environmental SCIENTIST

January/February 2006

Spotlight on sustainability

Journal of the Institution of Environmental Sciences

Vol 15 No 1

Editor: Jennifer Blumhof • Established 1971 • ISSN: 0966 8411

CHAIR'S MESSAGE

The Chair of the IES Council, **JIM LONGHURST,** looks at the achievements of recent years, and considers the challenges that lie ahead

Welcome to this the latest issue of the Institution's Journal. As I write this message I have just three months left to serve as Chair of the Council of the IES. Indeed, come the AGM in March 2006 I will have served for four years as Chair and for the three years prior to that as Vice Chair. I would like to take this opportunity to reflect upon some of the changes in the last four years and to briefly comment upon some of the challenges facing the IES in the future.

One of the most significant changes in my period as Chair has been the establishment of a new administration team under the direction of Honorary Secretary Jenny Blumhof. The team have overseen the relocation of the IES into the Ebury Street offices, generously provided by the IES President, His Grace the Duke of Westminster, and the team have completed a substantial enhancement in the organisation and delivery of membership services. One key part of this has been an enhancement of the communication strategy and the complete redesign of the IES website (see *www.ies-uk.org.uk*). More recently the team oversaw a further relocation of the IES office, this time from the basement suite in 38 Ebury Street to a much more spacious penthouse suite, also in 38 Ebury Street. Our Project Officer, Abhishek Sharma is now moving on to work for an environmental consultancy. We would like to thank him for all his efforts and wish him the very best for his future.

The last 18 months have been spent undertaking a considerable amount of work to update the IES constitution in line with current best practice recommended by the Charity Commission for England and Wales. Following submission to, and approval by, the Charity Commission of our proposed changes the updated and amended constitution is being circulated with the *Environmental Scientist* for approval by the IES membership. This constitutional renewal process has been a significant task for the Honorary Officers in which they have been supported by Irving Blumhof, acting in a voluntary capacity.

A particularly welcome development in 2005 was the launch of the environmental careers website. The website was produced in partnership with StudentForce for Sustainability and with the generous financial support of the IES President. The website may be seen at *www.environmentcareers.org.uk*

The IES makes a significant contribution to developing new ways of thinking and acting sustainability in professional life through our continuing support for the Professional Practice for Sustainable Development (PP4SD) initiative led by IES Senior Vice President John Baines. Over the last few years PP4SD has supported the roll-out of sustainable development training to a wide range of professions including the financial services.

More recently the PP4SD web site has been refreshed and the latest developments can be seen at *www.pp4sd.org.uk/introduction/introduction.htm*

During the last four years the IES has supported the

Contact address for the IES:

IES
Suite 7
38 Ebury Street
London SW1W 0LU

Tel: 020 7730 5516
Fax: 020 7730 5519
Email: enquiries@ies-uk.org.uk

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 7, 38 Ebury Street, London SW1W 0LU; Email: enquiries@ies-uk.org.uk
Views expressed in the journal are those of the authors and do not necessarily reflect IES views or policy.

Published by The Institution of Environmental Sciences, Suite 7, 38 Ebury Street, London SW1W 0LU.
Tel: 020 7730 5516. **Fax:** 020 7730 5519.
Web Site: http://www.ies-uk.org.uk
Email: enquiries@ies-uk.org.uk
Design and origination by Davies Communications, 020 7482 8844.
Printed on recycled paper by Uniprint Ltd, 36 Jaggard Way, Wandsworth Common, London SW12 8SG.

conception and further development of the Institute of Air Quality Management and this has brought a welcome influx of new members. I take this opportunity to welcome Professor Bernard Fisher as the new chair of the IAQM. The work of the IAQM can be viewed at *www.iaqm.co.uk*

Members will be aware of the contribution of the IES towards the establishment of the Society for the Environment (SocEnv) and our role in supporting SocEnv in securing approval from the Privy Council for the award of the title Chartered Environmentalist (CEnv). IES Vice President Will Pope served as the first chair of the Board of the Society for the Environment. The IES will continue to play a strong role in support of the objectives of SocEnv. The work of SocEnv may be seen at *www.socenv.org.uk* A significant achievement for the IES has been the granting of Licensed Body status by SocEnv enabling us to offer appropriately qualified members the designation CEnv.

The IES recognises that the voice for and on behalf of the environment is much stronger when the professional bodies work together and establish common positions under the umbrella of the Society for the Environment. In pursuit of this, the IES will continue with its stated policy position of seeking greater convergence in the policies, practices and administration of environmental professional bodies.

The IES, in partnership with the Committee of Heads of Environmental Sciences, continues to be active in the accreditation of undergraduate degree programmes in universities and higher education colleges and we have extended the joint working agreement to accredit MSc programmes. The work of CHES may be viewed at *www.ches.org.uk*

The Council of IES has also been active in reviewing the policy and strategy of the IES during 2005 and is working towards a new statement of strategy for release in 2006.

The IES continues to play a role in the work of the Science Council (see *www.sciencecouncil.org*) and during 2006 the IES will examine the opportunity for offering Chartered Scientist (CSci) designation as part of our membership offering. There will be an additional administration burden if we pursue this course as the Science Council does not confer Chartered Scientist on individuals directly but only through member professional bodies that have been awarded a licence. As with Society for the Environment, only Licensed Bodies can confer the designation on individual members who meet the criteria. In order to offer CSci the IES would first need to apply for Licensed Body status and meet the specific requirements laid down by the Science Council. The views of members on this opportunity would be particularly welcome.

IES has had an exciting and very busy period between 2002 and 2005 and 2006 looks set to continue this course.

As a voluntary organisation the IES is dependent upon the dedication of its Honorary Officers and council members and I would like to take this opportunity to thank them for all their efforts on behalf of the IES during my period as Chair of Council.

In conclusion, I would like to encourage members to stand for Council and to play a part in the deliberative and executive decision making of the Institution. If you are interested in becoming more involved in the IES then please contact the Honorary Secretary or myself for an informal discussion.

If the IES is to continue to act as a powerful advocate for the Environmental Sciences then it needs more members to become actively involved in its day to day operations. The Honorary Officers and Council members work hard on behalf of the IES but the development opportunities often exceed the time available. However, if more members became actively involved then more could and would be done.

Why not add to your New Year's Resolutions the task of becoming an active member of the IES? Why not stand for Council? I can guarantee that you will have a warm and friendly welcome.

Alternatively, why not seek to recruit new members to the IES? With new members and the resources they bring our administration effort can expand to offer new and enhanced services. More importantly, it could provide more opportunity for the IES to lobby for national policy developments that enhance the role of environmental science in decision making and which support the achievement of sustainable development pathways.

Regards.

Jim Longhurst
Chair of Council

January 2006

Email: *James.Longhurst@uwe.ac.uk*

CAN WATER MEADOWS TEACH US ABOUT SUSTAINABLE LAND USE?

Is it time for the water meadow to make a comeback? **MARK EVERARD** looks back at a 16th century phenomenon that could have some valuable lessons for the 21st century.

Water meadows were once a sophisticated technology that was near-ubiquitous across many river catchments of southern England. This may not be apparent from the few straggling remainders that are still operated today, when the term 'water meadow' itself is largely misunderstood except by those with direct experience of these disappearing, characteristic and charismatic forms of land use.

Water meadows are distinct from other forms of wet grassland in structure, habitat, hydrology, ecology and cultural character. They were engineered quite deliberately to be so, their topography formed into ridges and furrows on flat riparian land. The intricate network of weirs, channels, sluices and sloping 'panes' of turf enabled a management regime that maximised productivity of grass in the cooler late winter and early spring months. Water flows from the river were then diverted through distribution carriers into increasingly fine 'mains' cut into the tops of the ridges. From the mains, water over-spilled to percolate as a fine and oxygenated moving film across the sloping 'panes' of grass, before collecting and flowing away in the 'drains' at the furrow bases. It is this method of controlled water flow, critically maintaining a thin film of moving and oxygenated water that is not allowed to stand or waterlog the soil, that distinguishes water meadows from other forms of wet meadow.

The effects of winter flooding of grassland were long known to promote early growth. However, water meadows introduced a level of control that conferred major benefits, leading to their rapid pervasion across virtually all of the catchments of Wessex and many beyond.

Origins, persistence and decline

Livestock was essential to post-medieval mixed farming methods for production of food, 'horse-power', milk, wool, and manure fertiliser. However, the 'hungry gap' of early springtime, prior to the availability of new grazing yet when stores of animal fodder were depleted, imposed a limiting factor to livestock production, the whole agricultural economy and its capacity to feed the population. Water meadows were an innovative technology that overcame this 'hungry gap'.

Their origins date from Herefordshire in around 1580, after which they spread rapidly throughout southern counties. Many prevailed in the UK landscape for over 300 years until their precipitous decline in the 20th century.

The operation of water meadows required considerable skill from the 'drowners' who used to tend them and control the flows, sequentially 'drowning' and draining the meadows throughout the year to maximise early growth of grass and later the stimulation of hay and summer grazing. Controlled flows harnessed the warmth and nutrient-bearing silt from river water, also irrigating the grass and controlling some weeds.

Furthermore, stock feeding on the hay and early grazing provided by water meadows was often moved to the thinner soils of surrounding Downs at night. Here, their faeces and urine carried nutrients, boosting the production of cereal crops substantially. This was the so-called 'sheep-corn system', though cattle were also used. By the 18th century, enhanced arable production stimulated by the sheep-corn system was far more significant than direct grazing provided by water meadows.

The geology, hydrology, climate and topography of Wessex, as well as its

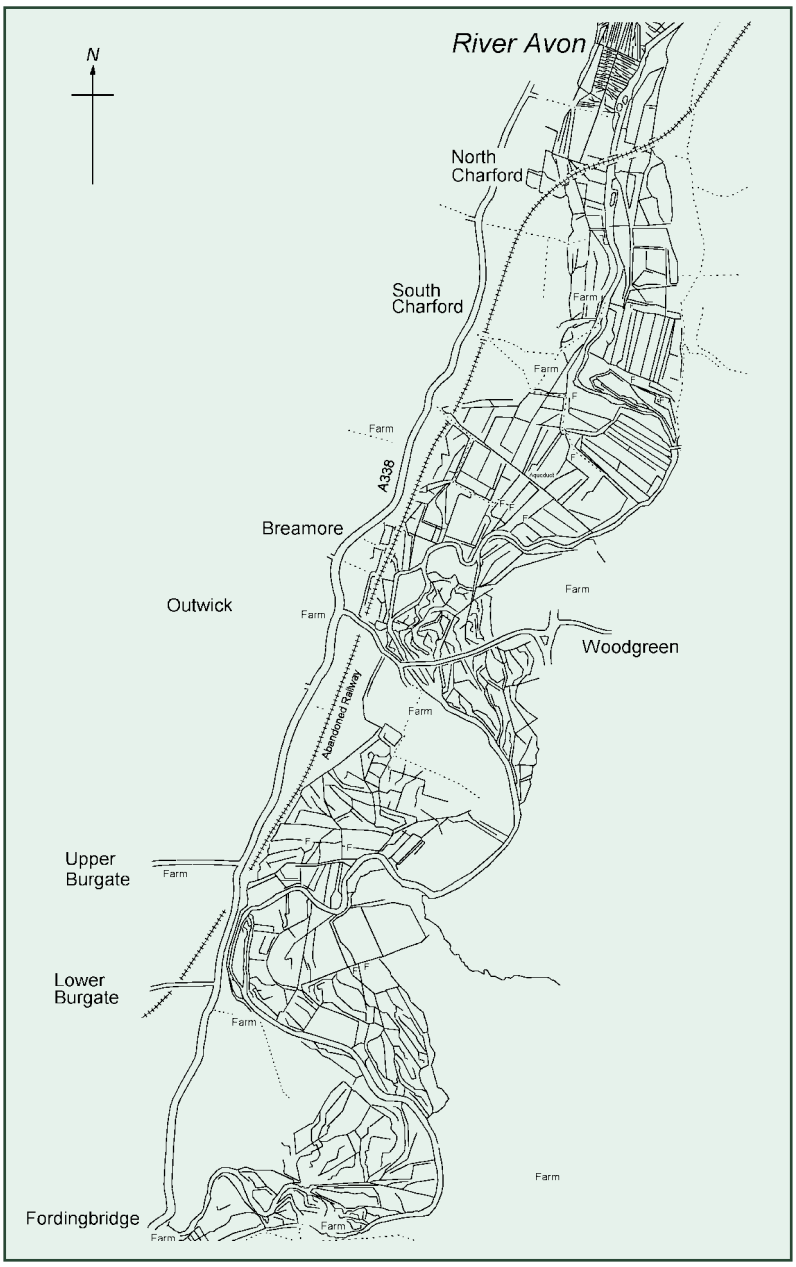
economic and social fabric, was particularly favourable for water meadow development. The economic benefits of water meadows led to rapid floodplain conversion and near-ubiquitous spread, almost wherever appropriate free-draining soils, groundwater flows and flat topography were encountered during a time when labour costs were low and floodplain modification was deemed essential for agriculture.

The heyday of the water meadows was the mid-18th and 19th centuries. However, the pressures to maximise productivity and deliver economic goods that led to their creation and spread were, ironically, the same factors conspiring towards their near-extinction. Water meadows could not compete in the face of mechanisation, chemically-intensive farming, rising labour costs, international trade and the declining contribution of agriculture to the British economy throughout the 20th century.

Today, water meadows reside more in folk memory than in widespread physical reality. Many people misunderstand the term whilst, for others, water meadows were immortalised by Thomas Hardy's novels and the paintings of John Constable and evoke a long-gone rural idyll. Indeed, the image of a lone 'drowner' plying his art and mystery in tending the channels and directing the flows of river water across floodplain land is largely consigned to fiction and folklore in the modern intensive agricultural landscape.

Only a handful of water meadows remain in operation. These occur in the catchments of the Hampshire (or Salisbury) Avon, Hampshire's Itchen and Meon, and Gloucestershire's Windrush. However, with careful scrutiny, relics of water meadows can be found widely across the UK. They pervaded virtually the whole of the upper and middle reaches of the Hampshire Avon and all its tributaries, the upper reaches of most other Wessex rivers such as the Piddle, Allen and Frome, and across into Hampshire's Itchen, Test, Meon, Rother and beyond. Remnants are also to be found on old maps and in the ground in Berkshire's Kennet and Lambourne, Suffolk's Nar, Herefordshire's Dore and Arrow, Surrey's Wey, and many other catchments across England, mainly on a chalk or other permeable geology.

Though today an apparent anachronism, the endurance of the water meadows throughout centuries in a pre-industrial age may just mean they hold a number of clues about truly sustainable land use prior to widespread use of cheap fossil fuel and chemical inputs.



Changing use of land

The British landscape is ever-changing. This will continue. As chemical and energy resources become limited and evidence of the consequences of their incautious usage intensifies, the need for sustainable use of land, water and other natural resources will become increasingly prescient. Despite much remaining inertia, the recent shift in the Common Agricultural Policy from production to ecologically- and socially-beneficial use of land signals this direction of change.

We will increasingly need to innovate and apply land use technologies that work with and protect natural functions, rather than persist with those that fight or degrade them. We can be sure that demands for a substantially lower intensity of chemical and energy inputs

will define future agriculture, whether by proactive choice or because of resource costs or legal restrictions.

Water meadows and the future

We are unlikely to revert to a mythical 'Golden Age'. It is uncertain whether water meadows as we knew them have a place in our future. But, before they vanish totally, perhaps we should recall exactly how they harnessed natural river flows to irrigate, drain, fertilise, warm, oxygenate and control weeds, boosting agricultural productivity significantly and persisting in a pre-industrial era of agriculture. The pervasion and endurance of water meadows over centuries demonstrates their capacity for sustained benefits.

For the few land managers who persist with water meadows today, there is an instinct to preserve heritage value but also a solid economic incentive derived from 'free grass'. 'Free', that is, from heavy use of fossil fuels and expensive fertilisers and biocides, albeit that the work is hard and the intellectual input to operate the meadows effectively in changing river flow and weather conditions is substantial. But the old principle of harnessing natural flows of nutrients, water, warmth and weed control for human benefits, which coincidentally build upon and protect aspects of the natural functioning of catchments, remain if anything more pressing today than in the post-medieval period. Furthermore, the now-defunct sheep-corn system provides us with a functional model for spreading these benefits across wider farming landscapes.

In these regards, water meadows exemplify some important principles of sustainable land use, and may hold lessons for us about future land stewardship. They are centuries-old exemplars of a 'knowledge economy', utilising ingenuity in place of heavy chemical or mechanical methods to deliver more productivity or human value with less physical resource. Though water meadows may have no automatic role in the future, perhaps we may meld their underpinning principles with the scientific and technological progress of the intervening three and more centuries. We certainly need to innovate if we are to feed, on a sustainable basis, the twelve-fold increase in human mouths we have witnessed in that timeframe. Could, for example, mechanised, remote or automated manipulation of sluices revolutionise the efficiency of water management? Can we target benefits derived from controlled flows of river water using the principles of 'precision farming' (technologies such as tractor-mounted geographic positioning systems, whole-farm plans, nutrient and soil maps, topographical databases, and so forth)? Can technological means be applied to collect and redistribute nutrients trapped by water meadows, replicating the benefits of the sheep-corn system to harvest the often-excessive fluxes of nutrients in rivers and to spread low-input benefits across wider farming landscapes? We should not dismiss the many benefits of the post-Second World War 'Green Revolution', which saw massive increases in food productivity per unit of land area and agricultural worker, but seek to embrace them in a more ecosystem-centred approach to land use.

> "Water meadows exemplify some important principles of sustainable land use, and may hold lessons for us about future land stewardship…"

> "Though water meadows may have no automatic role in the future, perhaps we may meld their underpinning principles with the technological progress of the intervening three and more centuries"

We also need to back this up with a workable economic system that rewards the simultaneous delivery of multiple benefits from land use: food production, floodwater storage, biodiversity gain, groundwater recharge, protection of historic landscapes, water purification, fishery improvement, and other attributes besides from which society benefits.

The principles upon which water meadows are based need to be relearned and reinterpreted into post-modern land stewardship systems. They hold valuable clues about working with the grain of supportive ecosystem functions, making room for nature whilst sustaining ourselves indefinitely into the future.

◆ *Dr Mark Everard is Visiting Research Fellow at the University of the West of England and the author of the new book* ***Water Meadows: Living Treasures in the English Landscape*** *(2005, Forrest Text, Ceredigion). The book explores water meadows from historic, economic, ecological and heritage perspectives, charting their origins, function and operation, decline and fall, but always from functional and sustainability perspectives. It also provides case studies of operational and abandoned systems, and is comprehensively illustrated with photographs and line drawings.*

THE CONTRIBUTION TO SUSTAINABLE DEVELOPMENT BY PERSHORE GROUP OF COLLEGES

From composting to cider making, from pot recycling to the student bus service, the Pershore Group of Colleges are taking sustainability seriously. **HEATHER BARRETT-MOLD,** college principal, describes progress so far.

Sustainable development is the simple idea of ensuring a better quality of life for everyone, now and for generations to come. A widely used international definition is 'development which meets the needs of the present without compromising the ability of future generations to meet their own needs'.[1]

Although the idea is simple, the task is substantial. It means meeting four objectives at the same time, in the UK and the world as a whole:

- social progress which recognises the needs of everyone;
- effective protection of the environment;
- prudent use of natural resources;
- maintenance of high and stable levels of economic growth and employment.

It is important to recognise that these objectives should be met at the same time. It is the simultaneous progression of our economic, social and environmental goals that is essential if development is to be sustainable.

In particular, the vision of the Learning and Skills Council is that over the next ten years:

- the culture of the sector will change so that all providers and learners will know about sustainable development and expect it to be a part of normal practice;
- strategies, policies and plans that integrate and implement sustainable development will be in place, understood and acted on;
- the LSC itself will integrate sustainable development into its policies and everyday practice at all levels;
- risks and barriers that prevent sustainable development will be anticipated and managed;
- continuous improvement in the sector's performance in sustainable development will be reported and recognised;
- good practice in learning, management and community interaction will be recognised, understood and monitored.

The work of sustainable development in colleges is usually recognised in its contribution to the curriculum as well as the way in which a college runs its business. In both cases there should be an awareness of the triple aspects, i.e. the environment, the economy and society. As with equal opportunities, key skills and health and safety in the past there is a debate about whether sustainable development should be taught separately or in an integrated way. This debate extends into the professions i.e. should there be professionals who promote sustainable development or should this be the responsibility of all. The pragmatic approach and certainly that which works for equal opportunities, health and safety and key skills is that it is both. Sustainable development is the responsibility of all but to have knowledgeable champions supports this process. This is the approach taken by Pershore Group of Colleges and can be seen in its sustainable development policy and the work that it undertakes. Pershore Group of Colleges has sustainable development as part of its mission.

> 'PGC will provide a quality service, that promotes sustainable development, and which meets the education, training, social and aspirational needs of rural and urban communities, within the context of land-based industries in their widest sense.'

In order to make this approach successful, staff must have an awareness that enables their informed delivery. In 2000-01 around 16 staff of the college received training using the Professional Practice for Sustainable Development (PP4SD) materials available at that time. The Environment Agency, The Natural Step and the World Wildlife Fund supported this initiative.[2]

The college continues to work with PP4SD and has been represented on the group that has adapted the materials for land-based provision. Staff continue to develop their knowledge and skills in this area of our work. In 2001 an audit for sustainability of the Holme Lacy campus was undertaken and an ecological footprint for the whole campus was produced. In 2002 the college was successful in bidding with the LLSC for LSC funding for a sustainable development project. Its objectives were:

- to identify sustainability champions within post-16 education and training institutions in Herefordshire and Worcestershire;
- to run a series of training days for sustainable development champions;
- to develop a qualification for sustainable development champions at a practitioner level;

1. The World Commission on Environment and Development, *Our Common Future* (The Bruntland Report), OUP, 1987, p43.
2. For more information about the IES's PP4SD project, see Chair's message on page 2.

- to review the current position in relation to curriculum 'greening';
- to identify and promote best practice for sustainable development taking place in education and training institutions in Herefordshire and Worcestershire.

All full time students have an introduction to sustainable development through their tutorials and/or through the integration, by staff, of sustainable development into the specific subject matter, e.g. low water use gardens. In addition there are specific modules in sustainable development such as in the HND/BSc Horticulture, the Sustainable Development Advocacy Programme, and Organic Horticulture programmes. The integration of sustainable development into the curriculum can be quite specialised as in the development of social enterprises where students with learning difficulties and disabilities grow organic vegetables in order to sell them, or work on recycling projects.

For some time now the college has been involved in a Leonardo Project with partners from the continent. This group developed a qualification at Level 4 in sustainable development for land based colleges and a Level 3 qualification is near completion. The group is currently working on the collection of sustainable development evidence as part of their supporting portfolio.

> "Produce is sold locally as much as possible. The farm composts waste on a large scale, including the waste from the horses, and apple waste from Bulmers… The commercial nursery recycles water from the roofs of college buildings…"

The way that we run the business links closely with our curriculum. We support local businesses in diversification through outreach and a strong community base. In order to underpin this we have organic areas on both campuses and work to promote the link between food production and consumption. We have a direct sales project for food and work with schools to raise awareness of food and its origins. We process food to add value and sell locally through our own outlets, local shops and farmers markets. Our fruit at Pershore is farm assured produce. We use some of our own produce internally and this forms one of the four targets of our refectory services, i.e. we have targets for local, unprocessed, organic and own grown. Currently the refectory service uses our own potatoes and fruit. Elements of sustainable development in our nursery have given rise to conferences delivered by nursery staff and targeted at other similar businesses, e.g. conferences on water recycling and the use of alternatives to peat in the Nursery Stock industry.

We have very close links with our communities. Our student union raises money for local charities. Many of our students work in local schools supporting sports clubs and events. The college actively supports local events by sharing expertise e.g. holding gardeners' question times and building gardens. There are strong links with professional organisations and many local branches use the college as their base.

The college estates are run with sustainable development as a prime consideration. The farm at Holme Lacy has gone through a full conversion to organic status. Our partnership with the Bulmer Foundation has helped to support this, and subsequent work with the Soil Association and local farmers' groups. Produce is sold locally as much as possible. The farm composts waste on a large scale, including the waste from the horses, local green waste and apple waste from Bulmers.

At Pershore some of the land is organic and supports that part of the curriculum. The commercial nursery recycles water from the roofs of college buildings. A system of reservoirs and underground piping is in place. When finances allow a reed bed will be put in place. All of the pots are recycled. About half of the nursery is entirely peat free and the other half has reducing peat levels with plans to become completely peat free. An electric vehicle has replaced the diesel tractor. The nursery is an active member of the Midland Regional Growers Group. Green waste is composted. A chipper and composting machine have been bought and have enabled us to deal with all organic waste. The wood chip is either used as mulch or is composted. Part of the land at Pershore is kept as a conservation area and the college is also a recycling centre.

The college fruit unit produces asparagus, apples, pears, plums, strawberries, cherries and honey. The produce is used in the college or sold locally through farmers' markets, our own plant centre or through local shops. Flowers grown are also sold locally. Value is added to some produce through juicing and the production of cider and perry. The facilities for this are used by our food and drink students but also by local growers.

We have more work to do. We have to develop our transport, procurement and energy use policies and plans. We have started reviewing, and working on, these areas e.g. we are trying to encourage staff to use our student bus service by providing some free travel and the college Sustainable Development Group has overseen an audit of the college and the development of an action plan and will continue to make iterative changes to this. We are looking to build on sustainable procurement for the college.

INCORPORATING RENEWABLE TECHNOLOGIES INTO PFI SCHEMES

A stronger commitment from Government is needed if the best use is to be made of the private sector's skills to incorporate renewable energy technologies into PFI schemes, argues **TOM LAWSON**

The Private Finance Initiative (PFI) was announced by the Conservative Government in its 1992 autumn statement. Its aim was to achieve closer partnerships between the public and private sectors. Following two reviews of the PFI by Sir Malcolm Bates, the present Government has continued to pursue the delivery of some public services through this means.

Gordon Brown, the Chancellor, set out the current Government's position in relation to the PFI process in his 2005 Budget speech:

'Under the Private Finance Initiative (PFI) the public sector contracts to purchase services on a long-term basis so as to take advantage of private sector management skills incentivised by having private finance at risk. The private sector has always been involved in the building and maintenance of public infrastructure, but PFI ensures that contractors are bound into long-term maintenance contracts and shoulder responsibility for the quality of the work they do. With PFI, the public sector defines what is required to meet public needs and ensures delivery of the outputs through the contract. Consequently, the private sector can be harnessed to deliver investment in better quality public services whilst frontline services are retained within the public sector.

'The Government only uses PFI where it is appropriate and where it expects it to deliver value for money. This is based on an assessment of the lifetime costs of both providing and maintaining the underlying asset, and of the running costs of delivering the required level of service. In assessing where PFI is appropriate, the Government's approach is based on its commitment to efficiency, equity and accountability, and on the Prime Minister's principles of public service reform. PFI is only used where it can meet these requirements, and where the value for money it offers is not at the expense of the terms and conditions of staff. The Government is committed to securing the best value for its investment programme by ensuring that there is no inherent bias in favour of one procurement option over another.'

Typical PFI projects include prisons, road schemes, waste collection services, hospitals and schools. PFI projects can run for many years, generally 25 and often up to 30 years from completion of construction activities. The incorporation of renewable technologies into new buildings from the outset could therefore create potentially significant savings over the lifetime of a PFI concession project, not only in terms of emitted carbon dioxide, but also in terms of energy cost savings.

Particularly with schools, where there can be a diverse range of buildings, activities and uses of buildings, often set in an urban environment where planning restrictions are less onerous, surely there ought to be a diverse range of renewable technologies that can be incorporated, from an early stage, into a schools PFI project?

Well, the answer is clearly yes. But there are obstacles to overcome and these are mainly financial.

The UK Government is working towards meeting its commitment to reducing carbon dioxide emissions and depending on whom you believe, it is either on target to meet the 20% reduction in carbon dioxide emissions by 2010 (measured against a 1990 baseline), or it is not. There are a variety of initiatives already being employed to reduce carbon emissions, from the new Part L to the Building Regulations, which specifies energy saving designs for all new buildings, to the Government's aspiration for all new public buildings greater than 1,000m^2 in area to generate 10% of their own energy requirements at the site.

This latter aspiration, for this is all it is, leaves the decision to councils, hospital trusts, etc, to decide whether they want to invest in renewable technologies as part of a new development, or not.

Through the long and complex PFI bidding process, bidding companies are encouraged to refer to Government, national, regional and local plans, local authority's Agenda 21 reports and in some cases even to discuss proposals for all aspects of a project's sustainable development with an appropriate 'sustainability officer'. This generally results in a detailed and comprehensive inclusion of many renewable technologies into a PFI project bid. These are significant documents, comprising

Renewable technologies are often excluded due to the lack of a capital expenditure budget, Tom Lawson says.

many tens of volumes of text, including fairly detailed designs and very detailed cost models for the scheme being proposed by the bidder.

However, as bidding progresses a preferred bidder is appointed and the process of negotiation towards financial close commences. During this process, councils can realise that their aspirations not only to have the best facility of its kind, but also that this be a wholly sustainable new facility, can be costly. In most cases, the 'nice add-ons', like solar photovoltaic cells, are not inexpensive and by their not being included a capital cost saving can be achieved for improving core requirements; these typically include having a visually impressive new building that 'makes a statement', extensive information technology equipment and even secure parking areas.

The result is that through the negotiation towards a financial close, many of the renewable technologies that were originally included in a project are then excluded due to lack of budget for capital expenditure. The development of any renewables systems is therefore restricted from the outset and if any schemes are put forward, these are often bolted on to already-built new buildings and are generally small scale, education-type installations rather than a genuine commitment to reduce carbon emissions.

Another significant obstruction to the inclusion of these technologies is the way in which PFI projects are financed. The cost construction of a new scheme will come from a budget for capital expenditure; the cost for future energy bills and other running costs will come from an operational budget. Therefore, any investment by those responsible for the capital expenditure is not realised by them and is often consequently excluded. Any cost benefit from renewable energy systems is a longer-term operational issue and this is where the savings on energy bills would really be noticed.

By working with suppliers and installers of renewable technologies to develop fairly detailed cost models, it can be seen that payback periods are realistically achievable on PFI-type contracts. Payback periods will obviously vary depending on the size and location of any particular development; they can be as short as two to three years for some wind turbines or as long as 15 or even 20 years for solar technologies. Even so, the payback periods are well within the lifetime of a 25 year PFI concession and these estimates do not account for future increases in energy prices.

So, how to overcome this problem? There are PFI schemes that have successfully incorporated some renewable technologies and these tend to have been successful because a council has given a commitment, early on, to ensure that these technologies are included. They are, however, few and far between and seldom on a large scale. Other systems are operational where a PFI concession company has successfully partnered with its client to develop small scale projects, generally as 'bolt-ons' to existing buildings.

The clear answer is surely for the Government to do more than just require its regional bodies to aim to achieve 10% of renewable energy and actually insist that they do. Indeed, why stop at 10%? The geographic location of a PFI project may mean that it can achieve far more than 10%, without incurring excessive cost.

The complex commercial and contractual nature of PFI projects may always mean that there is a lack of co-ordination between those responsible for capital and operational budget expenditure but if the requirement were included from the outset, then surely this would cease to be an issue.

The leading PFI companies are mostly formed of the larger construction firms who operate in the UK; the better ones have management systems in place to encourage use of recycled materials, minimising waste, inclusion of energy saving materials in designs and protection and even enhancement of biological resources. They are, in effect, 'doing their bit'. But these companies can only really provide what their clients are willing to pay for. If renewable technologies are not a client requirement, they will never be seriously considered by commercial contracting companies who have to report profitability back to shareholders.

The Green Alliance, an organisation created by the UK Government, in a report to the Government published in July 2004, concluded that 'it is imperative that the opportunity is taken to use long term PFI contracts to deliver a flagship generation of sustainable public buildings.'

A stronger commitment from Government is needed to ensure that PFI projects make the best possible use of the private sector's skills to incorporate renewable energy technologies into PFI schemes. This view was strongly supported by the very recent *SDC Commentary on the Sustainable Development in Government Report 2005* published by the Sustainable Development Committee; one conclusion recommended that government departments 'undertake greater use of on-site renewables and CHP on their estates.'

If such a commitment is not forthcoming from Government, and driven down into its regions and departments, how many more large new public developments will be constructed without the incorporation of technologies that make a real contribution to reducing carbon emissions in line with the Government's targets?

◆ *Tom Lawson is the Environmental Manager for Balfour Beatty Capital Projects Limited, the company dedicated to the promotion and management of the group's privately financed projects including hospitals, schools, roads, street lighting and other infrastructure schemes.*

CORPORATE SOCIAL RESPONSIBILITY – MORE THAN JUST LUNCHES, LAUNCHES AND LOGOS

Does CSR bring positive benefits to business? Is it just a way for companies to ingratiate themselves with potential customers? Or does it offer more tangible advantages?

Corporate Social Responsibility is a term that has been increasingly heard in the business community. Though not all businesses may agree with the CSR term, there is strong pressure on organisations to adopt responsible business practice to ensure long-term competitive advantage and continuity.

The importance of CSR in the Yorkshire and Humber region was certainly made clear at an all-day seminar held in the region's office in Brussels, held to celebrate and explain the groundbreaking partnership between the public and private sectors that uses CSR to promote regional competitiveness and long-term sustainability. Yorkshire Forward, the regional government development agency, and Business in the Community (BITC), a UK not-for-profit organisation that assists businesses to develop CSR strategies, established a partnership involving a three year investment of 10 million euros and, as representatives from these organisations explained, the benefits of encouraging public and private sectors to work together have been very evident. BITC now regards Yorkshire and Humber as a region of innovation and best practice.

Yorkshire Forward's mission was simple: 'our policy into their practice'. The aim was to engage as many businesses as possible in the Yorkshire and Humber region. There was £330m of Government funding available to create a high class region, by promoting sustainable economic development and regeneration of the area. BITC's role is as the broker between the public and private sectors – to date around 800 companies in the region have become member companies.

But what does CSR actually mean? Could there be more to it than 'lunches, launches and logos', something that more cynical commentators may hold to be true. Terry Hodgkinson, Chair of Yorkshire Forward, spoke of the importance of businesses taking a long-term perspective, there being a commitment to the community as well as shared learning to inspire others. For BITC Chair, Richard Gregory, the importance lies in publicising the fact that successful businesses have always been interested in the key issues that CSR addresses: the organisation's impact on the workplace, environment, marketplace and the community. But, of course, each business must work out its very own approach to CSR. Not all methods will necessary be effective universally.

Nevertheless, it sounds perfectly simple and sensible. Organisations behave in a socially and environmentally responsible way, employees are happy and businesses stay in business.

However, the main question on people's minds, as vocalised by several members of the audience, was how exactly it makes business sense. How is it that organisations required to maintain profit levels can afford to act in a socially responsible way if there are in effect no real measurable financial benefits? How would one go about convincing other big bosses that it really is a good idea to release members of their workforce for days here and there to paint their local community centre? The responses that followed showed that CSR seemingly really can be a win-win situation. Pam Lee, Regional Director of BITC, explained in the publication accompanying the celebration of the three-year partnership: 'Because corporate responsibility is inextricably linked with good governance and effective management, firms without corporate social responsibility credentials will find it increasingly difficult to enter new markets, attract venture capital or ultimately remain competitive.'

But on the day the real answers came from the big bosses themselves – Seán Mahon, Chief Executive of Cattles plc (a financial services company) and Kevin Whiteman, Managing Director of Yorkshire Water.

Seán Mahon spoke passionately about the positive effects that CSR has had on Cattles plc and on the local community. He cited the main benefits as improved motivation, co-operation, teamwork and retention rates. The basic message was that as a financial services company, it was in the company's interests to promote 'financial literacy' in the region. Cattles plc has developed partnerships with Credit Action and DebtCred – both are national money education charities working to encourage a responsible approach to borrowing among the public, in particular young people. The rationale is that in the future these people will become good customers for Cattles plc. In addition, Cattles plc has motivated its employees to take an active role in their local community through Leeds Cares, chaired by CEO Seán Mahon. He has now been appointed as chairman of the National Cares Leadership Team in recognition of his hard work. Activities have included work on the development of a five-year strategic business plan for Action for Gipton Elderly ('AGE') to ensure its financial stability and one-to-one reading and arithmetic lessons in schools.

Yorkshire Water's MD, Kevin Whiteman, though not enthused by the term 'CSR', stressed the fact that it is simply common sense to take a responsible attitude to one's business. If this is achieved, then CSR really can be a win-win situation. Consumers, employees as well as employers need to like the company in question. Mr

Whiteman spoke of the fascinating reversal of Yorkshire Water's fortunes, going from being one of the most disliked companies in Yorkshire in the late 1990s to being voted utility company of the year in 2005. One in four employees now take part in this good business practice by volunteering, and although 60% of staff consider all of this to be merely 'marketing gloss', 40% do not. Yorkshire Water has been able to save money on team-building programmes, since the volunteer activities have encouraged better cooperation and morale among employees. By developing land and reservoirs owned by Yorkshire Water to enable members of the public to access these areas, staff have been able to learn valuable lessons about teamwork and they have developed a belief in the aims of their employer. Good business creates a good workforce which in turn helps drive competitiveness by encouraging performance.

The basic message from business then is that as long as CSR or responsible business practice makes business sense, then organisations will continue to operate this way. However, if the bottom line sees a fall in profit, there is a threat that those chief executives and managers who have introduced CSR will take the blame, in all likelihood resulting in job losses. It seems that in order to convince more organisations to adopt this business method, there needs to be evidence of tangible economic benefits.

Claudia Gintersdorfer, CSR expert from DG Enterprise and Industry at the European Commission, provided the EU perspective. She spoke of the importance that the European Commission places on CSR and how it ties in with the European Union's Growth and Jobs and Sustainable Development strategies. There have been extensive efforts to integrate CSR into all EU policies as well as initiatives of improving knowledge about CSR and encouraging SMEs to practise 'responsibly'. Ms Gintersdorfer also discussed CSR as a driver for competitiveness. As part of this she acknowledged that although there had to date been a lack of proven causal links between CSR and profit, there was some Danish research 'Profits & People', which did indicate some concrete, measurable business benefits. Hopefully, the financial benefits of CSR will become more measurable as it becomes more and more embedded and widespread in the business practice of European organisations.

Another issue raised by Ms Gintersdorfer's presentation was the fact that the EU strongly believes that CSR practice must remain voluntary.

Questions from the audience raised important issues such as how CSR applies in companies that outsource abroad. Would there be the same level of responsibility for the social and environmental surroundings as in the UK? As yet it seems that there are no answers for this, but this is symptomatic of this early stage of CSR.

Moreover, there were concerns that SMEs would encounter extensive pressure to incorporate CSR, much to the detriment of their profits. Richard Gregory stressed that responsible business practice would eventually contribute positively to the bottom line if implemented effectively, although he did state that most of the companies involved in the BITC/Yorkshire Forward partnership were in fact wealthier companies.

Further, businesses throughout Europe, but particularly in central and eastern European states, will probably require more time and rethinking before CSR becomes an embedded and fully understood business concept. One member of the audience raised the fact that many businesses in Poland view CSR as a marketing tool – in other words, the motives behind the desire to introduce responsible business practice are in fact often not based on a care about society and the environment. The response from BITC was that in the UK there are stringent membership criteria that businesses must meet before they are accepted. Responsible business practice must be embedded and detailed before any cheque is written out.

But, at the same time, the companies that get involved for the marketing opportunities should perhaps not be condemned so harshly, since it may mean that more companies get involved. If 'lunches, launches and logos' are what it takes to entice businesses to incorporate corporate responsibility into their practice, it is not all bad. Eventually one can hope that these businesses will realise and appreciate the positive effects on their own competitiveness, which in turn will encourage them to stick with it and develop genuine belief in the benefits of caring about one's environment, both social and environmental.

Though already progressing well in the Yorkshire and Humber region, it is still relatively early days. It must be hoped that it continues to make business sense for the companies in the region. And it seems that although employees may be becoming more discerning about their choice of employer, taking into account their business practice, such pressure will take time to translate into CSR practice in all businesses throughout the UK. The initiative to implement must still come from the top – we must all hope that other regions will establish equally effective partnerships between the public and private sector and that there will be equally passionate business leaders to act on these opportunities.

Yorkshire and Humber European Office
www.yorkshirehumbereurope.org
Rachel Briggs: *rachel@yorkshire.be*

Business in the Community *www.bitc.org.uk/yorkhumb*
yorkshire@bitc.org.uk

European Commission
http://europa.eu.int/comm/enterprise/csr/index_forum.htm
Claudia Gintersdorfer: *entr-csr@cec.eu.int*

NEWS FROM CHES

IES's sister organisation the Committee of Heads of Environmental Sciences (CHES), has continued to be active in the accreditation of undergraduate and postgraduate degree programmes in universities in 2005.

CHES had a very successful annual conference in Northern Ireland in 2005. The 2006 conference will be in Oxford on 14th and 15th March (see details below). The conference is being organised by Dr Simon Watts, a new IES Council member, and continues our important work in the higher education sector.

Professor James Longhurst, who is also a current Chair of CHES, was recently consulted by the Quality Assurance Agency (QAA) on revisions that might be needed to the Earth Sciences, Environmental Sciences and Environmental Studies Subject Benchmark Statement (ES^3).

Subject Benchmark statements articulate what a successful Honours undergraduate in that subject will know and be able to do at the end of a degree program. The QAA has suggested minimal revisions to ES^3 which reflects the robust nature of the original work. The CHES community was consulted and comments for updating were forwarded to QAA and include recommendations for more emphasis on sustainability literacy and a request to develop a Masters level environmental sciences benchmark statement.

The ES^3 statement can be found at:
www.qaa.ac.uk/academicinfrastructure/benchmark/honours/earthscience.pdf

Mrs Jennifer Blumhof
Honorary Secretary
IES and CHES

CHES ANNUAL CONFERENCE

Research & Scholarship, Recruitment & Sustainability

Tuesday 14 March to Wednesday 15 March 2006, Randolph Hotel, Oxford, England

The Committee of Heads of Environmental Sciences (CHES) warmly invite you to their 2006 Annual Conference. The conference will focus on the future funding and support of the UK Environmental Sciences in Higher Education.

The conference themes are:

- Research & Scholarship
- Recruitment & Sustainability

We are inviting distinguished speakers from all four theme areas. This conference is relevant to all those with roles in leadership, teaching, research, marketing and support of Environmental Sciences in the UK.

This year, the conference takes place in the Randolph Hotel in the centre of historic Oxford, hence places are limited. Please visit our website. (*www.ches.org.uk*) for further information, a booking form, and provisional program.

If you wish to speak to somebody, please contact the conference team either by email *(chesconferenceorg@ brookes.ac.uk)* or by telephone (+44 (0)1865 483576).

CHES

www.ches.org.uk/www.ches.org.uk

PROVISIONAL PROGRAMME

TUESDAY 14 MARCH 2006

1100 - 1300	CHES Executive Committee meeting
1300 - 1400	Lunch for all delegates

Session 1: Research

1400 - 1415	Welcome, Chair of CHES
1415 - 1545	Research: the Research Assessment Exercise and funding futures Chair for session Professor John Macloskey (guest speakers Professor Steve Sparks Panel Chair for E17, Professor Andy Rankin, Chair Committee of Heads of University Geosciences Departments, Panel Chair Geog Env Studies)
1545– 1615	Afternoon tea

Session 2: Scholarship

1615 - 1730	Scholarship: supporting teaching and learning in ES Chair for session Jennifer Blumhof (Centres for Excellence in Teaching and Learning, Higher Education Academy Subject Centre for Geography, Earth and Environmental Sciences, HEFCE funds)
1745-1815	CHES AGM

WEDNESDAY 15 MARCH 2006

Session 3: Recruitment & Sustainability

930 - 1100	Asset Management Sustainability of Environmental Science programs in HE in the UK: Jim Longhurst

Session 4

1130 – 1300	Open Forum: Key issues and way forward for ES
1300 – 1400	Lunch and Depart

IES AUDITS ITS OWN SUSTAINABILITY

MARK EVERARD and **ABHISHEK SHARMA** describe a sustainability audit of the IES's Ebury Street office

1. Introduction

The Institution of Environmental Sciences, as a leading promoter of sustainable development, is very conscious of its reponsibility for measuring and improving the environmental and ethical impacts of its own operations – a concern shared with the Society of the Environment, of which the IES is a constituent body.

This evaluation of our London office in Ebury Street, SW1, uses the science-based sustainability framework developed by The Natural Step (TNS) to make an evaluation of where we are today, where we aspire to be (full sustainability), and the 'next steps' that the difference implies. These 'next steps' can then be factored into progressive decision-making and influencing as opportunity and finances permit. We are therefore clear about 'direction of travel' (sustainable development) and end-goal (sustainability).

The principles employed by TNS are not only science-based, but also address the 'metabolism' of offices, processes and products, taking into account not merely the materials of which they are constituted but also the ongoing inputs and outputs of energy, materials and societal consequence.

2. Application of The Natural Step Framework

The TNS 2020 Vision process used in this study revolves around the application of the TNS Framework as the basis for consensus-building about major sustainability issues and ways ahead towards the goal of full sustainability.

We live in a fast-changing world, where the pace of change is accelerating. Thinking back just 20 years, and plotting the changes we've faced – in our day-to-day lives and in business decisions – the scale of this change becomes evident. The pressures that have forced these changes may appear random or unforeseeable, but many stem from the 'squeeze' of a world with a rising population, consuming more and more per capita of a diminishing resource base. TNS uses the metaphor of the 'funnel' to describe how decreasing environmental and social headroom, the 'licence-to-operate' granted by society, will impinge upon freedom of operation (see Figure 1).

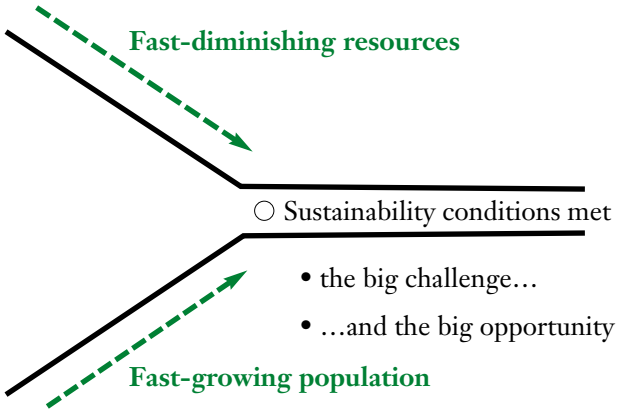
As one approaches the 'walls' of this metaphorical funnel, impacts on a business manifest in diverse ways which include resource scarcity and costs (critically including the resource of absorption of waste), more stringent regulations, reputation with markets and the public, health and safety concerns, difficulty in securing capital, and so forth. Pertinent examples for biosolids include new legislation, pressures acting to block reuse to land, public perception, and under-valuation of water service companies. Sustainable development pressures have been with us for many years and will, inevitably and increasingly, define the future business agenda.

The TNS Framework is based on a systems view of the sustainable natural cycles of this planet. This approach reflects the need for all materials and processes to be considered within a holistic science-based framework of sustainability. In this study, the four TNS System Conditions (see box on facing page) are used collectively to define the necessary conditions of sustainability, to explore current sustainability issues, and also to provide the basis for developing a vision of a fully sustainable solution. Once we know where we are today and where we need to get to tomorrow, we are then in a position to 'backcast' from this vision, identifying the incremental steps necessary to reach that sustainable future.

By starting from the 'end-goal' perspective, backcasting can help make sustainable development tractable. It can also help organisations make short-term investment decisions which, though not delivering the end-goal themselves (full sustainability is remote from where society is today), nevertheless constitute steps leading incrementally towards further future actions that eventually lead to the desired goal of full sustainability.

If tackled proactively, sustainable development will not only enable us to avoid the 'walls of the funnel' but also to identify the new business opportunities available in a more sustainable future world. If we continue to react to issues as we go on blundering into those walls, we will merely

Figure 1: The TNS funnel



The four System Conditions of The Natural Step Framework

In the sustainable society, nature is not subject to systematically increasing:

❶ ***…concentrations of substances extracted from the Earth's crust***

❷ ***…concentrations of substances produced by society***

❸ ***…degradation by physical means***

and

❹ ***human needs are met worldwide***

perpetuate the historic pattern of responding reactively, at substantial cost and disruption to business and society, as issues hit us one after the other. Proactive and strategic decisions are, in the end, more intelligent and cost-effective than merely reacting to sustainability issues as they inevitably arise. A true commitment to sustainable development is therefore about a great deal more than altruism, as it helps deal strategically with the unavoidable sustainable development pressures that will define the future.

3. The evaluation of Suite 7, 38 Ebury Street

The evaluation of the 'metabolism' of the new IES office was undertaken on 26th July 2005. The following tables outline the key features of this evaluation, noting that:

- Current performance is assessed honestly and with no element of 'blame' for poor performance. Indeed, it is a reflection in many cases of societal 'business as usual' and of the economic pressures that enforce or incentivise unsustainable practice.
- Sustainability goals may be difficult or impossible to achieve immediately for a range of reasons. However, they set the goals towards which the Institution intends to travel.
- 'Future steps' address measures that can be taken to make progress from current performance to long-term goals. They are not a commitment to immediate action, but represent pragmatic proposals upon which Council and officers may deliberate to steer future policy and practice decisions.

Suite 7, 38 Ebury Street: sustainability assessment based on TNS principles

TNS System Condition 1: In the sustainable society, nature is not subject to systematically increasing concentrations of substances extracted from the Earth's crust.

Aspect	Sustainability goal	Current evaluation	Future steps
Fossil fuel – heating	Carbon neutrality	Gas central heating supplied to whole block	Bounded by facilities kindly provided by the Grosvenor Estate. Initially, conservative use of window opening, heating, etc. Would like to insulate. Ideally, find more sustainable heating
Fossil fuel – transport	Carbon neutrality	Standard public transport and goods delivery	Potential to influence suppliers re: more sustainable goods/operations
Other energy	Carbon neutrality	Not known (London Electricity). No energy use in lifts (as no lifts!)	Investigate current energy tariff. Consider moving to renewable tariff
Petrochemical-based materials (i.e. carpets)	Beneficial reuse or benign re integration into natural cycles	No control at present (supplied by Grosvenor Estate)	For the future, investigate supply of degradable or recyclable carpet
Heavy metals	Materials (furniture, light bulbs, office supplies, equipment) reduced and fully recycled, supplied with no hazardous materials	Standard office practices (cheapest price and straight disposal)	Extend life of products or buy durable kit. Explore recycling or beneficial reuse of end-of-life assets
Nutrients	Within natural assimilative capacity	Not a major issue with our operations	Keep under review
Radioactive matter	Within natural assimilative capacity	Not a major issue with our operations	Keep under review… may be relevant to energy supply chain

TNS System Condition 2: In the sustainable society, nature is not subject to systematically increasing concentrations of substances produced by society

Aspect	Sustainability goal	Current evaluation	Future steps
Decommissioned equipment	No accumulation in nature of synthetic persistent substances	Standard office practices (cheapest price and straight disposal)	Extend life of products or buy durable kit. Explore recycling or beneficial reuse of end-of-life assets. Explore implications of IES of the EU WEEE Directive
Consumable (printer cartridges)	Consumables non-toxic and where possible beneficially reused	Ink cartridges are recycled when empty	Spread good practice to all office activities

TNS System Condition 3: In the sustainable society, nature is not subject to systematically increasing degradation by physical means

Aspect	Sustainability goal	Current evaluation	Future steps
Wood	Use and disposal matches natural productivity, and waste not accumulating	Standard office practices (cheapest price and straight disposal)	Investigate durable products, ideally source-accredited (FSC, etc). Ensure beneficial reuse at end-of-life. Inform suppliers of our sustainability goals and ask them to comply
Paper	Use and disposal matches natural productivity, and waste not accumulating	E-mail system for contacting members, etc., has reduced paper use substantially. Standard office practices (cheapest price and straight disposal)	Ideally source-accredited (FSC, etc). Explore/implement recycling. Inform suppliers of our sustainability goals and ask them to comply
Water	Use in balance with available resource and wastes assimilated by nature	Standard Thames Water connections to potable and waste infrastructure. No bottled water used in office, but is used for meetings	Talk to Thames Water about promoting their 'product' (jugs, etc) at meeting. Also, Water UK are keen to promote the benefits of potable supply vs bottled water, and may have resources

TNS System Condition 4: In the sustainable society, human needs are met worldwide

Aspect	Sustainability goal	Current evaluation	Future steps
Management systems	All activities closely managed	Too small an operation for full EMS	Seek to implement steps above, and investigate doing so within a 'light-touch' EMS system
Staff	Equity for all employees and volunteers	Office manager does not feel exploited	
Confidentiality for membership	Members' confidentiality fully respected	Currently good practice (members completing Data Protection forms and process observed)	No perceived needs to improve
Access	Ideally, access to all (language, race, religion, disability, etc.)	No prejudice in policy and membership, though clearly communication only in English. Poor office access for disabled, though visits not likely to be frequent (unless staff disabled)	HSE disability evacuation plan identified as a legal necessity. Ideally, explore accessible building for the long-term future. Utilise multilingual features of on-line tools where available
Purpose	IES exists to promote sustainable development through development and application of environmental sciences	IES exists to promote sustainable development through development and application of environmental sciences	Uphold and improve in line with our mission
Supply chains – advice and enforcement	IES an agent for sustainable operations	Little or not pressure exerted on our supply chain at present	Develop briefing sheet about our aspirations for potential suppliers, including how we expect them to help us aspire to sustainability
Stakeholder relations – membership	Fully engaged and keen to promote IES to peers	Needs work to ensure that members (and potential members) feel valued and engaged	Needs the attention of staff and Council, with 'Environmental Scientist' an obvious starting point to ensure contact
Stakeholder relations – related charities in Ebury Street office	Working collectively to promoted shares aims as the pertain to sustainability	Not much interrelationship between organisations beyond pleasantries	Investigate collective 'voice' for influencing supply chains, recycling infrastructure, relationship with Grosvenor Estate, etc

4. Next steps

We know where we are today against robust, science-based sustainability criteria. It is not sustainable; far from it in fact. This is not surprising given that we operate in a world that is far from sustainable, and where the incentives and assumptions are often perverse.

However, we also know the goal to which we aspire, and have practical examples to guide future thinking.

Influencing and communication.

The 'future steps' we have identified are things that we would like to achieve, some in the sort term and some in the longer term. However, all build incrementally in the right directions. Many entail influencing those around us to enable us to move in a more sustainable direction, and thereby the IES becomes a more potent agent for change within the commercial world where its office operates.

The pace of movement is a matter for officers and Council members of the Institution. We can not, in the modern world, hope to achieve full sustainability in the short term. Indeed, to hope to do so would be to act in an uneconomic way that might jeopardise our long-term viability. However, we can at least set out this statement of intent, and use our influence – with stakeholders such as members, partner organisations, those that share our office block and our suppliers – to promote a more sustainable world.

◆ The strategy was proposed to the IES Council and agreed and our 'stakeholders' will be informed of our future steps.

ENVIRONMENTAL NEWS

NEW IRELAND-UK BRANCH FOR INTERNATIONAL ASSOCIATION

The International Association for Impact Assessment is a multidisciplinary organisation with more than 2,500 members in 100 countries. It provides an international forum for advancing innovation and communication of best practice in all forms of impact assessment, including for Environmental Impact Assessment and Strategic Environmental Assessment. Many members of IAIA will also be members of the IES.

A new branch of IAIA is now being established for the United Kingdom and the Republic of Ireland. The branch is intended to provide a dedicated regional forum for communication and capacity development, and to promote a dynamic and networked community of IAIA members within Ireland and the UK. To achieve this, the IAIA branch will work closely with existing professional institutes, networks and associations.

An annual programme of events is now being organised for IAIA branch members. The first event to launch the branch took place in December at the School of Environmental Sciences, University of East Anglia. This event, 'Contemporary Challenges in Impact Assessment', examined aspects of the changing context of Impact Assessment and the implications for the branch's development. Key-note speakers included John Glasson, Judith Petts, Stephen Tromans and Timothy O'Riordan, covering a broad range of impact assessment topics and interests. This event was open to non-members.

Two further events will take place during March and September 2006 in Dublin and Liverpool.

In addition, IAIA members can look forward to the next IAIA international conference, in Stavanger, Norway in May 2006. The annual conference is the highlight of the IAIA calendar, providing extensive seminar sessions on a wide range of impact assessment issues, as well as training courses and local technical visits.

Any abstracts for presentation should be submitted by January 2006 – see *www.iaia.org* for full details of the conference and other IAIA membership benefits.

To find out more, and to register for the launch event, please visit *www.uea.ac.uk/env/interearn/* or contact Mat Cashmore at *M.Cashmore@uea.ac.uk*

◆ Adam Boyden (Nicholas Pearson Associates, Bath, England), on behalf of the Interim Committee of the Ireland-UK Branch: *adam.boyden@npaconsult.co.uk*

UNIVERSITY ENVIRONMENTAL SCIENCE DEPARTMENTS REWARDED

The Higher Education Funding Council for England announced the results of a well-funded national competition in January, identifying and rewarding excellent university teaching. Hundreds of departments submitted bids to become 'Centres for Excellence in Teaching and Learning' (CETLS) in October 2004, and the 74 winners started their new programmes in April 2005.

The winners received up to £4.5 million each to develop further the teaching they do, offering exciting possibilities for new facilities, projects and links with industry.

While departments highly rated for science-based research are often concentrated in the older established universities, teaching excellence is spread across institutions old and new, to the benefit of a wide range of students of different ability ranges and aspirations.

Environmental science disciplines were rated strongly in the competition. Three of the new CETLS were explicitly linked to environmental teaching, two based at the University of Plymouth and one at the University of Gloucestershire.

Plymouth's new Centres are the 'Centre for Excellence in Teaching and Learning for Education for Sustainable Development' (contact *david.selby@plymouth.ac.uk*), and 'Experiential Learning in Environmental and Natural Sciences' (contact *Ruth.Weaver@plymouth.ac.uk*).

The first of these Centres will be working to green the campus and affiliated colleges, and engaging with regional and national sustainability agendas. The second Centre will be working on adapting labs curricula and procedures better to assist students to learn, and includes the development of an innovative Immersive Vision Theatre.

The University of Gloucestershire has established the 'Centre for Active Learning in Geography, Environment and Related Disciplines' (contact *crroberts@glos.ac.uk*), which has a particular focus on students learning through live projects based in the laboratory, field and studio, with input from community organisations, employers and professional bodies such as the Institution of Environmental Sciences.

Gloucestershire students will be benefiting from an exciting new building with state-of-the-art ICT equipment to assist communications between student groups and organisations internationally, and with students in other universities in the UK.

INFORMATION ABOUT GEES

The Higher Education Academy Subject Centre for Geography, Earth and Environmental Sciences (GEES) exists to support and enhance learning and teaching in these three disciplines in UK higher education.

More information about the centre's work, current events and new resources, is available from the enquiry service at *info@gees.ac.uk* or from the GEES website at *www.gees.ac.uk*

IES NEW MEMBERS

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

Dr Tim Bines	Environmental Consultant (2599 Honorary Fellow)
Mr Neil Michael Smith	Engineer, Environment Department, City and County of Swansea (2648 F)
Mr Mark Mario Scerri	Environment Protection Officer, Pollution Prevention Control Unit (2647 A)
Mr James Mclaren-Pearson	Managing Director, Pacific Risk Advisors (2646 F)
Mr Paul Richard Linwood	Area Consents Coordinator, Southern Water (2645 F)
Mr Graham Hartry	Environment Manager, The Royal Mint (2644 F)
Mr John Luckhurst	Finance Clerk, Planning Department (2643 A)
Ms Paola Cassanelli	Post Doctoral Research Associate, The University Chemical Laboratory (2642 A)
Mr Ian Fuller	Environmental Technician, Warndon Motorway Maintenance Compound (2641 A)
Mr Ben Rouncefield	Environmental Engineer, Vertase Ltd (2640 A)
Miss Joanna Hazel Barnes	Postgraduate Research Associate, Air Quality Unit, Cornwall College (2639 A)
Mr Alexandra Stephen Ledbrooke	Research Assistant, Cornwall College (2638 A)
Miss Katie Anne Shears	South West Networker, Eaga Partnership (2637 F)
Mr Paul Chadwick	Technical Director, RPS Group (2636 A)
Mr Jamie Alan Gleave	Senior Environmental Consultant, Mouchel Parkman Services Ltd (2635 F)
Mr Mark Maclagan	Environmental Scientist, Hyder Consulting (2634 A)
Mr Neil Halfpenny	Senior Project Engineer, City and County of Swansea (2633 F)
Mr David Bell	Environmental Consultant, EPA Ltd (2632 A)
Mr Michael Tollitt	Facilitator, MPT Consultants (2631 F)
Mr John Robert Musgrave	Health and Safety Advisor, Police HQ (2630 F)
Mr Martin Doherty	Environmental Consultant (2629 F)
Mr Timothy Lowe	Senior Policy Officer (Sustainability) Policy and Performance (2628 F)
Mr Alan Yendell	Environmental Engineer, Johnson Poole and Bloomer (2627 A)
Mr Bryan Jeffrey Hughes	Principal, Environmental Audit and IPPC Parsons Brinckerhoff Ltd (2626 F)
Mr Garry Debbage-Philip	Environment Protection Officer, Braintree District Council (2625 A)
Miss Diane Sarah Harrower	Environmental Consultant, Scott Wilson (2624 F)
Mr Divesh Mistry	Transport Graduate, Buckingham County Council (2623 A)
Ms Wendy Margaret Miller	Dissemination Coordinator, GEES Subject Centre (2622 F)
Mr James David Tough	Senior Environmental Consultant, HVR Consulting Services Ltd (2621 F)
Mr Antony Neil Gough	Principal Environmental Specialist, Scot Wilson (2620 F)
Ms Tiffany Lau	Environmental Scientist/Engineer, Earth Tech Engineering Ltd (2619 F)
Mr Mark Humphrey Foden	Environmental Advisor, Cheetham Hill Construction (2618 F)
Mr Matthew Anthony Smith	Senior Environmental Consultant, Parsons Brinckerhoff Ltd (2617 F)
Miss Andrea Kim Jagger	Environmental Scientist, Halcrow Group Ltd (2616 F)
Dr Colin James Trier	School of Earth, Ocean and Environmental Sciences, University of Plymouth (2615 F)
Miss Frances Storey	Senior Environmental Scientist, Mott MacDonald Ltd (2614 F)
Mr Michael Philip Dawson	Deputy Director, Casella Hazmat (2613 F)

KEY: **F = Full Member** **A = Associate Member**

Mr Philip Cumming	Principal Consultant, Parsons Brinckerhoff Ltd (2612 F)
Miss Margaret Grant	Environmental Scientist, Hyder Consulting (2611 F)
Miss Maria Isabel Munoz-Devesa	Senior Environmental Scientist, Parsons Brinckerhoff Ltd (2610 F)
Miss Alison Smith	Senior Environmental Consultant, WSP Environmental Ltd (2609 F)
Mr Alexander Sneddon Milne	Safety and Environment Manager, Alfred McAlpine Plc (2608 F)
Mr Barry Croft	Principal Environmental Scientist (2607 F)
Mr Simon Ellis Hodge	Service Director, Fire Sciences, Casella Winton (2606 F)
Dr Russell Andrew Paul Thomas	Principal Scientist, Research and Innovation Team (2605 F)
Dr Aradhana Mehra	Professor of Environmental Geochemistry and Health (2604 F)
Mr Jerome Nessi	Engineering Consultant, Altran Technologies UK (2603 F)
Ms Alison Carroll	Associate Environmental Planner, Nicholas Pearson Associates Ltd (2602 F)
Ms Clair Andrea Dixon	Environmental Consultant, Roundhay Environmental Consultant Ltd (2601 F)
Mr Kenneth Andrew Lang	Health, Safety and Environmental Manager, Baker Hughes Intec (2600 F)
Mr Martin Wai Tun Lee	Environmental Protection Officer, Infrastructure Planning Group (2598 F)
Mrs Sarah McMahon	Environmental Quality Manager, Environmental Quality Unit (2597 F)
Dr Bethan Tuckett-Jones	Senior Consultant, Parsons Brinckerhoff Ltd (2596 F)
Miss Natalie Kwok	Deputy Environmental Team Leader, Ove Arup & Partners Hong Kong (2595 F)

KEY: **F = Full Member** **A = Associate Member**

IMPORTANT INVITATION

All members of the Institution of Environmental Sciences
are warmly invited to attend the

Annual General Meeting

of the Institution which will be held in
the Grosvenor Office, 70 Grosvenor Street, London W1K 3JP
at 2pm on Tuesday 7th March 2006.

This is an unusually important AGM: in addition to the normal business of approving Officers' reports and the annual accounts, members will be asked to approve a revised constitution for the IES.

If you plan to attend, please notify the Institution **by Monday 27th February 2006** in order to comply with the security regulations in the building.

If you wish to nominate a member for Council,
please complete and return the form attached to the AGM agenda.

Nearest Underground: Bond Street (Central and Jubilee lines)