

MAKE SENSE, NOT STUFF
A three step plan to connect design schools with the green economy
by John Thackara

A tipping point

What would architects design, if they did not design buildings? What would designers design, if they did not design products, or posters?

My question is not a rhetorical one. On the contrary, I believe design schools are in danger of being marginalised by events. The world is changing around them fast - and they are not. Or not fast enough. I agree with Al Gore that the world has reached a tipping point in its responses to climate change, resource depletion, and economic crisis: Changes we have all talked about for years are starting to be implemented.

But design schools are finding it hard to move on from the old paradigm of design-for-production, and design for individual expression.

Last year, a new product was launched somewhere in the world every three minutes. Most of these products involved the *inefficient* use of energy, water, and natural resources. Each product thereby contributed to the 70 million tonnes of CO₂ that is emitted into the earth's atmosphere, every 24 hours, as a result of human activity

Most of these products, and the emissions that accompanied them, involved input from the creative industries. Creative designers developed concepts, designed artefacts, and dreamed up a wide range of communications, packaging, and retail environments. All these ideas, images, symbols, and forms – and especially the \$400 billion spent on advertising and marketing – had as their outcome *unsustainable* consumption.

Many students and young designers are looking for a new direction. But in most design schools I visit, they are still being encouraged to design a poster about sustainability, or to design a thought-provoking "eco bag". But emitting messages, however clever or evocative they may be, is not the same as helping real people, in real places, change an aspect of their everyday material reality. The transition to sustainability is no longer about messages, it's about activity.

Some multinational companies moved on from awareness-raising seven years ago or more. Today, they are moving faster on practical measures to mitigate climate change than most governments – and most design schools. Patrick Cescau, for example, until recently Group Chief Executive of Unilever, committed his company to the application of "new design principles" that would "progressively drive down its usage of resources and move towards ever more sustainable consumption. They are in the market for sustainable design principles. So, too, is a growing number of cities and city-regions.

Waste becomes visible – and measurable

One reason big companies are moving fast is that their operations have become more transparent. The waste generated in a consumer economy (a new product every three minutes) used to be hidden. The energy and resources needed to produce buildings and products remained out of sight and out of mind.

But three new tools have increased transparency: a framework called *industrial ecology*; a measurement system called *Materials Flow Analysis (MFA)* or *Life Cycle Analysis*; and a concept called *embodied energy*.

These three innovations *have* enabled researchers to measure energy and resource flows properly for the first time. The scale of resource waste in our consumer economy is no longer hidden. Researchers recently found, for example, that although a mobile phone weighs only 200 grams in your hand, the total ecological footprint of a mobile phone adds up to *75 kilos per phone per year*. That's the resources needed to mine the heavy metals in it, manufacture it, fabricate its computer chip, make and build the relay masts, manufacture the packaging, build and run the shops, and so on. Nokia, on its own, sells a million of the things a day. Other manufacturers probably equal that number. That's 150 million kilogrammes of environmental impacts added per day, just from something small and innocuous like a

mobile phone.

http://sedac.ciesin.org/openmeeting/downloads/1004554152_presentation_federico_tel_mips2.pdf

If the material impacts of something small like a mobile phone are that huge, think what the equivalent numbers are for "green" – but physically heavy – products. Think of the mass in a green car, for example; or in the turbines used in wind power. Those things weigh 25,000 kilos per unit upwards – just for the mechanism. Add in the towers and the cables and the sub-stations and the impact of this "green:" infrastructure is immense.

Industrial artefacts don't even have to be heavy, to have a big footprint. The manufacture of a single sheet of A4 paper, as used in your and my laserprinter, requires ten litres of water. Not for the whole packet, for *one single sheet*.

This is not to argue against the design and production of stuff as such – just that we can no longer carry on designing and producing stuff mindless of the consequences. Design education, and the design industry it feeds, therefore confront a huge dilemma. If they are not seen to be searching for alternatives to product proliferation, then they will be blamed as a major cause of the problems we all face.

Climate change and multiple 'peaks' – peak oil, peak energy, peak debt – change everything. Within a system whose carrying capacity is finite, the optimal strategy is to design away the need for more stuff – and to focus on regenerative design that creates conditions for life.

A Three Step Plan

"Far less stuff" does not mean less design. On the contrary: a huge amount of creativity is needed to reorganise daily life in ways that eliminate landfill and ecocidal footprints. But the stuff we will still make – products, services, infrastructures – must be designed according to tough new principles: low-carbon, resource-efficient, and zero waste.

The transition to sustainability entails the re-localisation of *most* production and consumption. Some globally available tools, some foods, and a lot of knowledge, will be still be globally exchanged. But the focus for design schools should be existing grassroots and regional activity where their contribution can be to create frameworks that enable these actions to grow and develop.

But how to start?

Step One: Map assets

A first step for any design school should be to find out what assets and resources are already there, in their territory. These assets can be hard or soft: natural assets – such as wind, or sun, with the potential to generate energy; materials, and the skills needed to use them; abandoned spaces with the potential to be re-purposed; food systems.

The asset maps will gradually replace many of the maps used by planners or economists. These tend to focus on hard things, such as roads or buildings. Sustainability asset maps should make natural and biodiversity assets their starting point – with special emphasis on biodiversity and bioregions, foodsheds and watersheds, or geographical locations where sun and wind can be exploited.

In mapping such assets, it is important to represent the *interconnectedness and interdependence* of systems. This is where creative design skills will be valuable. New forms of representation are needed to communicate energy and nutrient cycles, or biodiversity – and to show the different ways that healthy social systems depend upon, and are intertwined with, healthy economies and ecosystems.

The human assets of neighbourhoods and communities – people – need to be mapped too – especially those who are engaged in valuable but sometimes invisible innovation at a grassroots level.

Step Two: Connect locally

The identification of individuals and groups with positive energy and ambition leads to Step Two: connecting with local activity.

When I was asked recently by the management consulting firm McKinsey to explain where the world's primary centers of innovation will be, my answer was simple: down your street, and down everyone's street! Social innovation is all around us. By some accounts, there are one million grassroots environmental organisations out there. The better-known examples have names like Post-carbon Cities or Transition Towns. Such groups – and others with different names, or no label at all – are emerging fast in many parts of the world. The website WiserEarth lists 120,000 of them all over the world.

Go and find the ones in your region. Offer your school's design skills and communication in a respectful way. Assume that they will be the co-authors of any new solutions that emerge.

Most elements of a sustainable world already exist. Some of these elements are technological solutions. Some are to be found in the natural world, thanks to millions of years of natural evolution. But the majority of solutions are social practices, some of them very old ones, that have evolved in other societies and in other times. From this insight flows the proposition that designers should become hunter-gatherers of models, processes, and ways of living that may already exist – sometimes quite near by. Rather than design new services and systems from scratch, we need to ask: who has cracked a similar question in the past? How might we learn from, adapt, and piggyback on their success?

This was the approach we took with *Designs of the time* (Dott 07) in North East England (where I was programme director). Dott 07 was a programme of community projects and events developed with people from the region, that engaged practically with two questions: 'what might life in a sustainable world be like?' and, 'how can design help us get there?'

The challenge was to frame these questions in such a way that local communities could take the lead and identify answers that best fitted with their needs - in particular, the need radically to reduce the consumption of energy and material resources in meeting daily life needs.

Our role was to discover and accelerate this existing grassroots innovation, not to create it from scratch. Our focus was on bringing in additional design skills, technology platforms and resources, as and when they were needed. We learned in Dott 07 that connecting people to new people, and helping them learn from each other's other experience, is itself a form of innovation. Dott innovated a number of event formats, such as Project Clinics and Explorers Clubs, to bring project leaders from diverse backgrounds together. People gained tremendous energy and insight from these exchanges experiences – but once again, the designed formats we developed were not especially complicated.

The four key success factors in Dott, we now conclude, were first, to pose meaningful questions in a real context; second, to identify project leaders from that context as partners and co-designers in the project; third, to connect them with new partners and actors that they might not otherwise have met; and fourth, to communicate the lives and times of these projects effectively using non specialist journalists to do so.

These lessons also informed City Eco Lab, the "nomadic market" of projects from St Etienne region that we produced for the Design Biennale there in 2008. We gathered together real-life projects to do with food, mobility, water, and other aspects of daily life. For each project, we explained the ways that design might help the project improve, or grow.

The approach I advocate to design schools is this: Don't start a new organisation. Find a well-organised project with good local roots, and join that one. Offer them your scavenger-innovator design skills. Help them become expert and choosing between the multiple solutions on offer, or that can be found - including adjacent organisations.

Step Three: Use new language

We all struggle with the word "sustainability". There is no agreement on what the word means and besides, it sounds boring and unattractive as a destination to head for. The word "eco-design" has a more precise meaning – but only for professionals.

Like "sustainability", the word "design" is often a barrier to conversation with civilians: it tends to be associated with chairs, cars, frocks, and narcissistic individuals. The word design triggers more negative reactions than positive ones.

So let's use some new words! My personal favourites right now are "green economy" or "green collar jobs". This is because I recently met their inventor, Van Jones, the American founder of Green For All. I like his use of "*green collar jobs*" and the "*green economy*" because they connect with what people are thinking about – jobs - rather than what we would *like* them to be thinking about – sustainability, or design!

And the focus on work, and jobs, also shifts the focus away from technology-based solutions towards what Ezio Manzini calls *enabling solutions*.