

## **Sustainable Innovation 2016**

**21<sup>st</sup> International Conference**

**'Circular Economy' Innovation & Design**

**7<sup>th</sup> – 8th November 2016**

**University for the Creative Arts**

**Epsom, Surrey, UK**

**[www.cfsd.org.uk](http://www.cfsd.org.uk)**



### **The Challenges and Benefits of Developing a Sustainable and Circular Business Model for the Blinds and Shutter Industry in the UK.**

**D Andrews, Z De Grussa, A Chalk, D Bush and D Lopes Loureiro**

London South Bank University, The British Blind and Shutter Association and Universidade Federal de Minas Gerais, UK and Brazil

Blinds and shutters create privacy during the day and night in residential and commercial buildings. They are also used to keep rooms cool when sunny and to minimise heat loss at night or in winter; in turn this reduces use of air conditioning and heating, associated energy inputs, carbon and equivalent outputs and costs. As well as controlling temperature, blinds and shutters can be used to reduce glare, control light levels and to contribute to general health and well-being. Despite these various benefits in many instances in the UK blinds and shutters are not opened and closed and/or adjusted correctly and consequently the above benefits are not fully realised.

One means of addressing this problem to ensure maximum operational energy savings and thermal comfort is the implementation of motorised and/or automatic blind opening and closing. By default however this increases the number and variety of components, materials and manufacturing processes and embodied environmental impact.

In this study Life Cycle Assessment is used to measure and compare combined embodied environmental impact and potential operational energy savings of a variety of types of manual and motorised blinds in a typical domestic environment in the UK. Currently the majority of manually operated blinds and shutters are either sent to landfill or incinerated with energy recovery at end of life even though the materials, manufacturing and assembly processes for these products indicate that reuse and recycling are relatively easy to achieve. Not only does this study clearly illustrate the benefits of reuse and recycling all types of blind at end-of-life, it also highlights the necessity for doing so in the case of motorised and automated systems. In addition to recycling the paper explores other business models (such as component reuse, remanufacture, leasing, buying a service), all of which are associated with the development of a Circular Economy for this sector. Finally this paper discusses specific challenges for this industry.