



# Sustainability

The role of standards

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# Executive summary

Trade has expanded across the globe rapidly since the 1970s, obscuring and lengthening supply chains. At the same time, the drive for further growth in developing and mature economies has intensified commercialization and resource pressure. Managers can no longer afford to ignore the crescendo of demands for transparency and social responsibility that have ensued, led by the sustainability movement.

Those that grapple with this issue are overwhelmed by the complexity and depth generated by the need to manage problems previously viewed as irrelevant to business or outside its direct control. The transparency expected from sustainable businesses entails rigorous definitions of where a supply chain begins and ends, and clarity on how its environmental and social impacts are measured. A sustainable business also has to redefine the values at its heart.

Standards play a crucial role in this new world. They focus on motivating management to develop more sustainable processes, products and services. They inform purchasing decisions by giving customers confidence that their suppliers have attained benchmark levels of sustainability. And finally, they play a crucial, fundamental role in encouraging innovation.

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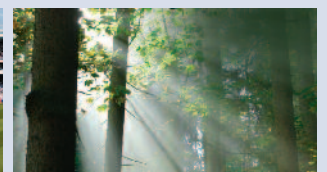
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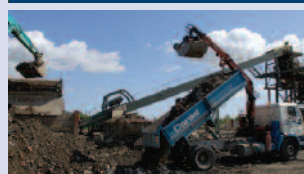
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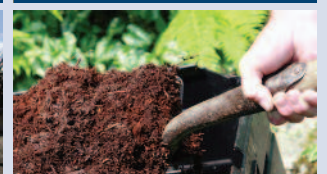
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## What is sustainability?

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'Business as usual' is changing. When a bricklayer builds a house, the bricks are no longer viewed as merely bricks: rows of solid oblongs lining the foundations, whose cost is defined primarily by the price of the materials they contain. Increasingly, they also embody two crucial concepts – the product life cycle and sustainability.

Now managers refer to the carbon or chemicals 'embedded' within the product. Only a trace of these elements may be physically identifiable within the product, but much more has been used or emitted further down the supply chain. Also the substantial labour employed in its production, often many thousands of miles away, is of increasing concern.

When a company adopts a sustainability policy, social conditions beyond the limits of its own four walls as well as distant material resources used across international time zones over several years, from production to end-of-life, are all packed into the product concept. This is the result of a profound change in corporate philosophy.

### What is sustainability?

Sustainability is a complex term sometimes subject to varying interpretations. The Brundtland Commission originally defined sustainable development in 1987 as "development that meets the needs of the present, without compromising the ability of future generations to meet their own needs".

BSI's overarching sustainability standard, *BS 8900 Guidance for managing sustainable development*, defines it as "an enduring, balanced approach to economic activity, environmental responsibility and social progress".

Many companies have gradually come to accept that their reputation and performance may suffer if they do not change, but sustainability is still poorly integrated into corporate activity. This is mainly due to a lack of understanding as to how to actually put the principles of sustainable development into practice in the corporate world.

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# Role of standards – Sustainable processes and products

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*Each line manager's viewpoint can become influenced by social and environmental considerations, which then filter through the whole management function.*



Standards play a strong role in this new world. “Sustainability standards have a role to play in the middle ground between hard-line laws and educational tools,” says Professor David Jackman, a sustainability expert who played a major role in developing BS 8900.

There are two ways to approach the encouragement of sustainability through standards. The first is to develop standards that clearly focus on motivating management to develop more sustainable processes and products. Standards can either suggest or lay the ground rules for ways of thinking and behaving that help organizations internalize the intricate value of sustainability.

The second, and complementary, route is to consider the incorporation of the principles of sustainability into all standards. Work is being led by the International Organization for Standardization (ISO) to develop guidance that incorporates sustainability aspects into international standards.

## **Sustainable processes and products**

But before organizations can consider encouraging or promoting sustainability as a core value, they have to know what it is. BS 8900 addresses the fundamental problem of interpretation partly because the sustainability principle of inclusivity runs through the way in which it was developed.

Professor Jackman argues that the sheer number and range of organizations involved in the creation of BS 8900 – 60 in total, from

many sectors – helps create a management standard with a robust, durable definition of sustainability that might not be acquired using other techniques for integrating this ethic. “Stakeholder engagement is built into the nature of an enduring approach and is the core of sustainability. It allows companies to work out the principles in as wide a dialogue as possible. This provides breadth of vision and solidity, and builds trust and confidence,” he asserts.

BS 8900 does not prescribe a checklist against which companies are to be monitored.

“It turns its back on the argument that audit and accountability are to be used as the only external safeguards. Engagement can work as well as an audit,” says Prof Jackman. Engaging the “hearts and minds” of the whole organization’s staff in sustainability, embedding the principles into its culture, would be the most successful outcome of the adoption of BS 8900 he believes.

By embodying and defining sustainability, BS 8900 is thus a solid benchmark for executives looking for help on this issue.

“It shifts away from the rhetoric and provides a firm way of achieving sustainable practices,” says Katherine Hunter, BSI’s head of market development for sustainability. “Many



organizations recognize the need to operate in a more sustainable manner, but lack guidance on the practical way forward. The standard is about giving them the tools.”

The spirit and definition of sustainability embodied in BS 8900 have been carried through to the other standards in the sustainability portfolio. *BS 8903 - Principles and framework for procuring sustainably – Guide* uses the principles of BS 8900 to provide practical guidance on embedding sustainability through all stages of the procurement process. The supply chain is often where an organization has its biggest social, environmental, economic impacts; BS 8903 will enable organizations to manage these to positive affect. The standard also provides guidance to the public sector on how to embed sustainability into its procurement processes whilst working within the confines of the EU Procurement Directives.

On an international level, *ISO 26000 – Guidance on social responsibility* has been developed for use by any organization from the smallest SME to the largest multinational, in developing or developed countries, or those in the public and third sector. It has distilled the principles from numerous international conventions on issues such as human rights, labour practices, fair operating practices, and provided guidance on what this means in practice for an organization. This is the first time that international consensus has been reached on: organizational governance, human rights, labour practices, the environment, fair operating practices, consumer issues, community involvement and development, within one standard. Key to the

implementation of the standard is the recognition and engagement of an organization’s stakeholders and only through this can an organization begin to act in a socially responsible manner.

The impact on organizations is really for organizations to decide. As Miles Watkins, director of Sustainable Construction at Aggregate Industries notes: “The standard is the easy bit. Organizations in their own right really need to make the commitment to implement some fairly substantial change in order to move forward.”

Furthermore, he cautions: “Be it towards the community or be it towards the environment, those who do not engage with social responsibility will have a difficult time going forward as society becomes more aware of climate change and resource depletion. My advice is to engage to move forwards and survive to a place which is more sustainable.” And it looks like ISO 26000 is set to be a useful tool in helping organizations do just that.

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# Long hop

The sight of a worn-out English park or playing field after a summer concert is a familiar one. Managers at Lord's Cricket Ground in London have decided to get a grip on the impact of the events it hosts. "Events are very ephemeral. There used to be a tendency to contract for three days and then move on, leading to an 'out of sight and out of mind' mentality," says Dr Russell Seymour, special projects manager at the venue, which hosts international cricket matches, auctions, wine-tasting events, Shakespearean plays and conferences. Such short-termism is, of course, the hallmark of an unsustainable approach to management.

To correct the problem, Marylebone Cricket Club (MCC) decided to apply *BS 8901 Specification for a sustainable event management system*, the first derivative of the umbrella standard BS 8900 and specifically tailored to events and/or venues. It was one of the first organizations to do so. In keeping with the spirit of BS 8900, BS 8901 is focused more on culture than on checking that certain tasks have been carried out. "It doesn't apply definite performance targets but you need to demonstrate that you are taking into consideration the impact of what you're doing and acting to reduce those impacts. It's more about the system you put in place than meeting targets," explains Dr Seymour.

Developing the policy includes looking at what products the organization buys and their life cycle. "The standard highlights that you need to think about what happens before and after you use resources," says Dr Seymour. Procurement and transport are two of the biggest issues. Should MCC preferentially support fair trade products? How could it encourage more visitors to use public transport? These are the questions it is asking. Having gone through the process, the organization can self-declare or seek independent certification.

Dr Seymour concedes that the standard might not be absolutely necessary to develop a sustainable policy, alluding to companies such as Body Shop, which developed internal policies of their own and integrated them into their brand. Such companies, he argues, do this because they are market leaders. "Nowadays though, we're trying to make this the norm. You use the standard to develop a single coherent policy. It's something people can aspire to and it broadens out the practice," he comments.

# Environmental management

*ISO 14001 Environmental management systems is a core standard relevant to sustainability, although as part of the ISO 14000 series it focuses only on the environment.*

Introduced in the 1980s, ISO 14001 was probably the first standard to address environmental management and is now widely used. It is arguably more about operations than mission and strategy. Typical problems addressed include in-house waste, water use and legal compliance. Companies adopt the standard in order to develop an environmental policy, plan its implementation, check it, take any corrective action and then review it. The same procedure is employed across the organizational spectrum.

Today's huge task is to start addressing the impact of the global supply chain by getting to the root of the product life cycle definition. The emphasis varies according to where in the supply chain a company stands. A lot of standardization is due to supply chain pressure. People recognize they need to do something to improve their credentials to customers.

Further upstream, corporations are facing several questions, including where and how the life cycle of the product begins and ends, as well as how its impact is calculated. For instance, different organizations work out how many tonnes of carbon dioxide are emitted during a transatlantic plane journey in different ways that need to be harmonized for carbon footprinting to be meaningful.

Publicly available specification (PAS) 2050, an evolving document on product carbon footprinting, builds on BS EN ISO 14040 and

BS EN ISO 14044 in order to provide a broad and consistent methodology for assessing the life cycle greenhouse gas emissions of goods and services (referred to as 'products'). "It applies to organizations of all sizes, regardless of geographic location, wishing to measure the life cycle impact of their products. This widely used standard addresses the single impact category of global warming and focuses on one component of the wider sustainability agenda. Therefore, it is important to consider greenhouse gas emissions within the wider context of other environmental and social impacts," states Katherine Hunter, BSI's head of market development for sustainability.

## Water footprint standard

ISO is developing a new standard to provide internationally recognized metrics for water footprints. *ISO 14046, Water footprint – Requirements and guidelines*, will be compatible with the rest of the ISO 14000 family of environment standards and aims to assess both volumetric measurement and environmental impact of water used at product, process and organizational levels. The standard should facilitate water efficiency and optimize water management across all the lifecycle stages, and reflect the need for a better understanding of water as a global, regional and local issue. This should help aid effective decision-making including strategic planning.



*Today's huge task is to start addressing the impact of the global supply chain by getting to the root of the product life cycle definition.*



Learn more about PAS 2050  
[www.bsigroup.com/pas2050](http://www.bsigroup.com/pas2050)



# Wood for the trees

“Because a tree is grown in a forest doesn’t mean all trees are alike. Some might be contaminated,” states Gideon Richards, an expert leading on solid biofuels standards. People need to know what is in the material they use [wood pellets] in order to match it to their boilers,” he says, by way of example.

Producers in the solid biofuels sector have not always been clear about their specifications, partly because this fuel was only introduced in the last 10 years after nearly a century of substitution by fossil fuels in Europe. Now power stations and district heating systems are major users but, until recently, did not always know precisely what they were buying and sometimes bought products that were ill-suited to their furnaces. Although people in different countries were using the same terms, in actuality they assumed a different moisture or calorific content in the product.

The re-introduction of the fuel led to some trading ambiguities in the early years, particularly since this development is motivated by sustainability policies – unlike a century ago. For the first time this means considering good practice in forest management as well as other environmental issues when developing the product.

The European Committee for Standardization (CEN), a Europeanwide organization that develops European standards (ENs), addressed the technical problems through a series of solid biofuel test methods and specifications. “These standards ensure everyone is talking a common language, so that people know what you should be getting, what is in the product and what is being offered. Without these standards we would not be trading internationally,” says Mr Richards.

Work is underway to strengthen the trade further by developing biomass sustainability standards that will complement the technical standards. Mr Richards describes the standards as “a powerful tool that allows confidence in the marketplace”. In a new and controversial sector, this is a significant benefit.

## Energy management

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BS EN 16001:2009 offers a framework for the systematic management of energy, ensuring that an organization adheres to its stated energy policy, is able to demonstrate that conformance to others, and attempts to improve its energy management.

One company to use this standard is global “mechatronics” (combined electronics and mechanical engineering) supplier SKF Group, which is active in over 100 countries and sought a more detailed approach to energy management that could be effectively integrated with *ISO 14001 Environmental Management*.

“As a global organization we consider ourselves to be world leaders,” says environmental manager Brian Morgan. “We were the first in our sector to be certified to BS ISO 14001 and the first to be certified to BS OHSAS 18001 for health and safety management.

“We felt that BS EN 16001 was the next step, to formalize and quantify energy management as a significant environmental aspect for the company, and to maintain our position as an organization that leads the way.”

The company identifies clearer authority, cost savings and longer-term business development as distinct advantages to the business, and one change that it has already made since implementing BS EN 16001 implementation is the installation of data loggers that record electricity consumption at all times.

“As soon as you start putting in a standard and getting certified, and externally audited, then the commitment to get it done is there,” Morgan concludes. “Not only in the UK, but from a global perspective as well.”

Another business that has achieved certification to the standard is leading air filtration firm Camfil Farr – the first UK manufacturing company to do so.

Camfil Farr designed a corporate energy reduction employee engagement scheme, offering incentives to reward new energy-related business ideas. “Energy saving has since become an integral part of employees’ jobs, with positive attitudes reaping financial benefits on both a company and personal level,” says managing director Bill Wilkinson.

Building on earlier standard BS EN ISO 14001, he explains that implementation was also easier than expected. Annual energy use has already been reduced by 14 per cent, leading to financial savings of some £200,000, and the company has also been certified to BSI’s Kitemark® scheme for Energy Reduction Verification (ERV) – approved by the UK government as a metric for its own energy saving scheme known as the “Carbon Reduction Commitment Energy Efficiency Scheme” (CRC).

Now the international community is preparing for the launch of a new standard, ISO 50001, which is due for publication as an international standard in late 2011.

“The hope is that ISO 50001 will build on the foundation for improvements in energy efficiency that BS EN 16001 has provided,” says BSI’s Committee Manager Ian Richardson. “The experts involved in the development of ISO 50001 have worked hard to try and ensure that, for those who are already using the European standard, a smooth transition to the ISO standard will be possible.”

“The use of ISO 50001 also provides financial as well as environmental benefits to those who implement the standard, as improved energy efficiency will almost certainly equate to a reduction in energy costs.”

It is certainly a clear sign of the potential part standards can play in instigating improved energy management and awareness in business cultures the world over. If governments and businesses then match this level of ambition it should lead to energy efficiency becoming an ever-larger presence in all of our lives.

## CASE STUDY



## Waste management

### PAS 402:2009 – Waste Resource Management – Specification for Performance Reporting

Constructing Excellence in Wales (CEW) needed a way for the Welsh construction industry to accurately report on, and improve its performance. It was established that a Publicly Available Specification (PAS) from BSI would meet its needs in the necessary timeframe. Working with CEW, BSI recruited a Steering Group and 10 'pathfinder' companies to help develop the PAS. Using the draft PAS in the year leading up to launch, the pathfinder companies diverted more than 20,000 additional tonnes of waste from landfill. CEW has now started to gather reliable and detailed information on landfill diversion and waste recovery. This will help drive improvements in the way waste is dealt with and make a significant contribution to Wales' ambition towards zero waste by 2050. It is anticipated that by the end of 2011 at least a quarter of the waste management companies in Wales will be using the PAS, diverting a projected 180,000 additional tonnes of waste away from landfill each year.

Emma Cottrell, Construction Waste Programme Manager say that "The PAS enabled us to deliver standardization of a solution on a national platform. It's not something we think we could have done on our own. We've achieved a huge amount through doing it".

### What is a PAS?

A Publicly Available Specification (PAS) is a fast-track standard developed by BSI through sponsorship from organizations wishing to create credible public standards. These standards are driven by the needs of the sponsoring organization or industry, while still being controlled by BSI's rigorous consensus-building processes to ensure credibility.

## New mulch for old

In its early days, the market for a particular product can be chaotic in nature. Different producers may be supplying items they believe to be identical but which actually have very different characteristics. That was the case for the organic compost market before 2002: a mess of diverging definitions of compost.

The situation frustrated some buyers in the horticultural and landscaping sectors because the quality of product would vary between suppliers and they did not know what to expect beforehand. They were more likely to depend on a single supplier whose product was consistent, but this in turn could put them at a commercial disadvantage. The lack of standards acted as an invisible market barrier because it obstructed the connections between buyers and a range of sellers that are essential to market development.

The waste organization WRAP dealt with the problem by developing a standard with BSI, *PAS 100 Specification for composted materials*, which enabled people to know what to expect when they bought organic compost, thereby encouraging further trade.

The standard allowed the innovative organic composting market to develop and challenge traditional composts without collapsing in its early days. "When a market is in its infancy, the problem is to bridge the gulf between the new product and full commercialization," states David Bell, head of external policy at BSI. "Standards, with the robust definitions they provide, drive through that innovation." That is not just true for composting, but for the whole spectrum of revolutionary products generated by renewable resources and other sustainability policies.

## Innovative solutions

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### Sustainability standards do not merely breed an alternative attitude to management.

Their very mission is to innovate and slam the door shut on the old, crumbling management attitudes that have no place in the 21st-century markets that are characterized by: an exponential increase in natural resource use; and the communications boom that has unleashed unprecedented public demand for corporate accountability and openness – conditions never previously experienced.

They innovate on three levels. First, they inform procurement professionals and consumers about the relative merits of alternative products in environmental and social terms – as in the case of more energy-efficient refrigerators or sustainable solid biomass.

Second, government incentives have generated research and development on entirely new sustainable business lines, such as second-generation solar photovoltaic cells – for which the market development relies heavily on technical standards to frame it so that people know what they are buying and what it is used for.

Third, standards introduce previously ignored social and ethical values into organizational thinking and particularly into areas that have historically paid them no heed. Without standards such as *BS 8909 – Specification for a sustainability management system for film*, the UK film industry would still be focusing its attention solely on its carbon footprint. By producing a management system standard that brings in the social and economic dimension, the film industry will reassess its strategies and objectives.

As the pressure to develop renewable sources of energy increases, for example, wave and tidal energy are regarded as a potentially important part of the energy mix. These technologies are in their relative infancy, but a series of standards are being developed to help them through their teething troubles and foster their growth into fully viable industries. The development of standards is expected to bring down the costs of this emergent technology and make marine energy competitive compared to other forms, both renewable and non-renewable.

John Griffiths, technical director of the European Marine Energy Centre in Orkney and a leading consultant in the wave and tidal energy industries, believes the arrival of standards is a crucial step in the innovative development of this promising field.

“All grown-up industries have standards and all industries that aspire to grow up need standards,” he says. “The technologies are new and unproven, we haven’t got very much in the water and we badly need to. For that we need confidence from the financial and insurance sectors. You’ve got to have standards to get that confidence.”

Sustainability standards, then, break new ground. The product standards that reach down the supply chain and the technical standards that help develop new markets are clearly quite distinct from those that appeal to the mindset of the boardroom. Between them, a framework for sustainability can be developed.



*The very mission of sustainability standards is to innovate and slam the door shut on the old, crumbling management attitudes that have no place in the 21st-century markets.*



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# How BSI can help

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Standards matter. They contribute at least £2.5bn each year to the UK economy and play a key role in enabling innovation, improving competitiveness, increasing reliability, ensuring safety, improving accessibility, controlling quality, managing risk and improving business performance.

As the world's first national standards body, BSI British Standards has a globally recognized reputation for independence, integrity and innovation. Part of the BSI Group operating in 86 markets worldwide, BSI British Standards serves the interests of a wide range of industry sectors, as well as government, consumers, employees and society overall, to make sure not just British but European and international standards are useful, relevant and authoritative.

BSI champions UK interests at home and abroad and is an incubator of many of the world's leading standards. It is the national gateway to all the European and worldwide standards bodies promoting fair trade, technology transfer, economic prosperity and security.

Several publications describe the benefits of using standardization to achieve broader organizational and national strategic objectives. Information about these is available from BSI British Standards.

To find out more about how BSI can help you, visit the website at [www.bsigroup.com](http://www.bsigroup.com) or email [britishstandards@bsigroup.com](mailto:britishstandards@bsigroup.com)

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## BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK

Tel +44 (0)20 8996 900

Fax +44 (0)20 8996 700

[www.bsigroup.com](http://www.bsigroup.com)

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