

## **Synopsis of Paper for Sustainable Innovation 2007**

***Vic Clements, Environmental Specialist and Senior Manager, ENVIRON UK Ltd, UK***

The EuP directive comes into force throughout the EU in 2007 and it is highly likely that implementing measures containing Eco-design requirements covering most electronic products will be introduced in the next few years. Because of this it is becoming more important for companies who design electronics to adopt the strategies, mechanisms and tools to equip their designers with the necessary, knowledge, skills and data to enable them to implement effective Eco-design measures into their products.

The issues to be addressed such as energy input in manufacture and use, restriction of certain hazardous substances and ease of recycling do not traditionally fall into the normal range of knowledge and skills areas of electronic or mechanical designers and engineers, although they have had more exposure to such issues in recent times due to the implementation of the WEEE and RoHS directives.

The Eco-design process will typically start with a definition and evaluation of the significant environmental aspects of the product that impact on the environment throughout the product's life cycle. These product aspects can then be addressed through specific design parameters such as size, weight, nature of materials, emissions to air, soil and water, use of recyclates etc. and specific design measures can then be formulated to reduce the adverse impacts of the product. This evaluation itself would be alien to most electrical and mechanical designers and would involve the use of LCA analysis tools or the definition and prioritising of environmental key performance indicators. It is highly likely that in the early phases of the development of Eco-design in industry this will be carried out by specialists probably out side of the company. However in order to implement the proposed measures, designers must have data that will enable them to specify and make judgements concerning the impact of the Eco-design measures on other product specification aspects. For example any change to basic constructional materials must be fully evaluated for their impact on mechanical integrity, fabrication etc.

This data is mostly available but scattered and not always easily obtained. It is often included with other design data that is not directly relevant to or indicative of environmental impacts.

This paper will present the results of development work carried out on an on-line Eco-design database created to provide data to designers and engineers during the design iteration process when design measures to improve environmental performance of the product are being integrated into its design. The database will be an integral part of an on-line Eco-design support site that will also provide training and education to designers and engineers on how to design products to meet Eco-design requirements such as those expected to be defined in the EuP implementing measures and how to use the database to support the design effort. It will include several case studies carried out with industrial partners.