

## Engaging the Process Chain – Sustainable Design

- Stimulate the **design** of new products, processes and technologies that increase material resource efficiency and reduce environmental impacts.

A sustainably designed product is one that has taken into consideration the environmental, social and economic impacts throughout its entire life cycle – from concept through to disposal. During the design phase decisions are made about what materials are used and how durable, upgradeable and recyclable a product will be, which explains why 60-80% of a products environmental impact are determined by decisions made during the design phase<sup>1</sup>. Consequently changes during the design stage will deliver much of the improvement in material resource efficiency required to achieve sustainability.

There is a huge opportunity for the South East and Hampshire in particular to lead the way in developing innovative technologies and sustainable design. The Environmental Technology and Services sector is one of the fastest growing markets in the world and the South East has over 1,200 environmental technology and services companies, employing over 25,000 people with an estimated sector turnover of £4.45 billion<sup>2</sup>.

Changes in the design of products is currently driven by cost, a reaction to, or anticipation of, legislation, to protect reputation or foster consumer trust. Each of these drivers is valid and welcome, but none is sufficient in scope, or in its integration with the others, to constitute a deliberate drive towards a total system for 21<sup>st</sup> century resource management.

Opportunities for change in Hampshire have been identified as:

### Raising Awareness

Sustainably designed products are already available, however they are often not the standard option and only available if the customer asks specifically or seeks them out. There is a need to increase awareness of the sustainably designed products and services currently available and their benefits to business and the environment.

- › Challenge consumers, business and buyers perceptions of sustainable products and services for example by arranging an event to display sustainably designed products and services to encourage their use.
- › Promote sustainably designed products and services made in and around Hampshire. This could be done by researching and developing an online green products guide to Hampshire, with information and pictures on products detailing the specification and performance for each product and the potential benefits to the customer.

Technological innovation is a feature of most business and large businesses are often in competition to produce new products. Business is innovative when improving practices and making products more efficient, however, developing new products and services is a gradual process and the sustainability aspects of innovation are often missed. Therefore there is great opportunity to help develop innovative sustainable technologies in Hampshire, leading the country in terms of environmental innovation.

- › Encourage more innovation and publicise existing innovative products. For example, by organising a competition across Hampshire (and possibly the South East) open to students, entrepreneurs and businesses.

<sup>1</sup> United Nations Environmental Programme 2001 [www.unep.org](http://www.unep.org)

<sup>2</sup> South East Economic Development Agency (SEEDA) 2003

### **Formal Education and Training**

Sustainable design is currently not in many training programmes for business and is not often an integrated element of college and university courses. To create change in design we need to ensure that the principles of sustainability are an integral part of all relevant professional training and education courses.

- › Establish what is being taught where, and who the course leaders are by conducting an audit of the product design, engineering and product development related courses in Hampshire.
- › Engage the Deans of Engineering and Design in a long term programme to develop the thinking behind sustainable design and the sustainable development agenda.

### **Market Development**

Markets for recycled and secondary materials need to be developed by encouraging the use of such materials as credible alternatives to virgin materials. Many product designers and engineers are not currently using recycled and secondary materials in their products as a matter of course. Therefore recycled and secondary materials need to be made more attractive for designers to encourage them to choose those materials over others. Innovative and realistic ways of using materials need to be developed; raising awareness of the materials to dispel the myth that recycled and secondary materials are of a lesser quality.

- › Develop a methodology to help designers select recycled and secondary materials for their products.
- › Help designers develop their thinking, enabling them to understand how recycled materials may be used, and how sustainable and environmental best practice can help develop ideas.

### **Influencing**

Government can be influenced to take action by highlighting the successes achieved in other countries, and by promoting best practice.

- › Work with other organisation such as SEEDA to engage and promote international good practice.
- › Promote other European examples of good practice by utilising existing networks.

Businesses and researchers are often compromised by financial and legislative constraints when designing new products, and so incentives should be developed to counter this situation.

- › Raise awareness with central government on the issues identified by business as barriers to innovative sustainable design.
- › Influence government to provide more benefits and incentives for new technologies through fiscal incentives and state funded research.

By influencing Local Authorities and other Public Sector bodies to be more sustainable they can greatly impact demand and supply in Hampshire, Portsmouth and Southampton. Not only in terms of procuring products that are designed and made sustainably but also by ensuring that the major capital programs they deliver are completed and maintained sustainably.

- › Identify and engage with those responsible for public sector procurement in Hampshire to discuss the influence they have in relation to sustainable design.

- Ensure that sustainably designed and manufactured products and processes are used, by changing Local Authorities internal procurement processes.
- Promote best practice and practical understanding by compiling case studies on the procurement of sustainably designed products.

Build on existing relationships to influence and support business to address the whole life cycle of their products and services at the design phase and where possible avoid waste at source rather than dealing with it at the 'end of pipe'.

- Raising awareness of available recycled materials and sustainability issues by identifying the main consumers of raw materials in Hampshire and work with them to change their design process through sharing best practice.