

Memorandum by Forum for the Future

The questions below are rather general. I will try to reply based on recent work or experiences

Better design and the use of materials

- *What role can better design and materials play in minimising the creation of waste? Are there any barriers to how knowledge in this area can best be translated and applied?*

It can play a role, but I would beware of panaceas and general rules of thumb. The often quoted one here is that 80 percent of the environmental impact is dictated (and can be designed out) at the design stage. Actual experiences suggest that this may be distracting, that all waste reduction problems are not design problems and that there are a serious amount of things to do even before you go upstream. Electronic recycling is one example of that (where it is not design, but the recycling technologies and policy landscape that affect the efficiencies and rates). We are finding that paint tin recycling is another similar case where design changes are negligible in comparison to improving the efficiencies of collection and recycling facilities. Recommendation – starting from the specific context, material and waste stream is everything.

- *What factors influence the use of materials? In what way do considerations of sustainability feature in the selection of most commonly used materials?*

A general question this – but I would say that sustainability most frequently links to material choice through cost and efficiency issues i.e. using less, costs less. Two trends building on this are that retailers are starting to consider and drive change in material selection of their purchased services (M&S, B&Q) and leadership work is beginning to (bizarrely?) transfer material and resource issues into carbon savings or footprints. In general though, material selection and resource efficiency are forgotten pieces of the sustainability jigsaw with all the emphasis on carbon and climate change.

- *To what extent do product designers and engineers take into account the availability and the end of life impacts of raw materials?*

I'm not sure availability of resource is a major driver (unless linked to real resource scarcity or some other emotive issue i.e. palm oil). End of life is an issue, but massively driven by the policy framework, such as recycling schemes, take back, etc.

- *What impact does the development of new materials have on design? How much interaction is there between material scientists and designers?*

I'm not sure it drives it too much, but I do think these are new issues that material scientists can and are using to justify their work as well as new applications.

- *Can better designed products offset the increase in consumption?*

Only marginally I would say. It can help to reduce individual resource intensity per unit of consumption (product), but for big and real changes we need new consumption systems, ways to deliver service, well-being and utility to people. Probably a new way to organise production and consumption. There is also no substitute for policy change driving changes to consumption. We are kidding ourselves if we think people will 'buy their way out of trouble...'

- *Are there any other gaps in knowledge and how are they being addressed?*

I think we may be misinterpreting the term 'design' in all this. I think we need to interpret it its broad, rather than narrow sense. We tend to think that any early stage, strategic design that will design out the unsustainability in the first place will be done by designers. I don't think it is or will be. I think this form of influential 'design' is done from many and varied places within companies (the CEO, marketing, R&D, strategy, etc). I think a knowledge gap would be to help people identify where these influential sustainable design places actually are.

I also think we need to have meaningful discussion about the end vs front-of-pipe argument in terms of waste reduction.

Business framework

- *Does the current policy, regulatory and legal framework support and incentivise the development of better, more sustainable products and processes? How is the framework communicated to businesses and what is the level of awareness and understanding among businesses?*

I would say that in general it is a bit compliance-focused, driving minimum standard. It would be great to have more policy development drives real transformation rather than incrementalism. Two ways to think of this are WRAP (which is good, but at best incremental) vs DTI Innovation funding (which is at least seed funding some interesting industrial experiments on waste reduction and sustainable design). I'd like much more of the latter.

- *How central is sustainable design to business thinking? What initiatives are in place to encourage this and are they meeting business needs?*

Sustainable design thinking and awareness is really, really low. I lead our work on sustainable design/innovation and it is only just starting to take off. It's a fantastic time, but we are really at the cutting edge of this doing leadership work. I fear that much/most other sustainable design is of the type promoted and supported by WRAP or Envirowise. It is OK, but not very ambitious, visionary or inspiring and driven by compliance. In terms of delivering a sustainable future we have little hope.

- *What other measures can promote a focus on waste reduction among businesses?*

Carbon/climate change seems the current flavour of the month. How about linking waste reduction more to that?

- *What lessons can business learn from international experience?*

Japan is much more aggressive in its waste reduction policy and industry practice. I think we can learn lots. Not least in their ambitious policies.

Government policy

- *What is and should be the role of Government in addressing the issue of waste reduction?*

I'd be interested in more inspiring examples, pilot projects and cases of how we could get radical and be visionary around waste reduction. Lets look at some ways to radically rethink production and consumption systems driven by dramatic waste reduction targets.

- *How does Government policy link up with European strategies and action plans?*
- *What lessons can be learnt from other countries – within the EU and globally?*

Cultural issues from other countries (NL). The importance of political leadership and brave policies which might initially be unpopular and controversial.

Consumer behaviour

- *How can better product design be used to effect a change in consumption patterns and behaviour?*

It can influence, but there are all sorts of and perhaps better ways to change consumption and behaviour. I think we are currently overemphasising information and choice to consumers. Will carbon labels or health warnings on airline tickets really stop people flying? I doubt it... there are other and better ways to do this. Lets choose our battles carefully in terms of product design and consumption.

- *What role do marketing strategies play in influencing more sustainable design?*

Potential huge, practically, not so much other than the few leadership cases such as UK retailers at the moment.

- *Are there any gaps in knowledge in this area?*

A sensible discussion and identification of where product design can really help here. I'm not in favour of a blanket policy on sustainable product design promoting consumption changes, but there are areas where it can help. Lets start there first

Skills

- *How is sustainable design integrated into the design syllabus?*

In several and various ways. Please note – that in certain cases this is driven significantly by the personal interests of the students, not the vision or commitment of the staff or institutes. There are 3 models:

1. The stand-alone sustainable design course (this is the old model, but seems to be dying off in the UK now);
2. The module or project integrated into the existing design course (a growing number of courses are doing this now);
3. The sustainable module or project integrated into a non-design course (I know that a couple of MBA's are playing with this idea. It helps if design is recognised in the first instance).

It would be helpful to check out the Design Council recent review and recommendations on Design Skills¹ – which we worked on and input into. Our feeling is that sustainable design is not quite as explicit as it should be.

- *To what extent are considerations of sustainable waste reduction part of broader industrial training courses?*

Very little as far as I'm aware.

The Committee would also be interested to hear about any other issues not already covered by this call for evidence that are relevant to the scope of the inquiry.

The relevant projects and activities we are involved in are:

1. Design and delivery of Zero Emissions paint systems² – with ICI paints and Carillion (DTI funded) looking at innovative ways to radically rethink and reduce waste and emissions from all parts of the paint supply chain. Estimated yearly results from this are:
 - Landfill reduction – 5000 tonnes;
 - GHG reduction – 11000 tonnes;
 - Water savings – 29000 tonnes.
2. Project with Vodafone looking at management of electronic waste in East Africa
3. Waste Opportunity - The report, Wasted Opportunities, was written for Tetra Pak – a major producer of liquid food packaging, and a Forum business partner. It looked at why there are such low levels of recycling of packaging in the UK.
4. Individual sustainable design projects – of which waste will be a factor – with several partners, such as Unilever, SC Johnson, Calor, Philips

¹ <http://www.designcouncil.org.uk/en/Design-Council/3/Publications/High-level-Skills-for-Higher-Value/>

² http://www.forumforthefuture.org.uk/business/businesscasestudies_page88.aspx