A new guide by the University of Bath is set to help the construction industry measure and tackle the full carbon footprint of building materials and reduce negative impact on the environment.

Called '*Embodied Carbon - the Inventory of Carbon and Energy*', the guide will enable the industry to accurately measure the carbon footprint of construction.

Its focus is on the production of materials, but includes ‘real world’ case studies showing how to account for carbon emissions from construction, installation, fitting processes, maintenance of the building, and the life-cycle of the finished product. The term used to describe this complete footprint is ‘embodied carbon’.

The guide addresses why embodied carbon must be accounted for during construction and how the industry can go about doing this accurately.

Professor Geoff Hammond from the University of Bath said: “The new guide provides the design

and construction industry with a comprehensive set of raw data, the roots of which are completely transparent, presented in a way suitable for calculating the complete embodied energy of a project."

The guide was preceded by an online project, joint funded by the Carbon Trust and EPSRC and developed by the University of Bath. The online guide was used by over 10,000 people worldwide.

Professor Hammond added: "The online database was widely used and proved an essential industry tool in calculating carbon output during construction. This new guide builds on that – offering information on embodied carbon and informing the construction industry how to produce a thorough inventory of the wider picture of carbon output, with the aim of reducing the environmental impacts of the construction process."

Craig Jones, who worked on the database as a Research Officer at the University of Bath said: "The government has carbon targets to meet and as a result there is increased pressure on the construction industry to measure and account for carbon footprints. The new database is a comprehensive tool that will allow the construction industry to make informed decisions when choosing building materials.

"Calculating embodied energy is complex and it can be difficult to find reliable data from transparent and trustworthy sources. The new database simplifies what is otherwise a very

difficult process.”

The previous online database was widely used in the industry, with companies including Atkins for the re-development of Farringdon station, Best Foot Forward for construction of the London Olympic Park and Village, and by Ramboll in building the Open Academy, a new school in an eco-friendly building in Norwich.

The new book has been published by BSRIA as part of the BSRIA Guide series and is now available to purchase on the organisation’s website.

Dr Phillip Lee, Member of Parliament for Bracknell and Member of the Select Committee for Energy and Climate Change 2010 said: "The report provides a lot of data and points you to lots more. It also demonstrates some of the complexities of making embodied carbon assessments. But just because the matter is complex we cannot ignore it. European legislation on carbon is tightening all the time: we must have a knowledgeable industry in the UK who are on top of the issues".