

Barriers to sustainable procurement in the construction industry

1. Aims and Objectives

The research carried out for this study aims to establish the significant barriers to improving the sustainable procurement of construction products, materials and components, with particular reference to the housing sector. In particular, common barriers will be drawn out to provide a basis for moving the agenda forward. The level of uptake of sustainable procurement practices in a variety of public and private sector organisations will be examined, and their motivations (or lack of them) and successes will be discussed.

Specific objectives are as follows:

- To examine the differences in the ways that sustainable procurement is prioritised in different businesses involved in construction.
- To consider the market opportunities for sustainable construction products, particularly in the housing sector.
- To discuss the credentials of products which are marketed as 'sustainable' and discover how organisations compare such products.
- To consider how the costs of sustainable products are measured and compared.
- To establish the current opinions on general industry trends towards greater sustainability in procurement.
- To formulate a set of recommendations for taking sustainable procurement forward within the construction industry.

Note on definition

There is no simple, universally accepted way of defining a sustainable product. The definition of sustainability is wide, encompassing economic, social and environmental factors. The sustainability of individual products can, therefore, often be subjective and, as such, is generally open to debate.

We accept that the credentials of many products which are described as sustainable can be contested. Some manufacturers and suppliers, for example, may well be tempted to describe their products as sustainable to improve market potential. Even where certification and labelling schemes are

available, their measurement processes used can be called into question.

During the interviews carried out for this study, we noted the opinions of the respondents concerning the sustainability of the products they are familiar with. However, it is not the purpose of this study to establish which products can or cannot be described as sustainable.

2. Methodology

Interviewees

Fifteen interviewees were drawn from both public and private sector businesses involved in housing development projects. Initial contacts came from the membership of Constructing Excellence and, specifically, the Housing Forum. The most appropriate member of staff in each organisation was identified; this included those involved in the day-to-day procurement of construction products right up to senior managers and CEO's who set the sustainability agenda for their business.

Due to the sensitivity of some of the information being discussed, many of the interviewees asked that they and their businesses should remain anonymous. However, the types of organisations were as follows:

- Three housing associations involved with publicly funded housing new build housing projects.
- Twelve private sector organisations which include construction contracting within their core business.

Limitations of the methodology

As with any interview process, the accuracy of the results depends on the honesty and objectivity of the respondents. The incentive for a business to exaggerate its sustainability credentials in the context of growing public awareness and interest on the subject should not be underestimated.

3. Prioritising Sustainable Procurement in Your Business

Interviewees were asked a number of questions to establish how sustainable procurement ranked within the priorities of their individual businesses.

3.1. Attitude of senior management

3.1.1. All of the interviewees reported that their senior management have a good understanding of issues surrounding sustainable procurement. Their

motivations range from a genuine interest in the subject through to a focussed desire to gain competitive advantage. Some of the chief executives of the businesses are seen as being particularly proactive on sustainability issues.

- 3.1.2. Most said that consideration of sustainability, in general, and sustainable procurement, in particular, are now vital for business success. Some made reference to the growing media coverage of environmental issues and the necessity for all modern business to 'do their bit'. It was noted that some investors are keen to put their money into companies with green credentials. There has also been an increase in demand for sustainability considerations from clients.
- 3.1.3. About half of those interviewed said that sustainability is a key theme of their business. Some are proud to have been pushing the agenda for sustainable procurement in the housing sector for up to 20 years and claim to be leading the way in terms of innovation on sustainable procurement. One private house builder had won the 'Queen's Award for Sustainability'. One housing group describes sustainability as 'part of their mission statement'; for them it is a vital consideration for winning grant funding and this has been reinforced by obligations to achieve level 3 of the Code for Sustainable Homes.
- 3.1.4. Five of the interviewees claimed that their organisations have an established track record for innovation on sustainable procurement.
- 3.1.5. Seven conceded that the sustainable procurement agenda is being forced by legislation. In the case of one large private house builder, the representative admitted that cost is considered above all else and that sustainability would only be considered if it was a specific requirement from clients or planners.
- 3.1.6. When asked to rank the priority given to sustainability procurement on a scale of one to ten the results were as follows:
 - Two organisations ranked it between 1 and 5.
 - Nine organisations ranked it between 6 and 8
 - Four organisations ranked it 9 or 10.

3.2. *Staff awareness of sustainable procurement*

- 3.2.1. 11/15 of the organisations reported that their procurement staff have a high awareness of sustainability issues. This comes from a range of sources including personal interest, media coverage and the influence of senior management. The need to comply with regulations and standards is also seen as an important driver for increasing awareness. One housing

group stressed that having a good level of knowledge of sustainable procurement is vital to guarantee future grant funding.

- 3.2.2. In ten of the organisations, awareness is improved through internal CPD training/workshops with a specific focus on sustainable procurement. 'Upgrading' the level of knowledge on sustainability issues is seen as an important part of business development.
- 3.2.3. In some businesses, knowledge and information sharing is further enhanced through sustainability working groups which meet on a regular basis to discuss issues of direct relevance. One contractor, for example, holds quarterly regional meetings to review progress on the procurement of sustainable timber products specifically.
- 3.2.4. In one of the businesses, it was reported that staff all have individual responsibility for their own environmental impacts which is extremely effective for ensuring awareness of a broad range of sustainability issues.
- 3.2.5. Some organisations conceded that awareness is not as strong as it needs to be. However, efforts are being made to improve this situation through training, dialogue with manufacturers and management initiatives.

3.3. *Drivers for sustainable procurement*

- 3.3.1. The main reported drivers for sustainable procurement at the individual business level are (in order):

- 1= Competition/marketing/desire to be ahead of the game
- 1= Legislation/regulations
- 3= Internal drivers (e.g. senior management buy-in/ staff motivation/expertise of staff)
- 3= Client demand for sustainable options
- 3= The Code for Sustainable Homes

- 3.3.2. Several interviewees highlighted the increasing importance of sustainability considerations in making their business competitive. They particularly pointed to the marketing/publicity potential of being associated with highly sustainable developments. This gave some of the businesses a strong desire to be ahead of the game in this area.
- 3.3.3. 12/15 respondents said that strong legislation and clear regulations are vital in ensuring the success of the sustainable procurement agenda. They suggested that introducing, improving and tightening up regulations is one of the best ways of guaranteeing significant action. The most

progressive businesses aspire to pre-empt future regulation and even provide leadership on the subject of sustainable procurement.

3.3.4. Some organisations have their own sustainable construction working groups/committees which help shape internal policies and processes concerned with sustainable procurement. In such cases, the interest and inquisitiveness of staff is seen as key to driving the sustainability agenda. Certain company sustainability policies are particularly explicit in their support for the reduction of adverse environmental impacts and other areas of sustainability; they also promote the enhancement of positive impacts.

3.3.5. Other drivers include the following:

- Contract specifications
- Expectations from the Housing Corporation (surprisingly this was not reported by the Housing Associations, but probably taken for granted)
- Grant availability
- Investors and initiatives from manufacturers/suppliers
- Building regulations and associated requirements for proving chain of custody

3.3.6. One representative of a private house builder reported that they hold their own awards ceremony which includes recognition of achievements in the area of sustainable procurement.

3.4. Advice and information on sustainable procurement

3.4.1. Most of the organisations involved in the study reported that their main source of advice on sustainable procurement was internal staff. They claimed that sustainability staff and other internal experts have brought a high level of expertise into their businesses. In other cases, staff have learnt a great deal 'on the job' through a combination of research, training and attendance of conferences. Learning from completed projects was also mentioned as being important in demonstrating how sustainable products could be used effectively. However, not all of the organisations interviewed had dedicated sustainability staff.

3.4.2. Some businesses gain knowledge and expertise through their contact with partner organisations.

3.4.3. Several interviewees reported that their membership of construction industry organisations, such as Constructing Excellence, provides some of their main advice on sustainable procurement. Membership of various

industry working groups/forums is also seen as very useful for a number of businesses (e.g. Sustainable Housing Action Programme (SHAP) in the West Midlands; Sustainable Housing Partnership (SHOPAR) etc).

- 3.4.4. Some also claimed that the supply chain has proved to be an important source of information. Some manufacturers and trade bodies are involved with various sustainability forums and produce their own literature on the subject.
- 3.4.5. Other sources of advice include external consultants, conferences, working groups, legislation, exemplar/demonstration projects and academic institutions.
- 3.4.6. It was broadly agreed that it is better to use several sources of advice and expertise on sustainable procurement because the subject is very broad and evolving rapidly.

3.5. Internal policies and actions for adopting sustainable procurement

- 3.5.1. The majority of interviewees reported that their organisation has some established sustainability/environmental policies. Others suggested that they would be adopting them in the future. Most policies are drawn up internally whilst, in some cases, external consultants are involved. However, there is clearly no standardised format for such policies and the content and level of detail evidently varies enormously.
- 3.5.2. The DEFRA-funded 'Action Sustainability' was mentioned as being a useful Social Enterprise for assisting organisations in the development of their sustainable procurement policies.
- 3.5.3. Some of the policies mentioned cover specific areas of sustainability only; these included, for example, timber, renewables or waste disposal.
- 3.5.4. Some businesses work on sustainability on an ad hoc basis, depending on the requirements of individual projects (i.e. where it's demanded by a client or regulation).
- 3.5.5. One particularly proactive housing association provided an extensive list of policies which cover sustainability. These cover areas such as group sustainability, environmental and economic sustainability, travel, procurement and purchasing arrangements. Their procurement policy specifically calls for the local supply of products and materials. This business also reported being involved with fundamental research and development.

- 3.5.6. Five companies were described as being involved in innovation/R&D on sustainable procurement.
- 3.5.7. One business uses 'supplier appraisal forms' which provide an opportunity to identify sustainable companies to work with throughout the supply chain. The form considers factors such as accreditation to EMS's (e.g. ISO 14001), logistics policies and use of recycled and raw materials. Others also said that sustainability considerations were 'embedded' in contract specifications; one housing association provides a list of acceptable materials.

3.6. Monitoring progress/Key Performance Indicators

- 3.6.1. The majority (9) of the interviewees said that EKPIs had already been adopted by their business. However, these come from a variety of sources and there is limited standardisation. Some of the indicators were drawn up internally, and based on the experiences of specific businesses; others were adopted from other organisations or with the help of consultants.
- 3.6.2. Some examples of subject areas covered by EKPIs include the volume of timber from certified/recycled sources, energy use for individual developments, tonne miles of products from source to site, business travel and waste generated.
- 3.6.3. Some of the businesses had developed their own initiatives to measure the environmental impacts of the products they used. These ranged from the simple use of spreadsheet analysis or examining policy statements from the supply chain to comprehensive analysis of carbon emissions involved in the production of materials and life cycle analysis.
- 3.6.4. Around half of the organisations had an Environmental Management System, four of which were reported to be accredited to ISO 14001. Some others are actively working towards accreditation.
- 3.6.5. Half of those interviewed said that regular meetings were held within their organisations to discuss progress on sustainability.
- 3.6.6. Several interviewees suggested that the introduction of the Code for Sustainable Homes provided a useful, standardised way of monitoring progress. For publicly funded housing, grant funding relies on targets for the Code.
- 3.6.7. Other forms of monitoring included feedback from completed projects and DEFRA/SPTF scoring systems.

3.6.8. Only one interviewee (representing a private house builder) reported that there was no internal monitoring of progress on sustainable procurement in his organisation.

4. Sustainable products

One of the specific objectives of this study was to establish some of the main market opportunities in the area of sustainable procurement. Interviewees were therefore strongly encouraged to give their opinions on which products had the greatest market potential and, conversely, which were seen as offering poor levels of market performance.

4.1. *Market opportunities for sustainable products*

4.1.1. Renewables and microgeneration technologies were broadly mentioned as offering significant market potential. However, a number of specific issues were seen as hindering their wider adoption, as follows:

- Affordability.
- Some technologies were singled out as being particularly troublesome in terms of installation and maintenance.
- There is currently a lack of ongoing support for various emerging technologies.
- Renewables can only be successfully incorporated on a limited number of building types. Some technologies are completely impractical on existing buildings.
- Choice of products remains limited (e.g. especially for wind turbines).

4.1.2. Local district energy networks which incorporate micro-generation could offer good potential in the future. However, the devices which are available at the moment are very inefficient. For biomass heating systems, a local and plentiful fuel supply is essential.

4.1.3. Solar technologies were highlighted by a number of interviewees as offering significant potential. Solar thermal panels, in particular, were seen as already being effective for heating systems. However, the need for more integrated solar systems was also stressed; some interviewees explained that there are still problems in sourcing all the necessary components quickly and efficiently.

4.1.4. Several interviewees mentioned well-designed, UK-manufactured windows and doors as representing major market potential. They highlighted the problems of sourcing sustainable windows and doors within

the UK at the present time and reported that they often had to go to Europe to procure appropriate products; this can add to costs, as well as creating logistical problems. UPVC is not necessarily seen as a completely unsustainable option; however units need to last longer than the current life expectancy of 15 to 30 years.

- 4.1.5. Water saving products were mentioned by four of the interviewees as offering significant market potential. These include sanitary fittings and flow regulators, which are now widely available, as well as rainwater harvesting, grey-water recycling and storage options.
- 4.1.6. Sustainable timber products were already widely regarded as standard in most businesses; however, availability is not always ideal and some sub-contractors may resort to uncertified products to meet deadlines or 'cut corners'.
- 4.1.7. The importance of assemblages of offsite products was also stressed (as opposed to individual products). Some reported that it was often difficult to source a variety of offsite components for a particular job from the same supplier; this could lead to delays and therefore compromise some of the advantages of using offsite methods. Offsite products are also seen as clean, quick and quiet, as well as offering much better control of waste.
- 4.1.8. Offsite manufactured bathroom pods were seen as being particularly acceptable in today's market.
- 4.1.9. Sustainable insulation products were mentioned by some respondents who felt that there was currently a lack of product availability in this area.
- 4.1.10. Materials with high recycled content were also highlighted. It was felt by some that current standards for UPVC windows, for example, needlessly excluded the option of incorporating higher recycled content. Other plastic products were also mentioned as having the potential to include a much greater proportion of recycled material.
- 4.1.11. Other products which were described by one or more interviewee as having significant market potential were as follows:
 - Biomass boilers
 - Efficient CHP and combi-boilers
 - Smart meters
 - Green roofs
 - SUDS - Sustainable Urban Drainage Systems
 - External landscaping solutions
 - Heavy materials (such as bricks, blocks and aggregates)

- External façade/cladding systems
- A-rated/energy efficient electrical products
- Insulation products.

4.1.12. There was a general feeling that sustainable technologies were available and proven - as long as you know where to look for them. However some interviewees stressed the need for greater grant funding to better support their uptake.

4.1.13. The CEO of one house builder, which sees itself as being at the cutting edge of sustainable construction, highlighted the benefits of appropriate management processes in ensuring sustainability. He felt that these are much more important than all the ‘bells and whistles’ of sustainable technologies.

4.2. Comparing sustainable credentials

Interviewees were asked what methods they used to compare the credentials of products which claim to be more sustainable.

4.2.1. No dominant method for comparing sustainable products was reported. The organisations interviewed for this study employ a variety of different procedures, some more formal than others.

4.2.2. Some businesses have internal systems for comparison, supported by engagement with suppliers and manufacturers; one house builder, for example, tests the u-values of insulation products in house. In addition, better contractors use toolkits and matrices, not for individual products, but for materials and systems.

4.2.3. Some organisations measure the CO₂ emissions or global warming potential of the products/materials they use. This is seen as being in line with current public perceptions of how to address sustainability.

4.2.4. Four of the interviewees reported that their businesses employ dedicated sustainability staff whose responsibility it is to assess the sustainability of the products they use.

4.2.5. Several organisations use BRE’s Green Guide, or alternative procurement guides, some of which have been developed internally. Others had drawn up their own sustainability toolkits in order to make comparisons.

4.2.6. The ratings used in the Code for Sustainable Homes are seen by some as offering a relevant and reliable basis for comparing products.

4.2.7. Several businesses accept information on the sustainability of products from the supply chain (e.g. environmental statements from manufacturers). However, others warned of the dangers of relying on the claims of manufacturers and suppliers.

4.2.8. Other methods mentioned for comparing sustainability were as follows:

- Quantifying recycled content or embodied energy
- Examination of CSR/environmental statements from the supply chain
- BREEAM ratings
- Certification schemes(e.g. FSC, PEFC)
- Life cycle analysis
- Environmental Management System accreditation
- Examples of tried and tested products
- Testing of individual products

4.2.9. Some of the businesses involved with this project are not yet comparing construction products on the basis of sustainability.

4.2.10. One of the interviewees suggested that there was often a fine line between 'sustainable' products and the standard options. Where standard products have been tried and tested, and their lifetimes have been optimised, they may prove to be more sustainable than newer, more innovative options. This may be the case even if their production involves greater levels of embodied energy or the use of materials the lowest environmental impacts.

4.2.11. There was generally a positive feeling that many sustainable products can be seen as viable and equivalent alternatives to standard options, although it was widely acknowledged that some products need significant more development. The current and anticipated requirements for sustainability in building regulations are seen as being strong drivers for further improvements.

4.2.12. However, a small minority considered that current sustainable products are not seen as viable or equivalent. One house builder suggested that many developers are frightened of sustainable products and many don't want to lead the field in what is seen as a risky area. In particular, there is some degree of doubt about reliability and availability.

4.3. *The extra benefits of sustainable products*

- 4.3.1. Cost savings came top of the list of the benefits that are expected from sustainable products. There is a general feeling that unless cost savings can be achieved, products will not be widely adopted.
- 4.3.2. The environmental benefits of sustainable options were also highlighted by a number of interviewees. Some specified reduced carbon footprints, fewer transport miles and less waste or pollution. It was argued that the rise of environmental issues up the public agenda means that no organisation can ignore their responsibilities in this area.
- 4.3.3. A similar number of respondents also mentioned the marketing/publicity benefits of adopting sustainable products, and some acknowledged that these were closely allied to the environmental benefits.
- 4.3.4. Other reported benefits included better building performance, faster build times, employment of local labour force, improved comfort and health and compliance with rising environmental standards.

4.4. *Availability of sustainable products*

- 4.4.1. The vast majority of respondents reported that, in general, sustainable products are widely and easily available; however, prices need to come down. One representative of a housing group suggested that 'switched on' contractors are setting up high-quality supply chains with ongoing procurement deals. Only two respondents felt that sustainable products are not widely available.
- 4.4.2. Three respondents reported that the products they require are not always available locally. They sometimes have to look to the rest of Europe or beyond for specific components and this has a negative impact on sustainability both in terms of time delays and transport miles.
- 4.4.3. Products which were singled out as being more difficult to get hold of include the following:
 - Sustainable windows and doors - particularly triple glazed and timber framed windows (not widely available in the UK). The increase in production of UPVC products is seen as being at the expense of more sustainable options.
 - FSC certified timber - not always easy to get hold of quickly.

- Some renewable technologies - particularly integrated renewables systems.
- Biomass boilers - often have long lead times.

4.4.4. There was also some suggestion that sustainable products are not yet available in sufficient quantities. Whilst most products can currently be sourced if you try hard enough, a sudden, large increase in demand could lead to major supply problems.

5. The cost of sustainable procurement

The cost of pursuing sustainable construction options is frequently cited as a major barrier to the wider adoption of innovative or alternative technologies or materials. As part of this study, interviewees were asked questions about how they consider such costs and whether any extra costs can be justified.

5.1. Use of whole life costing techniques

5.1.1. Whole life costing is included in the Code for Sustainable Homes and is therefore a requirement for public sector contracts.

5.1.2. Around half of the respondents reported that their organisations widely use whole life costing techniques, which are seen as useful in product selection. However, the methods employed range widely and there seem to be no standardised procedures. Some were drawn up internally whilst others were developed by external consultants.

5.1.3. A further three organisations use whole life costing on a limited range of products or for specific projects only (e.g. at the request of clients or where it has been specified as part of contract arrangements). One house builder reported that they are trying to encourage clients to consider whole life costing in more detail.

5.1.4. It was suggested that questions over the durability and maintenance of new and innovative products often make whole life costing very problematic.

5.1.5. Four of the businesses don't yet use whole life costing on any level.

5.2. Financial incentives and disincentives for sustainable procurement

5.2.1. The most important financial incentive in the drive towards sustainable procurement was seen as the availability of grant funding. The lack of such funding is seen as a major barrier to greater uptake of sustainable

technologies. One of the respondents highlighted the success of such funding in establishing low-energy light bulbs on the market; however, he conceded that other technologies would require much greater levels of investment.

5.2.2. Around half of those interviewed highlighted the extra cost of sustainable products as being the major disincentive against their wider adoption.

5.2.3. Some felt that the use of the tax system and financial penalties would be necessary to encourage greater uptake of sustainable products and materials. The possibility of discounts or zero stamp duty was seen as a strong incentive.

5.2.4. Other current disincentives include a lack of economies of scale and long payback periods.

5.3. *Sustainable products and value for money*

5.3.1. Around half of those interviewed said that many sustainable products do not yet offer an acceptable payback period. Private contractors, in particular, are concerned with seeing a quick return on investments.

5.3.2. However, there was some difference of opinion over how long acceptable payback periods should be. Some organisations suggested that sustainable options would not be included at all if they had any negative impact on profits. Others were more open-minded about how the benefits of sustainable products could be shared.

5.3.3. Opinions about whether sustainable products offered value for money were divided 50:50. Since value is a subjective concept, it is very difficult to say exactly which products represent good value, and which ones don't.

5.3.4. The value for money of sustainable products is more easily realised for end users, who should be able to expect long term savings in running costs, than it is for developers. However, there was also some expectation that the maintenance costs of sophisticated technologies could be higher, as well as capital costs.

5.3.5. One interviewee suggested that to be able to prove the true value for money of sustainable products, we need to be able to put a value on the environment and the survival of the human race and the planet as a whole.

5.3.6. Several interviewees expected value for money to increase as the market for sustainable products develops and economies of scale become established, bringing down costs.

5.3.7. Products which were highlighted as having particular potential to provide value for money were as follows:

- Insulation materials
- Thermal glass
- Solar thermal heating systems
- Modular construction
- Concrete/blocks with high recycled content

6. Conclusion: Moving towards sustainable procurement in the construction industry

6.1. Trends in the wider construction industry

6.1.1. The majority of those interviewed felt that the construction industry is receptive to greater sustainability in procurement and that there has been significant progress in the area. Awareness of the problems and issues facing us is now greater than it has ever been. Some commented that sustainability considerations are necessary in today's marketplace if businesses are to remain competitive. The effect of the Egan Report and establishment of Rethinking Construction were also seen as significant in driving sustainability up the agenda. It is widely accepted that the sustainability agenda isn't going to go away; this is particularly apparent through continuing and increasing media attention to the subject.

6.1.2. The increase of regulations concerned with sustainable construction, also leaves businesses with less chance of avoiding sustainability considerations. The public sector, in particular, must now fulfil an increasing number of sustainability obligations, not least with regard to the Code for Sustainable Homes, and this provides a knock-on effect for the private sector.

6.1.3. There is a feeling that progress on sustainability has become much faster over recent years, particularly within the last 2 to 3 years. However, whilst there is a strong desire to make progress, many organisations don't have the tools or knowledge to move forward.

6.1.4. Only a small number of respondents had strong feelings that the industry remains unreceptive to sustainability. One or two went as far as to claim that parts of the industry remain resistant to change and are particularly reluctant to embrace sustainability innovations. One

respondent doubted that the industry had enough to gain from adopting sustainable products; another suggested that contractors won't do anything on sustainability unless they are forced to.

6.1.5. There was some feeling that smaller enterprises need stronger guidance and extra assistance in adopting sustainable procurement practices.

6.2. *Main barriers to sustainable procurement*

6.2.1. It came as little surprise that the main barriers to more widespread sustainable procurement were related to the costs involved. Cost-related barriers were cited by all but one of those interviewed and included the following:

- Higher upfront, capital costs of sustainable products
- Higher costs of a more specialised labour force for installing and maintaining sustainable technologies
- Long payback periods
- Lack of financial incentives, including tax relief and grant funding
- Lack of financial benefits for developers and contractors (benefits tend to accrue for the end user)
- Lack of economies of scale for sustainable products
- Cost savings of innovative products are difficult to prove.

6.2.2. The main hope of finding a solution for these cost barriers lays in the future development of the market for sustainable products and the resulting economies of scale. This will need strong government support, including focussed grant funding opportunities for product development and adoption. Businesses will not adopt new technologies unless they can be sure of achieving a satisfactory profit margin. It was suggested that environmental taxes must be fully hypothecated.

6.2.3. The lack of knowledge and training for sustainable products, particularly concerning installation and maintenance, was mentioned by several respondents as being a significant barrier.

6.2.4. Such knowledge barriers are likely to be strongly connected to inertia within the construction profession. Factors such as reluctance to change, strong traditions and fear of the unknown were all seen as having a strong influence against greater progress. Addressing these problems will require significant and sustained investment in education and training alongside increased publicity.

6.2.5. Some of those interviewed suggested that the availability of suitable sustainable products was not ideal. Local sourcing can be a problem and

companies often have to look abroad. It was also suggested that supply chains would not be able to cope with any significant surge in demand.

6.2.6. A number of respondents cited conflict between planning legislation and environmental protection as being a significant problem. Planning requirements still often preclude incorporation of some sustainable products and there needs to be some compromise in this area.

6.2.7. The regulation/accreditation of sustainable products was also seen as posing difficulties. Some of those interviewed said that there was a lack of standardisation for certification schemes and that many such schemes could not always be trusted.

6.2.8. Participants were asked to list the main three barriers which they see as impeding progress towards higher levels of sustainable procurement. The full list of the barriers that were mentioned, together with the number of respondents that mentioned them, is given below:

Barrier	Cited by:
Cost	14
Lack of knowledge	8
Availability of products	5
Inertia/reluctance to change/tradition/fear of the unknown	5
Conflict between legislation/planning and environmental protection	5
Poor regulation/accreditation of products	5
Tax system	3
Complexity of legislation	2
Incomplete/unreliable chain of custody	2
Time pressures	2
Lack of guidance	1
Market slow to adapt	1
Lack of demand from end users	1
User failure - failure to maximise benefits of sustainable products	1

6.3. Making a difference to sustainable procurement

To conclude, all interviewees were asked what would make the biggest difference in taking forward the sustainable procurement agenda in their businesses.

6.3.1. A number of respondents suggested that education and training initiatives would be vital for advancing sustainable procurement. It was

suggested that the existence of exemplar projects would provide valuable, relevant learning material.

6.3.2. Many of the responses suggested that market adjustments, particularly in the form of increased economies of scale, would eventually have a significant impact on changing company procurement strategies.

6.3.3. Internal arrangements for sustainability and environmental policies were seen as being strong drivers. Most of the businesses included in this study have these in some form or other; however, smaller businesses are far less likely to have any formalised procedures.

6.3.4. External policy and legislation was also considered to be crucial by some. It was conceded that this is required to force change; 'the carrot definitely needs to be accompanied by the stick'.

6.3.5. Other significant drivers for internal change included the following:

- Attitudes/initiatives of senior management
- Marketing/CSR opportunities (including negative publicity)
- The industry-wide agenda for change
- Stronger guidance
- The development of products which are fully supported by manufacturers and are comparable to traditional products in terms of performance, maintenance and cost.

7. Recommendations

- 1) There needs to be some standardisation of Environmental Key Performance Indicators so that businesses can more effectively measure their progress as well as benchmarking against best practice.
- 2) There should be some standardisation of sustainability policy within businesses; at present the process of developing such policies is haphazard. Many smaller businesses will require assistance to do this.
- 3) Regulations affecting construction procurement need to be increasingly demanding if the UK's targets for reductions in carbon emissions are to be met.
- 4) There must be greater standardisation and improved transparency of certification and product approval systems to create a level playing field for all manufacturers and suppliers.

- 5) Environmental Management Systems should become compulsory for all businesses above a certain size - ideally ISO 14001 to ensure consistency. This will help to embed sustainability in the management processes of businesses.
- 6) There needs to be continued funding for awareness raising initiatives. This is particularly important to demonstrate the benefits of sustainable products and to dispel some myths about extra costs and poor reliability.
- 7) There should be improved support for renewables and other low-carbon technologies. Renewed and increased grant funding will be crucial to ensure the uptake of certain sustainable technologies. Funding could be raised through the full hypothecation of environmental taxes.
- 8) Work must be carried out with suppliers to ensure availability of assemblages of products for specific task. This will prevent wasted time and resources which result from shopping around.
- 9) There also need to be improvements in the integrity of supply chains. This is especially important for ensuring local supply.
- 10) It will be necessary to compromise on regulations which limit the recycled content of construction products unnecessarily. This is particularly important with regard to UPVC fittings.
- 11) There should be a simpler, more reliable methodology for comparing the credentials of sustainable products and materials which goes beyond the current various procurement guides.
- 12) Methodology for whole life costing also need to be standardised to ensure reliable comparison between businesses.
- 13) There needs to be greater use of financial penalties and taxation to discourage the use of the most polluting options. There should also be tax breaks for more progressive businesses.
- 14) Work must be done to increase training and education opportunities. This is important in addressing the problems of inertia and fear of the unknown.
- 15) Planning legislation must be more sympathetic to environmental imperatives.