool is unlikely to present a serious constraint on Rockwool's prices.

2.122. Another theoretical possibility is that an increase in UK prices for stone wool might prompt another manufacturer to enter the market by building a factory in the UK. For the reasons set out in paragraphs 2.52 to 2.57, we do not expect any such entry, particularly in response to price increases for only a minority of stone wool sales.

2.123. Given the considerations set out in paragraphs 2.104 to 2.122, we believe that the various constraints mentioned by the main parties would not be enough to prevent Rockwool from increasing prices in the industrial process segment if the merger proceeds. This segment accounted for nearly £10 million of Rockwool's sales in 1998, about 18 per cent of the total. In gauging the extent of the likely increase we are influenced by the fact that OCBP is not a strong competitor in this segment and that prices have already been rising relative to the structural sector. At the same time, the principal distributors were united in the view that prices would rise further if the merger went ahead. Encon said that a price rise of up to 30 per cent would not cause much switching into substitutes (see paragraph 5.43). SIG implied that it would not look seriously at the prospect of increasing imports unless prices rose by 20 per cent (see paragraph 5.68); whilst FGF (Aston) Limited (FGF) said that it would do so if prices rose by over 10 per cent. Taking account of those views and the points

discussed above, our judgment is that Rockwool could raise prices in this segment by at least 10 per cent in real terms over a two- or three-year period, beyond what could be expected in the absence of the merger, without encountering much resistance or prompting customers to switch to glass wool or to imports to a significant extent. Such an increase would be worth £1 million or more to Rockwool in increased annual revenue.

Fire protection and supplies for original equipment manufacturers

2.124. Four fabricators of fire protection products and of specialist products for OEMs which use stone wool as one of their main materials expressed fears that Rockwool would raise prices, refuse to supply them or offer uncompetitive terms. Two of them said that they competed with Rockwool in the supply of fabricated products. In addition one distributor thought Rockwool would be able to raise prices to the fire protection sector because the available substitutes were of higher cost. Most of these parties considered that imports would be uneconomic because of the transport costs involved. One had been seeking a source of supply abroad but had not yet found one. Another had obtained a load from an overseas supplier on a trial basis; this had been satisfactory as regards both quality and price but the fabricator did not know whether such supplies could be obtained on a continuing basis and would prefer to buy from a UK supplier in order to eliminate the uncertainties involved in imports.

2.125. In the fire protection sector as a whole stone wool has a minor share of sales: Rockwool put the level at 14.5 per cent of which itself and OCBP supplied 7 per cent, with the rest coming from imports and from fabricators which sourced their stone wool supplies from Rockwool and OCBP. The bulk of the supply is accounted for by various boards and sprays incorporating vermiculite, calcium silicate and other materials and by intumescent coatings (see paragraphs 4.22 to 4.25). These materials are, however, substantially more expensive than stone wool (see, for example, paragraph 84 (*f*) of the Mott MacDonald report in Appendix 4.3). Within the stone wool share, imports are feasible because the finished products are of relatively high value in relation to the volume. Cafco R (UK) Limited (Cafco), a US-owned company which is a leading distributor in the UK of fire protection products using stone wool, sells primarily imported products from Partek. Its success in importing these products has caused Rockwool to make a sharp reduction in the price of one of its own fire protection products (see Appendix 4.6).

2.126. The significance of the merger in the fire protection sector would be twofold. First, OCBP is itself a supplier of fire protection products in competition with Rockwool. Secondly, it is a supplier of stone wool slabs to fabricators and converters who use them to make their own fire protection products. If the merger went ahead, OCBP would cease its own manufacture of these products; moreover the fabricators which expressed concerns to us are all on the 'non-compete' list in the Business Sale Agreement and could no longer be supplied by OCBP. We believe that Rockwool, as a result, may be expected to increase prices to fabricators, first because fabricators' margins are likely to be sufficient to absorb a modest increase in price, and secure supplies from Rockwool would still be preferable to a reliance on imports; and secondly (in some cases) because their competitive position vis-à-vis Rockwool itself, as a direct supplier of fire protection products, would thereby be weakened. Fabricators not able to take full loads, which have hitherto been able to obtain part-loads from OCBP, would be obliged to turn to distributors and pay the higher prices which reflect the distributors' margin. This would represent a transfer of profit from fabricators to Rockwool as a result of the merger. In most cases competition from other materials and products would prevent such increases feeding through to end-users but there are likely to be some cases, where stone wool is the preferred material, where the fabricator would be able to pass on at least part of the price increase to its customers.

Acoustic insulation

2.127. Some parties argued that the density of stone wool, compared with glass wool and foams, made it peculiarly suited for acoustic insulation in buildings. This advantage was reinforced by stone wool's fire-resistant qualities which were sometimes valued as a secondary consideration. We received no convincing evidence, however, that stone wool's attractions as a material for acoustic insulation gave it a decisive advantage over other materials. Our consultants, Mott MacDonald, commented that whilst stone wool's density was significant in roofing applications where acoustic attenuation was required, this quality could be provided by other layers of the roof construction (see Appendix 4.3, paragraph 65). We are not persuaded, therefore, that the merger would put Rockwool in a position to raise prices of stone wool sold primarily for acoustic insulation.

Rockwool's evidence concerning the merger's effect on prices

2.128. We now consider Rockwool's evidence on prices following the merger.

2.129. There is evidence in the company's internal papers that it expected to be able to charge higher prices for some of its sales if the merger proceeded. Projections in its business plan show Rockwool's overall average price rising by an additional 1 per cent a year in the three years 1999 to 2001 following the merger, compared with the situation which would otherwise arise (see paragraph 3.38).

2.130. Rockwool told us that this assumed, but by no means guaranteed, price increase would result from a reduction in the number of special discounts for projects. Questioned further about this assumption, Rockwool said that it had expected to be able to raise prices by an additional 5 per cent a year on roofing and on common slab products, which together accounted for 23 per cent of Rockwool's sales in 1997.

2.131. The expected increase in slab prices was based partly on a moderate general increase and partly on the removal of the need to offer special discounts for projects where stone wool slabs had been specified. The general increase would be possible because of Rockwool's superior after-sales service, together with its normal specification activity and its expectation that glass wool would take a few years to compete effectively. This would not generally be true of other products.

2.132. The 5 per cent increase on slabs and roofing products would add nearly £600,000 to the sales value of those products, representing a 1.2 per cent increase in overall sales value. Such increases would, under Rockwool's assumption, apply for three years. The implication is that from 2001 Rockwool's prices for these products would be some 15 per cent higher than without the merger, worth £2 million a year to Rockwool in higher revenue at a constant volume of sales. The price increases account for £14 million of the net present value of the incremental cash flow (totalling £[] million) which Rockwool projected, in its business plan, would result from the acquisition (see paragraphs 3.36 to 3.38).

2.133. As noted in paragraphs 2.88 and 2.89, Rockwool's assumption as regards roofing products has been partly overtaken by the introduction of its new, lower-priced product. Rockwool said that its current overall estimate was that it would obtain price increases worth between £400,000 and £500,000 a year, compounded for three years, as a result of the merger, obtainable because it would no longer face undercutting from OCBP in bidding for project orders.

2.134. We consider that Rockwool's evidence on the likelihood of price increases as a result of the merger was not entirely consistent. On its own admission, special discounts for

individual projects tend to cover a range of stone wool products, not just roofing and slabs. Slabs—which accounted for £8 million of Rockwool’s sales in 1998, some 15 per cent of the total—are used in a wide range of applications, both structural and industrial, and we have seen that, for most structural applications, price increases are unlikely to be possible. We recognize, however, that in preparing its business plan, Rockwool was not seeking to make a precise calculation. The significance of the internal Rockwool evidence lies in the clear indication that Rockwool itself expects to raise prices as a direct result of the merger, and that the envisaged increases are not confined to individual sectors. This expectation is consistent with our own analysis of the position as set out above and with some of the apprehensions of the distributor and fabricator customers which gave evidence to us. Even at the lower figure of £400,000 to £500,000 a year mentioned by Rockwool, which would cumulate to some £1.5 million a year after three years and run on into the future, we regard the increase as significant for the public interest. Moreover these figures are likely to be conservative because Rockwool was naturally anxious to play down the extent of potential price increases in giving evidence to us.

2.135. There is a further price increase implicit in Rockwool’s projections. It has assumed that, following the merger, it would sell the output of the Queensferry plant at Rockwool prices rather than OCBP prices which, as noted in paragraph 2.60, are acknowledged to be a little lower than Rockwool’s, and 5 to 10 per cent lower in some areas.

2.136. We also believe it is relevant to recall the following comments in the minutes of Rockwool International board meetings (see paragraph 2.11):

- (a) the merger would enable Rockwool to take a competitor out of the market and prevent an entrant from penetrating the (UK) stone wool market for some years; and
- (b) Owens Corning had commented that Rockwool would be getting a premium for being the only stone wool producer on the market and Owens Corning wanted part of that premium reflected in the purchase price for the Queensferry business.

Overall assessment of the effect on prices if the merger went ahead

2.137. Taking account of the evidence set out in paragraphs 2.83 to 2.136, we are clear that there are a number of areas, representing a significant proportion of its sales, where Rockwool would be able to raise prices if the merger went ahead. Moreover, Rockwool has said that it intends to raise prices on certain products. And we believe that Rockwool may be expected to increase prices to a material extent as a result of the merger.

Effects on availability of stone wool products and on supply terms

2.138. As noted in paragraphs 2.61 to 2.63, we received representations from a number of buyers of stone wool about the loss of OCBP as an alternative source of supplies to Rockwool. Some feared that Rockwool would refuse to supply them, others that it would offer uncompetitive terms such that they would be obliged to look elsewhere. Concerns were also expressed about Rockwool’s less flexible supply policies compared with OCBP. One said, for example, that Rockwool imposed a minimum order quantity of 4 tonnes for any special size product, compared with 1.5 tonnes from OCBP: this could have a severe effect on the buyer’s stockholding requirements. We note also that Rockwool requires payment within 30 days (that is, by the end of the month following the month in which orders are fulfilled), compared with 60 days for OCBP. (Rockwool told us that when it had won customers from OCBP in the past it had phased in Rockwool’s tighter payment terms over a number of months.)

2.139. Rockwool said that the acquisition of the Queensferry plant would enable it to serve a wider range of customers, although it did not intend to change its supply policies (see paragraph 2.82).

2.140. Clearly the merger would not bring about any direct change in the overall level of UK capacity for the manufacture of stone wool and Rockwool will want to use that capacity to the full. There are no grounds, therefore, for believing that the merger would result in a shortage of UK-made supplies; indeed the reverse is the case since the merger would enable Rockwool to achieve an increase in capacity, by expanding Queensferry, more quickly than it could by constructing a third production line at Bridgend.

2.141. Following the merger there would, however, be effects on the number of buyers which could obtain direct supply rather than going through distributors; the terms which buyers would receive; and perhaps the range of products which they could obtain.

2.142. Given Rockwool's policies—willingness to supply only full loads, unwillingness to supply end-users and occasional customers—we expect that there would be a reduction in the number of customers buying direct from the manufacturer. We also believe that smaller customers—or would-be customers—would face less favourable and less flexible terms than they currently obtain from OCBP, which has to work hard to achieve sales. As a result, such customers would either incur higher costs (for example, from having to hold higher stocks) or pay higher prices because they would have to buy through distributors. OCBP customers which had to switch to Rockwool would also suffer a cash-flow effect as a result of Rockwool's shorter payment period. More generally, and irrespective of the differences in supply and payment terms between Rockwool and OCBP, customers' ability to choose between two UK producers of stone wool would be lost. As a result of these factors we believe competition in the distribution and fabrication sectors would be impaired.

Effect on prices, supply and terms if the merger did not proceed

2.143. In assessing the adverse effects of the merger on competition it is necessary to consider what would be likely to happen if the merger did not go ahead. On this point, Owens Corning initially told us that if the merger were prohibited the most likely consequence was that it would retain the Queensferry plant and look for ways of improving its profitability through rationalization and restructuring. It was also possible that Owens Corning would sell the plant to someone else. At that stage Owens Corning did not mention the possibility of the plant being closed.

2.144. Towards the end of the inquiry Owens Corning emphasized the urgency [*Details omitted. See note on page iv.*]. If the merger were blocked OCBP would rapidly rationalize the product range, cutting out loss-making lines and reducing output to an annual rate of around [\approx] tonnes, a reduction of around [\approx] per cent. The products which it would be likely to cease producing included [

Details omitted. See note on page iv.

]. At the same time it would quickly look for another buyer

or

joint-venture partner [*Details omitted. See note on page iv.*].
Owens Corning thought it unlikely that an acceptable buyer could be found, [*Details omitted. See note on page iv.*]. Owens Corning acknowledged that at this stage, however, it had not done extensive research into the matter of whether there would be another buyer. If no acceptable buyer could be found, Owens Corning said that it would have few options: one would be to close or mothball the plant; another would be to ship the equipment to South Africa where Owens Corning had a stone wool facility in need of modernization.

2.145. How long Owens Corning would keep Queensferry going in the absence of another solution was uncertain [*Details omitted. See note on page iv.*]. Owens Corning estimated that it would incur costs of £[~~3~~] million to £[~~3~~] million if it closed the plant.

2.146. This late evidence from Owens Corning puts us in a difficulty in assessing the merger's effects. We believe, however, that there are potential buyers who would be prepared to offer Owens Corning a worthwhile price for the business (the book value of the fixed assets was £[~~3~~] million at 31 December 1998—see paragraph 3.33). [~~3~~]

[~~3~~] have already expressed an interest and there are other stone wool producers in Continental Europe, for example Heraklith and Pfleiderer, which might see this as a good means of entering the UK market. Our judgment is that, if Owens Corning were faced with a choice between a worthwhile offer and incurring the cost of closure, it would sell the business. It is also possible that, as it originally told us, Owens Corning would keep the Queensferry plant, bearing in mind that there are undoubtedly ways in which profitability could be improved and that Owens Corning attaches importance to its continued ability to supply stone wool.

2.147. We cannot rule out the possibility of there being no buyers and the plant being closed after a time but we do not expect it to happen.

2.148. Thus the most likely outcome if the merger did not go ahead, in our view, is the acquisition of the Queensferry plant by another party, probably an existing producer of stone wool. It is to be expected that a new owner would take a positive view of the business and would probably plan to expand production in the same way that Rockwool is planning to, thus obtaining economies of scale. Such an outcome, with or without the expansion, would clearly be far better than the merger in its effects on competition and hence on prices and supplies. The next most likely outcome, for OCBP to run the plant at a reduced level, would obviously be less good for competition than a sale because the volume of output and range of products would be reduced (see paragraph 2.144), but OCBP would still represent a significant restraining force on Rockwool's prices and a valuable alternative source for smaller customers. Moreover on either of these scenarios Rockwool would be likely to invest in expanding production at Bridgend.

2.149. Compared with the likely situation if the merger did not go ahead, therefore, we expect the merger to result in increased prices, increased costs for customers and a loss of competitiveness in the distribution and fabrication sectors.

Benefits

Efficiency

2.150. It is clear from the management accounts of the two companies that Rockwool's unit production costs are well below OCBP's, to a greater extent than could be explained by differences in product range. This finding confirms the impression we gained from our site

visits as to the relative performance of the two plants at Bridgend and Queensferry. It is not surprising to find that Rockwool is the more efficient of the two bearing in mind that it is the world leader in stone wool, its core activity, whereas Owens Corning acquired the Queensferry plant only five years ago and has no proprietary technology in stone wool, although it is a world leader in the manufacture and supply of glass wool.

2.151. Rockwool told us that, following the merger, it expected to be able to bring Queensferry's variable production costs into line with Bridgend's within three years by applying Rockwool's technology and know-how. Its plan to expand the Queensferry plant would, in addition, enable the site to operate at a more efficient level of output.

2.152. We have no doubt that Rockwool would raise the efficiency of the Queensferry plant if the merger proceeded. We do not expect the benefits to be passed on to customers in lower prices: Rockwool's business plan indicates that it expected to retain the benefits of the cost savings, as well as the price increases.

2.153. If the merger did not go ahead, the most likely outcome is that the business would be sold to an existing stone wool producer (see paragraph 2.146). Such a buyer could be expected to improve the performance of the Queensferry plant. Nevertheless there are some efficiency savings open to Rockwool from being able to operate plants in two separate locations (see paragraph 2.9), and it is doubtful that another buyer would be able to achieve the same overall level of efficiency as Rockwool.

Environmental factors

2.154. Rockwool told us that, if the merger went ahead, it would spend £4.6 million on environmental improvements to the Queensferry site in the first year. £4 million of this would go on enhanced emission control and the rest on dealing with ground and water contamination.

2.155. These amounts may be compared with the £[] million which Owens Corning had in its capital spending plan when it negotiated the sale of the business to Rockwool (see paragraph 2.8) and which was intended to deal with the same matters as the £4.6 million planned by Rockwool. Owens Corning said that, if the merger were blocked but OCBP kept the plant, it would probably have to go ahead with the expenditure on emission control but would spend the minimum necessary to satisfy the Environment Agency. The problem of ground and water contamination did not require imminent attention but would have to be dealt with in the next few years if the plant continued in operation.

2.156. It is clear that these environmental issues would be tackled more thoroughly and, in the case of ground and water contamination, earlier by Rockwool than by Owens Corning. This is a function of the fact that Rockwool would have a long-term commitment to the site and would intend to expand production by over 50 per cent.

2.157. An alternative buyer for the plant would also have to tackle the environmental issues. There would be some delay in their doing so, if only because of the extra time needed for Owens Corning to find another buyer. Beyond that, it is a matter for speculation whether such a buyer would improve the environmental performance as much as Rockwool would.

Effects on employment

2.158. Rockwool told us that it considered manning levels at Queensferry to be reasonably tight and that existing jobs would be safeguarded if Rockwool took over the plant, both in the short and long term, as Rockwool's efficiencies resulting in some labour saving would be offset by its planned increase in capacity. Rockwool would not proceed with a third line at its existing factory, however, so there would be a loss of about [30] potential new jobs, over a two- to three-year period, at Bridgend.

2.159. Owens Corning said that, if the merger were blocked, it would reduce employment in parallel with the reduction in output which it planned (see paragraph 2.144). Beyond that the jobs of the entire workforce (around 115 people) would be at risk because of the possibility that Owens Corning would fail to find an alternative, acceptable buyer and would close the plant.

2.160. If Owens Corning were to sell the plant, which is what we expect would happen if the merger were not to proceed, it is reasonable to assume that a new owner would take on the existing workforce at broadly the same level as it is now. Rockwool would probably go ahead with a third line at Bridgend, but it would want to consider the implications of a new competitor arriving on the scene at Queensferry. In these circumstances the third line might not operate at full capacity and the number of new jobs created at Bridgend could be around [30].

2.161. On the alternative, though less likely, scenario—in the event of the merger not proceeding—that Owens Corning were to retain the plant, there would be some reduction in employment at Queensferry, of the order of [30] jobs on the assumption that employment was reduced to the same extent as output. Rockwool would be likely to invest in a third line, creating between [30] and [30] jobs depending on the level of output.

The public interest

2.162. We have found that, whilst OCBP's position is in some respects weak, the company is a significant source of competition in the supply of stone wool (see paragraph 2.64). Under the terms of the Business Sale Agreement it would continue to supply stone wool following the merger but its value as a competitor to Rockwool would be substantially diminished (see paragraph 2.77). Rockwool's share of UK sales of stone wool would rise from around 78 per cent to over 90 per cent and it would be the only significant UK manufacturer of stone wool.

2.163. Bearing in mind the various factors which the parties said would constrain Rockwool's pricing—customers' ability to switch to other cost-effective materials for most applications; suppliers' claimed inability to discriminate in pricing between customers which could easily switch and those which could not; the potential for imports at the high-density, high-value end of the product range; and the power of the big distributors—we have looked carefully at the scope which the merger would give Rockwool to raise prices. We identified the following areas:

- (a) roofing products, to the extent that Rockwool continued to sell its premium product (paragraph 2.89);
- (b) certain structural projects for which special discounts are currently negotiated (paragraph 2.91);
- (c) industrial process applications (paragraph 2.123); and

(d) supplies to fabricators (paragraph 2.126).

2.164. These areas represent a minority, but a significant minority, of Rockwool's sales.

2.165. Internal evidence from Rockwool lends support to our view that Rockwool may be expected to raise prices in some areas as a result of the merger (see paragraphs 2.128 to 2.136). We believe there would be three mechanisms: first, a reduction in special discounts where prices are negotiated for individual orders and where Rockwool currently faces undercutting from OCBP; secondly, a more general upward drift of prices, brought about by a failure to increase basic discounts *pari passu* with increases in list prices; and thirdly, sale of Queensferry's output at the slightly higher prices charged by Rockwool (see paragraph 2.135). It is not possible to be precise about the incidence of the second category of price increase but it is most likely to apply in the areas listed in paragraph 2.163 (that is, roofing, industrial process applications and supplies to fabricators).

2.166. We do not expect the merger to prompt an entry into the UK by another manufacturer (see paragraph 2.122), nor that Rockwool's prices would be constrained by that possibility. Indeed we find entirely plausible the view expressed in Rockwool International's board minutes that for Rockwool to acquire the Queensferry plant would be likely to prevent anyone else from entering the UK market for some years (see paragraph 2.56).

2.167. Besides the price effects we have mentioned, we believe that some existing OCBP customers would face less favourable terms from Rockwool and, in consequence, would either incur higher costs or pay higher prices because they would have to buy through distributors. These effects and the loss of customers' ability to choose between two UK producers of stone wool would, in our view, impair competition in the distribution and fabrication sectors (see paragraph 2.142).

2.168. The most likely alternative to the merger, we believe, is that Owens Corning would sell the Queensferry plant to another party, probably one which already produces stone wool overseas. Such an outcome would not have the adverse effects on competition and prices that we believe the merger would have (see paragraph 2.148).

2.169. The merger would, we consider, lead to an improvement in the efficiency of production and distribution of stone wool in the UK but we would not expect the benefits to be passed on to consumers (see paragraph 2.152). Another buyer would probably not be able to achieve the same overall level of efficiency as Rockwool (see paragraph 2.153). There would be certain environmental benefits from the merger, whereas sale to an alternative buyer would entail at least some delay in tackling the environmental issues (see paragraphs 2.156 and 2.157).

2.170. Having balanced the factors summarized above, we consider that the merger would be detrimental for the public interest.

2.171. We therefore conclude that the merger may be expected to operate against the public interest with the following specific adverse effects:

- (a) overall, prices for stone wool would be higher, particularly in certain sectors and for certain products;
- (b) costs incurred by some customers would be increased; and
- (c) competition in the distribution and fabrication sectors would be impaired

compared with what would otherwise be the case.

Recommendations

2.172. Where we have found that a merger situation operates or may be expected to operate against the public interest, we are required by section 72(2) of the Act to consider what action, if any, should be taken for the purpose of remedying or preventing the adverse effects which we have identified and may, if we think fit, include recommendations as to such action.

2.173. The principal adverse effect which we expect from the merger is that prices would be higher than otherwise. As noted in paragraph 2.164, the areas which we identified as likely to be subject to increased prices represent a minority of Rockwool's sales. We have therefore considered whether a behavioural remedy could be found which would satisfactorily deal with this adverse effect and enable us to recommend that the merger be allowed to proceed on a conditional basis so that the benefits we foresee from the merger could be realized.

2.174. We invited both Rockwool and Owens Corning to comment on the possibility that Rockwool's average realized prices for particular products might be controlled so that, for example, they could not be increased faster than the general rate of inflation (as measured by the retail price index) or a suitable index of building materials prices.

2.175. Rockwool, whilst not opposed to the idea in principle, could not envisage any watertight method of controlling its realized prices in this way. The wide variety of discounts, quantity rebates and individually negotiated prices in the market would make such a measure very hard to operate and monitor. Owens Corning put forward similar comments and also argued that competition would be distorted by any such measure, to the detriment of customers.

2.176. We broadly agree with these points. It would in principle be possible to control Rockwool's average realized prices, after all discounts and rebates, for specified individual products. In practice such a system would be complicated: for example, volume rebates are calculated by reference to the overall level of customers' purchases from Rockwool, not their purchases of individual products, so the value of rebates would have to be allocated to the price-controlled products pro rata to their share of the customer's overall purchases.

2.177. Moreover whilst we are clear that the merger would enable Rockwool to raise prices above the level which would otherwise obtain, it is not possible to define precisely which products would be affected. Indeed the circumstances in which we envisage prices being raised (see paragraph 2.165) indicate that the price increases would in some cases be related to particular projects or customers rather than, necessarily, to particular products. (We do not accept Rockwool's argument that increases would apply solely to roofing products and slabs.) In addition, it would be possible for Rockwool to introduce new products at higher prices to replace the price-controlled products, ostensibly on the grounds that they represented an improvement in product quality which warranted a higher price. It would be difficult for the Office of Fair Trading (OFT), charged with monitoring a price control system, to assess the validity of such arguments.

2.178. Finally we accept that any such price control system would be likely to have distorting effects on the market. Rockwool could be expected to devote efforts to finding the most advantageous way of living within the price controls rather than focusing on normal market considerations. To the extent that the price controls affected stone wool products in circumstances where they competed with other materials, which would be difficult to avoid, there could be harmful effects on producers of those materials. For example, if slab prices were controlled, Rockwool might have an incentive to cut prices of slabs where they competed with glass wool in order to boost the volume of sales and leave itself with head-

room to put up its slab prices for orders where it did not face competition, while still keeping within the control ceiling applying to its average prices.

2.179. For these reasons we do not believe that price control would be a suitable remedy.

2.180. The parties suggested that, rather than price control, a system of price reporting might be adopted in order to provide reassurance that smaller customers, in particular, were not disadvantaged by the merger. Rockwool said that it would be prepared to enter into an undertaking to provide audited statements of the average prices of agreed products—it suggested process pipes and wired mats, which are used in industrial process applications—by customer type.

2.181. A system of this kind would present many of the same difficulties as price control. Moreover given the clear evidence that Rockwool expects to increase prices following the merger, price monitoring would be a weak remedy. We are not persuaded that the existence of a price-reporting regime would of itself dissuade Rockwool from raising prices. Rockwool would be able to put forward explanations for price increases which it would be difficult for the OFT to evaluate.

2.182. The parties also suggested that the provisions of the Business Sale Agreement restricting OCBP's ability to supply stone wool after the merger could be eased so that OCBP could supply a wider range of products and sell to small customers not currently on the 'compete' list. We have commented that, following the merger, OCBP would be dependent on imports and on products purchased from Rockwool and that it would not, therefore, be in a position to provide price competition to Rockwool (see paragraph 2.74). This would still be the case if the parties' suggestion were adopted and we do not, therefore, accept that it would provide a remedy for the adverse effect which we have identified as regards the merger's effect on prices.

2.183. It would not be practicable for Rockwool to acquire only part of the Queensferry plant, nor does Rockwool own any other stone wool manufacturing facilities in the UK, apart from its main site at Bridgend, which it could be required to divest as a condition of acquiring Queensferry. No structural solution short of prohibiting the merger is, therefore, available.

2.184. We recognize that the merger would offer certain benefits and that there is an outside possibility that the Queensferry plant might close, with harmful effects on competition, on UK production (for a time) and on employment in the Queensferry area. We do not, however, expect that to happen (see paragraph 2.147) and since there are no other practicable remedies for the adverse effects which we have identified, we recommend that the merger be prohibited.