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Editorial

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Developing a sustainable local and global waste management infrastructure will take many years of market interventions by governments. In the EU and other developed regions, regulatory frameworks and fiscal measures have indeed led to more efficient use of resources. A number of the papers featured in this issue of *Waste and Resource Management* illustrate some of the sophisticated tools that support decisions on resource use. Dissemination of this knowledge helps improve the waste economy. However, contrast these tools with practices elsewhere in the world where the market interventions needed are more fundamental and basic and where effective waste planning and institutional failure needs to be addressed. Waste remains a global problem – but needs local solutions which address local circumstances.

Oil well drill cuttings generated in offshore oil production are expensive materials to manage, treat and dispose of. The paper by Abbe *et al*. (2011) recognises that reducing waste to landfill is a pressure faced by all waste producers, and that waste can be viewed as a resource from which value can be realised. While describing the current and preferred onshore and offshore treatment options, the paper suggests that there is significant scope to integrate alternative options for recycling drill cuttings and proposes these alternative considerations in a decision support process which will look to add value to the waste cuttings, and avoid landfill disposal.

The paper by Harman *et al*. (2011) sets out the case for an industrial strategy to drive our economies towards resource efficiency. The paper recognises that pricing externalities in our products and services, while important, is not enough. Social equity, material security and other regulatory controls all need to work together to bring about a more sustainable approach to resource use. The UK government's waste strategy (Defra, 2007) is held up as a good example of several policy interventions working together in the resource cycle. Carbon pricing is another example of an instrument designed to meet government emission targets, but whether or not such a mechanism will deliver a resource efficient economy remains unclear.

The recovery of tyres has been the subject of several pieces of European and UK legislation, and alternative uses for tyres other than landfill have been in place for several years. Yet decisions on use have been made on uninformed assumptions based around the waste hierarchy principle. Life-cycle assessment (LCA) provides the evidence to support decisions made on the basis of environmental considerations, but for most practitioners, is too complex in everyday use. The paper by Curry *et al*. (2011) seeks to simplify the decision process into a web-based decision support tool. Built on established uses for used tyres, the tool considers primary data on energy and material flows and provides a clear example of the need to bring LCA tools into mainstream thinking on products and materials.

The old adage that we have to measure to manage is particularly true in the waste sector. Only through a better understanding of the sources and characteristics of waste can we bring forward interventions and tools towards a more sustainable use of resources. Construction waste, the single largest waste stream, has been the subject of a number of UK initiatives to drive through resource efficiency. An example is the paper by Hobbs *et al*. (2011) which describes Smartwaste, a web-based tool for the capture of site-specific construction waste. All new developments are unique, constructed differently and generate different amounts and types of waste. Providing construction companies with tools such as Smartwaste not only helps the companies understand their waste and perhaps lead to better site practice, it provides the opportunity to generate performance indicators for generic project types and allows benchmarking of performance. Some early data is reported and as the tool is more widely accepted, so will the construction sector be able to achieve greater levels of waste reduction and recovery.

The paper by Mali *et al*. (2011) describes a waste characterisation study for landfilled waste in the city of Pune, north-west India. The high organic content of the wastes sampled illustrates the importance of understanding the content of waste generated before developing waste plans to subsequently treat the waste. The paper suggests that the high organic content makes biological treatment (composting) a viable option.

The final paper by Román and Hiljanen (2011) describes the waste management situation in the Russian part of the Barents region. Waste clearly is a major source of pollution and risk to human health with many facilities unauthorised and uncontrolled. The waste infrastructure is basic with a limited collection service to remove waste from the immediate vicinity of the population. Federal laws exist to provide environmental protection but there is a clear institutional failure in the provision of a basic waste service to the community. The

paper illustrates the fundamental problem of waste, in that waste producers have no self interest in ensuring their waste is managed safely and that a mature regulatory enforcement policy, backed by a properly funded infrastructure is needed.

This issue's papers illustrate the breadth of research being undertaken within the context of sustainable waste management and supporting the need to make better use of materials and resources in our economies.

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