

# Upcycling versus Recycling

By Gunter Pauli

*This article introduces the concept of upcycling as one of the 100 innovations that shape "The Blue Economy". This article is part of a broad effort to stimulate entrepreneurship, competitiveness and employment.*

## The Market for Recycling

The world market for waste and recycling was worth \$450 billion in 2010. Extrapolating data from an extensive study by the Paris-Dauphiné University in France, it has been established that unwanted stuff weighs each year some four billion tons of which only 2.7 billion is collected. The rest pollutes and represents a health hazard. The total volume recycled is roughly established at one billion tons. The one billion richest of the world generate 1.4 kg per person per day, while the 2.4 billion poorest produce 0.6 kg waste per day. The USA and Australia top the list of waste generators in the world. Turkey sends 97 percent of its waste to landfill sites, whereas the Switzerland only disposes 0.5 percent in or under the ground. Japan leads the world in incineration, burning 74 percent of all waste, followed by Denmark, Sweden and Switzerland with approximately 50 percent going up in smoke. The largest recycling program is energy recovery which unfortunately leaves toxic waste behind. In Europe, this waste treatment is good for 200 million tons annually. This includes 7.3 million tons of plastics, in addition to the 5 million tons that are recycled.

With 49 percent, Korea has the best recycling rate for municipal waste. Italy and Spain score approximately 30 percent while countries like Germany, Switzerland, Norway and Denmark only recover between 15 and 17 percent. Hungary only recycles 1.1 percent according to the latest figures available, while the Netherlands score a surprisingly poor 2.3 percent. After energy recovery, composting is the second most widely applied recycling practice representing 100 million tons worldwide each year. If we were to include human waste, it could easily increase ten-fold, while generating methane gas and replenish the top soil. Metal scraps and paper have a better market value and therefore each recycles 400 and 250 million tons respectively. These numbers are official and part of the formal economy. The developing world recycles informally and broadly practices re-use. Recycling is an economic necessity with the additional benefit of reducing the load on landfills by 75 to 95 percent and providing some form of livelihood. Cairo, the capital of Egypt has an estimated 40,000 persons involved in the informal recycling business.

From 2002 onwards, the majority of raw material markets were faced with shortages and price hikes. World economic growth and the take-off of the Chinese economy have been at the root of this challenge to respond to demand that ended two decades of the illusion of abundance. At the same time, secondary markets for the recovery and recycling of waste saw prices multiplied under the appetite of China. The proportion of secondary markets for materials such as paper and non-ferrous metals was by 2010 already larger than the primary market based on forestry and mining.

## **The Innovation**

From the point of view of economic theory, waste is a negative externality outside the market. Regulation is trying to correct this by internalizing post-production and post consumption costs. However, the price setting remains a political decision through the introduction of taxes which influence the price, or emission standards which impact on the quantity. In this way, waste is given a value and the externality has now a price. It is widely agreed amongst policy makers and economists that the emergence of genuinely worldwide markets for scrap and paper mirror the development for steel and paper pulp in high demand especially in countries that lack supplies like China and Turkey. The challenge remains how to generate more value without the need of heavy taxation which is indiscriminately passed on to the consumer while offering higher quality at a competitive price.

Antonia Edwards graduated from the University of Brighton with a master degree in interior design, after studying art history at the University College of London. She started her career as an interiors and fashion editor. When a creative friend of hers starting painting illustrations on old discarded chairs and tables she was stunned with the unique result. With a bit of research, Antonia realized that the concept of converting something old and unwanted into something beautiful is a problem that creatives love to solve. She feels that when one works within the parameters of prescribed materials it can spark imagination and creativity that would not necessarily arise when starting a project from scratch with materials coming from anywhere as we wish. Using what you have is one of the core principles of The Blue Economy.

## **The First Cash Flow**

Antonia started an online magazine and adopted the name "The Upcyclist". Since she had a broad experience with online publishing she started reporting over the internet on all things upcycled and stylish. The website quickly converted into a resource for both creatives and consumers, inspiring people to make something from recycled material, add functionality and beauty, and also buy and sell the product. Antonia differentiates herself from many other initiatives that report and support innovative reuse. She carefully selects the products with quality and style that could command a premium on the market. She positions her blog as the resource platform for the beautiful and innovative reuse of unwanted, unloved materials and objects from around the globe.

Instead of the bulk reprocessing of standardized goods, she reports on restoring, reclaiming, reviving, remaking, repurposing, reusing and re-loving. Antonia went on the create "upcyclisted" with materials offered and wanted, particularly for artistic projects. In less than 2 years she has featured 12 cases of architecture, 54 designers of fashion, 27 makers of furniture, 24 makers of jewelry, 10 manufacturers of lighting, 8 upcyclers of glass, and 15 small businesses working with wood. Antonia created in a couple years a platform for entrepreneurs who meet her high standards in 38 countries. In 2011 alone, Antonia reported on 178 entrepreneurial businesses.

## The Opportunity

Antonia has expanded to textiles, metals, sculptures, installations, plastics and paper products identifying people and start-up companies who master the process to convert waste into quality products with a higher environmental value. Antonia is making an effort for people to take notice of the history in each object and to move away from shiny and mass produced consumables. This is giving rise to a new breed of creativity, while it offers a fresh way to perceive items we already own. Starting as an individual, reporting on single initiatives, Antonia is taking a second remarkable step, to network and compile specific opportunities under one single report like “The Shirt off his Back” by Juliet Bawden, covering 30 projects for transforming everyday end-of-life shirts into a range of home accessories like duvet and chair covers or light dimmers.

The examples that Antonia features inspire many to enroll in the upcycling trend like Freddie Saul, whose father is the founder of the famous British fashion brand Mulberry. He worked on documenting the “Upcycled Furniture Collection” which is now stocked in prestigious London stores. All furniture is handmade from upcycled materials including reclaimed wood from ballroom floors. Freddie designs and manufactures now with a team in Somerset (UK), South Africa, and Cape Town in particular has developed a whole upcycling industry and while this has generated thousands of jobs, there is one designer who has now reached the heights of interior design. Katie Thompson transforms the ordinary into the extraordinary by repurposing broken and unwanted furniture. She set up the company REcreate with a range of furniture lighting with tapestry print, accessories like a suitcase chair, milk bottle or typewriter lamps. Antonia operates like the Blue Economy community, creating a platform that inspires others to do more and better. She applies the open source principles and has the ingenuity to add beauty and style to her presentations that is likely to change the perception of anything unwanted forever while giving sense and purpose not only to our material world, but also to our professions and life style.

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... Further information on the 100 innovations at [www.theblueeconomy.org](http://www.theblueeconomy.org)

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