



Engineers for the twenty-first century

Sebastian Wood, *Whitby Bird and Partners*

A small group of future leaders in the engineering world are conducting research into whether industry is taking sustainable development seriously or whether its proclamations of sustainable engineering are marketing greenwash.

Two years ago a group of young engineers were brought together to discuss how the engineering profession should face up to the challenge of moving towards a sustainable future. Under the appropriately inspiring yet challenging title 'The Engineer of the Twenty-first Century Inquiry', they set about exploring a huge range of issues affecting, and affected by, engineers in today's world. These ranged from exploring the philosophical framework that underpins our work, namely 'Do we apply the ethics and values we operate under at home as a family member to the work we do as engineers?' to the way we practically do things, the technology we use and the costs involved, namely 'Do we, at any stage of the projects we are involved with, consider the wider environmental and social impacts of how we decide to practically do our jobs?'

From this process, involving 43 engineers from all disciplines of engineering, emerged 47 recommendations designed to accelerate the rate of change to sustainable engineering practice, which were presented in a comprehensive report*.

The recommendations range from the general ...

- Recommendation 21: Employers of engineers and individual engineers should embed participation and consultation with sustainable development as a standard item, at all stages of a project.

to the specific ...

- Recommendation 11: By 2005, 100% of graduate engineering courses should have integrated a 'sustainability syllabus' into the first and second year, and be assessed to ensure this learning is reflected in their final-year design project.

Two years on and the following questions arise: Has the inquiry made a difference? Has industry heeded its advice? Was the clamour of enthusiasm at the report's launch genuine or

sustainable marketing? Phase two of the Inquiry sets out to try to answer these questions.

Twelve engineers, supported by their employing organisations and partners of the project† from all sectors of the engineering world, are interrogating heads of engineering business, institutions, academia and government. They will discover how the profession has reacted to the rallying cry of the 47 recommendations, which demanded a step change in their approach to sustainable development. Do businesses think about and *act* upon the social and environmental impacts at every stage of the projects with which they are involved? Have universities made any attempt to integrate an understanding of sustainable development into their syllabuses? Are institutions playing their role in promoting to business and the Government the importance of looking beyond the financial bottom line? And has the Government developed a legislative framework that encourages all engineering organisations to operate sustainably?

Each organisation will be asked four main questions in relation to the work they do and also asked for recommendations that are relevant to them.

- What evidence is there of progress achieved?
- What positive and negative influences to pursuing sustainable development have the organisations come across?
- What external factors influencing positive and negative outcomes for sustainability have the organisations encountered?
- How will the organisations overcome the negative and enhance positive trends?

It is hoped that by this sort of regular scrutiny the organisational change that is necessary to create a sustainable engineering profession will be accelerated and industry leaders will realise sustainable development is not a fad that will disappear.

A report of the findings of this second stage of the Inquiry was

* A copy of the original report is available from Katherine Pitt
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† Environment Agency, Shotton Paper Mill, Balfour Beatty, Anglian Water Group, Health and Safety Executive, London Underground, Conoco (UK Ltd), Lattice, Caledonian paper mill, Atkins Consultants Ltd, Quest International, Whitby Bird and Partners, Forum for the Future, ETB, DTI.

launched at a conference held at the Royal Society in February 2003.

The Inquiry has been organised by the leading sustainable development charity, Forum for the Future.

Please email, fax or post your discussion contributions to the secretary by 1 September 2003: email: kathleen.hollow@ice.org.uk; fax: +44 (0)20 7799 1325; or post to Kathleen Hollow, Journals Department, Institution of Civil Engineers, 1–7 Great George Street, London SW1P 3AA.