



**INTERNATIONAL**

## INVITED SESSION SUMMARY

**Title of Session:**

Managing uncertainty in early design decisions

**Name, Title and Affiliation of Chair:**

Dr Jacquetta Lee, Centre for Environment and Sustainability, University of Surrey

**Details of Session (including aim and scope):**

The aim of the session/workshop is to progress the understanding and management of uncertainty in design decisions that occur with very early design concept ideas, when data is vague, non-existent, missing or in a linguistic format.

This is particularly relevant when attempting to assess the best sustainable design option. This needs to incorporate economic, environmental and social issues and cover aspects from initial material extraction through to end of life options as well as ensuring the product is fit for purpose. As a result, the data needed to make such decisions may be required from any geographic location in the world, and could, for long-lived products, involve scenarios for conditions 60 years' hence.

Streamlined LCA is often suggested as a solution to assessing the environmental issues, and whilst there is potential for utilising data from previous studies, this introduces its own uncertainties, and does not cover the social concerns that are becoming increasingly important to include, e.g. modern slavery.

This workshop will look at the potential offered to business through a better understanding of the uncertainty associated with a particular design choice, and how this can feed into appropriate risk assessments and investment/strategic decisions, and to simplify the cost and process for identifying potentially appropriate solutions.

Building on a framework for bringing uncertainty in a wide variety of formats together, this workshop will review, discuss and challenge the current practice for uncertainty management, and attempt to create the foundations for a system that is flexible enough to incorporate high levels of uncertainty, whilst delivering a process that allows robust, transparent and useful decisions to be made.

**Main Contributing Researchers / Research Centres (tentative, if known at this stage):**

University of Surrey, University of Stuttgart, Thinkstep, Granta Design

**Website URL of Call for Papers (if any):**

**Email & Contact Details:**

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