

# science summary



[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

SCHO0308BNRY-E-P

## **The economic and environmental benefits of resource efficiency in construction**

Science summary SC050041/SS2

The Environment Agency has published a report evaluating the potential economic and environmental benefits of improving resource efficiency in the UK construction sector. The study estimates that 10 million tonnes of construction products are wasted every year, at a cost of over £1.5 billion. This is equivalent to about 2 per cent of the overall construction sector output. Reducing these waste rates by just 1 per cent would mean annual savings of £15 million and 104,000 tonnes of product.

The construction sector is hugely resource intensive, using an estimated 400 million tonnes of resources each year. This makes it the single biggest user in the entire economy, accounting for 9-10 per cent of gross domestic product (GDP). In addition, the sector also produces the largest proportion of waste in England (over 30 per cent), along with 32 per cent of the country's hazardous waste. As Site Waste Management Plans are likely to become mandatory for certain projects from April 2008, it is becoming increasingly important to efficiently manage the resources and waste products from construction processes, and throughout construction projects.

The aims of this project were to provide an assessment of the current resource usage on construction sites and to define the different levels of site waste management practice. The project also aimed to identify the level of potential material and financial savings that could be achieved through good and best practice site waste management, and recommend potential resource efficiency solutions.

A series of scorecards were developed during this project that can be used as a quick and easy tool for identifying opportunities and improvements for site waste management. Separate scorecards have been developed to use for new build, refurbishment and demolition projects. These scorecards are designed to be used by clients, contractors, waste management companies and the Environment Agency to benchmark the performance of onsite waste management. They can also show the user where to concentrate their efforts to improve their overall waste management performance.

This report estimates that 6.1 million tonnes of waste from construction products are sent to land fill every year, at a cost of £917 million. It also estimates that 3.9 million tonnes of waste from construction products, worth £583 million, are recycled. Key products with high land fill rates include paints and finishes, floor coverings and light fittings. Products such as ceramics, concrete and cement also have high landfill rates as well as high recycling rates.

The key recommendation from this report is for the construction sector to work together under a common goal of resource efficiency. In order for this to happen, each part of the sector needs to understand their role in terms of the resources they use that are subsequently wasted and apply appropriate solutions. Better data is required at a product level for this to happen effectively.

The Environment Agency can play an important role with the sector to ensure legal compliance and promote continuous improvement in terms of site waste management and resource efficiency. This can be carried out in conjunction with forthcoming legislation, such as the introduction of Site Waste Management Plans, in order to provide more focus for the sector.

**This summary relates to information from Science Project SC050041, reported in detail in the following output(s):-**

**Science Report:** SC050041/SR2

**Title:** The Economic and Environmental Benefits of Resource Efficiency in Construction

**ISBN:** 978-1-84432-861-1

March 2008

**Product Code:** SCHO0308BNRX-E-P

**Internal Status:** Released to all Regions

**External Status:** Publicly available

**Project manager:**

Neil Millard, Science Department

Email: [neil.millard@environment-agency.gov.uk](mailto:neil.millard@environment-agency.gov.uk)

**Research Contractor:**

Centre for Resource Efficiency, Building Research Establishment (BRE), Bucknalls Lane, Garston, Watford, WD25 9XX; Tel: +44 (0)1923 664000