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## Editorial

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This issue of *Waste and Resource Management* contains three papers, two of which are of a strategic and perhaps slightly provocative nature, and are rather longer than usual. The first, by Powrie and Dacombe on 'Sustainable waste management—what and how?', is the written and updated version of the Architects and Engineers for Social Responsibility (AESR) prestige lecture given at ICE in November 2004. While acknowledging that the choices we make in waste management have economic, social and environmental implications, the paper argues that energy can to a large extent be a proxy for all three. It follows that waste management options should generally be selected primarily on the basis of minimising energy consumption. The paper discusses what this would mean for the major components of household wastes, and uses the findings to develop a rational and sustainable waste management strategy. AESR is now part of the larger organisation Scientists for Global Responsibility (SGR).

The paper by Hammond and Winnett picks up the theme of sustainability assessment, in its review of different environmental appraisal and evaluation techniques. This is a timely paper. Techniques such as energy analysis and life cycle assessment are being used increasingly as a basis for making environmental and waste management decisions; it is important that the system boundaries are clearly understood and correctly defined if meaningful results are to be obtained and sensible decisions made.

These methods of assessment, often known as footprinting, have gained increasing acceptance over the past three years or so. The current media focus is on carbon rather than energy footprinting, but until such time as we have an unlimited source of clean energy (i.e. for the foreseeable future), the two are largely interchangeable. Bio-energy from crops grown specifically for that purpose is not in this respect a panacea. Quite apart from the potential loss of food production, the amount of energy that must be invested in growing, harvesting, processing and transport

associated with the production of fuel from energy crops must be considered in any meaningful energy balance. An article by Andrew Boswell in SGR's newsletter gives a thought-provoking and perhaps controversial view on this.<sup>1</sup> Interestingly, in Japan, there seems to be at least equal concern over materials supply and conservation, especially (but not exclusively) in the context of rare elements used in small quantities, particularly in the manufacture of electronic goods (see, for example, the UK–Japan workshop on resource productivity, efficiency and management<sup>2</sup>).

Finally, the paper by Dyer *et al.* reports the results of a study of the leaching of chloride ions from cementitious matrices containing Portland cement, fly-ash from coal-fired power stations and from a mass-burn municipal solid waste incinerator. Fly-ash is a by-product of incineration or combustion that is at present generally viewed as a waste for disposal; the contribution of this paper is in identifying the modelling and analysis needed to assess its suitability for use in the manufacture of useful products.

I hope that readers will be encouraged to write in with a discussion point on one or more of the papers in this issue, or to contribute a paper or technical note of their own. Original contributions on research and practice relating to all civil engineering and construction aspects of the resource management cycle, from waste minimisation through the reuse and processing of waste materials to the management and disposal of residual wastes—including articles covering relevant legislation, standards, socio-economic and sustainability matters—are welcome.

### REFERENCES

1. BOSWELL A. Biofuels for transport—a dangerous distraction? *Newsletter*, 2007, Winter, No. 33, 10–13. See <http://www.sgr.org.uk> for details.
2. See [http://www.uknow.or.jp/be\\_e/science/activities/ResourcProductivity](http://www.uknow.or.jp/be_e/science/activities/ResourcProductivity) for details.