PwC and the Construction Products Association would like to express their thanks to all those who completed the survey and particularly the organisations prepared to contribute further views during follow-up discussions.

PwC would also like to recognise the contribution made by Anne-Audley Issler, Summer Intern.
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>2</td>
</tr>
<tr>
<td>Executive summary</td>
<td>3</td>
</tr>
<tr>
<td>Key messages</td>
<td>5</td>
</tr>
<tr>
<td>1 Sustainability as a strategic asset</td>
<td>6</td>
</tr>
<tr>
<td>2 New regulation and organisational change must stick</td>
<td>8</td>
</tr>
<tr>
<td>3 Beyond carbon reductions – factors to consider</td>
<td>14</td>
</tr>
<tr>
<td>4 Sustainability has strong growth prospects</td>
<td>18</td>
</tr>
<tr>
<td>5 Quantifying impacts and commercial implications</td>
<td>22</td>
</tr>
<tr>
<td>6 Investment is needed but there are barriers to overcome: inertia, cost and initiative overload</td>
<td>26</td>
</tr>
<tr>
<td>Conclusions</td>
<td>32</td>
</tr>
<tr>
<td>Recommendations</td>
<td>33</td>
</tr>
<tr>
<td>Contacts</td>
<td>36</td>
</tr>
</tbody>
</table>
Much of the industry sees sustainable construction as an opportunity, according to the evidence from this survey which was completed at the depths of the recent downturn. We identified many examples of innovation and initiative and a clear readiness on the part of the sector’s leading businesses to research, develop and bring to market the products that will contribute to a low carbon outcome.

We also saw uncertainty; over how best to measure and communicate sustainability; and the willingness of end-users to invest and re-train to the extent necessary to bring about a significant change in the application of sustainable building materials. The construction sector needs to work more closely with the Government in order to gain their guidance to deliver the improvements in energy, resource and carbon efficiency.

Chris Temple, Global Construction Products Leader, PwC

Sustainable construction is recognised as a key part of the country’s green agenda and the continuing development of products and processes that contribute to the creation of a more sustainable built environment is clearly an essential part of this overall objective. However for many companies, lacking empirical evidence, balancing what some regard as a moral imperative with commercial reality was always going to be an enormous challenge. I am therefore delighted to endorse this joint report from the Construction Products Association and PwC, which expertly lays out the business case for sustainable construction and answers a number of important issues that product manufacturers face when considering a more progressive manufacturing future.

The report highlights a wide range of views from a variety of different product manufacturers from across the sector and although there is a healthy selection of opinions, it is very clear that the overriding direction of travel is that unless product manufacturers aim to embrace a more sustainable future, both in the products they manufacture and in the processes they use, they are going to find it increasingly difficult to survive and prosper. The future definitely is green, no matter what your product or process.

Bill Bolsover CBE, Chairman, Construction Products Association
Executive summary

The construction products sector is increasingly equipped to realise the opportunity presented by low carbon construction. However, there is still much to be done to engage and mobilise the wider construction sector – builders, designers, architects and regulators – to adopt a coherent approach to sustainable construction.

Sustainability has remained an important consideration for construction products companies, and in some cases even increased in importance, during the recent economic downturn. What is more, companies in the sector see sustainability as a strategic asset for the future. They are recognising that strong sustainability performance contributes to manufacturing efficiency and product differentiation. Regulation, reputation and demand are key drivers of this trend for companies of all sizes. The fact that reputation and customer demand run a close second to regulation as an impetus reflects, in part, some concerns about the effective implementation and enforcement of existing codes and guidelines. On the other hand, customer expectations, driven both by brand concerns and consumer attitudes, continue to grow, both in the UK and abroad.

There is no question that construction products companies are focusing on the sustainability of their products. And, recognising that different stakeholders have different priorities, they are also frequently looking beyond carbon to a range of other sustainability metrics, including biodiversity and water intensity. They also suggest the need for clear and consistent policies for sustainability in construction at the European level.

Sustainability presents the industry with significant growth potential. Managing carbon is a priority for the construction sector, both for new-build and refurbishment. A number of companies are considering the extent to which refurbishment, in particular, provides them with an opportunity to create a coordinated set of products and services to improve the energy performance of existing buildings.

Companies in Western European markets have set a good example of what is possible in these areas. However, this must be considered in light of the nuance of building stock in individual countries and the challenges of refurbishment work. In new build, where developers can often design from a blank sheet of paper, we see much quicker adoption of energy efficient construction products.

More work is needed to quantify the sustainability impacts of the industry and the commercial benefits of sustainability in a standard way across the UK and Europe. While lifecycle assessment offers some answers for products, the full benefits of sustainable construction need to be viewed in a holistic way, whereby combinations of materials contribute to the overall sustainability of a building.

In much the same way, understanding the links between sustainability performance and commercial outcomes is in its infancy, as is the case with other sectors. But there is evidence of progress on this front. One example is the environmental profit and loss account one company uses to demonstrate the value of prioritising investment and growth in sustainability.

More investment in sustainable products is needed. But achieving this will require better stakeholder engagement and greater market confidence to overcome barriers such as inertia in the construction industry, perceptions of high cost and initiative overload. So while the construction products sector can justifiably claim to have the products needed to deliver more sustainable outcomes, its progress to drive take up is thwarted by inertia, lack of training and awareness and the absence of compulsion or strong incentives.

The industry requires greater commitment from government in the shape of clearer, long-term and consistent sustainability targets for all construction projects. These, in turn, need to take a whole-life, whole-system approach to sustainability. If the sector is to make its expected contribution to reducing carbon emissions, in particular, it needs a far-reaching goal with a clear timetable to unite all aspects of the fragmented construction value chain.
The construction products sector understands the opportunities presented by sustainability both now and into the future, and is committed to reducing its own environmental impacts. To do this, companies in the sector need increased confidence to invest, through quantification of sustainability benefits, and of the related fiscal incentives available from the government.
The importance of sustainability has remained high, and even increased, during the recent economic downturn. It will continue to be a major consideration in the future for companies in the sector.

Key drivers for sustainable construction products are: regulation (61% cited it as a very strong driver), demand from clients (39%) and contractors/architects (30%).

Construction products companies are strongly engaged with the sustainability agenda and are looking beyond carbon. 58% thought that sustainability is not just about managing carbon.

Sustainability offers the industry major opportunities for growth. Brand value (81%) and access to new markets (63%) were cited as important or very important.

However in that context, it was surprising that 40% of survey respondents have not completed carbon footprinting for any of their products.

There is still work to be done on quantifying the sustainability impacts of the industry and the commercial benefits of sustainability in a standard way across the UK and Europe.

More investment in sustainable products is needed, both in the products themselves and the solutions they provide. Better stakeholder engagement and greater market confidence is also required to overcome barriers.

The main barriers to a more strategic approach are inertia in the construction industry, cost and initiative overload. In particular for companies with less than £50m turnover, 82% said there is some or significant cost involved.

There is also a definite need for better, clearer, longer-term and more consistent sustainability regulations for all construction projects that take a whole-life approach to sustainability.
Sustainability as a strategic asset
Sustainability's importance has been maintained, even increased, during the recent economic downturn. It will continue to be so in future.

Respondents recognise both the importance of sustainability to the sector and the need for their boards to drive a strategic response. As this report shows, there is a number of drivers for this focus and an increasing recognition that strong sustainability performance contributes to manufacturing efficiency and product differentiation. This is especially the case for respondents that have a wide consumer base, reflecting broader trends in retail.

Businesses in the sector clearly understand the complexity of sustainability, embracing factors other than simply carbon. Some of the strongest opinions expressed during interviews were about the potentially misleading picture created by overemphasising carbon and neglecting other environmental factors such as weight, recycling and water use.

The survey found that:

- Commitment to sustainability in the construction industry remains strong with just **13%** of respondents stating that sustainability was less of a requirement during the recession.
- **91%** of respondents agreed that sustainability will be a major strategic consideration in the next 5-10 years.

**What is the strategic importance of sustainability?**

<table>
<thead>
<tr>
<th>Description</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability has an important / major impact on your value chain</td>
<td>3%</td>
<td>7%</td>
<td>54%</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>Your company has a well-defined strategy on sustainability</td>
<td>8%</td>
<td>14%</td>
<td>48%</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Sustainability will be a major strategic asset in the next 5-10 years</td>
<td>1%</td>
<td>8%</td>
<td>42%</td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td>Sustainability is mainly about managing carbon</td>
<td></td>
<td>24%</td>
<td>34%</td>
<td>22%</td>
<td>15%</td>
</tr>
<tr>
<td>The board should have responsibility for sustainability issues</td>
<td>3%</td>
<td>11%</td>
<td>53%</td>
<td>33%</td>
<td></td>
</tr>
</tbody>
</table>

- On average, one-third of respondents agreed that sustainability was as important to their business as factors such as supply chain security, capital market stability, availability of key skills, energy costs and regulation.
- **86%** of respondents agree or strongly agree that the board should have responsibility for sustainability issues.

“We do talk about sustainability strategy but the development of a well-defined strategy has taken time.” Rockwool

Companies need to look across the whole-life of their products and operations to see how they can manage sustainability as a strategic asset to support business both now and in the future.

“We’re not used to seeing (sustainability) as an asset; more risk management. But, depending on how you manage it, it can be an asset. It’s certainly a key part of strategy.”

British Gypsum
New regulation and organisational change must stick
• An overwhelming 96% of respondents said regulation was a strong driver for ‘green’ products.

• 86% of respondents stated that impact on brand or reputation of the company was a strong driver and demand from clients (79%) and contractors (73%) were the next most important.

• Environmental concern was a driver for all companies. However, larger businesses were more likely to see it as a strong driver of sustainability (81%) compared with 59% of companies with turnover below £50m.

• While regulation is predictably seen as the number one driver, the second most important is: the impact on brand/image. In the retail sector this might be expected. In construction products it is interesting to note that this is regarded as almost as important as regulation.

• Cost reduction was identified as a strong driver by 62% of respondents, but ranks lower overall than reputational, regulatory or customer concerns. Only 27% considered the impact of sustainability on recruitment and retention as a strong driver.

Which of the following do you recognise as an important driver for ‘green’ products?

<table>
<thead>
<tr>
<th>Category</th>
<th>Very strong</th>
<th>Fairly strong</th>
<th>Fairly weak</th>
<th>Very weak</th>
<th>Not a driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulations</td>
<td>61%</td>
<td>35%</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact on brand/image</td>
<td>15%</td>
<td>70%</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demand from the end clients</td>
<td>39%</td>
<td>39%</td>
<td>17%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Demand from contractors and architects</td>
<td>30%</td>
<td>43%</td>
<td>21%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Environmental concern</td>
<td>17%</td>
<td>54%</td>
<td>27%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Potential for cost reduction</td>
<td>26%</td>
<td>35%</td>
<td>20%</td>
<td>13%</td>
<td>6%</td>
</tr>
<tr>
<td>Employee engagement and recruitment</td>
<td>2%</td>
<td>24%</td>
<td>51%</td>
<td>18%</td>
<td>5%</td>
</tr>
</tbody>
</table>

“A lot of our customers see us as a premium brand. They are discerning contractors and they see the issue as a business opportunity.” Worcester Bosch

“Legislation is driving the agenda and the opportunity is there for us to sell more higher-value products but we have to sell the financial opportunity to our stakeholders first.” Jewson
Regulation

Regulations are the key driver of sustainability but some respondents lamented a failure on the part of regulators to enforce existing regulations or codes of practice. One example is sustainable urban drainage systems, (SuDS) where guidance exists for local planning authorities to require the use of a variety of mechanisms: green roofs; permeable pavements; rainwater harvesting; and a range of retention structures, to control the rate of surface water run-off, but where implementation has not been widespread.

Others echo concerns about the implementation of regulations:

“When it comes to building regulations, I think Europe is leading the way. However, having good regulations is not enough, what really matters is compliance and enforcement.” Lafarge

“Most activity is regulatory or government incentive driven, with exception of Sweden which implemented regulations differently, ie highly taxed existing fossil fuel utilisation so that 90% of the heating products is for ground source heat pumps: well established deep bore industry and geological structure.” Worcester Bosch

The likely efficacy of the Green Deal, in the absence of any compulsion to act, was also called into question:

“The Green Deal could do a lot to start this process but it is an enabler, the key is to create the problem, people will only act when their energy bill or council tax quadruples. We have the carrot in the Green Deal but no stick yet and it’s a difficult time to do it now.” Jewson

Key questions to consider

Council tax is based on property value. What if it was based on energy efficiency? We should look to differentiate between properties of different energy efficiency levels with less efficient properties attracting higher tax, for example, through the council tax or business rates.
**Demand and new markets**

In terms of other drivers, companies in the sector put market differentiation, reputation and customer demand on almost equal terms with regulation. As in other sectors – from professional services to retail – customer enquiries about sustainability policies and performance are becoming more commonplace. While there is widespread scepticism about how this information might be used to shape buying decisions, there is clearly an increased need to display the right credentials in order to be included on tender lists. Today, this tends to apply to larger companies, but experience from other sectors suggests these expectations and requirements are likely to be passed back up the supply chain. The implications for training staff in the sales and marketing functions of sector businesses are clear. Employees will need to understand and articulate the sustainability performance of their business and the goods and services it provides.

“*Sustainability is one of our key concerns. Market and corporate angles heavily overlap; the better our corporate responsibility is, the easier we can market our products.*” Aggregate Industries

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**What single measure of government support would best increase demand for ‘green’ products?**

- **54%** of respondents stated that tax incentives for green products would be the best form of government support.
- Regulation needs to be simple to implement and tailored to the context of different parts of the industry.

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“Distributors are starting to ask questions because their customers are asking. For major contractors this is now approaching 100%. We did presentations (on sustainability) for our sales force, because it’s becoming key to success.”

Rockwool
Key questions to consider

What sustainability-related regulations, new or pending, are likely to impact your market, supply chain or business model?

How are you tracking these developments?

Are you engaged in and influencing the debate?

Do you know what proportion of tenders, or what percentage of your customers, are influenced in their decision by your sustainability performance?

In the ‘war for talent’ is your sustainability performance a key advantage or your Achilles’ heel?

Employee brand

While not as important a factor as in some other sectors, several respondents said that sustainability made a difference to their brand as an employer. Some recruits are very interested in the sustainability credentials of their prospective employers. In other cases sustainability is seen as part of the overall employer brand. Again, this factor appears to be more important for larger businesses:

“In our survey, we asked what the main reasons were for them to join our company. Sustainability and conducting business responsibly were amongst the top reasons ranked” Lafarge

“Employee engagement: All new graduates are very interested and seriously talented people are all keyed up about sustainability issues.” Aggregate Industries

And this interest is by no means confined to European markets:

“The requirement for companies to define, adopt and implement sustainable development strategies is a relatively recent phenomenon. Early adopters published their first reports about a decade ago, mainly in the US and Europe. I see the trend now reaching Asia as well.” Lafarge
Beyond carbon reduction – other factors to consider
Construction products companies are highly engaged with the sustainability agenda and are looking beyond carbon.

- **58%** of respondents disagreed that sustainability was mainly about managing carbon.
- The focus on carbon is encouraged by government regulatory and policy developments.
- Discussions with interviewees revealed that they were considering a wide range of sustainability factors.
- Responses showed that while carbon reduction is important there are other factors to consider, such as the use and lifespan of a building and the target customer.

A majority of respondents think sustainability is about more than carbon, although that issue has clearly taken centre stage:

“If you took carbon out of sustainability there would still be risks…Carbon is probably the number one issue but would be missing the point if it was the sole issue.” British Gypsum

It is also clear that product carbon data, in isolation, is not regarded as an adequate measure of sustainability. A couple of respondents pointed to the importance of product longevity in overall carbon impact. Nevertheless, there is acknowledgement that carbon provides a convenient common denominator for the regulator:

“Embodied carbon levels have increased in products but so have their life cycles. Carbon provides a focus and will become the basis for taxation – the common currency and the option of choice for governments.” Jewson

“Our rigour is something we excel in. We’ve been measuring our impact for eight years. Our annual report has had a permanent baseline since 2005 and we report on progress against CO₂ reduction, waste levels, procurement and pollution prevention. We also use a third party to provide assurance on the data. This is a real strength, we can be confident that our figures are robust.” Travis Perkins

Some respondents reject the primacy of carbon, regarding it as misleading:

“We don’t carbon footprint because it’s dangerous to pander to those who try to reduce sustainability to a single issue. Yes, carbon is important but it is not the only issue.” Kingspan Insulation

“Building more sustainably is not only about reducing the carbon footprint. It is more complex than that. Considerations such as service life, maintenance, comfort level, land use and links to public transport systems are important. Holistic approach and multidisciplinary design are badly needed at city, neighbourhood and building level.” Lafarge
Understanding stakeholder expectations is key

Many recognise that how they communicate their sustainability performance may need to vary according to the audience in question. If the business creates a wide range of sustainability impacts, it makes sense to address key stakeholders’ main concerns. That may mean establishing a range of focus areas, with targets and metrics, to demonstrate progress in the things that matter. One respondent explained that they regarded a range of performance criteria – water and flooding, ethics, responsible sourcing, biodiversity and carbon – as being of equal strategic importance, but that they would tailor their messages according to the stakeholder group they were trying to reach.

Resource security is the focus of increasing attention. From Asian building booms to extreme weather events, turbulence in supply and demand places a premium on raw materials. Securing access will be an increasing priority and companies will seize the opportunity to advance a cause, as one cement manufacturer suggests:

“Local government issues the rights - generally to private companies - to extract raw materials in their jurisdiction. It is clear that a company with a proven track record of turning old quarries into reusable land that benefit the local community will stand a greater chance to be awarded quarrying rights elsewhere. Responsible quarrying becomes a competitive advantage.” Lafarge.

The need to address various aspects of sustainability performance is not unique to construction products. Lessons can therefore be learned from other sectors about how to use environmental credentials to build brand and reputation.

If so, what should be measured?

Packaging manufacture is another good example. In this industry much of the drive for sustainable packaging has come from customers: consumer goods companies and retailers. They, in turn, are seeking to differentiate themselves with their own customers. To this end, they have specified a range of sustainability performance criteria for packaging including demands that it should be reusable, lightweight, low carbon, high recycled content, and manufactured from certified virgin fibre. These different criteria raise a challenge for packaging manufacturers, namely, what should they prioritise when different customers want different things? While lifecycle assessment may help them find some of the answers, the challenge is so great that retailers and manufacturers have come together to try to develop a common understanding across the sector.

The construction industry has operated schemes dealing with aspects of sustainability for at least twenty years, both for materials and building. For materials there are responsible sourcing schemes and standards such as FSC and PEFC for timber, BRE’s 6001 for companies and BSI’s BS8902 for sector schemes. Environmental impact schemes have existed since the mid 1990s with BRE’s Green Guide one of the

Case study: PUMA environmental profit & loss account

PwC recently partnered with the sports footwear business PUMA to develop the world’s first environmental profit and loss statement. It was widely reported in the press as it put a commercial value on the environmental impacts along the entire supply chain of its business. The account examines the business’ direct operations as well as activity it generates in its supply chain. Impact categories are presently restricted to carbon and water. However, the company has signalled its intention to extend the scope in future. The aim is to better manage environment-related risks and is cited by the company as part of its mission to become the world’s most desirable sport lifestyle company.

“We have developed a separate environmental P&L which includes overheads for selling, all overheads for regulatory compliance and any development costs. From this we can measure the impact which environmental initiatives have on EBIT which we estimate at 6%.”

Travis Perkins
best known, covering issues including embodied carbon, water and resource use. For buildings these include BRE’s BREEAM in the UK, LEED in the USA, Green Star in Australia, Estidama in the Gulf and HQ in France. Work now needs to focus on developing harmonised schemes at the European level. This is in progress, for example CEN TC350* Sustainability of Construction Works addresses both buildings and products, under the guiding principles of the need to decouple both environmental impact and resource use from economic growth.

For packaging, matters are much more advanced with significant practical guidance available through WRAP and industry’s work on issues such as pallet re-use.

**How much data is enough?**

Appropriate data is a challenge that many in the sector recognise.

Even when what to measure is decided, how robust the measurement process needs to be remains a big question. This includes questions about the value of the information in the market place and the investment required to secure it. The emergence of a single European standard will go some way towards clarifying what is needed.

But, as one respondent notes, the uses to which the results of customer enquiries about supplier performance are put are often unclear.

**Key questions to consider**

While sustainability is about more than carbon it can’t be ignored either.

**Do you understand what measures are important to your customers?**

**Have you put in place adequate measurement systems?**

**What is the commercial value to you of providing this information to customers?**

**What is the most cost-effective way to generate it; measurement, or LCA?**

**Do you need it verified? If not now, when?**

*(http://www.cen.eu for further reading)*
Sustainability has strong growth prospects
Brand value, innovation and access to new markets are seen as the most important benefits of sustainability.

- 81% of respondents cited brand value as an important benefit. 76% cited innovation and 63% said that access to new markets was an important benefit.

- There is little overall difference between small and large company views. However, 68% of companies under £50m turnover say that price premium is an important benefit of sustainability. This compares with just 43% of companies with turnovers over £100m.

- The reputation of the materials is as important as the reputation of the brand. The results of this survey demonstrate that no particular material category is ahead in terms of addressing sustainability.

“The question about green products is often asked. My view is that every product can be green if used intelligently. Let’s take a wind turbine that generates clean energy. It is considered as “green” hence steel and concrete that it is made of must be green too. This example shows that it is important to look at the wider context so that the right questions are being asked.” Lafarge

“We’re gaining ethical product acceptability which gives us market advantage.”

Kingspan Insulation

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Very important</th>
<th>Important</th>
<th>Fairly important</th>
<th>Unimportant</th>
<th>Not a benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand value</td>
<td>35%</td>
<td>46%</td>
<td>17%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Innovation</td>
<td>27%</td>
<td>49%</td>
<td>21%</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>Employee engagement</td>
<td>18%</td>
<td>35%</td>
<td>37%</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>Access to new markets</td>
<td>26%</td>
<td>37%</td>
<td>23%</td>
<td>10%</td>
<td>4%</td>
</tr>
<tr>
<td>Community relations / License to operate</td>
<td>18%</td>
<td>37%</td>
<td>27%</td>
<td>14%</td>
<td>4%</td>
</tr>
<tr>
<td>Price premium</td>
<td>19%</td>
<td>36%</td>
<td>26%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>Share price / Market value</td>
<td>9%</td>
<td>33%</td>
<td>25%</td>
<td>13%</td>
<td>19%</td>
</tr>
<tr>
<td>Employee recruitment and retention</td>
<td>3%</td>
<td>33%</td>
<td>30%</td>
<td>31%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Which of the following do you recognise as an important benefit of your company’s commitment to sustainability?

“Being able to demonstrate energy efficiency in commercial installations has brought extra business.” Worcester Bosch

It is interesting to note that smaller businesses within the sector are more likely to recognise the premium pricing opportunities that sustainability affords. Whether this is actual or expected is unclear. Elsewhere, others made the distinction between corporate reputation and the image of a particular material.
Material gains in sustainability

improve their own performance and its communication to the market whilst at the same time are working, often through industry associations, to support the material’s image.

These initiatives are widespread, as demonstrated by the various sector working groups at the World Business Council for Sustainable Development, one of which is cement, another forestry. For industry associations as a whole, the response to sustainability has been overwhelming. Long established associations are devoting an increasing proportion of their energies to understanding and promoting the sustainability credentials of the materials they represent. In other cases, new organisations, such as the International Council on Mining and Metals, the Responsible Jewellery Council (RJC) and the “Two Sides” initiative in the paper sector have been established in direct response to sustainability concerns.

November 2010 saw the publication of the Low Carbon Construction Innovation and Growth Team report. Led by the UK government’s Chief Construction Adviser and developed by industry, the report identified low carbon as the megatrend. There are four main themes, the size of the market, opportunities for SMEs, wider green growth and how to stimulate demand for low carbon construction. Many separate actions will follow from this work.

There is also evidence that a ‘whole value chain’ response commands greater respect. That’s because it takes responsibility for all the impacts generated by materials, from the sourcing of raw materials, right through to the use, disposal and recycling of finished products.

Market differentiation or materials support?

Managing sustainability-related brand appeal is a complex proposition. First, companies need to identify their customers’ key criteria. They then need to recognise that market impact is partly about brand and partly about material category perceptions, which may themselves vary from market to market. An interesting tension emerges: How far should companies focus on using sustainability as a point of differentiation from their direct competitors? How much effort do they devote to supporting their material category against others, eg timber vs concrete vs steel? Of course, many seek to do both. Companies work to
“Retro-fitting is a very active topic; insulation, glazing, plasterboard etc, all where Saint-Gobain has interests. We’re looking at providing these as part of a system meeting multiple requirements, not purely stand-alone products.”

British Gypsum

Timber certification has long been used in construction e.g. FSC, PEFC but there are also two standards for responsible sourcing of other materials namely BS 8902:2009 “Responsible sourcing sector certification schemes for construction products” and a BRE standard BES6001 “Responsible Sourcing of Construction Products” which is company based. There are also resource efficiency plans and product roadmaps for many products including plasterboard, joinery and flooring.

Retro-fit and refurbishment

Aside from brand and material category discussions, respondents expressed considerable interest in the potential for new markets. Most recognise the major commercial opportunities that retro-fit and refurbishment of existing building stock to improve energy efficiency offer the sector. However, opinions varied about the timing of the opportunity. How quickly it will take off and how sustained the growth will be are emerging as two key questions. The extent to which the Green Deal will serve as a kick-start remains unclear; the concern being that the incentives may be too weak to stimulate the market without more stringent measures. Some are also now thinking about the potential for an integrated refurbishment service: a suite of products developed and marketed specifically to address this need. or some, however, the opportunity appears more limited.

Key questions to consider

If the retro-fit market materialises soon, who will be the winners?

Will companies that can provide complete retro-fitting services and products have an advantage over companies that focus on a single product?

Do you differentiate through sustainability at the brand level or the material level, or both?

Have you considered, as a board, or as a Group Executive, how sustainability mega-trends will impact your business model over the next 10 years and beyond?

What is the size of the opportunity for you and how will you take advantage of it?
Quantifying impacts and commercial implications
Measuring the impact of products on the environment is not a key priority for all respondents. The extent to which companies use techniques such as carbon footprinting and lifecycle analysis (LCA) to an extent depends on customer demand for this data that provides a business rationale for spending time measuring the impacts.

- 40% of respondents have not completed carbon footprinting for any of their products but 70% of these plan to implement carbon footprinting in the near future.

- Ability and desire to quantify the sustainability impacts of products is lower in smaller companies. 61% of companies with less than £50m turnover have not completed carbon footprinting for any products. Of these, 62% plan to implement the technique in the future.

“LCAs cost several thousands per product so can be a major expense. We’re looking at how we can do this in an economically viable way. It comes back to market demand, it will increase as BREEAM and Codes increase plus European legislation.” British Gypsum

Key questions to consider

How do you decide when to do an LCA?
Which products do you do it for?
Do you build the capacity internally, buy it in or help your industry association develop a response for the sector?
Quantifying sustainability impacts

Assessments of sustainable construction often lack an understanding of how changes in building specification and material use can have marked impacts and a multiplier effect when scaled up to the building as a whole over its entire lifetime. For example, changes at the individual product level within a built environment can have an impact of between a factor of 5 to 30 across the lifecycle of the product through redesign and elimination of materials and power. Such whole-system thinking can lead to an outcome greater than the sum of its parts. So using solar panels or a ground-source heat pump are only a step in the right direction. The breakthrough will come from thinking about a building as one ecosystem, with inputs and outputs over an extended period and where the outputs from one part of a system become the inputs for other parts.

A more realistic assessment of the benefits of sustainable design and construction will not be achieved by focusing solely on operating expense savings (through energy efficiency/reduced operating costs over life of installed product). Rather, it will be by a wider consideration of capital equipment savings which will radically change the equipment spend/load required to achieve the desired built environment objectives. The reduced need for spend on equipment through the redesign and super-efficiency of installed products actually achieves negative payback periods (ie positive return at time of installation/sale).

In the absence of an understanding of the current or potential “value opportunity” or “value at risk” it is appears to be difficult to know where to focus investment in sustainability and how much to invest in order to realise or protect that value. Other sectors show the way. GE's Ecomagination programme – “commitment to imagine and build innovative solutions to today’s environmental challenges while driving economic growth” – has been widely recognised as a leading example. GE measures revenues from and investments in, products that contribute to this goal and prioritises investments in this area. The greater the revenue, the more the case is made for further investment.

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<tr>
<th>Have you made any attempt to quantify the commercial value of these benefits to your company?</th>
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<td>Community relations/License to operate</td>
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<td>Employee engagement</td>
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<td>Share price/Market value</td>
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<td>Employee recruitment and retention</td>
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Don't know  No  Yes

Commercial implications

- The majority of respondents have not tried to quantify the commercial benefits of sustainability to their business. This omission is even more marked in companies with a turnover of below £50m where no respondents had made an attempt to value the benefits of sustainability in accessing new markets or innovation.

- In order to drive sustainability in the sector, shareholders and management must understand the commercial as well as the environmental value of sustainability. Quantification of these benefits will support the business case for action.

GE measures revenues from and investments in, products that contribute to this goal and prioritises investments in this area.
Key questions to consider

Do you understand the size of the opportunity presented by sustainability?

Do you understand the cost of the investment to realise it?
Investment is needed but there are barriers to overcome: inertia, cost and initiative overload
• **72%** of respondents spend 5% or less of their turnover on sustainable products, technologies and methods.

• Return on investment period is one factor limiting investment in sustainable products. It is assumed that payback for sustainability investments is often over a longer time period.

• Companies are still trying to understand how best to go to market with sustainable products and services. The demand for these needs to come from the customer to make investment in sustainable products worthwhile and to convince financial stakeholders of their value.

What is the size of your annual expenditure/investment in ‘green’ products, technologies and methods as a percentage of your turnover?

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<td>More than 10%</td>
<td>16%</td>
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<td>1% to 5%</td>
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• Companies in the sector recognise that to sell sustainable products, they will need to invest time in training their salespeople and in understanding the wide range of policies and initiatives.

“We have to sell the financial opportunity to our stakeholders first. A problem is the capex payback period, which is typically 3-4 years. Most of the return-on-investments on sustainability can be 10-12 years.” **Jewson**

“5-10% of turnover Global Bosch business is definitely of that order – R&D investment is enormous especially in heating division.” **Worcester Bosch**
**Inertia and a fragmented value chain**

The fractured nature of the construction supply chain, varying levels of knowledge and skills concerning low carbon products and techniques and natural resistance to change remain the most important barriers to adopting a strategic approach to sustainability.

“At every point in the cycle of construction there are gaps in knowledge about green products. At design stage there is more knowledge but at distribution very little understanding of the benefits. For these products you need an understanding of the whole system to see their benefits. Often this industry doesn’t operate like that.” Travis Perkins

“There is such a long tail of small and medium sized builders in the UK that only 5% of our customers are larger companies. Without good training and awareness of the opportunities available from sustainable products, the smaller players will be reluctant to go for the more sustainable option when cheaper alternatives are available.”

Jewson
For smaller companies, in particular, cost and capacity remain issues

- **22%** of smaller companies see delivering their sustainability programme as a significant extra cost. This compares with just **9%** of large companies.

- Smaller companies see cost as the main barrier to sustainability. All respondents from companies with less than £50m annual turnover cite cost as a strong barrier. In comparison **68%** of respondents from larger companies saw cost as a strong barrier.

- In terms of capacity and skills, **76%** of small companies felt this was a strong barrier to sustainability compared to **53%** of large companies.

- There is a need for sustainability programmes to pay for themselves through return on investment or increased revenues.

Too many initiatives?

While **19%** of respondents stated that more regulation would be a good incentive, comments from the questionnaire and interviews suggest additional but rather different regulation that is simple and tailored to the circumstances of different construction sub-sectors. It appears that manufacturers are overwhelmed with regulation, and yet there aren’t enough providers to carry out the testing. Respondents said that legislators should speak to the industry and better understand key issues in each sector so that they can adapt regulations and incentives accordingly. In addition, they said these need to be developed with input from the industry and it is vital that policy is consistent in the long term to reduce risk and encourage investment and more innovation in the sector.

“We need to reduce the uncertainties. If carbon policy and regulation are constantly changing then best to wait and see, which gets us nowhere in the long run. Policy change and fragmentation increase the risk levels. Simplicity, continuity and consistency are so important.” British Gypsum
**Consumer attitudes**

Several respondents noted that investment in highly energy-efficient buildings lacked the degree of consumer appeal associated with a new kitchen or bathroom. Sustainable features lack a ‘wow’ factor for the mass market, although there are signs that for one material – timber –, this may be changing.

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“People don’t view building materials in the same light as clothes and consumer goods. One product which has ‘crossed over’ is timber. Timber certification is our line-caught tuna, we’re seeing increased demand for fully accredited timber.”

Jewson
Key questions to consider

How then to ensure that the value inherent in a sustainable home, commercial building or piece of infrastructure is recognised by the ultimate owner?

How best do you ensure that small and medium-sized businesses within the value chain receive the incentives and training to encourage delivery of sustainable construction?
Conclusions

- The construction products sector understands the opportunities presented by low carbon construction, but the wider construction industry needs to embed sustainability in their procurement choices.

- Sustainability is a strategic asset for products manufacturers, that contributes to manufacturing efficiency and product differentiation.

- Regulation is a key driver towards delivering sustainable construction.

- The planned introduction of the Green Deal in 2012 is evidence of Government’s intention to encourage the sector towards low carbon.

- There is a need to standardise both sustainability impacts and commercial benefit of sustainability, across Europe.

- Despite the current economic conditions, R&D investment in products that deliver sustainability targets is needed, but requires better stakeholder engagement and market confidence.

- Government needs to continue to set clear long-term and consistent sustainability targets.

- Sustainability is about more than just carbon reduction.
Recommendations

For Government

- Government could look to differentiate between properties of varying energy efficiency levels, for example, through the council tax or business rates, with less efficient properties attracting higher rates. This will provide clear incentives to achieve higher energy efficiency while achieving overall fiscal neutrality.

- Government could continue to both incentivise and mandate sustainability improvements through far-reaching goals and clear time-tables, for the sustainability performance of new construction and for the refurbishment of existing buildings.

For industry

- Companies should actively and creatively consider how sustainability will impact their business models over the next 10 years and beyond and put in place strategies to ensure they benefit.

- Companies should work to understand what sustainability measures are important to their customers and the commercial value to them of meeting these expectations. They should then ensure they develop programmes to manage these aspects effectively and communicate their performance.

- Companies should consider the opportunity represented by the retro-fit market and whether offering complete retrofitting services or systems, either alone or in partnership, is worthwhile.

- Companies need to understand the sustainability aspects of their manufacturing operation as well as the whole life use of their products in order to embrace sustainability as a strategic asset.

- Companies need to embed sustainability firmly into their culture, to ensure the whole workforce understands and can buy-in to the company’s sustainability objectives.
About this report

PwC and the Construction Products Association worked together to produce an online survey that was sent to the Association’s membership. Over 100 businesses completed the survey, including many of the sector leaders, collectively representing more than £15bn of turnover. One quarter of responses came from companies with turnovers below £10m and 10% was from companies with turnover in excess of £1bn. Material categories included aggregates, concrete, ceramics, glass, insulation, metals, plastics, timber, manufactured components and wholesalers. No single category was dominant. Responses came from CEOs, business unit MDs, Commercial Directors, Heads of Sustainability and others, in roughly equal proportion. Following the online survey, a series of follow-up telephone interviews were completed with fifteen respondents who had expressed a willingness to contribute further.

The information in this report has been developed from a quantitative analysis of the data, from impressions and opinions from the contributors and from PwC and the Construction Products Association’s own views.
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Further reading

http://www.constructionproducts-sustainability.org.uk/

www.pwc.co.uk/sustainability