Editorial

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This issue of *Waste and Resource Management* continues the journal's broad theme of how to turn waste materials into resources that provide added value by displacing raw primary materials or through improved functionality and performance. Waste, by its very definition, is required to be discarded. Each of the topics covered in this issue seeks to avoid waste production or finds new uses for waste materials.

Numerous studies seek to use waste materials in the production of concrete, which can contribute to the reduction of embodied carbon in the concrete manufacturing process. However, this cannot be done at the expense of performance. The paper 'High-performance concrete reinforced with fibre from waste' explores the effect of introducing galvanised steel wires used in the placement of electrical cables in construction sites. The Algerian study explores the use of natural pozzolan, a commercial silica fume product, and cut steel wire from the electrical cabling process (Guemidi *et al.*, 2015).

Particularly relevant in a UK context is the available Energy from Waste capacity for the treatment of municipal waste. While there is significant debate over available UK capacity, planned capacity and the need to export to European facilities, 'Europe's waste incineration capacities in a circular economy' highlights the complex export and import nature of waste for incineration across Europe (Wilts and von Gries, 2015). Planning the right infrastructure at the European and national level remains a challenge, particularly where policies driving towards greater resources and a circular economy create uncertainty about required incineration capacity.

The construction sector continues to produce the largest amount of waste for any industrial sector, and the challenge remains on developing tools and approaches to encourage reduction and effective recycling and recovery of such wastes. 'Green evaluation schemes for project sustainability' keeps the focus on efforts to tackle sustainability in the construction sector (Tam *et al.*, 2015). A number of factors are identified for improved environmental performance, with 'reducing waste pollution', 'top management support' and 'maintenance of equipment' being the principal factors that are consistently rated for improved project sustainability.

The European Union (EU) Restriction of Hazardous Substances (RoHS) directive sits alongside the EU Waste Electrical and Electronic Equipment (WEEE) directive, but focuses on the reduction of known hazardous substances used in electrical products. 'Changes in composition of EEE and subsequent impacts on electronic waste' highlights the effectiveness of public awareness on influencing policy in this area, leading to reductions in the use of these materials (Borthakur, 2015). Although the impact of the changes brought about by RoHS will take some time to be realised, the widespread public awareness of the problems associated with end-of-life EEE is helping to drive through innovation in technologies used in the EEE sector.

Continuing the EEE theme, 'Does industry close the loop?' considers the use and reuse of critical raw materials such as rare earth metals (Slowak and Regenfelder, 2015). The use of such materials, and our dependency on overseas countries to meet our demand provides stark evidence for the requirement to develop a closed-loop approach. The study provides an overview and an informative insight into the use and recycling of critical materials. By reviewing patents, the authors are able to point to some innovative activity in technologies that recover these materials and a move towards a more circular approach.

The publication of such papers on a wide range of subjects highlights the opportunity for innovation in the waste and manufacturing sectors to bring forward systems and technologies that embrace the principles of a circular economy.

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