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EDITORIAL

Welcome to the October/Novemberedition of Environmental Scientist. You will notice some changes from previous issues, some of which you may like and some you may not – either way, if you would like things to improve, you will need to let us know which elements are which.

It is a cliché in publication circles to exhort readers with the phrase 'It is your magazine' – as though the editorial ownership were somehow in question. Unfortunately, clichés contain a hard kernel of truth, which is why they are so exasperatingly persistent.

As always, *Environmental Scientist* is both vehicle and facilitator – a vehicle for relevant news and a facilitator of debate amongst the IES membership. It follows that the information must be as accurate and relevant as possible, while the facilitation must be, in practical terms, invisible.

On the first count, given the constraints of the production schedule, the editorial team want to flag up events and issues that are likely to affect the membership in the period prior to the next publication date. It follows that if you have anything that you might wish to share with other IES members between December 2004 and March 2005 that might meet this description, please let us know so that we can find space for it in the next issue. Submissions should be with us no later than 18 November 2004.

The Internet is of course a readily accessible conduit of such information for the majority of IES members, but it is also a source that is vast, sprawling and largely undifferentiated. In an effort to save time, we are also asking for members to share with us their most useful websites or accessible newsgroups, which we will pass on.

On the second count of facilitation, you may discover many more individual voices within each issue, rather than a single institutional view. There will inevitably be areas that provoke further reaction or reflection as is right and proper for a learned journal in a dynamic profession. Again, we would ask that you share some of that reaction with us in future issues.

Though we aim for a balanced approach in terms of disciplinary coverage, we acknowledge the impossibility of doing so within each issue. In other words, if you feel you are being left out, the feeling may be accurate, if unintentional on our part. Redressing the oversights will only be possible if they are brought to our attention.

Dialogue and debate imply more than one party. We look forward to hearing from you.

Christopher Sheldon
Guest Editor

◆ Your remarks, contributions and news should be sent to our contact details below, clearly marked 'Environmental Scientist'. All submissions for potential inclusion in the next issue should be with us by 18 November 2004.

STOP PRESS: IES members get access to Chartered Environmentalist

At the time of going to press, following a successful audit, the Society for the Environment is in the process of approving the issuing of a licence to the Institution of Environmental Sciences. This will enable us to grant the new qualification of Chartered environmentalist to appropriately qualified individual members.

For a period of one year, under a special 'grand-parenting process', IES members who meet the criteria will be able to apply for recognition under the scheme. After this period, members will still be allowed to apply for such recognition, but the process itself will automatically include an interview (optional under the grandparenting scheme) and could also include the provision of a portfolio of evidence.

For further details of how to apply for the scheme please email the IES at *ies-uk@breathemail.net* putting the words 'Chartered Environmentalist' in the subject heading, or phone the IES office on 020 7730 5516.

Contact address for the IES:

IES
Suite 1
38 Ebury Street
London SW1W 0LU

Tel: 020 7730 5516
Fax: 020 7730 5519
Email: ies-uk@breathemail.net

Contributions

The Environmental Scientist aims to provide a forum for members' contributions, views, interests, activities and news, as well as topical feature articles. Articles of up to 2,000 words should be submitted to the Editor, Environmental Scientist, Suite 1, 38 Ebury Street, London SW1W 0LU; Email: ies-uk@breathemail.net
Views expressed in the journal are those of the authors and do not necessarily reflect IES views or policy.

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NEWS

IES responds to UK Sustainable Development consultation

In July 2004, the IES sent a formal response to the Government consultation paper 'Taking it on – UK Sustainable Development Consultation' to the Sustainable Development Unit within DEFRA.

Signed by the Chair and Vice Chair of the IES Council, the letter emphasised the importance of the role of a wide range of professions and their attendant professional bodies. In confronting the challenge of creating a national policy towards sustainable development, the document continued: '…we believe that the new strategy should emphasise actions that:

- Raise awareness of the crucial role of the professions in enacting sustainable development;
- Support the integration of sustainable development principles and practice into professional qualifying courses in higher education and in continuing professional development programmes;
- Support the integration of sustainable development principles and practice into the vision, mission and strategies of all registered professional bodies.

These three objectives lend themselves to developing a number of performance indicators for measuring progress – some focusing on the actions of the higher education system; others on the activities of the professional bodies themselves. Just as the Corporate Social Responsibility (CSR) movement applies ethical and sustainable development standards to the private sector we need to apply the same principles to the public sector in the governance of our educational institutions and our professional bodies. In this way some of the snowballing criticisms levelled at professionals and the declining public trust in their activities might be allayed. We believe that the sustainability agenda offers the professions a challenging way of engaging in a wholly new form of public legitimacy. The actions outlined also offer real opportunities of meeting the seven objectives of the new sustainable development strategy set out in Para 2.6 of the consultation document.'

The deadline for responses was 31 July and for further details of the consultation process visit *www.sustainable-development.gov.uk/taking-it-on/index.htm*

Forthcoming events

News items concerning seminars and conferences are notoriously difficult to keep up to date in a quarterly journal. Instead of attempting the impossible, the editorial team would like to take this opportunity to direct readers of ES to the following comprehensive and regularly updated listing – *www.environmental-center.com/events.asp*. Though not necessarily completely exhaustive, the site provides a useful search function, detailed coverage of both international and regional events and, most importantly, direct links to the organisers' websites.

IES members may have their own events that they wish to publicise or their own web based databases that they already use. In either case, we would be willing to hear more about them from you.

The secret of my success?

The IES has joined forces with Studentforce to produce an in-depth online environmental careers resource in order to replace the highly successful IES *Environmental Careers Handbook*. It is due to open in time for Sustainability Week in November this year, and the editorial team would like to hear from you in any one of up to three ways.

First, the website will feature individual 'profiles' of environmental careers to use for illustrative purposes. These profiles need to be as realistic as possible, so the more IES members offer their own careers as potential mini-case studies the more representative the site will be. An example profile can be sent out to those who are interested (see the contact details below).

Secondly, the site will generate a series of organisational profiles, to give prospective candidates a sense of what a particular industry or public service sector might be looking for in terms of qualifications and experience. If any IES members have been involved in recruiting in their sector recently, they may already have useful information to share on the site.

Lastly, the site will feature a series of live environmental career website links, so IES members should scan their bookmarked sites and share them with the Studentforce editorial team.

Send all your pearls of wisdom direct to *adam@studentforce.org.uk*, who will be able to answer any questions. You might also want to check out the sample page at *www.environmentcareers.org.uk*

Airing the issues

On page 14 you'll find a particularly useful overview of the Local Air Quality Management framework for the UK and some of the experiences gained from the national planning and management process. There are particular lessons to be learnt for all those attempting to grapple with trans-boundary environmental issues on a regional or national scale, but reprinting extracts from the paper also gives us the chance to highlight the link between the IES and the Institute of Air Quality Management (IAQM).

Launched in November 2002 to provide a focal point for air quality professionals, the IAQM has a partnership arrangement with the IES whereby financial, legal and administrative support is provided to the IAQM during its formative years. For more details, particularly if you would like to join the IAQM, please visit *www.iaqm.co.uk* or contact Clare Beattie at *secretary@iaqm.co.uk*

INTERVIEW: GETTING REAL

Now that the final adjustments are being made to the awarding of Chartered Environmentalist status, **DR TIM BINES,** the new Chief Executive Officer of the Society for the Environment, pauses in his busy schedule to give Environmental Scientist his first interview.

As the final ink and hot wax were applied to the vellum of the Society for the Environment's Royal Charter in the House of Lords on 17 September, it not only signalled the emergence of a new professional body to represent environmentalists, it was also one of the few times a Charter has been granted to an umbrella body where the physical assets are almost non-existent. When is a Royal Charter body not a Royal Charter body? When it's a Royal Charter virtual organisation.

This strange and wonderful juxtapostion of the traditional and the futuristic is a mark of the work that faces Dr Tim Bines in his new role at 'Soc Env' as the Society has come to refer to itself.

'I'm the focal point for the partnership formed by the Society's constituent bodies that is laying the foundation for the new professional body. It's my job to kick-start the process and over the next two years, I'll be helping to set the trajectory of the rocket as it takes off.'

Dr Bines is used to rising trajectories. His environmental career began in the early seventies with the (then) Nature Conservancy Council and for 19 years he fulfilled the role of senior advocate for the organisation in the South East of England and was General Manager of its Maritime Team. Throughout his time there, he was aware that his work was promoting the rise of environmental issues within both national consciousness and policy making. This was most clearly reflected in the organisation's name change to the currently more familiar version, English Nature.

'Names for organisations are very important. I think that 'Society' and 'Environment' is a really interesting coupling, indicating to everyone the way we work and want to do business. To me, the name indicates the nature of the member organisations – we call them Constituent Bodies – working together and utilising their resources and membership to create a truly sustainable environment.'

'It's early days yet, but the organisation aspires to stimulate and promote a sustainable environment and at the same time seeks to establish a level of environmental competency across and throughout a wide range of technical disciplines.

'It will do this chiefly through the Chartered Environmentalist award. In essence this will be the first time that there will be third party recognition of an individual's years of experience, qualifications and contribution as an environmental profession.

'The wonderful thing about the wide membership of the Society means that in the near future a Chartered Environmentalist could be working in any one of a wide range of employed activities – anything from chemical or civil engineering through to a Government wildlife protection agency.'

Even though the Charter has not yet been officially signed, progress towards making the first awards has been significant.

'We're very busy right now, running through the first audits of the constituent bodies with a view to granting them licences that will allow them in turn to grant the CEnv award to interested members of their own organisations. This 'grandparenting' process is already well under way and we hope to be issuing licences as soon after the Charter is signed as we can.'

As one of the original Constituent Bodies, the IES is also involved in this process. IES can vouch for the fact that the audit not only looks directly at administrative systems, but has real impacts on the way Continuous Professional Development (CPD) is tracked and organised.

'CPD is vitally important to the value of the award. The rate of regulatory development both at national and European level shows no sign of slowing down. CPD is therefore a vital tool in ensuring that the profession's response is equally up to the mark of coping with this increasing legislation appropriately.

'In the first instance, this means a wide range of understanding that needs to be developed continuously. The Chartered Environmentalist will be more than just a snapshot demonstration of competence. It will enable the professional to be seen for what they truly are – a practising professional.'

But what does being 'professional' mean in an area that has no tradition of being a profession?

'To me that means giving quality advice, on time and to the right budget, while adhering to the Society's published Code of Ethics. The Code brings into play a common standard of behaviour between the different bodies.'

To some this idea of providing a common platform for the environmental profession is the first stage of developing a single body to represent it, but Tim Bines disagrees.

> 'There's been a vast amount of work already done… I wouldn't want to see any of that effort wasted and I don't believe that it will be. It's quite an extraordinary development when you step back and look at the formation of the Society in such a short space of time. It's a completely new way of harnessing energy and knowledge.'
>
> *– Dr Tim Bines*

'That isn't what the Society is formed to do. It has no real power of its own other than that given to it by the Charter on one hand and the strong partnership of the constituent bodies. It's the professional institutes who do all the work. The Society is just a mechanism to bring them together to do this, but not to replace them.'

As an example, even the Chartered Environmentalist Register will be very simple. As an accessible database on a website, it will simply indicate that an individual has been given the award as well as their other affiliations. That will then redirect the user of the Register to the individual's 'home' institute for further information that may be more pertinent to their requirements.

There are other benefits of coming together for the constituent bodies of the Society, however, particularly in the field of consultation.

'I think there's a general move to accept the environment as a credible area of activity, but there's such a wide range of issues included in such an umbrella term that it's hard to get a single view on a single issue. Soc Env will certainly look to help in that respect. We'd like to be a one-stop shop, which allows you to get that one view where that's possible. Where there are divergent views in the membership, then our response would reflect the whole range of views. Even so, we could become a key player in terms of consultation with government and other parties who want to get a response from this broad church. What we want to do through this activity is support people who want to move towards a sustainable environment. In fact, we've just responded to the government consultation paper concerning sustainable development, and I anticipate we'll be doing more of that.'

It's a marker of how the Society intends to champion environmental issues in the future that such a consultation hasn't involved getting dragged into the debate about the meaning of the term, sustainable development.

'Personally, I prefer the term sustainable environment for use within the Society. I think we all want to leave behind when we pass off this mortal coil an environment at least as rich as when we came onto it. So we'll be aiming for a sustainable environment in which social and economic interests can thrive.

'Environment has always encompassed development and that seems logical to me. All that we are arguing for is an equal share of concern when it comes to planning development so that the environment is properly taken into account.'

At the moment the Society is concentrating on building up the awarding of Chartered Environmentalist and its consultative role. Other aspects and strands will emerge but that will have to be over time – too early to say what that will look like, though Dr Bines did comment that perhaps in due course aspects of training or university course accreditation may be considered, though he well recognises the complexities in this area.

Whatever activities do emerge, the next two years will be crucial to the future success of the Society, which presents unusual challenges and opportunities to those involved in steering it.

'There's been a vast amount of work already done by the CBs and the way they have come together to form the Society. I wouldn't want to see any of that effort wasted and I don't believe that it will be. It's quite an

The Board of the Society for the Environment

extraordinary development when you step back and look at the formation of the Society in such a short space of time. It's a completely new way of harnessing energy and knowledge that can be used to tackle environmental issues.

'Everyone is excited; there's activity and enthusiasm, which it is really important we keep up – I think that's one of our biggest challenges – to capture and maintain that momentum. I don't mean just adding to the portfolio of membership of the Society. The quality of the response and the quality of the commentary on issues around the subject of a sustainable environment will be extremely important here. People, both members and non-members alike, will need to see the real value that the Society will be able to add to the ongoing debate. That way the Society will be seen as a worthwhile organisation in the longer term.'

For those who have not been following the story for long, the establishment of the Society for the Environment will seem to have happened almost overnight. Yet it has been four years since the establishment of the forum from which the Society has emerged. IES has played a full part in bringing about this major achievement for the professional environmental community. Turing the potential into a reality is the next crucial step and one in which IES members will have active participation.

As a Member (MIEnvSc) or Fellow (FIEnvSc) of the Institution of Environmental Sciences, *you* will be eligible to apply for the new qualification of Chartered Environmentalist.

However, your application for chartered status will not be considered unless your IES subscription has been paid up to date. If your subscription is in arrears, now would be a good time to sort things out.

Send your payment (£70 a year for Fellows, £55 for Members) to: IES, Suite 1, 38 Ebury Street, London SW1W 0LU.

IN THE BLINK OF AN EYE

Many IES members may, for good reasons, not naturally be given to optimism about either the state of the environment or the depth of the commitment that society is currently showing towards sustainable development. However, we should not forget that some progress has been made. **MARK EVERARD** steps back a moment to offer a different perspective.

The world of which we are a part certainly faces a whole host of serious environmental problems. It seems that, as we discover more about the environment and its workings, the picture becomes ever more bleak. We are also becoming increasingly aware of the total dependence of society's progress – in health, wealth-creation and 'quality of life' – upon the supportive capacities of the environment, and of the likely socio-economic consequences of its continued degradation. So, the need for serious progress with sustainable development is never more pressing.

The ecological status of the world is the ultimate barometer of human environmental impact, indicating both the extent of our unsustainability and its consequences for supporting a decent quality of life for ourselves and our children into the future. The WWF's annual update of the Living Planet Index is just one of a series of 'wake up calls', tracking the status of global ecosystems and human resource demands, that can help shake us out of complacency about the progress yet to be made. In this mental climate, if we feel the pangs of existential angst, it is hardly surprising.

Yet is that the full story? I would not wish to downgrade for a minute the urgency of heeding adverse environmental and social signals, nor the importance of piling pressure upon economic and political interests that perpetuate unwarranted complacency or inertia. However, let's just put our relationship with the environment into a slightly broader context. In particular, two related perspectives from history offer interesting insights about the present, as well as practical lessons for a better-informed future.

The first of these perspectives is that afforded by the most recent paradigm shift evident throughout science, economics and practical environmental management. Rapid evolution in reductive science was one of the underpinnings of the Industrial Revolution, enabling society to deconstruct complex systems into constituent parts and study how they work. Elucidated scientific knowledge could then be applied to defined problems in engineering, medicine and hygiene, manufacturing and a host of other societal activities, collectively producing unprecedented benefits for public health and wealth creation. However, precisely because of the focus of reductive science upon component parts, not ramifications across whole systems, the reductive principles underpinning the progressive industrialisation of society held the seeds of its eventual limitation. A focus upon limited units of space, time and scientific discipline rendered us blind to the implications of our actions for the wider environmental systems that sustain continued prosperity and wellbeing.

The third great paradigm

There is no need in these pages to reiterate a familiar catalogue of post-industrial environmental woes that threatens our future prospects for health, prosperity and human potential. What is more important is that we have begun to connect cause with effect, across time, space and discipline. The interconnection of disciplines led to the

birth of the holistic paradigm of science from the 1940s, displacing the reductive focus on isolated disciplines. From this basis, growing awareness of the interdependence of all scales has led to the rise of the third and current great paradigm of science, systems science, which, since the 1950s, has continued to transform our perceptions about the world and other such complex systems. Systems thinking tells us much about the properties and principles unique to whole systems, that are invisible from a reductive perspective founded on analysis of component parts alone, including for example the workings of complex environmental systems and their interdependence with human lifestyles choices.

The systemic paradigm is pervading, if not yet overwhelming, the sciences in their pure form. It is also visible as an early manifestation in practical management techniques and regulatory development as diverse as environmental economics, integrated catchment management, ecohydrology and the EU Water Framework Directive. We are in the early stages of a transition towards world views and management decisions that integrate environmental awareness. Indeed, some argue that the very concept of sustainable development is evidence of the collapse of discrete reductive disciplines and societal interests as we head towards a fully-interdependent systemic paradigm. The evidence from the widespread unsustainability evident all around us indicates that this journey is at a very early stage, but we are at least embarked upon it.

The second historical perspective that illuminates our current collective position emphasises the relatively novel nature of 'the environment' in a political context in the UK, as indeed globally. At the time of the Stockholm Conference in 1972, not one nation on Earth had a government department with primary responsibility for the environment. It was just not a political or corporate 'issue' at all. However, a sequence of high-profile environmental disasters around the world (heavy metal poisoning at Minimata Bay [Japan], evidence of pesticide bioaccumulation collated in Rachel Carson's seminal book *Silent Spring* and the major marine oil spill from the wreck of the Torrey Canyon tanker [UK], to name but three) was ringing strident alarm bells. The Stockholm Conference was the response of the international community.

Cultural revolution

The UK was quick thereafter to create a Department of the Environment, and a plethora of environmental regulation has subsequently flowed both from within our shores and towards them, in the shape of European Directives and global treaties. 'The environment' had made its first tentative step in from the cold. Our familiarity today with a range of key words – the Montreal Protocol, the Brundtland Report, Rio, Kyoto, Jo'burg, and so on and on – emphasises the continued penetration of environmental awareness into societal consciousness, and its internalisation into the concept of sustainable development. UK government responsibility for the environment has morphed through DoE, DETR and DEFRA. 'The environment', and its now over-arching context of sustainable development, are concepts integral to the UK development planning system, regional development agency strategy and corporate select regulation, and are not wholly alien to most boardroom tables. In just a tad over three decades, we are living through a significant cultural revolution as far as our relationship with the environment is concerned.

Taking succour from evidence of political progress, let's now return to how we might best tackle the long journey towards anything remotely resembling true sustainability in practice. How can it be that the business of many companies and government departments – local, national and international – continues to pay scant regard to the environment? Vested interests certainly provide a substantial part of the answer, but there is a deeper psychological disconnection that may be misinforming even the best of intentions.

Many planning applications are determined on an unstated assumption that 'nature' and other environmental resources represent a net cost and constraint upon development, imposing limitations upon economic expansion as well as costing money to 'protect'. From a reductive paradigm, this opposition of interests is understandable; after all, if 'the business of business is business' then why should a few ducks and some boggy grassland inhibit short-term profitability? From within a systemic paradigm, however, it should be blindingly obvious that, far from constraining society, those self-same environmental resources are the lifeblood of human progress and enjoyment of life. With degraded natural resources, and the various 'goods and 'services' they provide, we have an impoverished life and economic potential. Without that wetland, we lose the capacity for storage of water supplies, retention of floodwater reducing flood surges downstream, purification of air and water, nourishment for wider ecosystems, primary economic resources, local and regional character, places for recreation and spiritual renewal, and a host of less readily-quantified societal benefits.

This prompts a more telling question: how far has society at large travelled along the spectrum from reductionism (which creates a Cartesian wall between 'us' and 'the environment') towards systems thinking (in which that distinction is seen as not only spurious but an erosion of our wellbeing and economic potential)?

The disappearing environmentalist

Much environmental campaigning in the past has taken place in a reductive era, characterised by unconscious or wilful environmental illiteracy. Environmental activism and 'green' advocacy were important weapons in the campaigner's armoury, exposing the consequences of ill-informed lifestyle habits for crucial environmental resources as a means to bring environmental issues to the negotiating table. Other forms of special pleading, often science-based, also sought to argue the case for 'the environment' and thereby bring it into the mainstream of society. Environmental education has also travelled a long journey from reductionism, as we grapple today with its integration into other disciplines.

> 'Many planning applications are determined on an unstated assumption that "nature" and other environmental resources represent a net cost'

Yet are we sure that our 'environmental message', campaigning or rational argument, has moved with the times? As we have seen, society is slowly moving between paradigms. In a society making a transition towards systems thinking, those formerly effective confrontational tools may today be blocking progress, precisely by reinforcing a spurious reductive distinction.

So, how might we conceive of 'the environment' in a world making progress towards full integration into a model of (sustainable) development and human progress? Well, I'd suggest that it would probably be far less visible than it is today. We may, for example, not have any discrete environmental courses of education. Environmental matters would be perceived as integral to good governance, design and technology, urban planning and rural land use. So resources for 'environmental education' would be 'embedded' into other areas of education, rather than standing out in reductive isolation and as the perennial poor sibling when it came to funding. In addition, if 'the environment' was truly embedded into thinking about society's various interests and activities, we would have no need of a discrete Environment Agency either.

As environmental considerations were progressively internalised across society, they would necessarily manifest within the general regulation, corporate governance and good practice of business. Environmental champions would instead expend their efforts in influencing policy areas such as the planning system, corporate governance, construction, and waste and resource use across the whole of society. The beginnings of this transition can be seen amongst NGOs, some of which are moving from confrontation to partnership. There may be a lesser role for 'standalone' environmentalists too, as human welfare, conservation and other governance decisions are collapsed into a holistic model of sustainable development in which the fundamental supportive role of the environment was intrinsic. The effective campaigner would infiltrate all policy areas, yielding environmental 'wins' from within and not without the system.

If you think this is somewhat utopian, perhaps even unrealistic, consider the following. In 2002, the UK Government's Company Law Review White Paper included explicit provisions to internalise environmental perspectives within core corporate governance and reporting, including liabilities upon directors, rather than consigning 'the environment' to a separate suite of regulations that are often addressed only retrospectively (as at present). Notwithstanding the difficulties of translating these ideals into robust policy and practice, and the probable need for some good old-fashioned reductive campaigning to secure it, this process of internalisation of environmental law mirrors the wider transition of society from a reductive to a systemic basis. 'The environment' may no longer be the afterthought; instead it may reside centre-stage in corporate decision-making processes.

This trend towards conceiving of 'the environment' in a systemic context looks set to continue, and has potentially significant implications for regulators, educators and the whole of society. We have to take care that, in defending 'the environment', as many of us have for many years, we do not inadvertently block its transition from noisy outsider to quietly influential insider.

All those who may have painted environmentalists as unrealistic idealists, fixated on a fantasy of being able to change the world, were wrong… we already have. It may have taken us most of our careers to play our small part but, in societal terms, the pace of this cultural shift has been in the blink of an eye. We still face huge – sometimes seemingly insurmountable – problems, and the journey of sustainable development has yet to be seriously engaged across much of society. Yet society is manifestly shifting, and so we have to learn to become more sophisticated if we are to be effective in embedding environmental perspectives into all areas of that changing society.

None of this may ease the existential angst that can motivate those involved in environmental science, but I do hope that it gives pause for thought about successes, both past and future.

◆ *Dr Mark Everard is an IES Council member and Visiting Research Fellow at the University of the West of England.*

ENVIRONMENTAL POLICY IMPLICATIONS OF EU ENLARGEMENT

When EU enlargement took place earlier this year, there was more talk of economic migration than there was of environmental degradation. **ABHISHEK SHARMA** casts a weather eye over what enlargement might mean for the future of European environmental policy making.

The enlargement of the European Union (EU) on 1 May 2004 allowed accession of ten new member states from Central and Eastern Europe (CEE), the Mediterranean and the former Soviet Union countries known collectively as the CIS ('Commonwealth of Independent States'). It also continues to pose strategic challenges on an unprecedented scale. In order for the candidate countries to become fully-fledged members of the European Union, they must develop and implement the applicable EU environmental standards. This not only has wider implications in the decision-making process of these countries, but also the EU itself. To gain entry, the new members will have successfully negotiated on all EU legislative requirements (Bennet and Farmer, 2003), but such negotiation is the beginning of the story rather than the end of it.

The challenges for all concerned lie within such legislative parameters as pollution control and water policies, of which the Integrated Pollution Prevention Control (IPPC) Directive (96/61/EC) and Water Framework Directive (2000/60/EC) are of paramount importance. Although many of the Accession Countries (ACs) have environmental problems such as water and air pollution that are similar in nature to the current EU member states, their lower economic status and their greater reliance on heavy industries make it more difficult for them to adopt and implement the increasingly stringent environmental standards advocated by these Directives. Furthermore, after the ACs have joined the European Union, the expected accelerated growth in their economies, the resultant growth in consumption, increased use of energy and natural resources coupled with greater production of waste will all put further pressure upon the environment, making adoption and enforcement relevant legislation even more urgent (European Environment Agency, 2003).

This article briefly reviews and discusses future pollution control polices in Europe under these circumstances, using the IPPC and the Water Framework Directives as a working example. It will also look at the challenges in terms of their implementation and enforcement, and highlight issues surrounding the ACs as they address compliance with the more stringent environmental standards. Opportunities for raising the overall level of environmental protection in Europe will also be touched on.

Future EU pollution control

Although in the last decade, considerable improvements have been achieved by European industries regarding several major polluting substances, industrial processes still account for a substantial share of overall pollution in Europe. For example, industrial waste generation in Poland and Norway increased by 80% between 1990 and 1999 (European Environment Agency, 2003). The development of a common framework for EU pollution control legislation and its implementation thus remains a cornerstone for an effective system of environmental protection. Although 2001 witnessed the adoption of various specific Directives on large combustion plants, national emission ceilings and air quality, as well as a list of priority substances for water, broader framework legislation such as the Integrated Pollution Prevention Control (IPPC) Directive (1996) and The Water Framework Directive (2000) have generated wider attention and debate. These Directives apply the concept of 'integration', whereby the whole environment (as

opposed to individual processes or individual environmental media) is taken into account simultaneously adopting compliance standards for release of pollutants.

Integrated Pollution Prevention Control Directive

The IPPC Directive guides industries to implement 'best available techniques' (BAT), encouraging the use of low-waste technologies and less hazardous substances and materials, reducing raw material and energy consumption as well as increasing the recovery and re-use of materials within production processes (Friesen, 2003). Although all the existing member states should have initiated implementing the IPPC Directive in 2000, this has not been the case, with only Ireland and Luxembourg partially incorporating the Directive (Europa, 2003). For the member states to make effective the regulations of the IPPC Directive, which sets out for radical environmental improvements, would entail substantial investment cost in infrastructure technology at Industrial Installation plants. Although the Directive did grant the member states an eleven year long transition period starting from the day the Directive entered into force to change their industrial processing techniques (Europa, 2003), evidence suggests that not all countries concerned have proactively sought to commit themselves to such an investment-heavy Directive, requiring significant time and expenditure. For example, Italy has so far failed to make effective the rules laid out by the Directive with regard to its new industrial installations (Europa, 2004).

Similar issues relating to compliance will become a feature of many EU ACs. Historically, the closure of heavily polluting industries in CEE countries in the early 1990s, delivered a much needed reduction in industrial pollution, though some of the surviving industries are continuing to yield pollution well above EU acceptable levels (Danish Environmental Protection Agency, 2001). This creates serious externalities for the pre-accession member states, due to the trans-boundary nature of pollution courses. The challenge for getting these ACs to comply with the IPPC Directive is thus even more large-scale due to their outdated equipment and weak economic performance. Much of the existing industrial plant in question does not have an economically efficient lifespan to justify the substantial investment necessary solely for complying with the requirements of the Directive (Danish Environmental Protection Agency, 2001).

Additionally, some industries in the new member states such as oil refining and energy production are already undergoing major restructuring in order to become competitive in a more liberalised market. In these cases the more realistic option would be to design the restructuring process in such a way as to fulfil the twin objectives of increased efficiency and pollution reduction. Measures to upgrade environmental performance can thus be financed as an integral part of both technological and management restructuring.

Water Framework Directive

The Water Framework Directive is undoubtedly the most fundamental and comprehensive piece of environmental legislation ever to have been adopted by the EU. In response to the growing demands by citizens and environmental organisations for cleaner rivers, lakes, groundwater and coastal beaches, in 1995 the Environment Committee of the European Parliament and the Council of Environment Ministers asked the European Commission to formulate a more global water policy.

The resulting Directive aims to integrate environmental policy and increase public awareness about water resources, with the dual objective 'to get polluted waters clean again, and ensure clean waters are kept clean' (Europa, 2003). It is certainly the most cutting-edge legislative instrument in terms of environmental protection, whereby all water uses – from drinking and bathing through to agriculture and industrial use – are affected. It will be enacted according to principles that seek to ensure that water is fit and sustainable into the next century (Kaika and Page, 2002).

Historically, the primary source of many water quality problems in Europe has been untreated wastewater from urban runoffs. In response, the then European Commission adopted and implemented legislation to control water pollution, most notably the Urban Wastewater Treatment Directive (91/271/EEC). Under pressure, various member states have made substantial investments in wastewater collection and treatment facilities to tackle the worst generators of 'point source' pollution, as a result of which the water quality in some of Europe's rivers has improved significantly in recent years. At the same time, lack of parallel investments to minimise the 'diffuse sources' of pollution, mainly from agricultural run-offs such as farm fertilizers and animal waste, has meant that there are still major concerns related to eutrophication, organic pollution and acidification of lakes and groundwater.

The newly adopted Water Framework Directive requires all member states to achieve 'good ecological status' and 'good chemical status' for all surface and groundwater by 2010 (Danish Environmental Protection Agency, 2001). It also aims to rationalise various pieces of water legislation such as the Nitrate and Drinking Water Directives into a single directive, with an integrated river basin catchment management plan. This will help to ensure the 'integration of water use with water conservation goals and water quality objectives with water

The four truck drivers of the Apocalypse

quantity objectives' (Kaika and Page, 2002).

However, implementing and complying with this new piece of legislation will undoubtedly prove to be enormously demanding and costly, even for the existing member states. Achieving compliance with the existing directives on water quality has already involved substantial costs. These have in turn often prompted member states to out-source those costs, most notably through the privatisation of water supplies, in order to divest themselves of the economic burden of infrastructure investment (Kaika and Page, 2002). Private water companies have then passed these costs on to the consumers.

Water management in a member state also requires effective collaboration not only between the government, water industries and consumers, but between the member state and its neighbouring countries. Currently, substantive differences on environment and water quality protection exist between member states (Kraemer, 1998). Since ten of the existing member states receive more than half of their water resources from the neighboring states, trans-boundary issues (such as upstream and downstream users of the same river basin having differing views about employing the best water management strategy) have yielded paramount concern in continental Europe (Kaika and Page, 2002).

In such a climate, implementing the Water Framework Directive will undoubtedly be more strategically challenging to the new member states from CEE and CIS, entailing substantial costs in administrative, financial and political terms. Since the legislation requires activation of a huge number of operators (local municipal governments, farmers, small and medium-sized industries), many stakeholders in these countries will be given the chance to voice their unwillingness to pay for water services that used to be free or priced according to different market and economic models. A well-staffed local and regional administration, willing to cooperate on planning and financing of water-related infrastructure as well as external expertise, is certainly an important pre-requisite for meeting the objectives of the Directive.

Realising the positive potential of EU enlargement

It remains a largely unacknowledged truth that a primary challenge of EU enlargement will be the cost of achieving compliance with proposed EU environmentally related lrgislation. Even the pre-enlargement member states are facing an uphill task in fulfilling the existing environmental requirements. Currently, most of the countries in CIS are experiencing profound economic downturn. This, coupled with a rapidly deteriorating environmental infrastructure (including water supply and general sanitation) has yielded negative health impacts, leading to high mortality and lower life expectancy rates. Limited public budgets have also meant that little funding is left for environmental investments in these countries (Danish Environmental Protection Agency, 2001). Harmonization with EU standards requiring high investment costs may be perceived as a further burden on

already overstretched public services, impeding future economic developments in such countries.

An additional, but not insignificant risk of EU enlargement is the potential for ACs to be pushed into indiscriminately adopting the unreformed and highly controversial EU Common Agricultural Policy (CAP) with attendant large-scale farming subsidies (Schuman, 2001). If such is the case, then there is a danger of the new members following the environmentally damaging route of intense farming practices, with enhanced application of chemicals and fertilizers. This course of action may actually give rise to further problems of eutrophication and polluted groundwater sources – a feature of many EU member states over the past 40 years. In such instances, the CEE and CIS countries could be exacerbating additional water externality problems, thus requiring even more substantial investment than was previously envisaged.

All in all, EU enlargement and the proposed IPPC and Water Framework Directives do present a great opportunity for Europe's environment. In the context of the clear and present environmental problems in the ACs the effective adoption and implementation of the Directives will improve the state of the environment in the EU as a whole, thus offering a unique opportunity to create a pan-European environmental policy (Federal Foreign Office Germany, 2003).

The Clean Technology paradigm, as advocated by the IPPC Directive, will often be both environmentally and economically more attractive than the existing end-of-pipe solutions, for the accession country industries of all sizes. Any concerns over the total cost of investments should be weighed against the potential benefits to be accrued. This would be more than reduced pressures on the environment through diminished pollution emissions of particulates, SO_2 and NOx, volatile organic compounds (VOCs) and ammonia. It would also include the resultant impacts on reduced mortality, incidence of diseases, and damage to buildings and crops. These macro cost savings, achieved as a result of the externalities foregone, will no doubt be highly significant but could easily be overlooked.

Similarly, the implementation of the Water Framework Directive in the ACs will provide a coherent structure for the European Union water policy as a whole. The problems of over-abstraction and pollution could be tackled effectively, thus achieving sustainability through the goal of 'good status' for both surface and groundwater. Such a policy could take matters forward constructively into the 21st century by involving a range of stakeholders, citizens, NGOs and the government. Infrastructure investment has never had such potentially broad and positive consequences.

◆ Abhishek Sharma MSc, DIC, BSc is a Research Officer for the University of Hertfordshire, based at the IES.

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THE UK AIR QUALITY MANAGEMENT PROCESS: A REVIEW OF PROCESS AND PRACTICE

At the recent Clean Air and Environmental Protection Congress, **PROFESSOR JIM LONGHURST** of the Air Quality Research Group of the University of the West of England delivered an overview of the Air Quality management regime in the UK. This is an extract from the paper, authored by **CLARE BEATTIE** with **T. J. CHATTERTON, J.W.S. LONGHURST** and **N.K. WOODFIELD**

The Air Quality Management (AQM) framework in the UK is designed to be an effects-based solution to air pollutants currently affecting human health. The AQM process has been legislated through the Environment Act 1995, which required the National Air Quality Strategy to be published. This has since been revised to reflect developments in European legislation, technological and scientific advances, improved air pollution modelling techniques and an increasingly better understanding of related economic and social issues (*www.defra.gov.uk/environment/airquality/strategy/*).

The current UK Air Quality Strategy is due for a further revision during 2005. The strategy is underpinned by precautionary, risk management principles, the focus of which is the setting of health-based standards and objectives for eight pollutants, seven of which are managed at the local scale. The eighth, ozone, has much wider regional effects and it was decided that this pollutant would be better tacked through national and international intervention.

The initial responsibility of local authorities is to undertake a review and assessment of air quality within their locality. Where air quality objectives are not likely to be met at a future target date, Air Quality Management Areas (AQMAs) must be designated and an Air Quality Action Plan put in place to improve the situation in these 'hot spot' locations. Local authorities have now completed the first 'round' of review and assessments resulting in almost a third of local authorities in GB[1] declaring AQMAs and requiring subsequent action plans (see *www.airquality.co.uk/archive/laqm/laqm.php* for details). These were largely in relation to nitrogen dioxide and PM_{10} and for the most part in relation to traffic sources.

1 Northern Ireland is working to a different time scale to Great Britain in terms of Air Quality Management

This first step in the LAQM regime, the review and assessment of air quality in the local authority's area, was carried out as recommended by the Government as a three stage process whereby each stage increased in detail and complexity in line with the risk of failing to achieve the air quality objectives. The process is covered in detail in papers published by the Air Quality Research Group at UWE which are available from the authors (*www.uwe.ac.uk/aqm*).

EVALUATION OF ROUND 1 OF REVIEW AND ASSESSMENTS

Following the end of this first round, the Department for Environment, Food and Rural Affairs (DEFRA) commissioned an evaluation of the LAQM process in order that any lessons learnt could be addressed adequately within the guidance for the forthcoming second round of review and assessment. The results of the evaluation were compiled in a report and made publicly available (*www.uwe.ac.uk/aqm/review/ereport.pdf*).

The outcomes of the evaluation process have been described elsewhere, but over 50 suggestions for the future of Review and Assessment were distilled from extensive consultation exercises with local authorities, consultants, government departments and others. The suggestions led to 32 recommendations covering the structure and timescale of the next round, the reinforcement of air quality within local government, funding, and various detailed points about the process, as well as recommendations for matters to be taken up in future guidance.

A key recommendation was to carry out the next round of review in only two stages: an *Updating and Screening Assessment* followed by a *Detailed Assessment* of those pollutants and/or locations identified as requiring further work. Following feedback from local authorities, the guidance, particularly for the Updating and Screening Assessment has been made more prescriptive with checklists for local authorities to work through. The checklists are designed to highlight specific locations or sources that may be at risk of exceeding the air quality objectives.

All local authorities are required to produce an Updating and Screening Assessment (USA), but only go on to prepare a Detailed Assessment where potential issues were highlighted by the USA. In years where local authorities are not undertaking a USA or Detailed Assessment, they are required to submit a Progress Report to Government which summarises the previous year's monitoring data and highlights where any changes have taken place (new industrial processes, large scale developments, etc) that may affect air quality in their locality.

AIR QUALITY ACTION PLANNING

Section 84 of the Environment Act 1995 requires those local authorities that have declared AQMAs to formulate an Air Quality Action Plan aimed at improving air quality in

pursuit of the air quality objectives. Many solutions to poor local air quality will require reductions in vehicle kilometres travelled and consideration of future land-use planning and effective long-term transport management. As such it is crucial that departments within local authorities communicate effectively. A successful way of achieving internal co-ordination is through the establishment of multi-disciplinary groups to address air quality issues.

Air pollution is by its nature transboundary and as such, regional collaboration is also important. This is particularly significant where an AQMA crosses administrative boundaries, requiring a co-ordinated approach. Local air pollution in one authority's area may concern neighbouring authorities, and likewise, an action plan in one area may impact on a neighbouring area, particularly where road networks are concerned. Regional air pollution groups and extensive consultation are the most effective way of addressing such issues, and such group collaboration may result in a more consistent approach to the review and assessment process, in defining an AQMA, and ultimately in implementing an action plan (for guidance documents produced by the National Society for Clean Air, see: *www.nsca.org.uk/pages/topics_and_issues/local_air_quality_management.cfm*).

As an example, the 10 authorities in Greater Manchester have written an action plan jointly (see *www.mapac.org.uk/ mapac_frame_airquality.htm* for details). Their air quality exceedences are caused mainly by traffic and as such any solutions will need to be evaluated in terms of their impact on the road network as a whole.

EVALUATION OF THE ACTION PLANNING PROCESS

A report has recently been written by DEFRA and the Devolved Administration's contractors investigating the action planning element of the local air quality management regime (*www.defra.gov.uk/environment/airquality/laqm/eval/pdf/actionplan-report.pdf*). Results of the evaluation exercise show that local authorities have had considerable success in engaging with other departments within their authority and with respect to regional working with neighbouring authorities.

However, significant problems have arisen with respect to the engagement of external bodies outside of the local authority tier. This has included upper tier authorities (County Councils) and the Highways Agency. Where significant input into the action plan is reliant on such bodies, uncertainty often exists with respect to the choice of appropriate measures to be employed and to the implementation time scales. Consequently, for many authorities with AQMAs it has not been possible to determine whether the air quality objectives will be achieved. The assessment of measures proposed both in terms of cost and the improvements that those measures will deliver has been a difficult component of the action planning process.

The evaluation of the action planning process has identified that local authorities have largely had effective grounding in preceding technical work undertaken throughout the review and assessment process. This has provided the necessary information for which local authorities can produce their action plans. Internal and regional groupings have also proved successful in fulfilling the duties of the action planning process. Other positive aspects include an increasing number of local air quality strategies, highlighting local authorities' increasingly strategic approach to air quality management, and more regional groupings that have been shown to provide opportunities for consideration of wider environmental issues. Consultation has also been shown to deliver an increased understanding of air quality issues and has raised the profile of air quality at the local level.

However, a number of constraints to the action planning process have also been identified. Delays in responses to consultation and relevant buy-in from both upper-tier authorities and relevant external bodies responsible for implementation of measures has meant delays to the process as a whole. An effective assessment of the impacts of proposed measures and their associated costs has been difficult and local authorities often find it difficult to clarify time-scales for the implementation of measures. Additional funding to complement existing funding programmes has been difficult to identify and often funding (such as through the Local Transport Planning process) is beyond the target date of the air quality objectives.

CONCLUDING COMMENTS

In terms of information about air pollution concentrations in the UK, the LAQM process has been very effective at building up a comprehensive national picture of air pollution. Following detailed analyses over the last five years by local authorities in the UK, findings are suggesting that problems with poor air quality are far more pervasive than generally thought and that the locations where hotspots are found are in some cases different to those originally predicted prior to the review and assessment process.

For example, the re-issued guidance in 2003 focuses much more on small town locations (canyon-like streets where dispersion is poor, traffic is often congested and relevant exposure is found close to the road) rather than roads with larger traffic flows and more free flowing traffic. Following identification of the problem, local authorities are now at the stage of beginning to implement solutions. The evaluation of the action planning process has identified both aspects that have worked well and have identified constraints to the process.

It is currently too early in the air quality action planning process to establish whether real improvements in absolute pollutant concentrations have been realised as a consequence of implementation.

◆ *A full version of the paper as submitted to the World Clean Air Congress, complete with references, is available from the authors.*

OPINION: WHAT SHOULD A SUSTAINABLE UNIVERSITY EDUCATION LOOK LIKE?

Forget the earnest discussions about course content, inter-disciplinary rivalry and faculty politics. **ROLF JUCKER** and **STEPHEN MARTIN** have some subversive ideas about how current leaders in academia, politics and business could be moved up the 'money/mouth continuum' of sustainability.

How come successful careers, political leadership and business success are all intimately connected with social status, wealth and a life in material luxury, when we know that none of these things will help us achieve a sustainable society?

If our role models and the political and economic leaders who guide our society are so clearly and utterly out of synch with living within the limits of our life-support system, Planet Earth, there is something seriously wrong with our education system, and particularly with our universities.

Saying this also means that we have to admit to a long history of failures. Since the Stockholm Conference on the Human Environment (1972) an almost endless string of international declarations and agreements (Agenda 21, Rio Summit 1992, World Summit on Sustainable Development Implementation Plan, 2002, to name but the most prominent ones) declared that education is the key to a sustainable society. But many argue that far from re-orientating education and lifestyles, the last 30 years have seen an acceleration of unsustainable activity, spreading it to ever more remote corners of the globe, leading in turn to a 30% overexploitation of the Earth's carrying capacity.

Before we can contemplate what sustainable university education might look like, we therefore have to ask why, given the pressing need for a different education, the anticipated step change has not happened.

We would argue that the following features of our current way of doing things has prevented any real change taking place.

First, the main driver of our lives is the neoliberal economic model of unrestrained growth and increased consumption. Despite all the efforts of the green movement, the notion of economic growth is always (and daily in all the business sections of all major newspapers around the world) presented as desirable and even written into the UK government's sustainable development definition. Yet a just society is inconceivable unless we reinvent a cyclical economy, based primarily on sustainable food production which enables non-commodified ways of life and cuts out the vast majority of material consumption that the richest 20% of the world population now indulge in.

Second, much of education for sustainability and development education focuses on the 'other': on 'development', 'poverty alleviation', 'hunger', etc. Yet the 'underdeveloped world' or 'poverty' are not problems in a void, but consequences of the power stranglehold, overconsumption and overdevelopment of the richest 20% over the rest of the world population. Any transition to a sustainable world will therefore have to concentrate on reducing overconsumption and material wealth, not on underdevelopment and poverty; on horizontal and equitable distribution of power around the globe, not on 'development' strategies which reinforce the dependency of the poor on the rich. In other words, we are collectively looking at the finger pointing to the problem, not at the problem itself.

Third, education for sustainability and environmental education always focus on the next generation. This is important, but it is equally disingenuous. Those who most urgently need to be educated to understand and facilitate the transition to a sustainable society are the current political leaders, the CEOs of transnational corporations, university professors and everybody else who perpetuates the unsustainability of the current state of affairs daily with their actions, decisions and lifestyle choices.

'The "underdeveloped world" or "poverty" are not problems in a void, but consequences of the power stranglehold, overconsumption and overdevelopment of the richest 20% over the rest of the world population'

What consequences does this have for a university education which seriously embraces the concept of sustainability?

It is obvious that in the first instance we need to train the trainers and managers and hence build capacity in the system. Nobody should really be allowed to lead a place of higher learning nor to teach in it without sound training

in Gandhian humility, systems thinking, complexity and history. This could be achieved by the following requirements:

1. Experiential learning

People change their behaviour very quickly if they are faced directly with its consequences (i.e. a factory is only allowed to draw fresh water downstream of where it feeds back its waste water). Therefore managers and lecturers are required to live for at least six months amongst poor communities somewhere in the majority world without any extra resources (say the landless peasants in Brazil or sweatshop workers in the Philippines or China). This would ensure that for once they would be at the receiving end of the consequences of imposing our unsustainable model onto the world. Think of George Orwell's *Down and Out in Paris and London* updated and on a more global scale.

2. Large steps towards small footprints

Before being allowed to enter university service, academics and managers would need to demonstrate that they can lead a self-sufficient life within a sustainable total ecological footprint of 1.8 hectares (the global Earth share). To use a more common unit of land measurement, that's about 1.5 soccer pitches. The few estimates that exist suggest that universities' current footprints are nearly 2.5 times this figure. Any overshoot would either prevent them from entering the service or could be deducted *pro rata* from their salary (which might actually help them because overshoot is closely linked to monetary wealth).

3. A bigger 'bigger picture'

Lastly they would need to demonstrate sound knowledge of the basic working of the life-support system Earth, environmental economics and the destructive history of so-called progress and development, including a critical sustainability evaluation of much of what passes as science and high-tech.

Once there is evidence that university teachers and managers have translated their newly found humility, personal commitment to a sustainable lifestyle and understanding of the ethics of sustainability into the day-to-day running of their institutions (the same, of course, would apply to businesses), the institutions can start to rethink their teaching provision.

All of the above would need to be translated into subject-specific teaching (which should develop into wider interdisciplinary understandings) and would, of necessity, comprise the following: irrespective of discipline, students would need to learn to grow their own food (or help growing it) and be enabled to lead a lifestyle with a sustainable consumption pattern. A gap year between school and university might be a good opportunity to wise up on points one and two above and get the necessary sustainability literacy.

'Before being allowed to enter university service, academics and managers would need to demonstrate that they can lead a self-sufficient life within a sustainable total ecological footprint of 1.8 hectares'

The disciplinary teaching, however, would rethink the relevant subject within a sustainable economic, social and political framework, with a view to long-term responsibility towards society. This cannot be done in a prescriptive fashion, since it clearly depends on the subject area.

But the end result will be the real test. Only if the graduates of our higher education system turn out to be humble human beings, living within the means of nature and able to use their privileged access to knowledge in ways to reduce our dependency on consumerism and increase contentedness and sufficiency, will we know that the changes envisaged by environmental education and education for sustainability have finally happened. Or, to put it in more practical terms: we will know that we are on the right track when our current and future cultural, political and business leaders lose their infatuation with expensive cars, expensive houses, expensive watches, global jet-setting and excessive salaries.

◆ Dr Rolf Jucker is Senior Lecturer in German Studies and Sustainability at the University of Wales, Swansea. Professor Stephen Martin is an IES Council member and Visiting Research Fellow at the Open University.

Like to respond? Got a burr under your saddle about something else to do with environmental science or a specific environmental issue? Rattle off around 1,000 terse and well-chosen words and e-mail them to *ies-uk@breathemail.net* including the word 'OPINION' in the subject box. Alternatively, you can send a disk or hard copy to the usual address: the Institution of Environmental Sciences, Suite 1, 38 Ebury Street, London, SW1W 0LW.

It goes without saying, but we'll say it anyway – the opinions expressed throughout *Environmental Scientist* and particularly this section are those of the named contributors and do not represent the opinions of the editors or the Institution of Environmental Sciences.

WEB WISE

Increasingly, the source for information concerning developments in environmental science is becoming electronically based. In this new section, ES reviews websites and Internet based information sources of interest to IES members. In this issue, we highlight the new website created by the **SUSTAINABILITY ALLIANCE**, of which the IES is a founding member.

Address

http://www.sustainabilityalliance.org.uk/index.asp

Date accessed

31 August 2004

Intended audience

Engineers and similar technical professionals, defined by but not limited to membership of the founding bodies:
Chartered Institution of Building Services Engineers
Chartered Institution of Wastes Management
Chartered Institution of Water and Environmental Management
Institute of Energy
Institute of Environmental Management and Assessment
Institution of Environmental Sciences
Institute of Horticulture
Institution of Civil Engineers
Institution of Electrical Engineers
Institution of Incorporated Engineers
Royal Institute of British Architects
Royal Town Planning Institute

Design/ease of use rating 6/10

A relatively easy to use site, with two separate navigation bars in the top right and the left-hand borders of the screen. There is no obvious indication of the date the site was last updated.

The pages accessed by ES were relatively clean in terms of design, with an easy to read sans serif face, black text on a white background, surrounded by two tone green panelling. There was no fussiness in the graphic design or unnecessary animated decorations, which will make it a swift download no matter what level of equipment is used to access the site.

This last factor may explain why even the Alliance's own full colour logo has to be accessed and downloaded separately from the 'Resources' part of the site.

Content rating 5/10

One of the reasons that the site may be very easy to use may be that there is not much information on it, despite references to activities up to 18 months previous to the time ES accessed it.

Though the organisation is obviously clear in its intention and indicates this clearly enough in its 'About Us' section, the website does not measure up to the aspirations of the terms of reference. For example, based on the content of the site, there is little evidence as to how the Alliance is fulfilling its undertaking 'To act as a point of contact between government, other relevant groups and the professions on sustainability issues'.

There is, for example, no mention of the current UK government consultation on developing a national Sustainable Development strategy. Even allowing for the fact that the member bodies may well be making their own submissions to this process, there is no reference to this fact and no forward signposting to this information, save for general links to Alliance member sites on the Home Page.

The Resources section does its best to make up for this, with some useful cross-disciplinary articles, many contributed by IES members. However, the list of material is not extensive and though of good quality is not drawn from the breadth of the Alliance membership.

The lack of coverage in its News section is only matched by the lack of clarity in the items that are there. A conference planned for Sustainability Week is dated both 12 August and 16 November 2004. It is also the only evidence of how the organisation will act as a professional focal point.

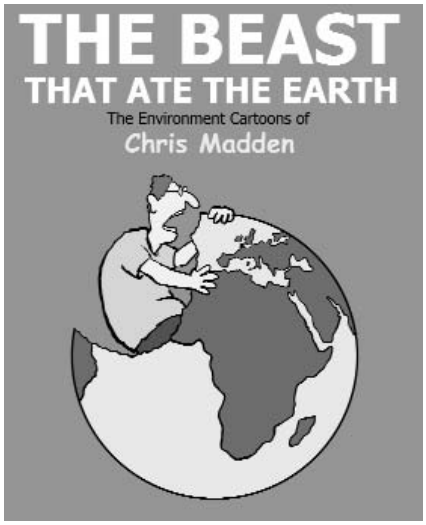
The Links page is a basic one rather than exhaustive or inventive. Though the list may be useful to someone who has never confronted the subject of sustainability before, they are no more than a summary of what a professional (the stated target audience) would be able to muster using a little of their own intelligence and a decent search engine. None of the links have any explanatory text to indicate to potential users whether the linked site content might be relevant to them in advance.

ES would normally have pointed out the image problems created by unnecessary typographical errors, but is aware that it may be inhabiting a glass house the size of the Crystal Palace on this issue. So much for spell checking programs.

Updating frequency 3/10

Not often enough – the News page carries an entry referring to 13 March 2003, concerning a story which

THE BEAST THAT ATE THE EARTH



Unsurprisingly given the subject matter, environmental humour tends to be on the black side. Chris Madden's cartoons are somewhat different, revealing through laughter what might otherwise be too depressing or pessimistic to view head on. If a picture is worth a thousand words, then these cartoons are rich and insightful dissertations, unique in their ability to prize open the shuttered mind.

On the right, and on page 12, you'll find a couple of his cartoons and you can judge for yourself. They're taken from his forthcoming new book, *The Beast that Ate the Earth*, published by Inkline Press and priced £6.99. Due out in October 2004, it will be available through *amazon.co.uk* or direct from the website below.

If you would like to use any of Chris's work for your own presentations, publications or graphic design, please respect the laws of copyright and visit *www.chrismadden.co.uk*

appeared largely no longer relevant.

Bookmark potential 2/10

As currently conceived and maintained, the site only offers more evidence that the technical professions have a long way to go in engaging in active debate concerning sustainable development. This does no favours to the members of the Alliance, who obviously are doing more than many others to 'mainstream' such issues within their own disciplines.

It might be worth revisiting the site after 16 November 2004, when presumably the planned two-day conference that is flagged up may have taken place. Until then, it offers little that IES members do not already know.

Not to be confused with:

http://www.sustainability-alliance.org.uk – which is prepared by the Crewe and Nantwich Sustainability Alliance and addresses environmental issues in the borough.

IES NEW MEMBERS

The Institution is pleased to welcome the following new members (with grade of membership and membership number in brackets):

Ms A. Ahluwalia — Senior Environmental Scientist, ARUP (Member: 2459)

Mr P. Anwyl — Director, Air Quality Monitoring Services Ltd (Member: 2492)

Miss S. Arnott — Assistant Environment Protection Officer, SEPA (Member: 2458)

Dr J.M. Baker — Air Quality Specialist, The Met Office (Member: 2467)

Mrs E.M. Bates — Air Quality Strategy Officer, City of York Council (Member: 2452)

Mr S.J. Bayley — Contaminated Land Officer, Manchester City Council (Member: 2462)

Mr A. Bird — Senior Environmental Manager, Terence O'Rourke Ltd (Member: 2450)

Mr T.M. Black — Consultant, Newcastle City Council (Member: 2453)

Mr J.P. Brannigan — Director, ESD Consulting Ltd (Member: 2465)

Mr A. Cade — Director, Studentforce for Sustainability (Member: 2468)

Mr M.J. Cheers — Reservoir Geologist, Geomodelling Services Ltd (Associate Member: 2491)

Miss H.W. Ling Chu — Freelance (Member: 2470)

Mr S.P. Crawford — Environment Protection Officer, SEPA (Member: 2489)

Miss H.M. Cross — Senior Engineer, Card Geotechnics Ltd (Member: 2484)

Mrs H.M. Dalton — Principal Consultant, WSP Environmental (Member: 2478)

Mrs A.M. Danskin — Principal Consultant, BMT Cordah Ltd (Member: 2479)

Mr K. Dewar — LDG Grampian Soil Surveys Ltd (Associate Member: 2472)

Mr J. Drabble — Consultant, Posford Haskoning Ltd (Member: 2448)

Dr M. Everard — Horizon Scanning Advisor, Environment Agency (Member: 2487)

Ms K.M. Farris — Accommodation Manager, University of the West of England (Associate Member: 2483)

Mr S. Freeland — Assistant Environmental Protection Officer, SEPA (Associate Member: 2500)

Mr A.J. Gurney — Senior Mathematical Modeller, RCC Ltd (Member: 2494)

Ms A.C. Hempenius — Student, Rose Cottage (Associate Member: 2466)

Mr G.J. Hills — Consultant, Enviros Consulting Ltd (Member: 2493)

Mr D.J. Jones — Environmental Scientist, Wessex Water (Member: 2454)

Mr G. Jones — Environmental Safety Engineer, Hinkley Point 'B' Power Station (Member: 2469)

Prof D.P. Laxen — Managing Director, Air Quality Consultants (Member: 2482)

Mr Koon Wah Li — Manager, Plant and Machinery, Shui On Building Contractors Ltd (Member: 2498)

Mr T.P. Liggins — Specialist Environmental Health Officer, East Riding of Yorkshire Council (Member: 2476)

Mr G. McAlister — Postgraduate Student, University of Strathclyde, Glasgow (Associate Member: 2456)

Mr I.S. McGowan — Environmental Consultant, BMT Cordah Ltd (Member: 2460)

Mr G.E. Maly — Air Quality Consultant, SLR Consulting Ltd (Associate Member: 2475)

Dr B.B. Marner — Consultant, Air Quality Consultants (Member: 2481)

Mr C. Mason — Senior Consultant, Halcrow Group Ltd (Member: 2457)

Ms S. Nisbet — Field Officer, Chemistry Department SEPA (Member: 2488)

Ms M. O'Connor — Student, University of Ulster (Associate Member: 2463)

Mr S.R. O'Hara — Environmental Manager, Mitchell McFarlene International Ltd (Member: 2471)

Miss J. O'Keeffe — Assistant Marine Chemist, SEPA (Associate Member: 2473)

Miss L. Parkin — Air Quality Consultant, Casella Stanger (Member: 2474)

Mr D.A. Parrish — Senior Scientific Officer, Milton Keynes Council (Member: 2461)

Mr I. Paterson — Senior Analyst, Alex Stewart (Assayers) (Member: 2477)

Mr T. Pinder — Environment Manager, RMC (Member: 2495)

Mr W. Ramsey — Principal, J. Ramsey Associates (Member: 2455)

Miss C.H. Redshaw — PhD Student, University of Plymouth (Associate Member: 2464)

Ms L.M. Rudd — Student, Swansea Institute of Higher Education (Associate Member: 2451)

Mr E.C. Rudman — Principal Environmental Health Officer, Wear Valley District Council (Member: 2449)

Miss J.V. Smith — Senior Air Quality Consultant, WSP Environmental (Member: 2486)

Mr M.J. Thomas — Operations Manager, Valley Waste (Member: 2490)

Mr J.M. Tingley — Senior Geo-Environmental Engineer, Geo-Environmental Services Ltd (Member: 2499)

Dr J. Tippett — Postdoctoral Fellow, School of Planning and Landscape (Member: 2497)

Dr S.F. Watts — Reader in Biochemistry BMS (Member: 2485)

Miss P.J. Wilson — Senior Consultant, Air Quality Consultants (Member: 2480)