

Announcement: Award-winning paper in 2009

Papers published in *Engineering Sustainability* are eligible for awards from the Institution of Civil Engineers. Papers from any of the ICE journals can be nominated for several awards. In addition, each journal has awards dedicated to their specific subject area.

On Friday 8 October 2010, ICE president Paul Jowitt presented an award to the following papers published in *Engineering Sustainability* in 2009. The editorial panel nominated their best papers and an awards committee chaired by Barry Clark allocated the awards.

The Trevithick Prize was presented to: Thomas A, Lombardi DR, Hunt D and Gaterell M (2009) Estimating carbon dioxide emissions for aggregate use. *Proceedings of the Institution of Civil Engineers, Engineering Sustainability* **162**(3): 135–144, doi: 10.1680/ensu.2009.162.3.135.

Abstract

Tools such as the carbon dioxide estimator tool from the UK Waste and Resources Action Programme (WRAP) and Aggregain have been developed to allow engineers to quantify and optimise carbon dioxide emissions associated with aggregate use. An extended WRAP tool methodology has been developed and is illustrated through assessing the relative carbon dioxide performance of different aggregate sourcing options for the large redevelopment project known as Masshouse, in the centre of Birmingham, UK. Previously unconsidered factors such as aggregate quality and highway congestion have been included. It is shown that significant reductions in carbon dioxide emissions can be achieved where site-derived demolition waste is reprocessed for use on site as a recycled aggregate and that relative haulage distances are of particular importance to overall carbon dioxide emissions. As these outcomes depend upon the distances to materials sources and sinks in Birmingham, it is concluded that the carbon dioxide emissions associated with aggregate sourcing are not

just a function of material type but also of local conditions. Therefore, the developed methodology provides a useful decision-making framework for assessing aggregate sourcing that accounts for factors such as distribution of materials sources and sinks, aggregate grade, and the effects of road speed and congestion.



Photo caption: ICE president Paul Jowitt presents the Trevithick Prize to the winners.