## Design to Minimise Waste

#### Design to Minimise Waste

How to reduce the many kinds of waste created within the textiles industry, both pre and post consumer?

Assess the potential forward impact of design choices/decisions, on production, use and eventual disposal of textile products. Create a design narrative in response to a life-cycle analysis of the product.

Examples: slow design; design for long-life and short-life applications; zero waste cutting; design with enhanced aesthetic value.



## Design for Cyclability



#### Design for Cyclability

How to upcycle existing garments and how to design with virgin materials, in anticipation of future recycling?

The initial design process anticipates the potential for eventual recycling and repurposing of the textile product. Also existing garments or products considered as 'raw materials', ready for added value to be applied.

Examples: this strategy includes design for recycling, upcycling, design for mono materiality and design for disassembly for the closed-loop systems of the future. Think re-useable/non-invasive installation or renewal.



## Design to Reduce Chemical Impacts



#### Design to Reduce Chemical Impacts

How can the use of harmful chemicals at every stage in the life of the product be reduced by design?

Select the most appropriate material and processes for any product to minimise environmental impacts.

Examples: seek organically produced materials; use mechanical technology to create non-chemical decorative surface pattern; create effects to replace materials and processes known to be harmful.



## Design to Reduce Energy and Water Use



#### Design to Reduce Energy and Water Use

How to conserve water in the production and use of textile products?

Evaluate the ways water and energy are consumed in the processing of textiles. Assess the carbon footprint, particularly in consumer laundry.

Examples: In the production phase: exhaust printing and dyeing; dry patterning systems; air-dyeing; distributed manufacture. In the use phase: design for no/low launder; 'short life' textiles; technical coatings to reduce washing; innovative and informative labeling; localisation; natural energy systems.



## Design that Explores Cleaner/Better Technologies



#### Design that Explores Cleaner/Better Technologies

How can technology be used to make more sustainable textiles?

Design for new technologies to save energy and materials. Reduce environmental damage in the production of yarn and fibre, the construction of fabrics, dyeing and finishing of products.

Examples: bio-based materials and processes; 3-D printing; laser; water-jet; sonic cutting; sonic welding; digital printing, 're-surfacing' of polyester; novel dyeing techniques; digital finishing; tagging.



## Design that Takes Models from Nature & History



#### Design that Takes Models from Nature & History

How can the practices of the past and models from the natural world inform textile design and production of the future?

Seek design inspiration, information and solutions from studying the textiles, habits and societies of the past and from nature including bio-mimicry.

Examples: shape-memory polymers to mimic natural movement; 'lotus effect' nano-coatings; Velcro; austerity repair; make-do-and-mend; D.I.Y/punk customization; modern nomads; historic dyeing/printing techniques.





How can design encourage ethical production, that supports and values people and skills?

Designers can engage with communities, either in the supply chain or for local needs.

Examples: sourcing fair trade materials; engaging suppliers who abide by codes of conduct; vertical supply chains; consideration of local resources; designers acting as facilitators of sustainable enterprise in communities.



## Design to Reduce the Need to Consume



#### Design to Reduce the Need to Consume

How can designers make stuff that lasts, that people want to keep and look after?

Textile products can be designed and produced to adapt and improve with age. Encourage replacement of shopping with creative social experiences; the customisation of clothing and textiles; the DIY culture.

Examples: emotionally durable design; slow design; consumer participation in co-design and collaborative consumption, crowd sourcing and social networks; apps for bespoke information.



## Design to Dematerialise and Develop Systems & Services



#### Design to Dematerialise and Develop Systems & Services

How can designers develop the concept of designing services that replace or support products?

Employ a design strategy for multi-functional products and materials conservation via temporary and non-invasive installations. Encourage repair. Facilitate on-line/local communities of producer-consumers.

Examples: lease; share; repair; experience design; usercentered methods to design services; collaborative online/ local communities; transition-towns.



# 10 Design Activism

How can designers extend their effect beyond the product to work creatively with consumers and society at large?

The textile designer becomes a 'social Innovator' using design skills to meet social needs. It includes designing events and communication strategies to increase consumer and designer knowledge about the environmental and social impacts of textile products.

Examples: publications; blogs; open-source networks; exhibitions; conferences; festivals; social media; manifestos.