

Road from Rio

The past, the present
and the future
of ISO 14001

AUGUST 2013





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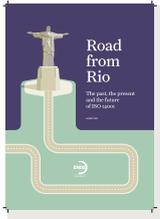
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Road from Rio: the past, the present and the future of ISO 14001
An ENDS special report

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ISO 14001: Road from Rio

When staff at the British Standards Institute began working on BS7750 in the early 1990s, they had already identified a need for an environmental management systems standard. But they could hardly have envisaged how it would grow over the next two decades, along with the environmental movement.

At the latest count, about 267,000 ISO 14001 certifications had been issued in 158 countries to organisations as diverse as construction contractors, gov-

ernment departments and legal firms. It is the third mostly widely adopted standard in the world.

ISO 14001 is now at a pivotal point, with its first major revision under way and on track to be published in 2015. In this special report we look at the past and future of the standard, from the first stirrings of interest in an environmental management standard at the 1992 Earth Summit in Rio to the latest international committee meeting in Botswana this summer.

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ISO 14001: ROAD FROM RIO

The initial drive to develop an international environmental management standard arose out of the UN Conference on Environment and Development's 1992 Earth Summit in Rio. This led to a set of commitments called the Rio Declaration. Its principle 11 states: "Environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries."

In the same year, the British Standards Institution (BSI) published BS 7750, the world's first environmental management systems standard (see p6). This required participants to have an environmental policy committing them to continuous improvement, to nominate personnel responsible for meeting the standard, to keep a register of relevant environmental regulations and to periodically review the management system.

In 1993, the International Organization for Standardization (ISO) set up a new technical committee to develop the ISO 14000 standard family, based on recommendations by its Strategic Advisory Group on the Environment (SAGE).

BS7750 was used as a template for designing the new standard, but during this period there was concern that ISO 14001 would be weaker in how it implements environmental policy and the extent of its influence on the supply chain.

The final specification for the ISO 14000 series, formally published in October 1996, allayed many of these fears. The series covered environmental management systems, auditing, performance evaluation and labelling, life-cycle assessment and environmental aspects in product standards.

The UN Environment Programme has endorsed ISO 14001

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How ISO 14001 dominated

By this point, about 200 UK firms had been certified to BS 7750 and faced a relatively straightforward conversion to the ISO standard. Over the next year, ISO 14001 superseded BS 7750, which was withdrawn in 1997. The UK Accreditation Service (UKAS), which accredits the majority of UK certification bodies, published guidelines on how the standard should be audited.

The first year was a rocky one, because many European companies delayed a decision on whether to seek certification while they assessed the relative merits of the standard and the European Commission's competing Eco-management and Audit Scheme (EMAS). EMAS has more stringent requirements than ISO 14001, including the need to demonstrate compliance.

However, clarification of the new standard's technical details and the publication of a 'bridging document' by the European standards body CEN boosted confidence in the business sector. This explained the differences and similarities between the two standards and what organisations had to do to upgrade to EMAS. ISO 14001 was formally recognised as fulfilling the environmental management system requirement of EMAS.

In addition to this direct influence on European legislation,

Fulfilling requirements for flexibility and multi-site coverage, ISO 14001 has emerged as the leading international standard for environmental management



the global market

ISO 14001 was viewed by some industrial sectors as a basis for deregulation. Chemical firms, for example, strongly argued that implementing environmental management systems voluntarily should buy them relaxation in regulatory scrutiny.

Although there was initial indecision among British companies, a general reluctance to adopt EMAS and the head-start afforded by the British Standard decided its fate. In 1999, two of the first UK companies to achieve registration under EMAS decided not to re-register and opted instead for ISO 14001.

One reason for this is that EMAS is site-specific, while ISO 14001 is not. This means companies with multiple sites do not have to seek individual certification for each.

Governments did not prove particularly good models. In the UK, few departments had their environmental management systems certified and by 2000 the then Department of the Environment's headquarters was still the only part of the department to have ISO 14001 or indeed any externally verified system. Civil servants identified lack of top management support, concerns about costs and lack of information as reasons for this reluctance.

Instead, business itself instigated much of the change. In 1999, Ford told its manufacturing suppliers that they must certify at least one of their sites to ISO 14001 by the end of 2001, and to get all manufacturing sites shipping products to Ford certified by 2003. Rover and Ford subsidiary Jaguar also encouraged their suppliers to achieve certification.

Industry bodies

Trade organisations also played an important role. The European pulp and paper industry body the Confederation of European Paper Industries, for example, urged its members to seek certification, leading to a three-fold increase within 18 months.

Over the next few years, certification numbers boomed. In 1998, global uptake doubled within just six months to more than 4,000. European and Asia led the way from the start, driven by a desire to demonstrate environmental credentials and win overseas trade (see p9).

The standard is a firm fixture of European public procurement contracts. The question of whether a company has an environmental management system is frequently included on

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ISO 14001: ROAD FROM RIO

HOW IT WORKS

Any organisation wanting to set up an environmental management system is free to buy a copy of the ISO 14001 specifications and follow them. These include the requirement to keep abreast of any relevant environmental regulation and set up processes to minimise the risk and impact of any environmental damage.

There are several options for formalising such a system:

Self-declaration:

A company can self-declare that it conforms with ISO 14001.

Second-party assurance:

It can receive confirmation customers or external organisations.

Third-party certification:

A company can have its management system audited by a certification body to determine if it conforms to ISO specifications.

These options will be appropriate for different organisations, depending on the purpose of the system.

UKAS accredits most certification bodies in the UK to perform audits and certify systems. Janet Gascoigne, environment development manager at UKAS, says that any accredited organisation must show, against tough international standards, it has technically competent

staff that are all qualified.

“It has established that it is impartial and independent. It has demonstrated that it has the appropriate facilities and equipment, and the management and procedures are fit for purpose. And finally, it has proven that everything is underpinned by a quality management system ensuring customer needs are met and that there are internal review procedures.”

pre-qualification questionnaires, which must be submitted when bidding for public (and sometime private) sector contracts. These can require certification or ask more generally for some form of system, but having the assurance of the ISO 14001 label is likely to help a company's bid (see box above).

In England and Wales, the standard has also become an increasingly integral part of the environmental regulatory landscape. In 1999, the UK government began to press the importance of environmental management systems for companies coming under the new EU Integrated Pollution Prevention and Control (IPPC) regulations. This was seen as meeting part of the requirement to implement best available techniques.

Experimenting

In 2000, the Environment Agency began experimenting with linking the level of regulatory oversight of industrial processes to externally verified environmental management systems. The agency's chief executive Dr Paul Leinster said he was looking for the “right balance” between technology-focused regulation and management systems, but expressed apprehension about the fact that ISO 14001 did not require regulatory compliance.

However, the pulp and paper industry – the first to come under IPPC – won a concession that existing management systems, including those certified under ISO 14001, would be ‘taken as read’, with no investigation of their adequacy by the agency.

The Environment Agency now requires all permit holders to have some form of environmental management system in place. This does not have to be certified to a standard such as

ISO 14001, but in practice many companies opt for it as a simple way of showing that they have a system in place.

Operators with ISO 14001 are also given recognition in the Environment Agency's operational risk assessment (OPRA) scheme. This is linked to the fees and charges levied on industrial sites, so achieving a better score means companies pay lower fees and charges. The agency itself was certified to ISO 14001 in May 2002.

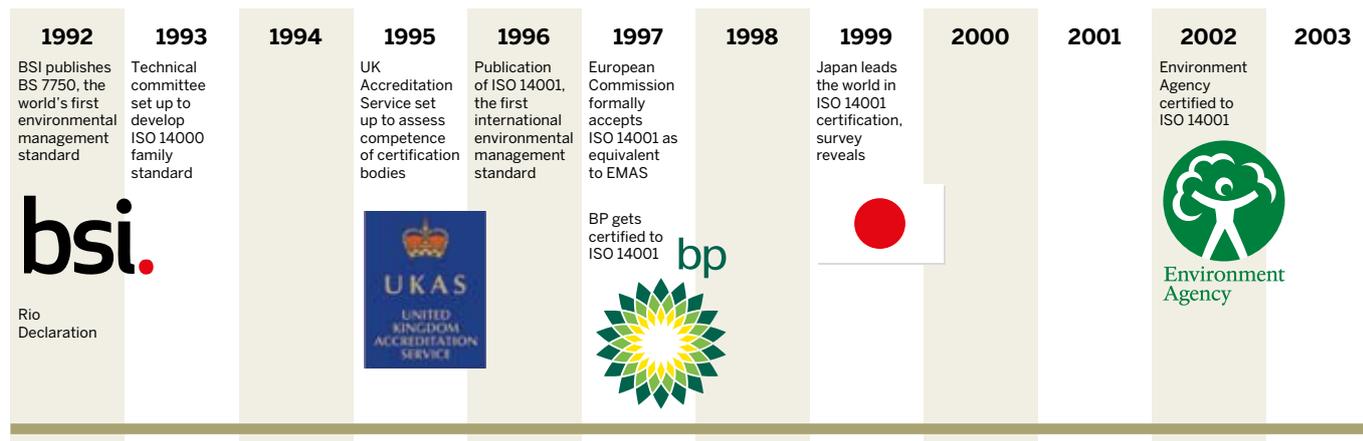
Minor changes were made to ISO 14001 in 2004, which made its requirements clearer and aligned it better with the ISO 9000 quality management series. This meant that organisations did not have to duplicate their efforts when implementing the two related systems.

Anne-Marie Warris, chair of subcommittee 1, has been involved in ISO 14001 since 2000. She says the first revision was always going to be limited, because it was still early days for the standard and organisations in many countries were in the first stages of implementing it.

ISO 14001:2004 remains applicable today, but will be superseded by a substantially revised version in 2015 (see p11).

The standard has also proved useful for international organisations. The United Nations Environment Programme (UNEP), for example, includes ISO 14001 certification as a ‘key environmental indicator’ in its annual yearbook. Although certification does not automatically imply that environmental performance is improved, according to UNEP it “indicates growing awareness by companies and organisations of the need to adopt environmental management systems”.

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CASE STUDY BALFOUR BEATTY



Multinational infrastructure group Balfour Beatty has multiple subsidiaries throughout the world, most of which have certified environmental management systems. In the UK they

are all audited by UKAS-accredited certification bodies.

The group's sustainability manager Bekir Andrews said each operating business tends to set up its own management system, which is broadly aligned through a group auditing protocol. "We get variations when we acquire a new business. It takes time to harmonise their systems with ours."

Cutting waste and energy use are the most important results of an ISO 14001-certified system, but it is also a minimum standard for most of Balfour Beatty's contracts in Europe.

"ISO 14001 is what will get us through the door. But when it comes to tenders, demonstrating wider sustainability is important," Andrews added.

Over the past 17 years, ISO 14001 has become the clear international leader in environmental management standards (see figures on p9 and p10). By 2011 – the latest year for which data is available – there were more than 267,000 certifications worldwide, far outstripping alternatives such as EMAS (see p9).

Martin Baxter, policy director of IEMA, attributes the success of the standard to its accessibility. "The standard can be applied by all types and size of organisation – heavy industry, service-based, public sector and SMEs. The standard also provides a framework through which organisations have made genuine environmental improvements, helped cut costs and improve compliance management. It's the ability of companies to deliver business improvement in these areas that has helped to secure its success."

Yet growth has undeniably slowed since the boom times a decade ago, with signs that the market is becoming saturated. Many of the world's largest firms have been certified and are now branching out to more specific standards such as ISO 50001, which focuses on energy use.

"The standard provides a framework through which organisations have made genuine environmental improvements, helped cut costs and improve compliance management"

Martin Baxter, IEMA

Twenty years on from Rio, the outcome of the Rio+20 conference seemed to refer to standards in a tangential way: "We call on the United Nations system to improve the management of facilities and operations, by taking into account sustainable development practices, building on existing efforts and promoting cost effectiveness, and in accordance with legislative frameworks, including financial rules and regulations, while maintaining accountability to member states."

Nor has the standard been immune to criticism. Some accuse it of greenwashing an organisation's environmental credentials and query whether companies such as oil firms, whose underlying business is environmentally damaging, merit certification.

Furthermore, while ISO 14001 requires a participating organisation to have an appropriate environmental system, it still does not require it to demonstrate actual compliance with environmental law or regulation.

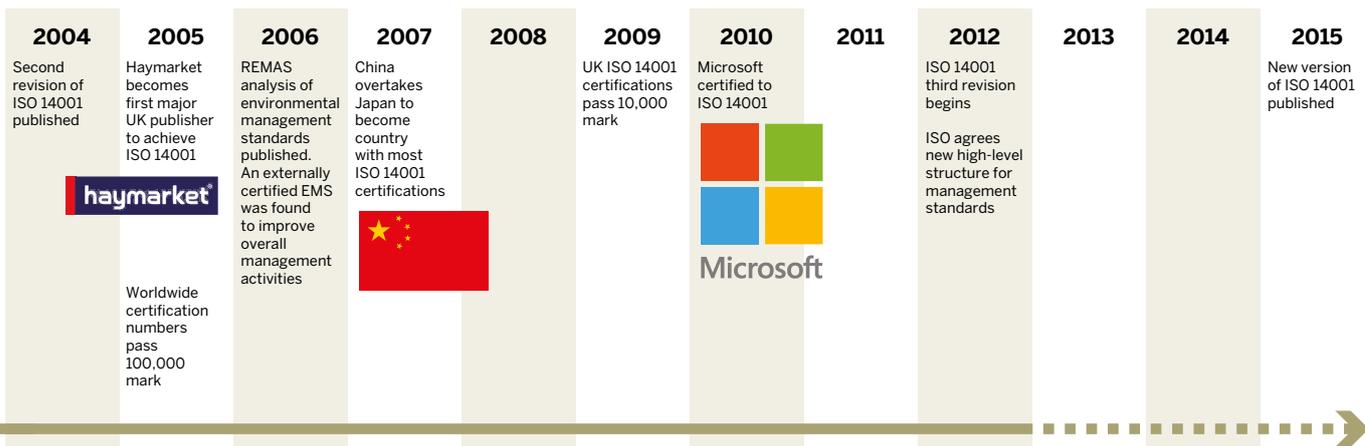
The EU's three-year 'REMAs' study, which ended in 2006, found that sites with certified EMSs tended to have better management controls, but did not necessarily have better legal

compliance. It also concluded that sites with ISO 14001 had a better management score than those with an informal EMS, but ISO 14001 falls short of EMAS in terms of overall management performance. For example, BP had a series of pollution incidents and accidents at its Grangemouth complex, despite the site's oil refinery being certified to ISO 14001 in 1999.

Concerns have also been raised about the consistency and quality of accreditation and certification of the ISO 14000 series.

Hopefully, the current revision of the standard will increase confidence in it and give it a fresh lease of life (see p11).

Baxter believes there is still significant scope for increasing the number of users – not just in Europe but also in other parts of the world. However, he says a more strategic approach could be adopted. "Policymakers could be far more proactive in using ISO 14001 to achieve environmental outcomes." n





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International patterns in certification

The economic downturn and uneven international usage present challenges for developing a certification system that is locally relevant and universally applicable

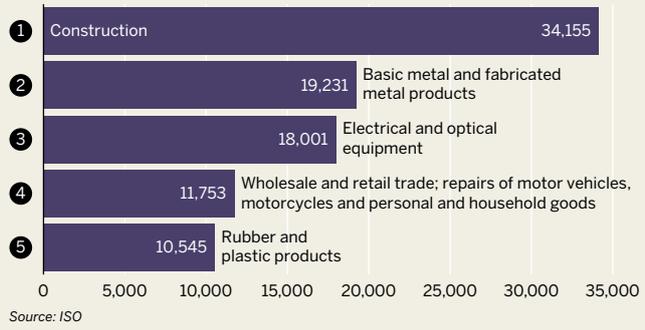
Annual growth in the number of worldwide certifications to ISO 14001 slowed from a historic high of 63% in 2000 to a low of only 6% in 2011. This can be attributed in part to the global economic downturn, which has tightened corporate budgets and pushed environmental concerns further down the priority list. But it also raises questions of whether the market for the standard is becoming saturated.

Closer examination of the international figures shows an uneven pattern of take-up across the world. ISO 14001 has consistently been popular in Europe and Asia, but certification numbers elsewhere have remained low.

Italy leads the pack in Europe, followed closely by Spain and then the UK. Together these three make up about half of total European certifications. However, the success of EMAS has kept ISO 14001 certification low in countries such as Germany.

In 2007, China overtook Japan as the nation with the highest number of overall certifications. In 2011, China made up a 31%

TOP FIVE INDUSTRIAL SECTORS FOR INTERNATIONAL ISO 14001 CERTIFICATION IN 2011



share of the international market, a proportion that has continued to rise. Much of this has been driven by the export market, with Chinese companies conscious of the need to sell their environmental credentials to overseas buyers. The sheer size of the country also means there is a huge potential for future growth.

A key driving force in the Far East is the fear that environmental management standards may become a barrier to trade, especially in the lucrative European market. Another factor is that the electronics industry has proved particularly keen on ISO 14001. In Japan, about 60% of certificates are in this sector. The industry is also encouraging certification along its supply chain and many UK-based electrical companies were certified as a result of decisions by their Asian parent companies.

REGIONAL SHARE

Number of certified companies



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By contrast, US companies have been slow to adopt ISO 14001, despite the fact that US influence in shaping the standard was credited as part of the reason it is weaker than EMAS. ISO recognises that many US firms have environmental management systems, which may conform to 14001 specifications, but by 2011 there were just 4,957 official certifications.

This is partly because a lack of certification has not been seen as a threat to trade and partly because US regulatory bodies did not indicate that certification would result in a lessening of regulatory burdens. Some firms were also concerned that the standard's documentation requirements could expose them to liability under the US legal system.

In central and south America, however, the overall number has rocketed in recent years and is now on par with its northerly counterpart. Half of these are in Brazil, which has experienced a prominent economic boom. Columbia, Argentina and Chile make up the bulk of the remainder.

The comparatively small number of certifications in Africa and the Middle East is perhaps unsurprising and stems largely from a lack of external pressure. Many of those that do exist are for subsidiaries or offices of large multinationals in Egypt, South Africa and the United Arab Emirates, although Iran also has a substantial number of certifications.

SMEs under pressure

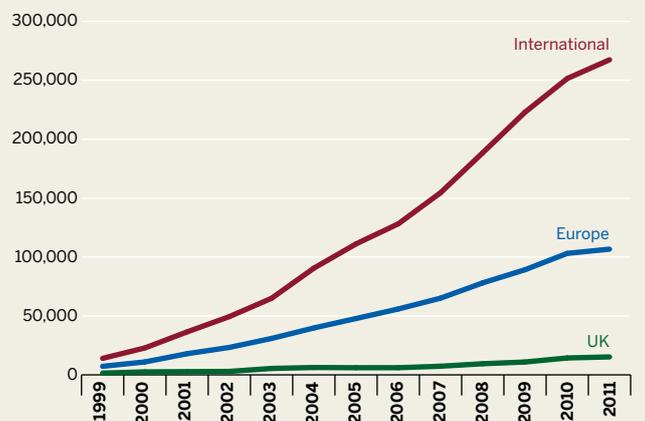
As well as international variation, there is also variation in take-up within individual countries. While it is surprising to find a multinational company that is not certified to ISO 14001, the situation among small and medium-sized companies (SMEs) is markedly different. For these firms, the cost of certification is proportionally higher and the administrative requirements can be a great burden.

As well as wanting to improve their own environmental performance, SMEs are under pressure from larger firms that want to encourage their suppliers to adopt recognised frameworks for environmental management.

In 2000, the then UK department for trade and industry tried to support these firms with Project Acorn, which aimed

CERTIFICATION TRENDS

Number of certified companies



Source: ISO

to encourage supply chain partnerships between SMEs and larger firms. It also sought to develop formal management systems and indicators of performance that allowed firms to spread the cost and effort of implementation while offering a recognised measure of their environmental management to show to customers.

In 2003, BS 8555 was published as a guidance document to allow companies, particularly SMEs, to implement environmental management systems in a more progressive way. The intention was that this would eventually lead to a full system standard such as ISO 14001. However, a lack of wider awareness of this standard has been a barrier to its uptake by SMEs and recognition of its value by larger companies.

Hopefully, the current revision will help address this problem by making ISO 14001 more accessible to SMEs (see p10). It may also smooth international variation by building a strong consensus among countries that have not traditionally had high uptake in certification. n

CASE STUDY FREDRICKSON INTERNATIONAL

Fredrickson International is a debt collection agency employing more than 300 staff and is part of the Interlaken Group. It decided to get certified to ISO 14001 for several reasons, primarily due to requests from clients but also as part of its ongoing commitment to minimise its environmental impact. It began the process in November 2012 and was certified in May 2013.

Fredrickson International was a fairly traditional firm and the environmental team had to highlight the benefits that ISO 14001 would bring. This involved making big cultural changes; for

instance, all employees had to surrender the bins under their desks and move to central recycling stations.

The company says involving top management and employees made the changes easier to implement because everyone could see the value of the changes. The company has branded its compliance culture 'safe hands', which it uses to train and communicate with staff about corporate social responsibility, health and safety and management systems including ISO 14001. It does this in various ways, including screensavers, posters and initiatives.

Employees came up with their own initiatives, such as only using a certain bank of desks when a scaled-down workforce is working at weekends.

The company now diverts more than 80% of waste produced at its sites and is looking to cut energy use in its offices by 8-15% this year.

It also has an approved supplier scheme that covers ISO 14001 and it randomly audits its major suppliers to ensure compliance. The firm is now finding that some clients expect it to ensure its supply chain is ethical and meets a certain standard.

One difficult aspect was

paper use, which is difficult to cut due to the nature of the business. In the end, the company decided to only use paper from sustainable sources.

As well as continuing to reduce energy use, waste and its overall carbon footprint, Fredrickson International has an ongoing staff training programme and an outreach scheme involving a higher education college.

It also regularly analyses the financial savings that its environmental management system can bring, including financial targets to show that an effective environmental programme can save money.

Found in translation: the standard moves forward

The second revision of ISO 14001 is expected to be more groundbreaking than the first, responding to input from smaller businesses and taking a holistic life-cycle perspective

The ISO 14001 standard is undergoing its second revision, which will be much more extensive than the first in 2004. The updated standard will incorporate changes specific to its environmental remit as well as ISO's new 'high-level structure', which covers all management standards.

A draft was developed by a working group, which circulated the first committee draft for comment. At the latest meeting in Botswana in June, the committee began working through more than 1,300 comments from about 25 countries.

Martin Baxter, UK committee chair and policy director of the Institute of Environmental Management and Assessment (IEMA), says: "The overarching challenge is to bring together the requirements in the existing standard, the recommendations in the EMS future challenges report, and the high-level structure.

"New language and requirements in the new structure requires careful consideration to ensure that users will know exactly what is required. As ever, this takes time as many people are working in different languages. Most of the issues are around ensuring the flow of the standard, linkage between different requirements and getting the precise wording."

In the UK there is continued involvement from regulators such as the Environment Agency and industry bodies such as IEMA, the Waste and Resources Action Programme and the Chemical Industries Association, as well as NGOs and academics.

Feedback

David Fatscher, head of market development for sustainability at BSI, says: "A lot of work is being done to consult with members. They have put in time and effort to look at what people are doing now that isn't written down, to make an informed decision."

A user survey of experiences with ISO 14001 has also been undertaken, which will be published soon.

Baxter says: "Feedback received during our engagement process with IEMA members on the committee draft suggested that the standard would have increased value for business. There will be some organisations that find the changes to the requirements more of a challenge than others, and whenever standards are revised, some are not able to make the transition."

But he does not believe that making the standard tougher will lead to a drop in certification numbers.

Indeed, the revision could make the standard more relevant for SMEs by making requirements clearer and explaining necessary clauses in the annex. Work is also under way on updating the

ISO14004 supporting standard to takes SMEs into account better.

"In the current draft, there's more focus on performance and outcomes, and the use of indicators," says Baxter. "This should help companies, including SMEs, focus on delivering measurable business environmental improvement. The current draft also takes a more holistic life-cycle perspective and links into supply chains more explicitly. The new standard should make it easier for SMEs to be able to demonstrate that they are managing customer environmental requirements."

It is hoped that the revision will address concerns with the existing standard. The high-level structure includes emphasis on the full life cycle of products and services and greater involvement and commitment from senior management.

Experts say that environmental management should not be separate from the organisation's overall aims. The results of risk assessments, internal audits and external inspections should feed into management reviews and the environment should be part of a firm's wider corporate and social responsibility package.

Fatscher said: "Environmental management is not an area of work that should be siloed within an organisation but should inform and embed itself into an organisational strategy."

Expectations

There has been ongoing debate about whether the standard should require compliance with the law and if it is the role of certifiers and assessors to check this. Although the draft text is unlikely to go as far as EMAS in requiring full compliance, it will put more emphasis on continuous improvement.

Since 2008 Anne-Marie Warris has been chair of subcommittee 1, responsible for developing and maintaining ISO 14001. She points out there are very different views on legal compliance around the world and even between EU states. Having a standard makes it more likely an organisation will be consistently in legal compliance, but it cannot guarantee this 100% of the time.

"People expect something of organisations they don't expect of themselves... Sometimes the public has to understand that there are things that are beyond your capacity to manage."

She says there can be confusion about the terms 'risk' and 'opportunity' and raises the issue of appropriate translation. "How the standard is interpreted is very important," she says.

Future work on ISO 14001 is likely to include a wider public consultation next summer, which will involve those not currently using the standard. Workshops will be held in the lead up to the publication of the updated standard, so organisations can get an idea of what is likely to change and plan for the future.

How well the standard works also depends on how it is audited. Janet Gascoigne, development manager at UKAS, says UKAS's remit will remain the same, but take any revisions in the standard into consideration. "UKAS will expect its accredited certification bodies to fully implement the changes in ISO 14001, both in its own processes and procedures, and in ensuring its certified customers have taken the changes into account."

Warris remains positive about ISO 14001. "It's going to be the benchmark that moves the standard on into this millennium." n

“ ISO 14001 provides a framework through which organisations have made genuine environmental improvements, helped cut costs and improve compliance management. It’s the ability of companies to deliver business improvement in these areas that has helped to secure its success

Martin Baxter, IEMA