

Jonathan Kingsmill, Technology Teacher

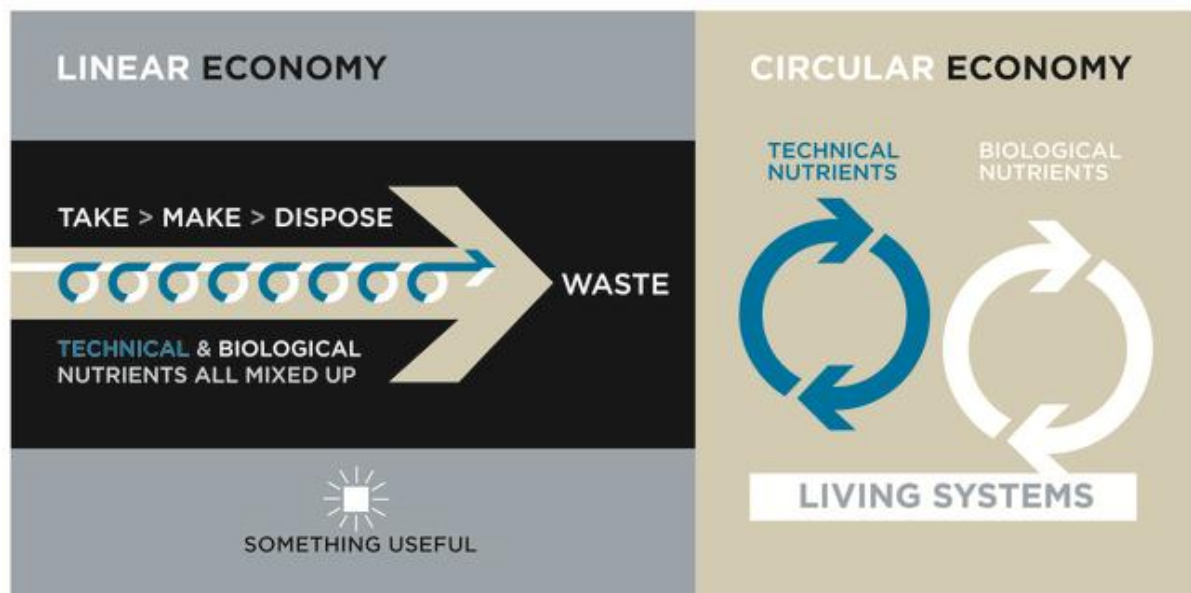
Harris Academy, DUNDEE

Scottish Continuing International Professional Development Study visit

S-Hertogenbosch

7th – 9th March 2012

Circular Economy



AFTER W McDONOUGH AND M BRAUNGART

Introduction

The main purpose of this visit was to look at the “circular economy”. The visit was in partnership with the Ellen MacArthur Foundation. The Foundation’s aim is to equip young people for work in a world of increasingly limited resources and inspire them to re-think, re-design and build a positive future.

We made a number of key visits to various schools, colleges and manufacturing companies.

An overview of the nature and the intention of the visit.

Before the study visit to S-Hertogenbosch I had only a little knowledge of the 'circular economy' (or 'cradle to cradle' thinking), gleaned from some Internet research.

This was a well organised and intense tour with almost every minute accounted for. On the first day we departed early for KPC, an educational consulting firm. Our first 'orientation' session was delivered by James Pitt, a senior researcher at the department of educational studies, University of York. His work focuses on STEM (Science, Technology, Engineering and Maths) and education for sustainability. Katie Steiness, who is a project manager at the Ellen MacArthur Foundation which works within the education and business sector to promote "circular economy thinking", also did a presentation. The Foundation's passion for learning and imparting it to school children soon became apparent.

We were introduced to the circular economy with input from Douwe Jan Joustra, a pioneer of Cradle to Cradle thinking in the Netherlands, advising on Government policy and development. I think the best way to understanding a circular economy is to look at the two models in Appendix one.

The "cradle to cradle" approach is a systems approach to manufacturing, that tightly controls the materials being used to ensure their continual use and reuse. The current system 'cradle to grave' sends materials to refuge centres and landfill sites at the end of their life cycle and they will never be used again.

The innovation for this company came from their highly critical thinking:

1. Creativity through a 'circle of architects' Functionality
2. Good sound absorption

3. Cradle to cradle thinking (keep resources on the planet - sustainability with substance).

Desso is a carpet manufacturer but with a fascinating vision. The energy used to produce the carpets comes from renewable energy sources, namely wind and solar power from within the grounds of the factory. They also have a “take back” programme so that once a carpet has come to the end of its life span, they will take it back according to cradle to cradle principles. The carpet will be disassembled and the materials will be used again. As one of the directors said to us, “why would we want to send a carpet to landfill or burn it, when the raw materials are valuable and can be used again.”

More information on this company can be found at :

[http://www.desso.com/Desso/EN/EN-Cradle to Cradle/EN-Cradle to Cradle-Cradle to Cradle.html](http://www.desso.com/Desso/EN/EN-Cradle%20to%20Cradle/EN-Cradle%20to%20Cradle-Cradle%20to%20Cradle.html)

Also of great interest was a visit to a waste management handling company, Van Gansewinkel which has produced a ‘smart bin’ to recycle its own paper. They keep recycling it until the fibres become too small. In addition, because any additives have been previously removed from with the paper, it is either turned into toilet paper or sent off to be turned into compost.

We made a number of visits to various schools and colleges. The main point that I picked up, is that the Dutch education system is very different from that of ours in Scotland.

Whilst visiting the schools in particular, I had imagined seeing ‘Cradle to Cradle’ lessons in action so that I could hopefully bring some tangible lessons / resources back with me to school but unfortunately this did not happen.

Throughout our visit we were spoken to at length about the structure of the school and the school curriculum. A key aspect was that the running of the school and the curriculum was solely down to the Head teacher and the needs of the school.

Of particular note was a visit to a newly built school where the Head Teacher had the opportunity to direct the new school building and the sustainability of the heating and lighting system were given high priority. In this particular school solar power was harnessed to offset the cost of the electricity bills whilst heating water, which was stored underground during the summer months and retrieved during the winter months for the under floor heating system.

The impact that this visit had upon me as a practitioner, in terms of CPD.

From the visit, I have become even more aware how important recycling is as the world's resources run out and how important it is to get that message across to society at large and to stress the importance of creative thinking and investment in the appropriate technology.

I believe that the way forward is to get the message across to young people that it is their future world that we are potentially destroying by putting our vast amounts of waste to landfill and losing important resources. This will influence my approach to teaching the subject matter.

The impact that this had upon my school, my learners and my community.

Since returning to school I informed my colleagues who found the concept of cradle to cradle fascinating. Currently in our department within Harris Academy we have developed a renewables project as part of our S1 course. As the Curriculum for Excellence evolves over the next few years I believe it could be integrated into our other courses.

The project involves pupils reading about a particular location within Scotland, identifying a problem within that location and choosing a suitable renewable source which will suit the needs of the location.

I believe that we could change how the unit of work is delivered, introducing cradle to cradle thinking. James Pitt from the Ellen McArthur Foundation reminded me of the everyday application of this as I poured milk from a container with its life cycle through oil-factory-plastic-factory-milk etc.

I believe that the greatest opportunity for this is in the preparation of the new National 4 and 5 curriculum and the integration of 'Cradle to Cradle' thinking.

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Appendix 1

