C2C Network

A journey from Cradle to Cradle

European Union
European Regional Development Fund

INTERREG IVC
INNOVATION & ENVIRONMENT
REGIONS OF EUROPE SHARING SOLUTIONS

C2C{Network

A journey from Cradle to Cradle

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Foreword{s}

FOREWORD

Bert Kersten

Regional Minister for the Environment
of the Province of Limburg (NL);
Chairman of the International Executive Board C2CN

It gives us great pleasure to introduce the Cradle to Cradle Network. C2CN is a network of ten European regions that have been inspired by "Cradle to Cradle", an ambitious approach to sustainable development.

According to the Cradle to Cradle principle, human beings should be able to continue producing, consuming and living as they are accustomed to doing, but in such a way that their products, buildings and regions do not pollute the ecological system or exhaust sources of energy, thanks to an innovative design.

C2C encourages innovation, creates jobs and results in a clean environment, making it a perfect complement to the new Europe 2020 strategy of smart growth, sustainable growth, and inclusive growth. The C2C principle now has the support of five regional development agencies – Kainuun Etu (Finland), ARDI Rhône-Alpes (France), Milano Metropoli (Italy), West Transdanubian RDA (Hungary) and North East RDA (Romania) – and five European public authorities – the Province of Limburg (Netherlands), the Flemish Public Waste Agency OVAM (Belgium), the City of Graz (Austria), Suffolk County Council (UK) and the national government of Slovenia.

These ten partners do not wish to restrict Cradle to Cradle to their own regions, nor do they believe that it can be achieved if they do so. For C2C to be successful at regional level, it must be implemented on a Europe-wide scale. It is only by cooperating with one another that we can offer a proper European counterbalance to the United States, Russia, China, India and Brazil. The European Union encourages our initiative, and the Commission is an active participant and eleventh partner in our network.

We have agreed that by 31 December 2011, all partners in the Cradle to Cradle Network will have lived up to their commitments. Along with our regional and local governments, enterprises, ecodesign firms and research institutions, we will collect good examples in our regions of activities that comply or potentially comply with the Cradle to Cradle concept, and we will share these with our partners and other interested European regions. The examples that we select will be in industry (products and processes, industrial design), building design (architecture and urban planning), area-specific development (integration and cooperation between architecture and the physical substructure, the functions located in the area, and their users) and governance (governing processes and systems).

By the end of the project, we will have created permanent networks for eco-effectiveness. These networks will be intended for public authorities, enterprises and other stakeholders, for sharing products, processes and ideas, for creating markets for the foregoing, for generating new inspiration, and for adopting a few good examples from other regions.

"Together, we will become the ambassadors of the eco-effective heritage!"

Foreword

Hervé Martin

Head of Unit

Unit E.4 "LIFE Environment and Eco-innovation"

DG Environment - European Commission

Eco-efficiency, that is the systematic reduction in the quantity of resources employed to produce goods and services in the economy and the safeguarding of eco-systems, will be one of the key determinants of economic and human well-being in the 21st century. Our policies must promote low resource consumption as a vital part of ensuring future competitive advantage of the European economy.

The transition towards a resource and energy efficient economy is good for the environment and can be a source of economic growth and of new jobs in the regions. Research shows that the most resource efficient economies are also the most competitive. Resource efficiency and eco-innovation however are not only about applying new green, more efficient, technologies. In order to decrease the environmental impact of our actions we must encourage green business models, eco-innovation in services and more resource efficient processes across all sectors of the economy.

We need to change our behaviour, as consumers and as producers if we are to achieve the goal of an eco-efficient economic growth. The scope for regional intervention for green growth is clear. Regional policies already focus on collaboration among actors to exploit the proximity of regional relationships and markets. The regions assist firms and provide the right conditions for green entrepreneurship to flourish.

Cities and regions should become laboratories of eco-innovation policies. This is why the European Commission will pay particular attention to the implementation of the Cradle to Cradle Network project. Using the materials that make up one product in another product after the life cycle of the first has ended is the main idea of the Cradle to Cradle (C2C) concept. By co-financing this project through the European Regional Development Fund (ERDF) in the frame of the 'Regions for Economic Change Initiative' we hope to be able to show how the C2C framework can serve as a driver for regional innovation and sustainable growth. A successful implementation will make a strong business case for the expansion of the C2C approach to other regions in Europe.

I am looking forward to the implementation of the project and contributing actively to the success of the Cradle to Cradle Network

Foreword

Philippe Barq

Head of Departments Design and Materials & processes, ARDI Rhône-Alpes

For several years, ARDI Rhône-Alpes has developed strategic competencies on ecodesign, in particular within the two departments Design and Materials & Processes in order to increase awareness and help companies to integrate environmental objectives when developing new products and services.

The department Materials & Processes works more specifically on materials life cycle to meet today's requirements while integrating and respecting the requirements of tomorrow, and clean processes to optimise production whilst reducing the impacts and respecting the environment. The department organises technical information days on these subjects for companies in the Rhône-Alpes region.

Since 2009, the Materials & Processes department is conducting an important investigation on the concept of Sustainable District with focus on the themes mobility, energy control, health and quality of life, all of which concern quite closely the respect of the environment. Other subjects have been addressed in relation with collaborative projects such as recycling and reuse of heat-hardening composite materials, elaboration of green materials including natural fibres, supporting the development of renewable energies (recycling of photovoltaic cells, hydrogen industry...).

The department Design has been working for a long time on the integration of the respect of the environment in product design and development and has created training courses, seminars, conferences and symposiums for companies and designers. The collaboration with the PhD candidate Gaël Guilloux has been very interesting and has allowed setting up

experimentations within regional companies. Gaël Guilloux has also developed his thesis with the department Design, Ecole de Mines (engineering school) in St. Etienne, France and the Polytechnic University in Valencia, Spain.

Among the experimentations, the group project Cradle 2 Cradle Design 2006 – 2007 enabled 9 companies to discover the Cradle to Cradle methodology and try it out on a real project accompanied by a designer and a consultant from EPEA, the German consultancy holder of the C2C methodology in Europe. Thanks to this experience, the department Design has conceived the group project EcoBooster, which was successfully conducted with 7 companies in 2009.

In order to carry out all these actions, ARDI relies on and leads a network of local, regional, national and international partners and shareholders (Plastic Ecodesign Centre, CREER, CARMA, the competitiveness clusters AXELERA, TENERRDIS, Eco-énergies...)

With regards to these activities and projects, the European project C2C Network seems particularly interesting to ARDI with the objectives of sharing and integrating good practices from other state-of-the-art European regions in terms of respect of the environment and the use of the Cradle to Cradle methodology.

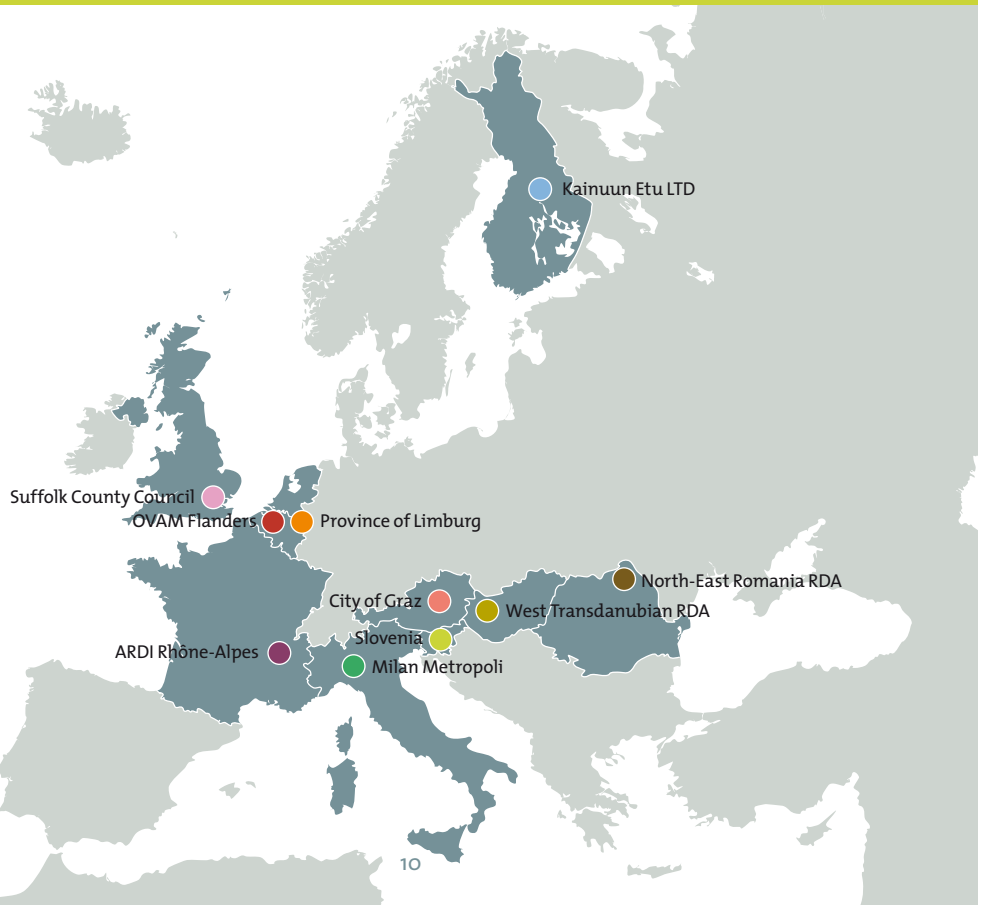
By being a part of this project, ARDI expects on the one hand to take inventory of good practices in the Rhône-Alpes region, in particular on the theme Industry and for innovative companies, which are ARDI's primary target and on the other hand to extend existing regional networks about environment to include the Cradle to Cradle issue.

ARDI also expects to receive good practices from the partner regions, which could be used for the profit of regional companies.

The Rhône-Alpes region is the first French region when it comes to investment in renewable energies and the regional government conducts an active and organised policy on sustainable development since 2004. The participation in the C2C Network could enhance the engaged approaches and encourage new initiatives.

Localisation of C2CN partners

AT } Department for Economics and Tourist Development of the City of Graz
BE } Flemish Public Waste Agency
FI } Kainuun Etu Ltd
FR } ARDI Rhône-Alpes, Regional Agency for Development and Innovation
GB } Suffolk County Council
HU } West Trans-Danubian Regional Development Agency
IT } Metropolitan Milan Development Agency
NL } Province of Limburg (lead partner)
RO } North-East Regional Development Agency
SI } Government Office for Development and European Affairs



} Province of Limburg
Limburglaan 10
6229 GA MAASTRICHT – THE NETHERLANDS

} Flemish Public Waste Agency
Stationsstraat 110
2800 MECHELEN – BELGIUM

} Milano Metropoli Development Agency
Via Venezia 23
20099 SESTO SAN GIONVANNI – ITALY

} Department for Economic and Tourism Development of the City of Graz
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} Regional Agency for Development and Innovation, ARDI Rhône-Alpes
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69006 LYON – FRANCE

} Kainuun Etu ltd
Lönnrotinkatu 1
87100 KAJAANI – FINLAND

} West Transdanubian Regional Development
Agency Non-profit Limited Liability Company
Csatkai utca 6
9400 SOPRON – HUNGARY

} Suffolk County Council
Endeavour House
IP1 2BX IPSWICH – UNITED KINGDOM

} North-East Regional Development Agency
Str. Lt. Draghescu 9
610125 PIATRA NEAMT – ROMANIA

} Government Office for Development and European Affairs
Gregor i eva 25
1000 LJUBLJANA – SLOVENIA

Cradle to cradle

C2CN

Good practices

European regions have played a key role in implementing the treaties of Lisbon and Gothenburg and will continue to do so under the new Europe 2020 strategy. They also have a part to play in promoting sustainability in the EU, and are approaching sustainable development in a number of ways, depending on the objective and the scale of the activity concerned. “Cradle to Cradle” (C2C) evokes its own antithesis (“cradle to grave”) and provides the framework for a breakthrough. The C2C idea is both challenging and inspires us to move towards sustainability in a recycling society.

The American architect William A. McDonough and the German chemist Michael Braungart developed the original C2C concept, which is based on the idea of getting things right first time rather than making up for mistakes later. The C2C philosophy, which has its focus on recycling in closed loops, is an idea that can both contribute to economic development and reduce reliance on raw materials, thus allowing society to make better use of limited space and reducing environmental pollution. It is part of a move to a sustainable, environmentally balanced society. C2C does not view the challenge of sustainability as a burden to be avoided, but looks for business opportunities in transforming the process of economic innovation and growth.

Our Cradle to Cradle Network (C2CN) will establish the following tactical and operational goals:

- **Creating** a European platform for gathering and disseminating knowledge on C2C in relation to waste prevention and management;
- **Drawing up** action plans in which we demonstrate to the EU, its member states, regions and relevant organisations how C2C can be formulated and implemented regionally and how this procedure can produce sustainable solutions, economic growth opportunities (innovation), and social wellbeing;
- **Establishing** links with regional policy objectives, specifically with regional competitiveness and employment targets and with European territorial cooperation initiatives;
- **Promoting** regional stakeholder involvement.

The C2CN approach will consist of the following steps: capitalising on existing good practices in industry, area-specific spatial development, building design, and governance; and making a good practice handbook and four perspective studies, which will provide the basis for each region’s action plans.

Below are four different examples showing how the partner regions are working towards eco-effective and C2C design. In the fifth example, the French partner ARDI Rhône-Alpes looks in greater detail at Ecodesign & Governance.

Industry
Perludi

‘Great design for small people’

Thomas Maite

Perludi is based in Graz and founded in 2007. The founders are a group of friends who have a background in interior design, psychology, architecture, art & exhibition design and marketing of sustainability products.

“a wood in sheep’s clothing”

Austrian furniture designers perludi develop rugged quality children’s furniture. Innovative design, environment-friendly values and sustainability are the cornerstones of perludi’s philosophy.

Children play a vital role: their ideas, needs and wishes are taken seriously and form the foundation of the design brief, which is then implemented by a team of product designers, architects, psychologists, engineers as well as marketing and production specialists. “No one should miss out in our products’ lifecycle” says Thomas Maitz, Managing Director of perludi.

The company values a sustainable approach to its work and products.

That is why the “please touch” range is made almost exclusively from organic materials that can be easily recycled. As far as possible, materials are sourced locally to minimise transport mileage. With respect for its customers, employees and the environment, perludi aims to promote positive values, especially for future generations.

Perludi is introducing a range of attractive, innovative products for children’s rooms. The designs are made in a unique combination of plywood and loden – a heavy, wear-resistant woollen fleece fabric. Some of the designs are concieved as folding units, with the loden acting as the hinges. This construction method provides numerous new design possibilities, which perludi utilises to develop quality furniture that is easy to transport and self-assemble.

Perludi is only recently founded but has already reached an important position in the international market. Within this market perludi positions itself as a company that strives for a sustainable, children friendly future.

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Environmental credentials of Adnams new distribution centre

Contact { Emma Hibbert
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Adnams is a Suffolk brewery and they have built a new warehousing and distribution centre within a disused gravel pit in Southwold. The site accommodates 80 staff in the office and warehouse and is very near the Brewery.

The centre is one of the first industrial buildings to attain a BREEAM 'excellent' rating, - the highest standard of environmental performance in building design enabling minimal environmental impact, maximum operational efficiency and superior returns on investment.

Adnams believes that building sets new standards for environmental efficiency.

C2C features in construction

Lime/hemp construction

This has outstanding thermal performance - there is no mechanical heating or cooling system in the warehouse and there is the equivalent of 100 to 150 tonnes of CO_2 locked up within the walls at Adnams Distribution Centre. A conventional brick and block building of the same size would have been responsible for about 300 to 600T of CO_2 emissions. This means that savings have made of at least 450 tonnes of CO_2 by using lime/hemp construction. Hemp is a renewable resource – 1 hectare will grow enough to build 5 houses in 14 weeks. The hemp used in the Adnams Distribution Centre was grown in East Anglia, providing a boost for local farmers.

Glulam Wood Beams

The huge curved roof is supported on glulam (glued and laminated) timber beams from sustainable Scandinavian sources. The massive glulam beams support the biggest green roof in Britain, at 0.6 hectares. A sedum roof was chosen to enhance the setting and to promote biodiversity within the site. The green roof helps to lower the U-values and to regulate the internal temperature. It also provide a vast rainwater catchment area, enabling Admans to harvest most of the water needed on site.

Pedemontana Lombarda Motorway

Building a "green" and "sustainable" motorway

This new major infrastructure project, which is under construction in Lombardy Region, will connect five different Italian provinces (Milan, Bergamo, Monza-and-Brianza, Como, Varese - 157 km long), an area that shares heavy car traffic density and insufficient linking ways.

Pedemontana Lombarda is a motorway conceived not as something "bad though necessary" but rather as an opportunity for re-building the landscape and environment.

Pedemontana Lombarda aims at promoting a new culture in infrastructure development, able to generate positive and durable impacts on the territory.

Starting point is the effort for integrating the motorway design, green productive technologies and environmental compensation and mitigation measures.

Three main elements push towards the Cradle To Cradle principles:

1. The Greenway – a park for the infinite city: from the very early stage of the project, Pedemontana Spa, the company which is responsible for the development of the project, undertook a participative planning process for the definition of something more than isolated measures for environmental compensation or mitigation. Backbone of the project will be the construction of a greenway, a green linear system at a regional scale, linking 50 local projects for landscape conservation and valorisation alongside the motorway. It is the widest environmental project ever developed in Italy (700 hectares and 150 M€), created by involving all the players interested by the motorway (Regional and Provincial Governments, Municipalities, Parks etc.)
2. The motorway will be a huge "solar roof" with more than 60.000 sqm of solar panels installed and 9 MWh of energy produced, in order to crash the energetics impact of its functioning.
3. Pedemontana motorway will implement a complete free flow system for toll payment, in order to reduce not just waste of time, but also acoustic and atmospheric pollution due to traffic and car tailbacks.

The hypothesis about quantification of the results in waste management and prevention can be explained easily. Suffice to compare the territorial situation with or without Pedemontana:

- 35 M litres of fuel saved per year; 45 M€ per year
- 382.000 kg pollutants saved per year

The project has started in 2007.
The roadway will be opened in 2015.

Why creating networks of social learning is becoming increasingly important:

The case of Plan C in Belgium

A major challenge of C2C - and sustainability in general - is its essentially normative character. It defines what to aim for, without saying how to achieve this aim in specific social, ecological, economic, political or cultural situations. Since the origins of the concept of sustainable development, the need for a different approach to governance has been clear.

Over the past 20 years, the technological and human forces have drawn people and their environments into an even more densely interwoven tapestry of problems and possibilities. Feedback loops between political, economic, social and environmental systems have become ever tighter and more complex. Technology and consumer determinism – the belief that the future can be 'colonized' to the present and filled with even more technology and consumer goods – now threatens to compromise our wellbeing and prosperity.

The OVAM, the Flemish Public Waste Agency, concluded in 2005 that a next generation of waste management – or 'sustainable material management' – requires room for changes in perspective and pratice, for new structures and culture, for (failure-friendly) experiment and social learning, and cannot be controlled or planned. From this deeper understanding and concern to make future progression, the OVAM started Plan C in 2006, a transition network that brings together individuals and organisations (from the public sector, the business world, academia and NGOs) to co-create breakthroughs in sustainable material management. A specific approach was implemented to manage this complex process: transition governance.

Plan C shows that this approach towards system innovation really can make a difference. Plan C offers a visionary framework and initiates and assists in a coordinated effort for experimenting along selected pathways. Experiments are 'innovation projects with a societal challenge as a starting point for learning', looking into the proper technological, juridical, economical and social bottlenecks on our journey towards breakthroughs in the way we manage material resources. Some examples of experiments are situated in the field of product-service systems, chemical leasing, closed loops of materials, product design, local production and consumption, etc.

Anno 2010 we're in the middle of a paradigm shift in innovation, which is being democratized with active user roles and open innovation processes, and where the scope is widening from products and services innovation to business model and societal innovation. Different stakeholders are involved in addition to citizens and users. Making the concept of C2C operational means in this context translating it into a set of action-guiding values and norms for social actors. As a consequence, C2C cannot be limited to the development of new technologies or designs. Instead, it depends directly on substantially changing the norms, rules and regulations according to which actors interrelate. Governance for C2C and sustainability , which focuses on 'creating conditions rather than giving directions' and on a 'collaborative or social learning culture' about how to reform policy-making to promote C2C and making the concept operational, is becoming increasingly important. As a partner in the INTERREG IVC-project 'Cradle to Cradle Network', the OVAM takes the lead in the target area 'Governance for C2C'.

More info { Plan C

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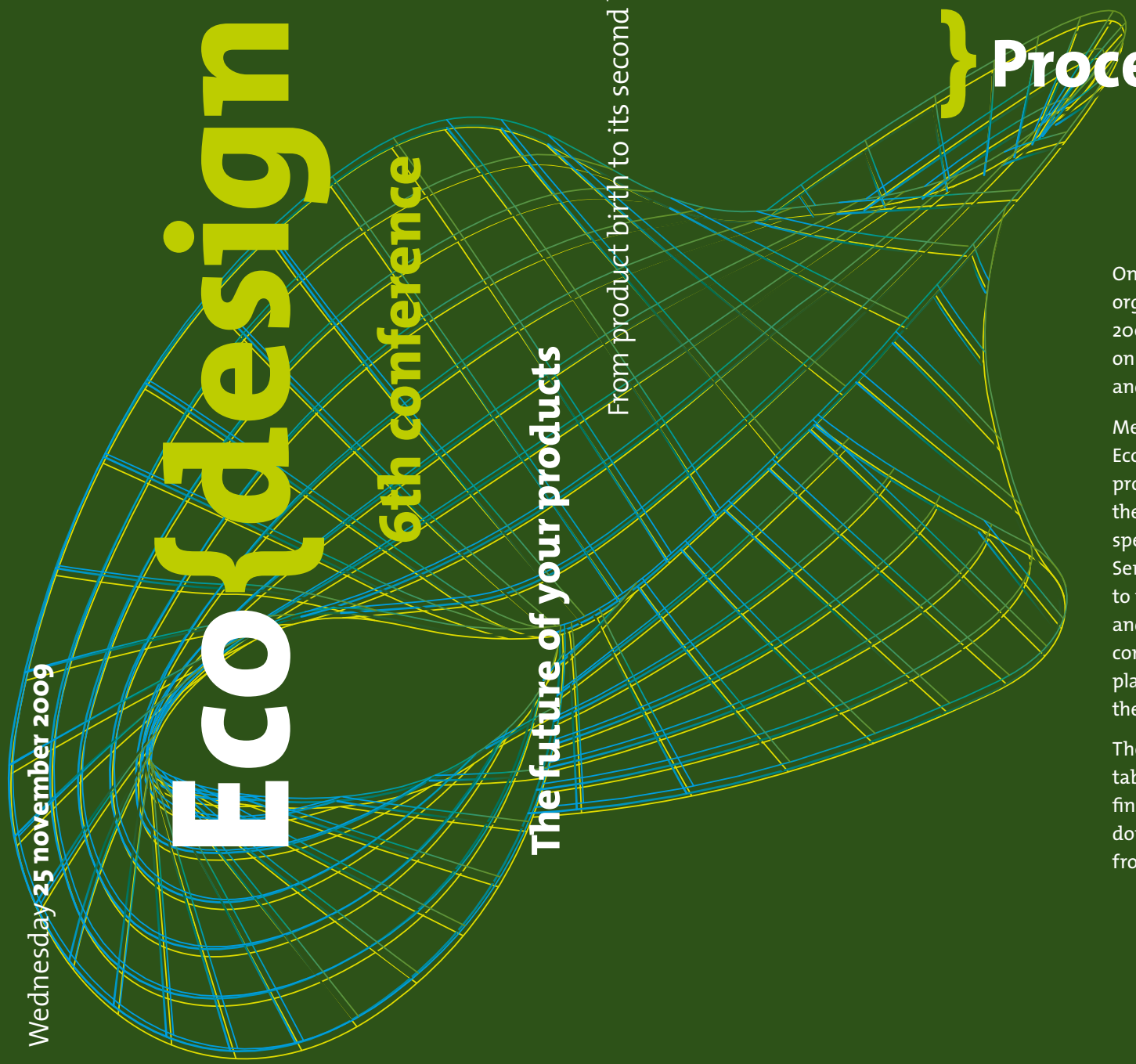
(new website available from July 2010)



Proceedings

On the 25th of November 2009, the 6th Ecodesign conference organised by ARDI Centre du Design took place in Lyon. Since 2004, ARDI Centre du Design has organised yearly conferences on different themes concerning the overall subject of ecodesign and respect of the environment when designing new products.

Meant as an introduction to the C2C Network, the 6th Ecodesign conference had as main theme “The future of your products – from product birth to its second life” investigating the closed-loop systems for product development with a special focus on the Cradle to Cradle, Blue Sign and Product Service System methodologies having as overall objective to reduce the quantities of waste generated each year and improve the eco-effectiveness. The conference also concentrated on the involvement of the user as an important player because he has a crucial role to play concerning the return of the products at the end of their life.

The conference included plenary sessions and round table discussions and on the following pages you’ll find the minutes of the day along with the illustrations done during the conference by the graphical designers from Bigger Pictures and Etienne Giorgetti.

Cradle to cradle } PSS } Blue sign

Product development in closed loops

Methods } Experiences } Progress

Crisis or simply a change of systems? Regardless of how we interpret the events that have been shaking the economy for the past 18 months, industrialists know the cycle that began after the war has now come to an end. “The crisis has developed the idea that, henceforth, innovation must be associated with the environment”, is how Gaël Guilloux, consultant in social and environmental responsibility, analyses the situation...

The day of discussion and debate certainly focused on methods and their relevance (conclusion: there are no miracle methods, but probably a combination of these approaches could lead to a relevant, overall method - different contexts have a considerable impact on choices!), **but the most interesting point was just how often the word guilt** was mentioned. Between the risk of blaming the company which is often relatively restricted in its scope of action and the tendency to transfer all guilt to the client, we have all the ingredients for a ping-pong match based on “responsible but not guilty...”. Would it not be more constructive **to consider that each party bears their own share of responsibility and therefore can take certain action?**

In the light of all which was said during the course of the day, the ultimate conviction is that things are starting to change and that even though not all drivers have licenses and the passengers do not always share their driver’s point of view, we are all moving more or less in the same direction. The main point now is that one does not go faster than the other.

Unlike “green washing” - a thin layer of green paint to hide the same practices - the methodological integration of environmental issues in product design has become a major preoccupation. This has implications at all levels: manufacturing, distribution, consumption, use, end of life, recycling, etc.

“Design must now take all this into consideration... without forgetting the notion of user desire”, continues Gaël Guilloux, who believes that “the proposed methodologies must start by helping each individual to find their own path.”

A review of the three most widely used ecodesign methodologies with examples of applications in companies and local authorities.

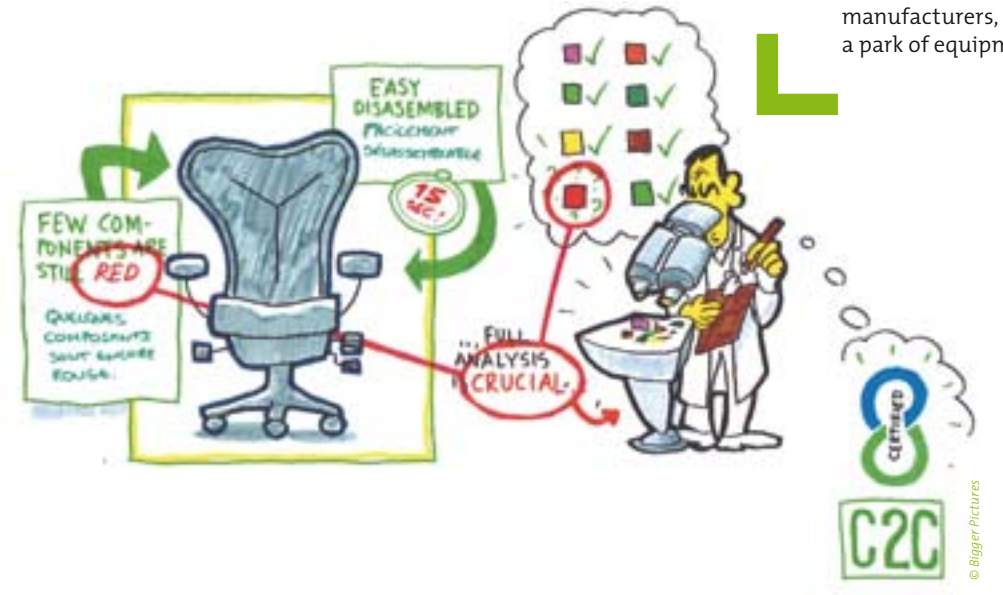
Cradle to cradle

From philosophy to certification

Speaker: Eric Allodi, director Integral Vision

Unlike other current theories in ecodesign, “Cradle to Cradle” (or C2C) includes the economic dimension from the start. Rather than reducing consumption, the concept’s two creators, William McDonough and Michael Braungart, favour a new industrial revolution, in which the very notion of waste disappears. Hard-hitting slogans like “waste = food”, “be good, not less bad” and post-industrial philosophy are the ingredients of the C2C cocktail. Based on the model of balanced natural eco-systems, everything is reused: either returned to the earth in the form of compost, or re-injected into the industrial circuit as ‘technical nutrients’ that can be recycled indefinitely.

“This new industrial culture enables accurate production and consumption rather than a fatalistic decline”, explains Eric Allodi, director of Integral Vision. C2C therefore implies a complete re-thinking of product manufacturing modes. “This is the main obstacle“, acknowledges Eric Allodi. “Waste is generalised and levels of product reuse remain low. They are even decreasing in certain sectors, such as textile. We are producing more and more waste and we will be heading for major problems if we do not stop to review our product manufacturing methods.” Eric Allodi, advocate for the creation of “material libraries” in which one person’s waste becomes the raw material for another person, foresees the development of “a new industrial culture”. Having developed from a philosophy to a certification, C2C is now a private label that MBDC, McDonough and Braungart’s company, has granted to more than 250 products.



© Bigger Pictures

A manufacturer of blinds in Rhone-Alpes region joins the Cradle to cradle adventure

Jean-Luc Breton, Installux group

“An eco-designed product should have a shorter lifetime”

“Thanks to Cradle to Cradle, we have designed a blind with fewer components, totally recyclable elements (aluminium, canvas), lighter in weight, and that we will be able to update more easily with the technologies that are about to hit the market. This new concept also requires one person less for installation. I believe that eco-designed products should have a shorter lifetime, which is in opposition to the most common perception of the concept... The objective is to create a new sales relationship between our network of independent installers and their clients, to enable the installers to return regularly to each client, offering new improvements, like a more energy-saving engine, a more breathable canvas, etc. Obviously, this also implies organising product recovery. It is a new economic model: we are no longer simply sellers of a product, but owners of a concept... which means that we can offer long-term rental contracts. Instead of being just manufacturers, we take on the added responsibilities of managing a park of equipment, which is a whole new business for us.”

Two territories committed to C2C: reality and hope

Harma Albering, Limburg province (Netherlands)

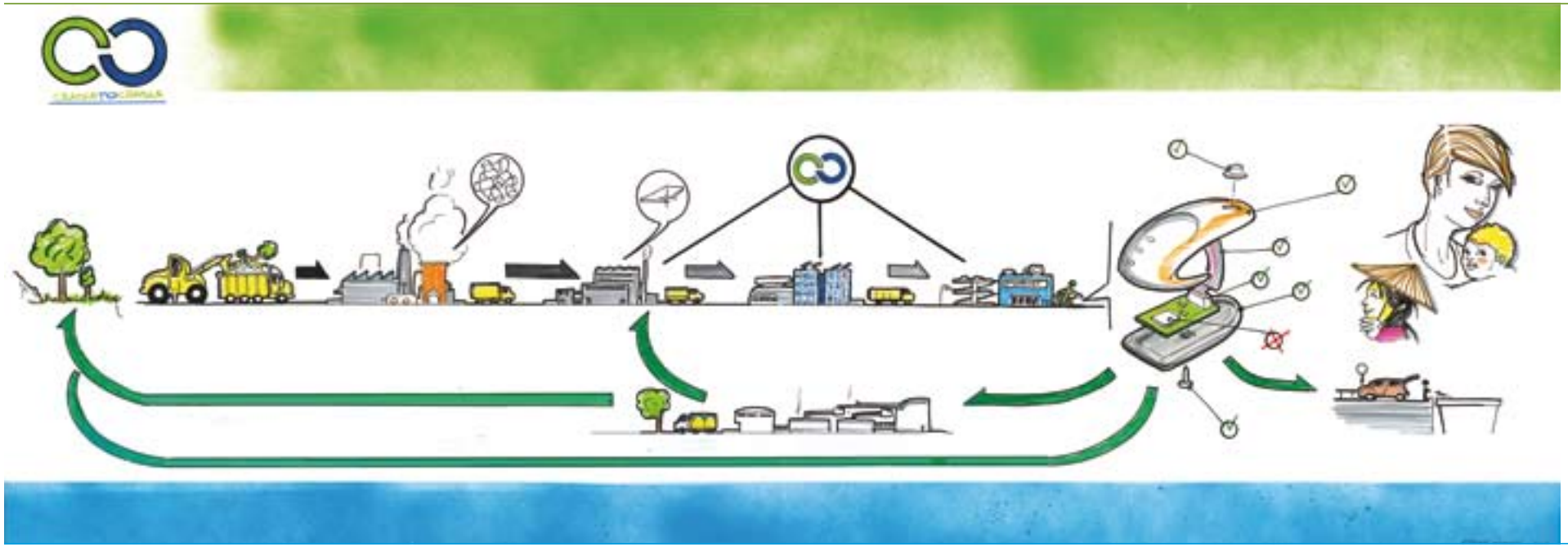
"Economy and environment hand in hand"

"We discovered C2C in a documentary on Dutch TV. It convinced us to initiate a European network of public authorities committed to initiatives implementing this method. The idea is to get rid of concepts like 'used product' or 'waste' to enter a model of society where recycling is constant. This is not a constraint but a driver of innovation and of new opportunities for industry, services and even for the exercise of democracy. C2C thus enables our province to make progress in social and economic fields, and not only in environmental terms. The Ministry of the Economy and the Ministry of the Environment are now walking hand in hand."

Gianluca Sala, Milano Metropoli (Italy)

"Boosting the wood industry via product development in closed loops"

"The Bo.Mo. project (standing for Bosco Mobile, or Wood and Furniture in English) aims to boost the wood and furniture industry in the Piedmont by integrating the principles of sustainable development and ecodesign. The whole local supply chain, including forestry firms, designers and small furniture manufacturers, has had to integrate these principles with the aim of increasing the value of our production in this region which tends to be one of emigration. We hope then to gain niche opportunities and to establish our commercial position on these markets. The local authorities have joined the initiative, issuing invitations to tender, which now stipulate environment constraints, particularly for school furniture contracts. Real progress is expected at the mid-term, but even in 2008, the sector increased its turnover by 5%."



Cradle to Cradle

Product Service System

From product to service... and a different approach to profit

Speaker: Daniel Brissaud, INP Grenoble

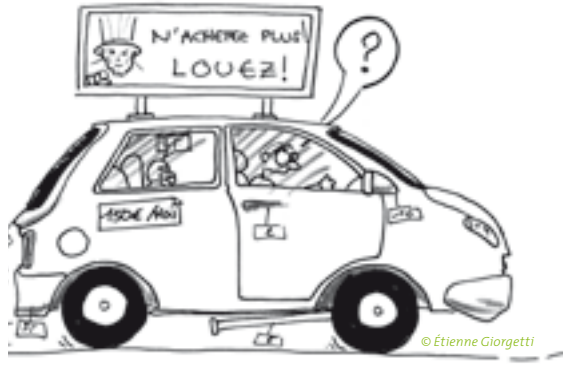
Substituting the supply of material goods with a service offer: this is the ultimate aim of the Product Service System (PSS). "In the traditional economic model, industry transforms raw materials and provides added value making a product which will be sold to a customer. With PSS, industry sells more than just added value. Turnover is directly related to the intensity of use by the client rather than actual possession", explains Daniel Brissaud of the INP Grenoble.

Born from the observation that service offers combined with a product generate more profit than the product alone, PSS was subsequently tied to company environmental policies: dematerialisation obviously implies greater sobriety, re-use and even mutualisation of products.

"Photocopier manufacturers were the first to adopt this approach with their service contracts, proposing used machines to their customers and charging according the actual use of the machine by the customer", continues Daniel Brissaud.
"For the customer, the notion of definitive, absolute ownership lost its meaning in favour of the more responsive notion of usage."

"The TIC sector appears best suited to PSS, but other examples include Elis, with a work clothing offer, Michelin who rents tyres to fleets of trucks in the USA and even Rolls-Royce, owner of the engines in their customers' aeroplanes." The researcher also acknowledges the limits of the system: "PSS is relatively up to speed in 'b to b', but in 'b to c' there are issues of maintenance at the customers' homes and product collection after use. However, initiatives like Vélo'v prove that possibilities exist."

Will the renting of goods be a standard for the future? At which price?



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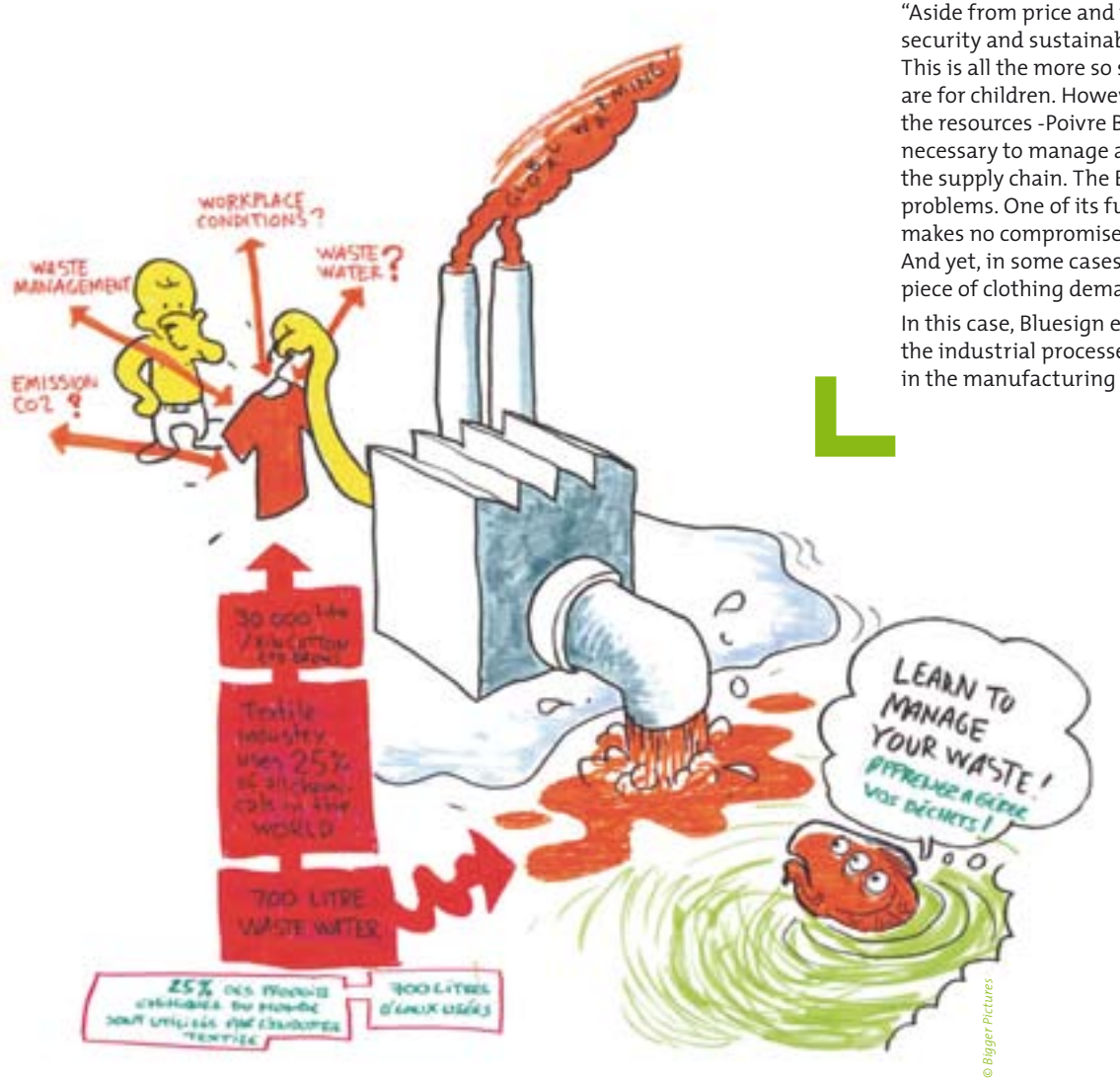
Bluesign

A global approach to the textile industry

Speaker: Peter Waeber, director Bluesign Technologies

In the light of increasingly restrictive regulations (Reach in Europe) and a supply chain that is so complicated that any notion of traceability is no more than an illusion, a number of professionals in the textile industry created the Bluesign standard in 2000. “Rather than focusing on the end product, all the materials and substances involved in the manufacturing processes (chemical components, water, energy resources, etc.) are analysed by an incoming flow management system. This enables optimal management of the product’s end of life and its recycling”, explains Peter Waeber, director of Bluesign Technologies. “Before the actual production phase, each component is tested and graded according to its impact, and may even be eliminated before production starts.” Bluesign also takes into account the reduction of raw material and energy usage. 7 years on, the standard’s promoters consider that it has achieved cruising speed. “Bluesign has enabled avoidance of 3120 tonnes of additives”, claims Peter Waeber,

“95% of the companies implementing the standard have a return on investment within three months, thanks to savings made on incoming flows and energy.”



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The first French member of Bluesign

Michael Elsaesser, CEO, Poivre Blanc

“No question of compromising quality”

“Aside from price and technical qualities, issues like user security and sustainable production are gaining importance. This is all the more so since more than 50% of our products are for children. However, we are aware that we do not have the resources -Poivre Blanc has just 17 employees - or the skills necessary to manage all the environmental issues throughout the supply chain. The Bluesign tool is our solution to these problems. One of its fundamental characteristics is that it makes no compromise in terms of product quality or design. And yet, in some cases, the performance or function of a piece of clothing demands the use of impacting chemicals.

In this case, Bluesign enables us to optimise management of the industrial processes and waste to protect those involved in the manufacturing process as well as the environment.”

The user and his role in the product's end of life

Expectations and behaviour, questions and answers

Three highly contrasting viewpoints

Alexis Roy, policy officer at the Ministry of Ecology

Carine Rial, sustainable marketing consultant

Alain Renaudin, director of DDB Corporate

Does the notion of target still mean anything?

Carine Rial The word 'target' really irritates me – hunters shoot at targets. Those who use this word for marketing are not showing much respect for the buyer individuals of all statuses: citizen, user, waste producer... The environment has a meaning for the customer. Surveys report that 30% of customers are eco-conscious, and this percentage increases every year. Certain markets are particularly well-matched, like the 'outdoor' sector.

Are the customers always the guilty party?

Alain Renaudin We all preach to one another. We hear things like 'Consumers lie. They are not prepared to change their habits to protect the environment.' But consumers are no more philanthropic than companies. If changes have been made, it is because the price of oil has reached $150 / barrel. For consumers, sustainable development means the environment and a reduction in energy bills rather than biodiversity. Consumers are sceptical regarding the 'green' arguments developed by companies. This argument would be better heard if the companies stated clearly that they are developing environmental policies primarily to ensure their own durability. Ultimately, the environment is just one element of the customer decision 'mix'.

Alexis Roy Observations of the difference between declarations and actual behaviour of customers in environmental matters are extremely diverse. It is therefore important not to confuse this 'green' awareness with actual impact on the environment, which remains directly proportional to the household's income. Another point: responsibility for the environment has been placed on the shoulders of the individual, forgetting the structural factors on which he/she has no impact: land planning and urban sprawl designed for car use, insulation and heating in collective housing, etc. When behaviour really does change, it is usually because individual action has been made easier by the creation of structures and by giving meaning to his/her action: the sorting of household waste, which is now widespread, is a good example. Travel in private cars is stagnating, partly due to the rising price of petrol of course, but also because real alternatives are becoming available with the development of public transport networks. Certain labels like the French organic agriculture label, AB, also help to make life easier.

How does ecodesign fit into the manufacturer-customer relationship?

Carine Rial Brands are sincerely trying to forge relationships with their customers via this route at all stages of the product lifecycle. Once again, the 'outdoor' world is naturally very involved. We talk to customers about waste sorting and product end of life, but ultimately, it's a makeshift solution: rather than sorting our waste, we would prefer to have fewer things in our bins!

Alain Renaudin New entrants in business have an educational role to play. If we take the example of washing powders: the green argument has not been very successful on this market. The arrival of new brands like Arbre vert and Rainette, little midgets in comparison with the major household names, has encouraged consumers to think about the other products available. However, the largest companies have their own strategies too: the Prius, a single model, gave Toyota a whole new image; SNCF has used the electric power vs petrol argument. The important thing is to make the company's position coherent with its offer of 'positive echo' products. The problem that remains as yet unsolved is that of the customer interface: the distribution networks.

Use and re-use

Involving the user: problematic and sometimes disappointing

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Four cases to illustrate how to involve users in the ecodesign approach. Ultimately, it is the user who will determine the product's future: end of life, re-use, collection, recycling... The problem is, his decision rarely corresponds to our expectations.

Thomas Bouton, designer Incido Design

Giving an obvious shape to waste sorting collection points... But it is not easy to get people to change their habits

The aim of Thomas Bouton (Incido Design) is to base the recognition of waste sorting containers on shape rather than on colour: a bottle for glass, a flacon for plastic, a box for cardboard, etc. The designer's study revealed that each collection point is immediately recognisable and a separate column manages the fill level of the containers. Bearing in mind that there are currently more than 300 different collection schemes in France... "The recycling action should be simple and made worthwhile. If shape recognition makes sorting easier, ultimately, there are advantages for everyone", explains Thomas Bouton.

Above an underground container, the designer's aluminium collector stands 1.7m tall. Rust-proof and recyclable, the system enables customised collection. "My whole approach is based on material and its flexibility enables the whole waste sorting experience to be a bit more fun" continues Thomas Bouton. "Making people feel guilty is not going to work any more in this area. We have to show that recycling can be attractive and that we all have something to gain."

Public authorities and industrialists now have to be convinced on this convergence of interest. However, the reserves expressed by some ("it's ugly", "it doesn't look like a dustbin") indicate that much remains to be accomplished in this area.

Yann Lacroix, director Myvision

Users before logistics

This spectacles manufacturer based in the Jura launched the first eco-designed glasses in 2008, with an assembly of recyclable elements easily separated at the end of the product's life. "The idea was to encourage customers to bring their glasses back to the opticians' rather than disposing of them. Bearing in mind that the lifetime of glasses is relatively long and that they are rarely thrown away (given to charity, put aside 'just in case', etc.), we are still in a phase of increasing customer awareness through our opticians in a dozen or so test shops", explains Yann Lacroix, who is proud of his user-oriented approach. "We chose to start by involving the customer before even creating large-scale collection systems. We know that once the volumes of glasses returned become significant, we will have to sign agreements with the major optician chains to organise the logistics aspects. This initiative, while raising a certain number of questions, has aroused interest in a number of players in our industry", points out Yann Lacroix.

Stewart Sheppard, Eco-guide and international development manager

Drop-off collection can only work if the consumer sees an advantage in it... Otherwise, it will only work partially or not at all

It is time to clean up the waste left on the ski slopes at the end of the season: in 2005, the Mountain Riders association started publishing its eco-guide for ski resorts and eco-guide to equipment. The latter compares the environmental policies of the leading manufacturers of ski clothing and equipment. The latest edition surveyed thirty manufacturers, comparing criteria defined by professionals and environmental specialists. "Our objective is to help clarify matters for consumers and to encourage manufacturers to commit to some kind of action; the goal always being more important than the method chosen. Every step forward is a step in the right direction, even marketing..." says Stewart Sheppard, eco-guide and international development manager. Four years after publication of the first guide, Stewart Sheppard's review of manufacturers' recycling initiatives is rather mitigated: "Overall, voluntary collection programmes don't work enough or at all. However, if customers are encouraged by a material argument, such as a credit note or a discount, return rates are much higher."

It is too early to have enough information to judge the real impact of these measures, but the association recommends users opt for the most resistant products, to have them repaired and to prefer rental for occasional use. The scenario then turns quite clearly towards a notion of service, and there is no guarantee that even the 'greenest' of manufacturers will see an advantage in that...

Jean-Marc Imberton , director and founder, Reversible

Reversible proposes their customers to take action, but response has proved disappointing

This concept is based on the collection of used advertising banners, reusing them to make bags and the recycling of used bags returned by customers. A product made from waste and sold becomes a responsible consumer action. Reversible, or how to make new from old... with a little marketing. “We propose that our customers become players, and take on their own role in the loop. When they buy, they make a commitment and we provide a tool to enable fulfilment of this commitment: a Reversible envelope to return the bag to the point of sale”, explains Jean-Marc Imberton, director and founder. Even so, the results are far from the initial objectives: “For every 20 Reversible bags sold since 2006, fewer than ten have been returned”, acknowledges Jean-Marc Imberton, who believes that “collection itself is positive, in spite of the transport element, because in the lifecycle analysis of a bag, 80% of its impact is due to the raw materials”. So the question of the concept’s limits arises. “The ‘green’ argument has helped us to sell more than just bags, an asset that differentiates our products which are generally more expensive than those of our competitors,” continues Jean-Marc Imberton. “The concept relies on the arguments presented at the point of sale, but we have no control over our distribution network...”

User doubts

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The economic, technical and legal context of closed loop design and its influences on the consumer

Productive discussion between three closed loop design players... who acknowledge the advantages of openness in certain cases.

Thierry Vaissière, jurist

"Legislation excludes the consumer completely"

The notion of waste users is not considered in legislation, which focuses on the 'producer' and/or the 'holder' of waste. The producer is the person who generates the waste, who is about to abandon his goods. Holders are defined as all intermediaries (such as transport companies). Both are liable to share their legal responsibilities in the processing and elimination of waste, regardless of who actually owns it. Legislation is currently tending towards the multiplication of responsibility, to include cases of Extended Producer Responsibility (EPR). This has the advantage of bringing manufacturers to the discussion table. On the other hand, legislation totally excludes consumer responsibilities. Consumers are not part of the loop in spite of the fact that their role is essential and everything relies on their goodwill... Consequently, the authorities continue to rely solely on public spiritedness, morality and guilt to encourage individuals to improve their recycling habits.

Eric Fache, designer

"From 'what good is it' to 'even if...'"

Morality and guilt have been over-used to encourage individuals to respect their environment and no longer have any effect. The generations of the major popular movements (patriotism, revolution, technical progress, etc.) are now disillusioned. The next generation grew up during the period of 'the end of the story' where each individual is free but isolated and unable to change the course of events alone... although prepared to do his share. We have moved away from the typical 'what good will it do to react? It won't change anything anyway' reaction of the disillusioned babyboomers to the 'I will do my bit, even if it doesn't change anything' of those who have known economic crises. Local and even individual initiatives abound. In terms of design, the goal is therefore to reformulate the questions that must be raised so that each and every one of use can take relevant action. Today, individuals are ready to take action, but manufacturers are not... Expectations are high in this field, the population is ready; 'green marketing' must make the most of this ambition for serene, free and efficient commitment.

Alain Geldron, department manager at ADEME

First of all, an observation: those who have no desire to commit to environmental measures will soon cease to exist. For example, France's environment laws (Grenelle Environnement 1 and 2) stipulate an increase in taxes on non eco-designed products. Soon, all products on the markets will be included in the EPR system, demanding the organisation of collection and processing schemes.

At user level, by 2015, all waste sorting schemes – and France has 320 today! – must be harmonised. There is still plenty of room for manoeuvre in recycling matters. At present, the order of priority is to stop producing waste, then to re-use, then to recycle and incinerate, before ultimately using the landfill sites... Today, we do not know how to recycle everything and for the rest, only the materials produced in large quantities and for which there is a demand, a market, are recycled.

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Province of Limburg (Netherlands)
www.limburg.nl

Flemish Public Waste Agency – OVAM (Belgium)
www.ovam.be

Metropolian Milan Development Agency (Italy)
www.milanomet.it

Department for Economics and Tourist Development of the City of Graz (Austria)
www.wirtschaft.graz.at

ARDI Rhône-Alpes (France)
www.ardi-rhonealpes.fr

Kainuun Etu Ltd (Finland)
www.kainuunetu.fi

West Trans-Danubian Regional Development Agency (Hungary)
www.westpa.hu

Suffolk County Council (United Kingdom)
www.suffolk.gov.uk

North-East Regional Development Agency (Romania)
www.adrnordest.ro

Government Office for Development and European Affairs (Slovenia)
www.svrez.gov.si