

# Modern methods of construction can reduce project waste

Mitigating the environmental and financial costs of waste will be essential for those delivering public sector construction projects, says Ian Kemp, business development director at Caledonian.

**A**n AMEC study estimates that the true cost of waste is more than £1,300 per eight cubic yard skip: if this alone were not reason enough to make waste reduction a priority, legislative requirements such as Site Waste Management Plans and the Code for Sustainable Homes provide further motivation. But how can clients and their supply chains achieve real change?

The nature of building off-site can help a project waste less – reports have found that increasing the use of modern methods of construction can help a project to reduce waste by up to 90%. Designs are driven by optimum use of resources, and many materials are bought in cut to size. Further steps that can be taken off-site to help cut waste include dedicating areas in the factory for waste segregating and recycling, ordering in bulk, and working with supply chain partners to reduce packaging.

Implementing processes such as these has enabled modular construction company Caledonian Building Systems to generate less waste and maximise recycling on their projects. As the first off-site company to sign up to the WRAP (Waste & Resources Action Programme) Halving Waste to Landfill voluntary agreement, the business is playing its part in the pan-industry waste reduction effort.

The benefits of modular construction are becoming well recognized in the public sector – our factory processes support improved quality of finish and enable better management of construction, with completion on time and to budget. Building off-site de-risks projects and improves health and safety. Now resource efficiency and good waste performance are also important points of differentiation for public sector clients working towards government and corporate waste targets.

By reviewing existing processes and performance, Caledonian has developed a



comprehensive waste strategy and is working to meet targets to reduce waste to landfill by 20% for 2009-10 and by a further 20% year on year. Measuring all waste produced in the construction of one typical module has enabled a particular concentration on areas where the most waste is produced. At 380kg per module, plasterboard waste accounted for more than all the other waste streams put together so the company is working to use the material more efficiently by:

- Buying in plasterboard cut to size for specific projects;
- Engaging with the contractors who carry out plasterboard work;
- Monitoring the process to increase understanding; and
- Investigating a range of potential plasterboard waste reduction processes such as reducing off-cuts through design.

WRAP, Caledonian and Arup are working together to create an exemplar on Caledonian's minimisation and management of plasterboard waste in the development of new facilities for the Royal School of Military Engineering

(RSME), as well as studying the benefits gained in logistics from modular construction. A report will be published imminently.

For the construction industry to achieve a significant reduction in waste to landfill, it is crucial that all stages of the supply chain work collaboratively. As Kemp comments: "Some of the greatest opportunities for reducing waste are at the earliest stages of project planning and design. For the industry to make real headway towards sending less waste to landfill, it is important that supply chain partners are involved in waste planning from these early stages."

The drivers for minimising waste are convincing: meeting waste targets, working towards carbon efficiency, enhancing reputations and making cost savings. Making waste reduction a key area for consideration in public sector procurement and design, and throughout a construction project, makes sound sense from any angle.

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