

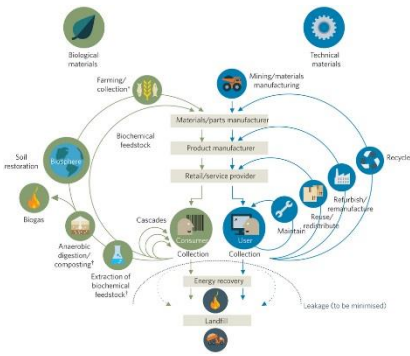
Cradle to Cradle®

Redesigning Products and Business models

Chamber of Commerce and Industry Novo Mesto - Slovenia

EPEA Switzerland GmbH
Marko Krajner

CIRCULAR ECONOMY



The circular economy approach analyses the economics of recycling within a value added chain with the result to generate the recovered material as recycling revenues of materials in a mass material stream.

Cradle to Cradle[®] defines a quality preserving as well as an economical sound cycling revenue in the added value chain. The material reutilization of cyclable Cradle to Cradle[®] products enables to generate ideally revenues close to the acquisition price of materials. In case additional processing or cleaning costs occur, the material expenses are in any case lower than the market price.

Moving towards a more circular economy is essential to deliver the resource efficiency agenda established under the Europe 2020 Strategy for smart, sustainable and inclusive growth.[1] Higher and sustained improvements of resource efficiency performance are within reach and can bring major economic benefits.

EPEA: ENVIRONMENTAL PROTECTION ENCOURAGEMENT AGENCY



Science:

EPEA Internationale Umweltforschung GmbH, D-Hamburg

Projectimplementation:

EPEA Switzerland GmbH, CH-Bäch/SZ

«KNOWLEDGE TRUSTEE»

EPEA Core-Competences:

1. Material Assessment
2. Search for Material Alternatives
3. Focus on Industrial Material Streams
4. Network Management
5. Supply Chain Management
6. Role: Knowledge Trustee

EPEA SWITZERLAND TEAM: Alpine region

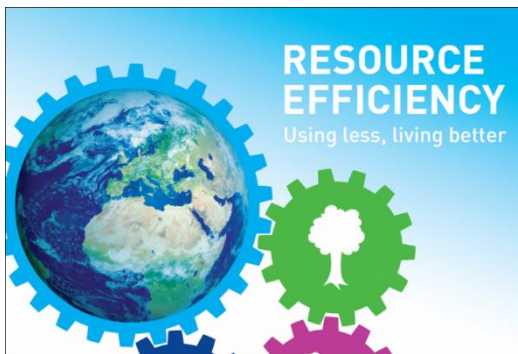


CRADLE TO GRAVE DESIGN PARADIGMA

Take → Make → Use → Waste



EU KOMMISSION + PARLAMENT 2011 / 2012



STRATEGY 2020:
Roadmap for a resource efficient Europe

STRATEGIE 2020:
Fahrplan für ein Ressourcen effizientes
Europa

Werner&Mertz movie

http://www.kvalitet.org.rs/index.php?option=com_content&view=article&id=6705:frosch-proizvodi-za-ciscenje-dobili-cradle-to-cradle-sertifikat&catid=51:ostalo

EU COMMISSION ON THE ENVIRONMENT:

17th European Forum
on Eco-innovation

**Transforming jobs and skills
for a resource efficient,
inclusive and circular economy**

Monday 1 and Tuesday 2 December 2014
Lyon, France

Special Event:  European Business Awards for the Environment
European Business Awards for the Environment (EBAE) ceremony



Environment

Session 2: The practical challenges and opportunities of transformation

11.40 | Keynote presentations highlighting:

- Barriers to be overcome
- Example of holistic analysis of transformation within a sector
- Old industry, new industry and disruptive technologies
- Policy & financial supports

Stéphane Hocquet, French Ministry of Ecology, Sustainable Development and Energy

Albin Kälin, Chief Executive Officer, EPEA Switzerland GmbH

Table discussion

NETHERLANDS TAKE THE LEAD WORLDWIDE FIRST CRADLE TO CRADLE REGION



LCA, LCC – CO2

CLOSING THE LOOP AN EU ACTION PLAN FOR THE CIRCULAR ECONOMY



The revised legislative proposals on waste set clear targets for reduction of waste and establish an ambitious and credible long-term path for waste management and recycling. Key elements of the revised waste proposal include:

- A common EU target for recycling 65% of municipal waste by 2030;
- A common EU target for recycling 75% of packaging waste by 2030;
- A binding landfill target to reduce landfill to maximum of 10% of all waste by 2030;
- A ban on landfilling of separately collected waste;
- Promotion of economic instruments to discourage landfilling ;
- Simplified and improved definitions and harmonised calculation methods for recycling rates throughout the EU;
- Concrete measures to promote re-use and stimulate industrial symbiosis - turning one industry's by-product into another industry's raw material;
- Economic incentives for producers to put greener products on the market and support recovery and recycling schemes (eg for packaging, batteries, electric and electronic equipments, vehicles).

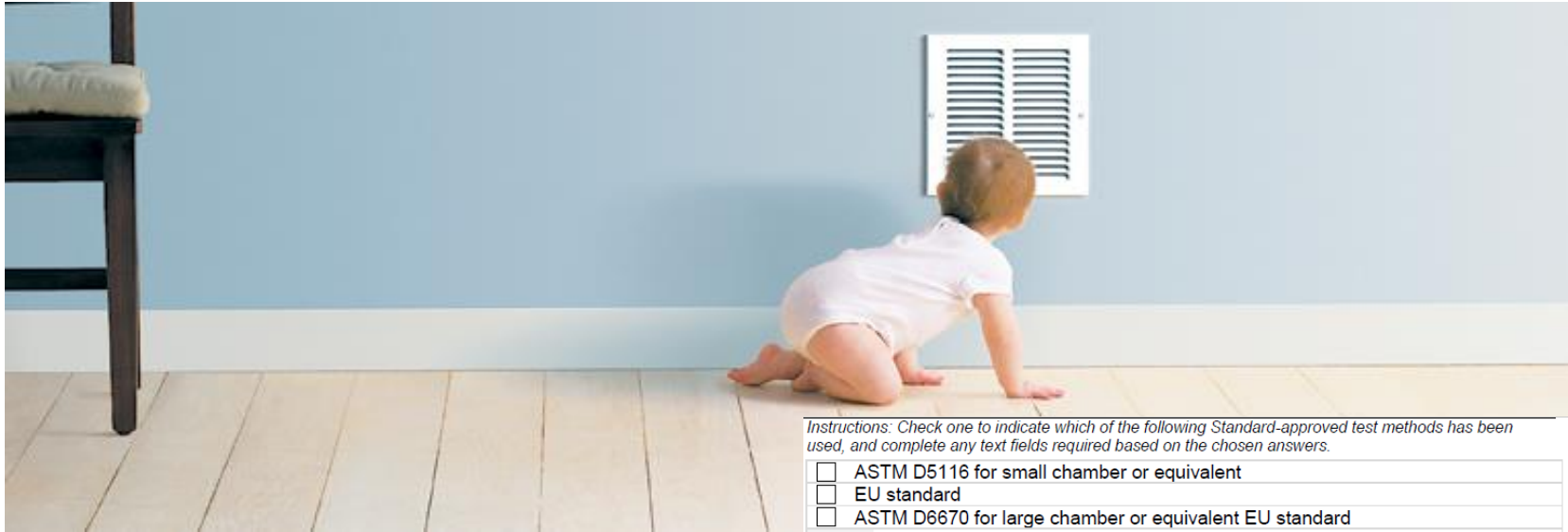
EPA; + WALL MART + EU (Asda) + PROCOS (Gr)



US EPA Recommends C2C Certified product standard

The Cradle to Cradle Certified Product Standard has been recognized by the United States EPA in its new recommendations of standards and ecolabels for federal sustainable purchasing.

INDOOR AIRQUALITY FOR OUR CHILDREN (VOC)



Instructions: Check one to indicate which of the following Standard-approved test methods has been used, and complete any text fields required based on the chosen answers.

<input type="checkbox"/>	ASTM D5116 for small chamber or equivalent
<input type="checkbox"/>	EU standard
<input type="checkbox"/>	ASTM D6670 for large chamber or equivalent EU standard
	Name of equivalent EU standard, if applicable: [...]
<input type="checkbox"/>	ANSI/BIFMA M7.1 for office furniture or equivalent EU standard
	Name of equivalent EU standard, if applicable: [...]
<input checked="" type="checkbox"/>	ISO 16000 series for VOCs (based on)

3.1 Loading Scenarios

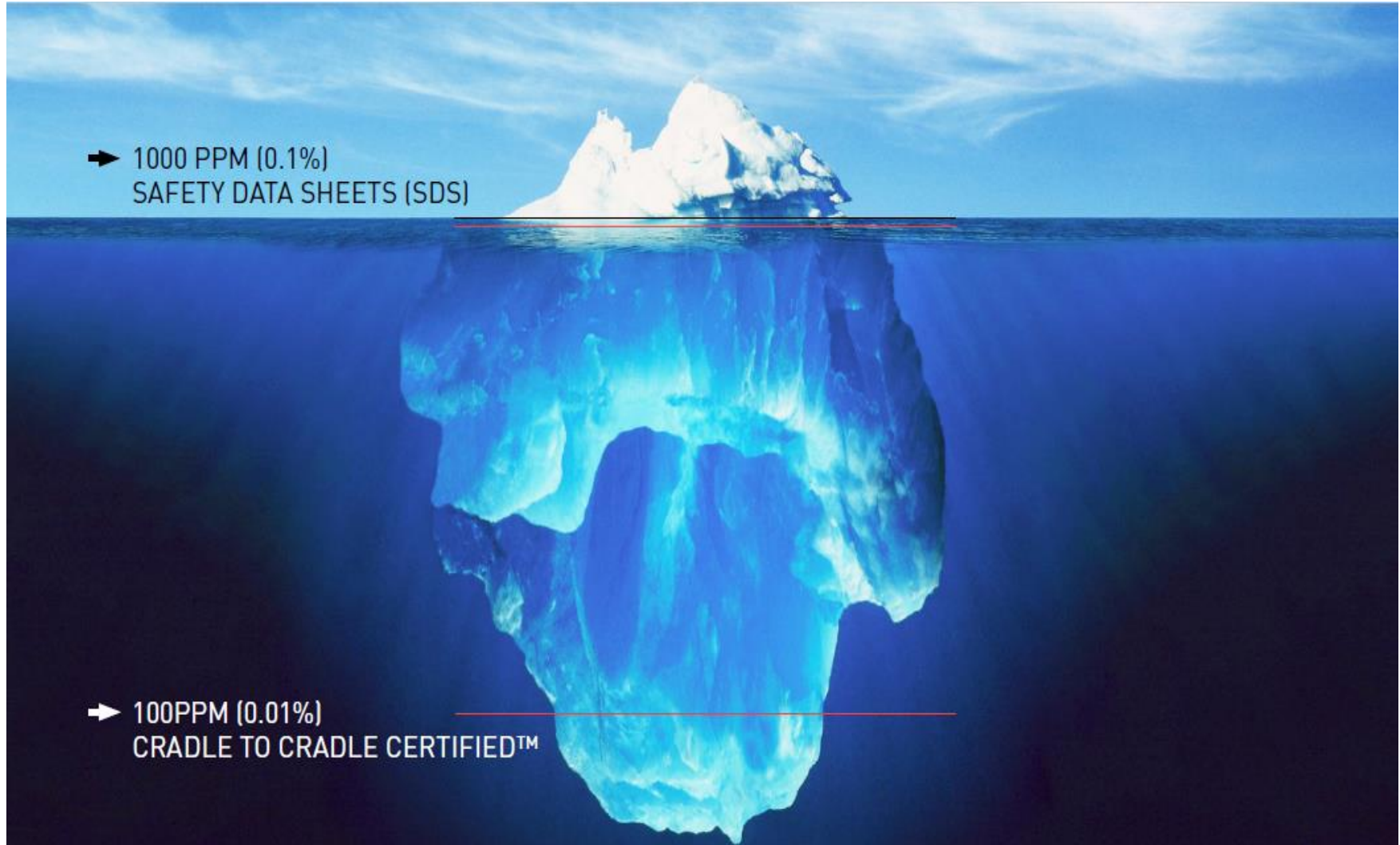
Check one to indicate which of the following Standard-approved loading scenarios has been used.

<input type="checkbox"/>	ANSI/BIFMA M7.1 (for office furniture)
<input checked="" type="checkbox"/>	California Department of Health Services section 01350 (for all other products)

3.2 Thresholds

Check all that apply, and complete any text fields required based on the chosen answers.

<input checked="" type="checkbox"/>	<i>Required.</i> Individual VOCs, of which the TLV or MAK value is known, are $<(0.01) \times$ [the lower of the TLV or MAK value].
<input checked="" type="checkbox"/>	<i>Required.</i> VOCs that do not otherwise have a known TLV or MAK value that are considered known carcinogens, endocrine disruptors, mutagens, reproductive toxins, or teratogens are below detection limits. Detection limits are $<9.0 \mu\text{g}/\text{m}^3$ for formaldehyde and $<2\mu\text{g}/\text{m}^3$ for all other chemicals.
	Description of detection limits: [...]
<input checked="" type="checkbox"/>	<i>Required.</i> Total VOC emissions are $<0.5 \text{ mg}/\text{m}^3$.



IDENTIFYING THE BEST MATERIALS: ABC-X CATEGORISATION

Cradle to Cradle® Goal: Best quality of raw materials, chemicals and ingredients

Category	Description
A	The material is ideal from a Cradle to Cradle perspective for the product in question.
B	The material supports largely Cradle to Cradle objectives for the product.
C	Moderately problematic properties of the material in terms of quality from a Cradle to Cradle perspective are traced back to the ingredient. The material is still acceptable for use.
X	Highly problematic properties of the material in terms of quality from a Cradle to Cradle perspective are traced back to the ingredient. The optimization of the product requires phasing out this ingredient or material.
GREY	This material cannot be fully assessed due to either lack of complete ingredient formulation, or lack of toxicological information for one or more ingredients.
BANNED	BANNED FOR USE IN CERTIFIED PRODUCTS: This material contains one or more substances from the Banned list and cannot be used in a certified product.

Banned List of Chemicals for Technical Nutrients

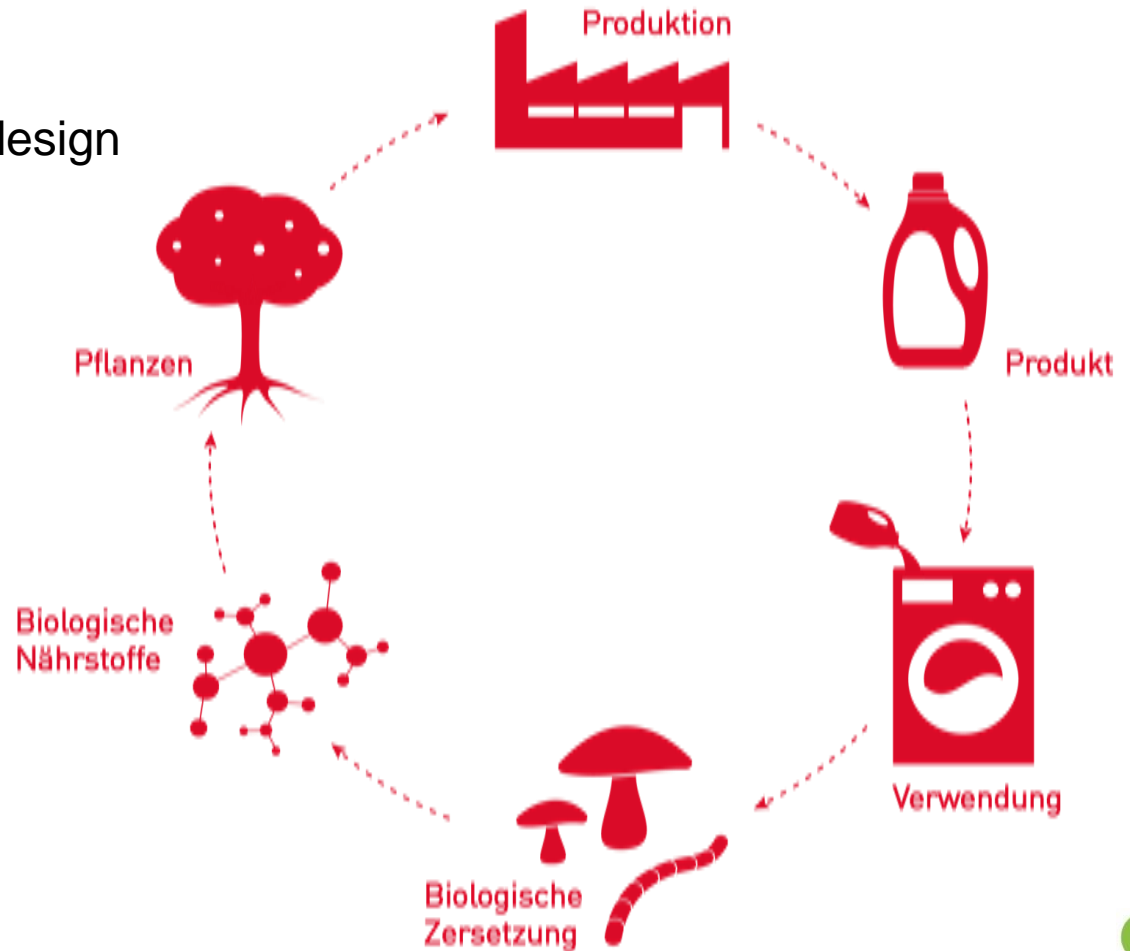
SUBSTANCE	CAS #	
Metals		
Arsenic	7440-38-2	
Cadmium	7440-43-9	B g
Chromium VI	18540-29-9	
Mercury	7439-97-6	
Flame Retardants		
Hexabromocyclododecane	3194-55-6;	
Penta-BDE	32534-81-9	
Octa-BDE	32536-52-0	
Deca-BDE	1163-19-5	
Phthalates		
Bis(2-ethylhexyl)phthalate	117-81-7	
Butyl benzyl phthalate	85-68-7	
Dibutyl phthalate	84-74-2	
Halogenated Polymers		
Polyvinyl chloride (PVC)	9002-86-2	
Polyvinylidenechloride (PVDC)	9002-85-1	
Chlorinated polyvinyl chloride (CPVC)	68648-82-8	
Polychloroprene	9010-98-4	
Chlorinated Hydrocarbons		

Banned List of Chemicals for Biological Nutrients

SUBSTANCE	CAS #	COMMENTS
Metals		
Arsenic	7440-38-2	Restricted to maximum background concentration in soils
Chromium VI	18540-29-9	
Mercury	7439-97-6	
Cadmium	7440-43-9	
Lead*	7439-92-1	
Flame Retardants		
Hexabromocyclododecane	3194-55-6;	
Penta-BDE	32534-81-9	
Nonylphenol ethoxylates	Several	
Octylphenol ethoxylates	Several	
Tributyltin	688-73-3	
Trioctyltin	869-59-0	
Triphenyltin	892-20-6	
Perfluorooctane sulfonic acid	1763-23-1	
Perfluorooctanoic acid	335-67-1	
Polycyclic Aromatic Hydrocarbons*		
PAH group (as defined in TRI)	Not applicable	
Benzo(a)pyrene	50-32-8	
5-Methylchrysene	3697-24-3	

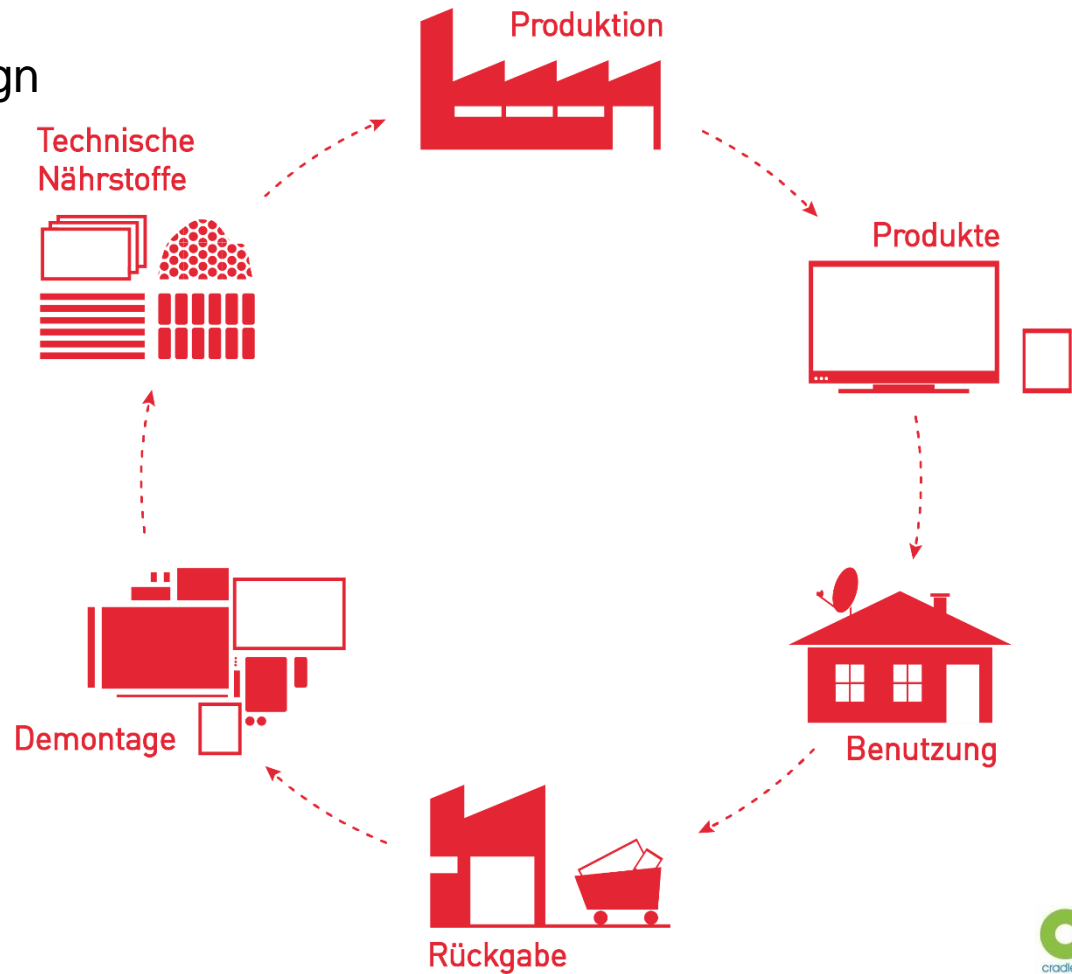
CLOSING THE LOOP: BIOLOGICAL SYSTEMS

Biological Systems –
Design beyond Productdesign



CLOSING THE LOOP: TECHNICAL SYSTEMS

Technical Systems –
Design beyond Productdesign

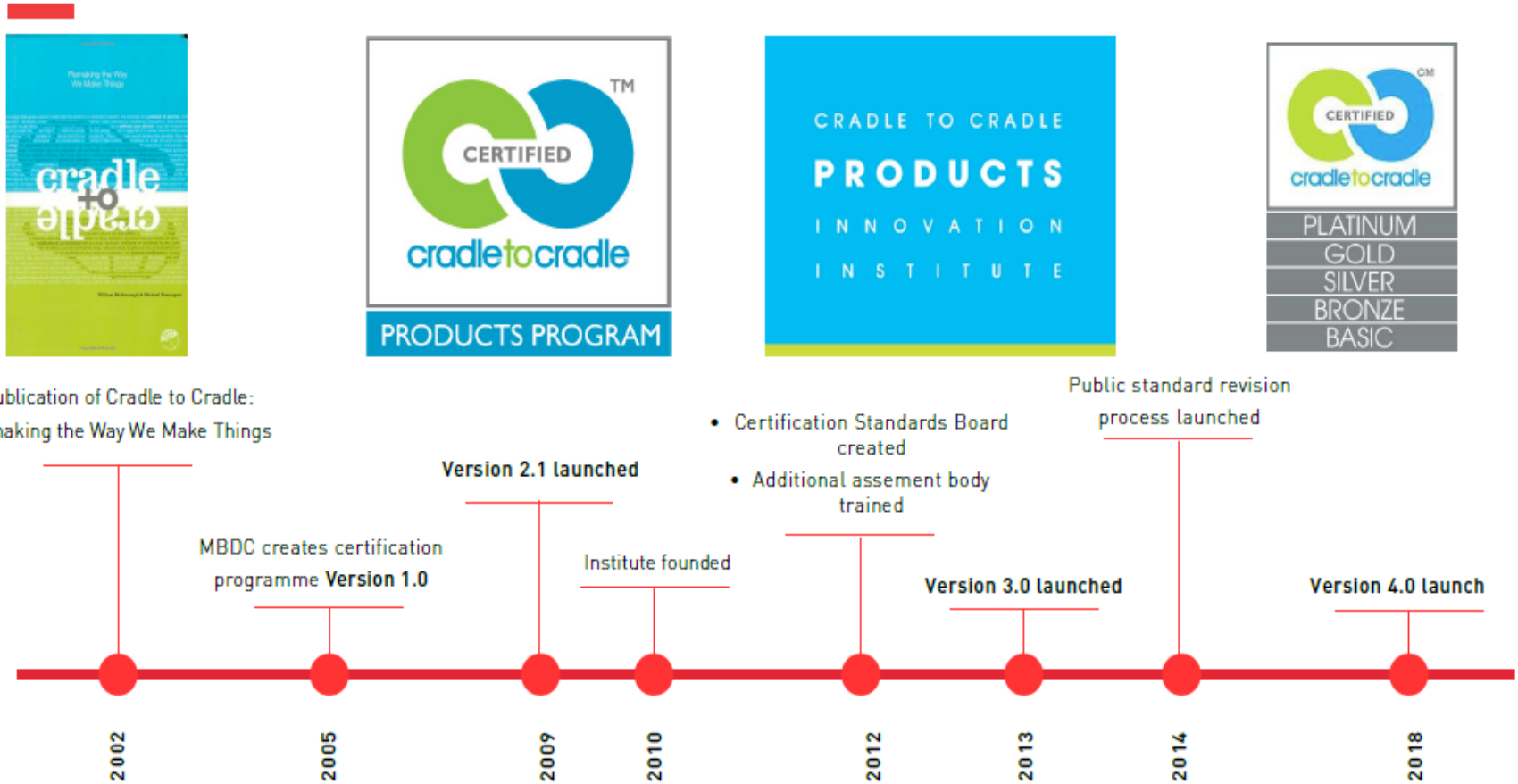


ASSESSMENT - ABC-X Categorization of Ingredients!

- **Material Solutions:**

- Wood (thermally modified spruce – MSDS not needed) +
- Glass (Euroglas 4mm float glass – MSDS not needed) +
- Glass coating (Euroglas Silverstar EN2 plus-MSDS not needed) ?
- Wax Coating for wood (Silvaproduct, Silvacer wax) x
Substance?
- Seals (Schlegel DF2002, MSDS not needed) ? **Supplychain ?**
- Screws (HECO fix plus, MSDS not needed) + **Supplychain ? Galvanic**
- Spacer TGI (MSDS attached) + ?
- Super spacer (MSDS attached) + ?
- PVAc adhesive (Rakoll GXL4 – PVAc – MSDS attached) + **biodegradability?**
- Silicone (Soudal Silirub 2 - MSDS attached) – **wg CMR**
- PU adhesive (Kodiglaze P - MSDS attached) – **wg banned substance**
- Coating (Remmers: SW900 + GW390 + LW715 – MSDS attached) ? **X Substances expected**
- Hardware (ROTO NT Designo - Umwelt-Produktdeklaration attached)
- PVC plates (Negel) – **wg banned substance**
- PVC holder for alu cover (Stemeseder AP116CL, FSC 24) – **wg banned substance**
- Alu cover + **most are Elox** powder coated - (Stemeseder AP120, FS 24-49) **x Substances expected in powder coated**
- Seals for alu cover (Stemeseder FSD 001, FSD 002A) ? **x Substances expected**
- Capsules ?

EVOLUTION OF CRADLE TO CRADLE CERTIFIED™



CRADLE TO CRADLE® CERTIFICATION:

20th May 2010



The Cradle to Cradle® Product Innovation Institute launches in California

“The time is now for us to go beyond simply being ‘less bad’ and to lead the world in the invention and innovation of ‘more good’ with Cradle to Cradle products and a prosperous Cradle to Cradle economy. Together, we will inspire and transform the world.”

Governor Arnold Schwarzenegger

CRADLE TO CRADLE CERTIFIED™ CATEGORIES



Select safe and healthy materials & chemicals



Eliminate the concept of waste and design for endless re-use



Power operations with abundant clean & renewable energy



Protect and steward water as a precious resource



Support & celebrate human and natural systems









ASSESSMENT EXAMPLE OF ONE COLOR INGREDIENT

BRONZE LEVEL

	CAS-Number	Description	Function	abcx	abcx comment	Conc %/ ppm
1	7732-18-5	Water		b		65-75
2	0815-55-7	Resin		b	No major concern expected with this polymer.	20-40
3	777-44-2	Lala Acid Ester		c	Moderate to high aquatic toxicity but biodegradable under aerobic and anaerobic conditions. The degradation product might exhibit reproductive toxicity; the issue is currently under regulatory discussion. Causes serious eye damage/eye irritation (H318), moderate skin irritation (H315), moderate oral toxicity -Not expected to reach the environment in this use scenario, minor exposure to end users, and adequate protection of workers.	5-10
4			Pigment	grey	unbekannt	0-3
5			Solvent	grey	unbekannt	0,5-5
6	4711-23-6	Pigment	Pigment	x	Halogenated organic compound, contains copper. Loss of the scarce resource Cu.	1
7	4712-34-1	Colora 5	Pigment	b	Chinacridon-Derivat	2
8	22-33-45454	"1,2-Conservodol	Preservative	c	Generally sensitization potential. Considered EXPOSURE very limited (very small amounts). Severely toxic for aquatic organisms, slowly aerobically biodegradable and not bioaccumulative.	ca. 100 ppm
9	11-22-232	"1-halo-3-phantasto-diol"	Preservative	x	Halogenated preservative. Sensitizer (BfRCat B; Mak Sh), high oral and dermal toxicity. Highly toxic to aquatic organisms, but expected to degrade at low concentrations. High amounts of this preservative are not expected to enter water streams systematically in this use scenario.	200 ppm
10	7777-2-33	Iron (23)-dingstat	Drying accelerators	x	CMR: According to REACH considered reprotoxic(H316).	200 ppm

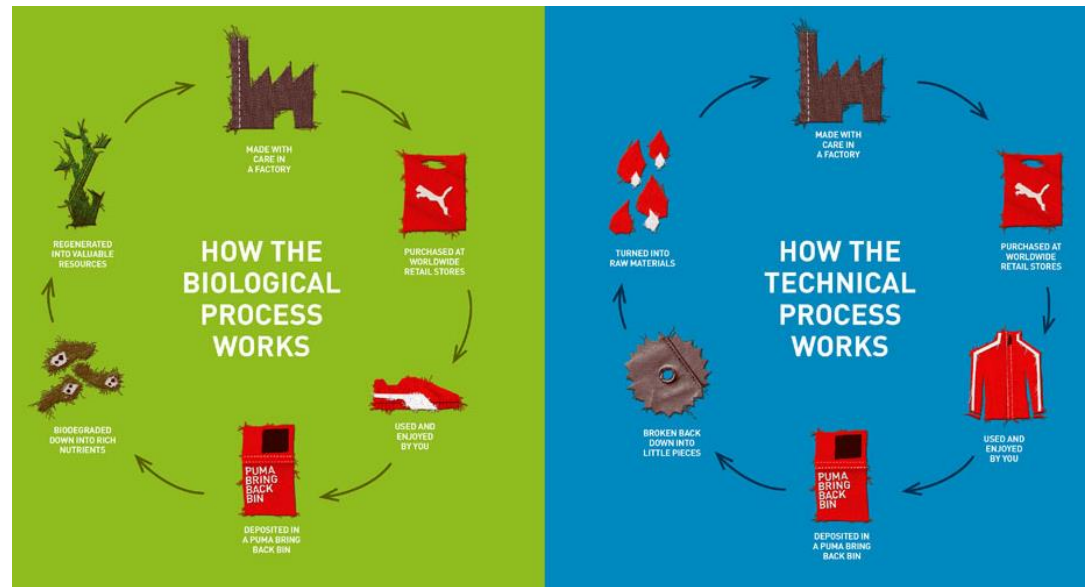
- Banned List conformity
- < 75% bewertet
- 3 X-assessments, of which 1 CMR

LABEL COMPARISON

								
	Cradle to Cradle	Flower Label (EU)	Blauer Engel	Green Seal (US)	SCS Sustainable Choice (US)	Sentinel Haus	Level	Nordic Swan
Meets criteria	●							
Complies partially the criteria	○							
Does not meet criteria	X							
Material	●	○	○	○	○	●	○	○
Material Cycle	●	○	○	○	○	X	●	X
Productionenergy	●	○	○	○	○	X	●	○
Water Consumption	●	○	X	X	○	X	●	●
Social Responsibility	●	X	X	X	X	X	●	○
Indoor Airquality	●	X	X	X	●	●	●	○
Industry Specific Certification	●	X	X	X	X	X	X	X

APPAREL: PUMA LAUNCHES CRADLE TO CRADLE COLLECT

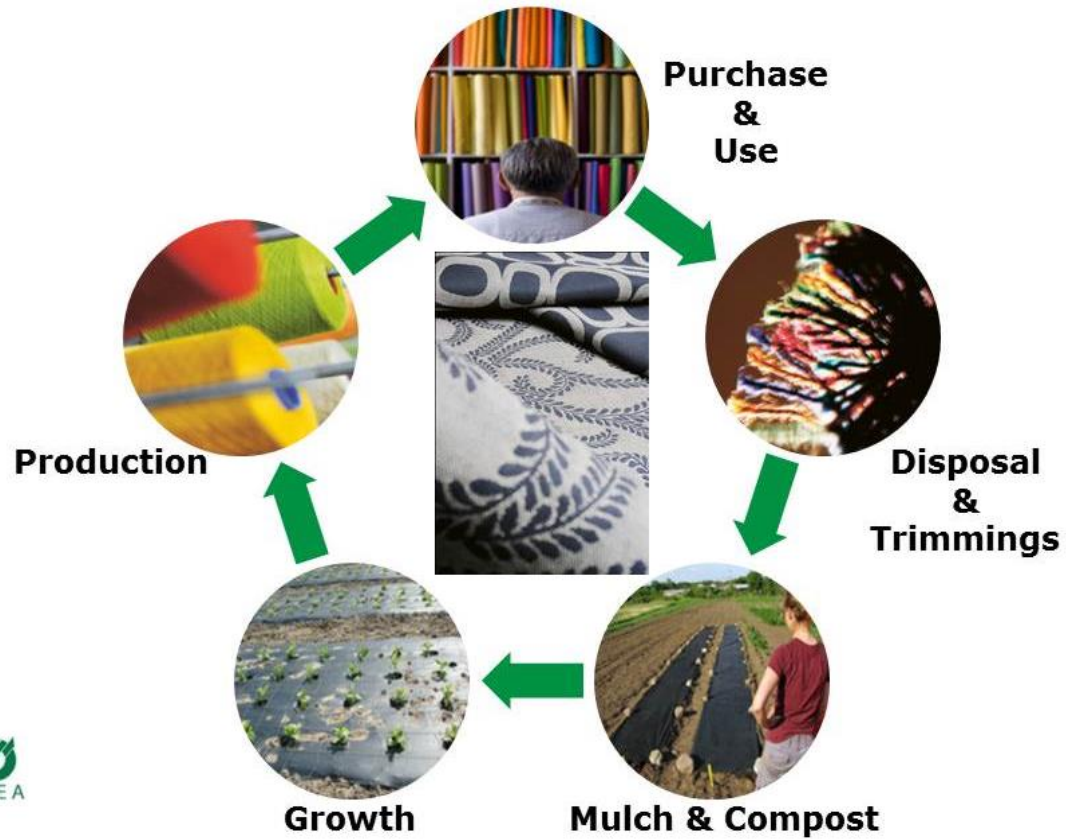
Feb. 2013



TEXTILES: THE FIRST CRADLE TO CRADLE® PRODUCT: CLIMATEX 1993



GESSNER AG
climatex®



INNOVATION DRIVES CHANGE

3 Business Cases

- **Textile Industry:**

app. 60% of worldwide produced textiles are Cotton/Polyester blends.

A «no go» in Cradle to Cradle.

Innovation: biodegradable polymer derived from oil

 **Lauffenmühle**
textile Innovation

- **Wood Industry:**

Wood treated with Chemicals is considered as hazardous waste.

Innovation: glues and lacquers that are safe for biological systems

 **BAUWERK**[®]
Parquet

- **Plastic Industry:**

Reinforced plastics in recycling are downcycling.

Innovation: creating conditions and technologies to maintain material quality for multiple cycles

 **giroflex**
designed to work

LAUFFENMÜHLE

INFINITO INNOVATION BREAKTHROUGH AS SOLUTION OF "NO GO"

reworx[®]

Textiles

infito[®]

Yarns



APPAREL: TRIGEMA CHANGE



TRIGEMA change



Cradle-to-Cradle Polo-Shirt - 100 % Organic Cotton, compostable

TRIGEMA has developed together with the environmental institute EPEA the **WORLD FIRST COMPOSTABLE** polo SHIRT. The Wellness short-sleeved shirt made from ecologically degradable organic cotton is equipped with a nice polo collar, three-button placket and two-color Trigema swingarm. This great top piqué quality is as gentle to the skin and on nature. The material is easy to clean, durable and fade-resistant. Available in larger sizes up to 4XL.

**TEXTILES: 60% OF MARKET COTTON/POLYESTER >
No go in C2C !!!!**

CHANGE FROM A PASSIVE TO AN ACTIVE BUSINESS APPROACH

Business Case Chemical Industry

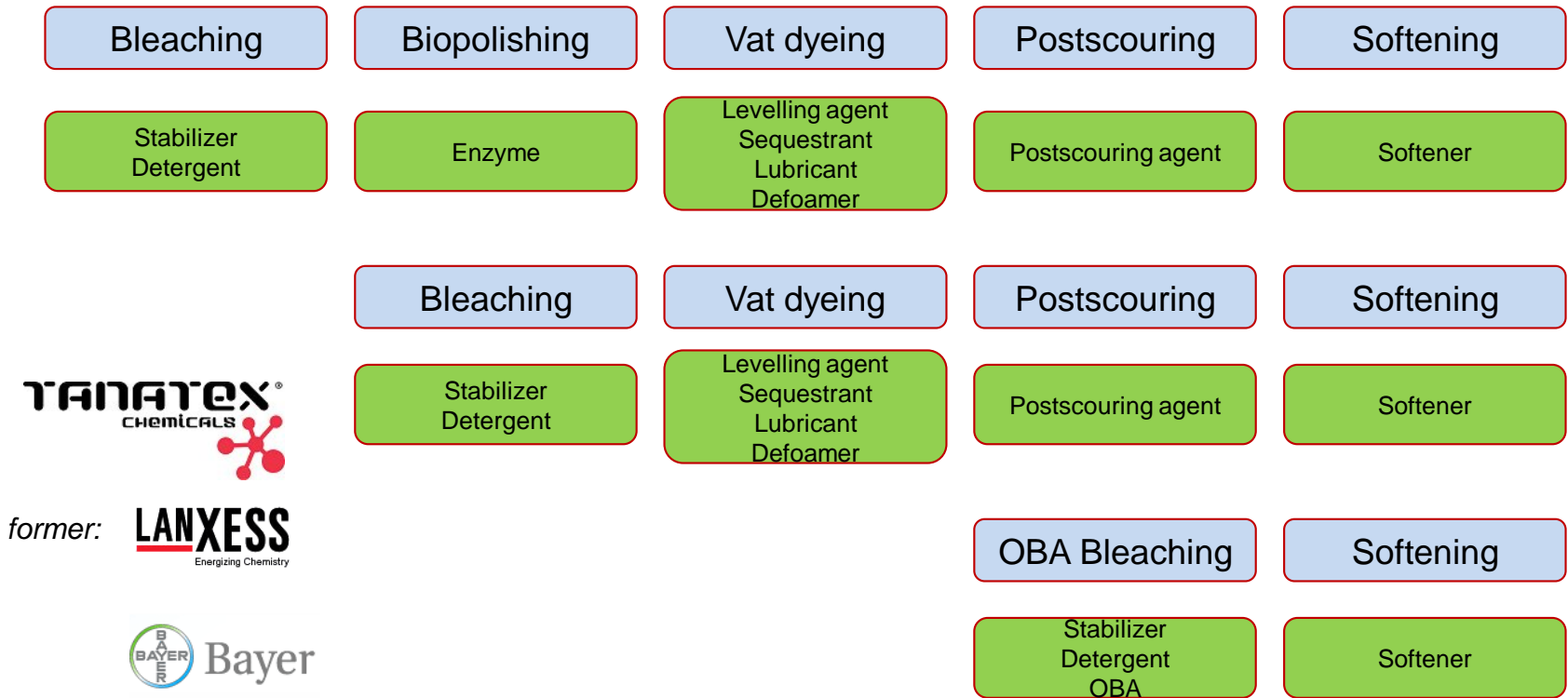


The Chemical Industry struggles with the REACH regulation. REACH makes industry responsible for assessing and managing the risks posed by chemicals and providing appropriate safety information to their users. In parallel, the European Union can take additional measures on highly dangerous substances, where there is a need for complementing action at EU level.

Change towards an active approach with system integrated chemical solutions.

TEXTILE INDUSTRY: TANATEX CHEMICALS

Cradle to Cradle® system integrated chemical solutions for cellulosic fibres – vat + reactive dyeing processes



former: **LANXESS**
Energizing Chemistry



A VISION FOR THE FUTURE: CRADLE TO CRADLE® IN BUILDINGS AND WITHIN FACILITY MANAGEMENT



AQUATIKON

DNA OF A BUILDING

(Raw Materials Bank, Value Agreement on Raw Materials)

- Inventory of all built in Raw Materials and Products
- Include Cyclability in planning
- Assure preservation of Raw Material Quality
- Modular Construction for a good Separability of Materials (Planning – Building – Use – Renovation – Backbuilding)
- Presentation of the economic consideration and advantages for investors

GOOGLE PORTICO: PLATFORM FOR HEALTHY BUILDING MATERIALS

Introducing Portico—the Google Healthy Materials online portal



Designer & Manufacturer Collaboration

Bring products into Portico



REWS^[e] Team

Manage Portico database
Work with project teams



Designers/Specifiers & Contractors/Project Managers

Use Portico to spec healthy materials



Healthy Buildings

Everyone enjoys healthier buildings

LAUFFENMÜHLE INNOVATION: "VINATUR" OUTDOOR FABRICS (PATENT PENDING)

Lauffenmühle
textile innovation



LAUFFENMÜHLE: **infinito**[®]

YARNS AND **reworx**[®] TEXTILES



Take-Make-Use-Regenerate:

infinito[®] yarns / reworx[®] textiles are safe for biological systems, offer a climate control function, are suitable for industrial laundering with excellent performance results for easy care, light fastness, high abrasion and pilling resistance. The product is designed and qualified to be used for work wear as well as for other high performance textile products and applications.

infinito[®] yarns / reworx[®] textiles are Cradle to Cradle^{CM} certified at gold level: After use and more than 50 cleaning cycles the products will be collected and forwarded to an industrial composting facility where the textiles will safely transform to humus - which then means living space for other organisms: new life is generated.

■
Wolford for All of Us!



WOLFORD

[Wolford]

WOLFORD + TEXTILE CONSORTIUM AUSTRIA
app. 13% of Austrian Textile Industry

TEXTILES: WOLFORD + TEXTILE CONSORTIUM AUSTRIA REPRESENTING 13 % OF THE AUSTRIAN TEXTILE INDUSTRY



FFG 7. call COIN-Programme „Cooperations and Networks“

„Cradle to Cradle Competitive Basic Underwear“

Premium Underwear for international markets according Cradle to Cradle®

14 consortium members representing app 13% of Austrian Textile Industry.

Projectstart July/August 2014

C&A designed to be recycled Cotton Blossom garment



Certification Standard [Version 3.1](#)

[Download Certificate](#)

Where to Find:
[Product Website](#)

Manufacturer Contact:
Thorsten Rolfes
press@canda.com
0049-211-9872-2749
[Company Website](#)

Cradle to Cradle Certified Product Scorecard	
MATERIAL HEALTH	Platinum
MATERIAL REUTILIZATION	Gold
RENEWABLE ENERGY & CARBON MANAGEMENT	Platinum
WATER STEWARDSHIP	Platinum
SOCIAL FAIRNESS	Gold



T-shirt - Cradle to Cradle™ Silver certified
7.00 €

T-shirt - Cradle to Cradle™ Silver certified
7.00 €

Nightdress - Gold Level Cradle to Cradle Certified™
~~12.00 €~~ 10.80 €
You save -10%

Nightdress - Gold Level Cradle to Cradle Certified™
~~12.00 €~~ 10.80 €
You save -10%



Cradle to Cradle Certified™ Gold

THE LICENSED MARKS IDENTIFIED ABOVE MAY BE LICENSED TO:

C&A AG

FOR THE BELOW LISTED CERTIFIED PRODUCTS ASSOCIATED WITH THE NAME:

C&A designed to be recycled Cotton Blossom garment

Leuis B. Perkins
Cradle to Cradle Products Innovation Institute

Only the following products are considered Certified Product(s) within the scope of this certification and the associated Trademark License Agreement:

C&A designed to be recycled Cotton Blossom garments, including C&A and C&A Basics Apparel

ISSUE DATE: 27 February 2017
CERTIFICATION #: 3130
EXPIRATION DATE: 26 February 2019

LEAD ASSESSMENT BODY: MBDC



Sibirski jeseter!

PFISTER: DIGITALIZATION WITHIN A CIRCULAR ECONOMY



Digitalisierung und Kreislaufmanagement der Pfister Vorhang Service AG mit Cradle to Cradle Certified™ GOLD zertifizierten Vorhängen						
Leistungs-Modul	Manuelle Prozesse	Digitalisierung				
Markt-entstehung Kundenwünsche	Digitale Informationskanäle über Kundenwünsche, Design, Modus, Wirkung	Marken-Optimierung für Kommunikation	Erhebung Kundenwünsche	Erhebung Kundenwünsche	Digitale Produktentwicklung (Licht, Farbe, Muster, Größe) mit individueller Kundenberatung	Digitale Produktentwicklung (Licht, Farbe, Muster, Größe) mit individueller Kundenberatung
	Erhebung des Kundenwunsches	Erhebung des Kundenwunsches	Erhebung des Kundenwunsches	Erhebung des Kundenwunsches	Erhebung des Kundenwunsches	Erhebung des Kundenwunsches
Produktion	Produktion des Vorhangs	Produktion des Vorhangs	Produktion des Vorhangs	Produktion des Vorhangs	Produktion des Vorhangs	Produktion des Vorhangs
	Produktion des Vorhangs	Produktion des Vorhangs	Produktion des Vorhangs	Produktion des Vorhangs	Produktion des Vorhangs	Produktion des Vorhangs
Recycling	Recycling des Vorhangs	Recycling des Vorhangs	Recycling des Vorhangs	Recycling des Vorhangs	Recycling des Vorhangs	Recycling des Vorhangs
	Recycling des Vorhangs	Recycling des Vorhangs	Recycling des Vorhangs	Recycling des Vorhangs	Recycling des Vorhangs	Recycling des Vorhangs

BAYONIX:
"BOTTLE, FOOD CONTACT ARTICLES"



BUSINESS MANAGEMENTSYSTEMS AND CERTIFICATIONS INTEGRATION

Third Party Management Verification

- Finance: Financial audit
- Quality: ISO 9001
- Environment: EMAS, ISO 14001
- Energy: ISO 50001
- Social: SA 8000
- Building: Leed Certification
- Products: EU flower, Cradle to Cradle Certified
- Performance: Product performance by industry segment



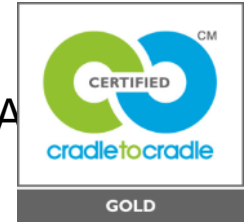
WERNER & MERTZ



MANAGEMENTSYSTEMS INTEGRATION



CLEANING DETERGENT FROSCH: CITRUS SHOWER & BATHCLEANER



Pioniers in Europe for Consumers

Frosch Cleaning Detergents are the first Cradle to Cradle Certified^{CM} Gold Level!



Pioniers in Europe for Professionals



TANA-CHEMIE: GREEN CARE PROFESSIONAL



CRADLE TO CRADLE CERTIFIED™ PRODUCT SCORECARD

MATERIAL HEALTH	PLATINUM
MATERIAL REUTILIZATION	GOLD
RENEWABLE ENERGY & CARBON MANAGEMENT	GOLD
WATER STEWARDSHIP	GOLD
SOCIAL FAIRNESS	GOLD
OVERALL CERTIFICATION LEVEL	GOLD

[What's this?](#)

PRODUCT EXAMPLE: JOGHURT PACKAGING

- 150 ingredients at 100 ppm level (0.01%).
- substances detected which are banned in the textile industry for more than 20 years.

Cover

- Aluminium
- Printing Inks
- Top Lacquer
- Ground Lacquer
- Sealing Lacquer
- Binder
- Pigments
- Photoinitiators
- Additives

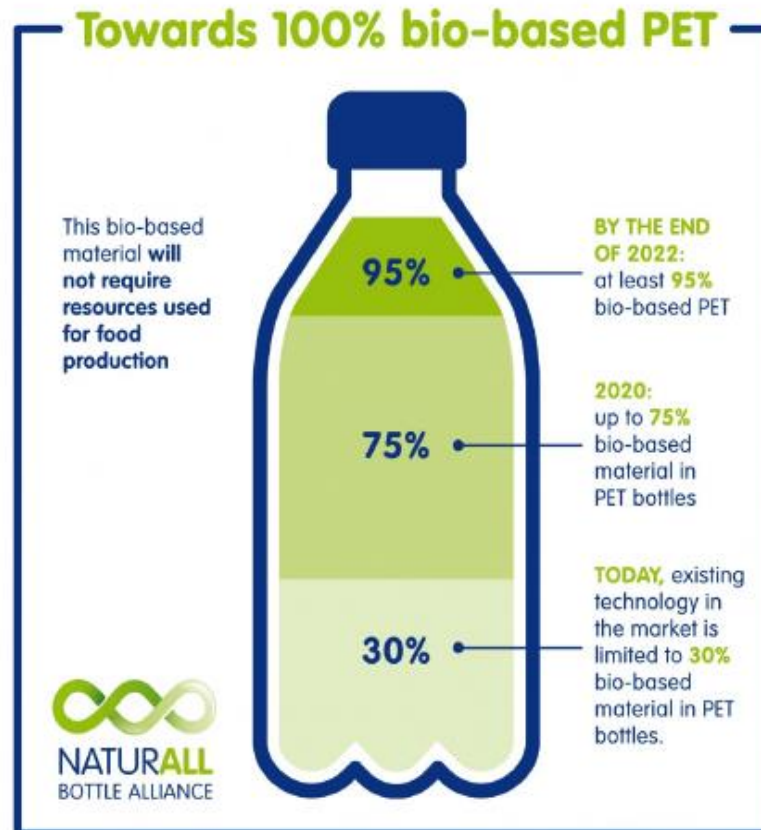


Cup

- Plastics
- Additives
- Pigments
- Fillers
- Labels
- Printing Inks

Trending (7th March 2017):

Danone, Nestlé Move Towards Circularity with Bio-Based PET Bottles





Renewal date 02 May 2020

Manufacturer Description

USM Haller is a shelving and storage system designed for solid construction, flexible functionality, and timeless aesthetics. Spatial or structural changes, optimized work processes, technical developments; USM Haller is designed to be adaptable and expand to your future work spaces.

USM Haller

Green Engine

Where to Find:
[Product Website](#)

Manufacturer Contact:
Antonio Cassani
a.cassani@ch.usm.com
+41317207308
[Company Website](#)

Cradle to Cradle Certified Product Scorecard	
MATERIAL HEALTH	Bronze
MATERIAL REUTILIZATION	Gold
RENEWABLE ENERGY & CARBON MANAGEMENT	Bronze
WATER STEWARDSHIP	Silver
SOCIAL FAIRNESS	Gold
OVERALL CERTIFICATION LEVEL	Bronze
What's this?	

NEWS, JANUARY 16, 2017

Industry endorses plan to recycle 70% of plastic packaging globally.
There could be more plastic than fish in the ocean by 2050.

NEW PLASTICS ECONOMY CATALYSING ACTION



TOP NGO RANKING: PAPIER INDUSTRY VAN HOUTUM



Satino Black wins WWF Paper Award

Van Houtum received the international WWF Environmental Paper Award 2012 on 13 November. We won this award because our Cradle to Cradle-certified hygienic paper, Satino Black, scores highly in the area of environmental performance. A total of 11 companies received the award because they are transparent about their production process or achieve outstanding environmental performance with a specific product. Van Houtum is the only winner from the Netherlands.



PRINTING INKS ARE THE GOAL FEASIBILITY ?



Material
Health

GOLD

SIEGWERK PRINTING INKS FOR PAPER, PE, PP



SIEGWERK

May 2017



Nestlé baby milk recall



As Nestlé recalls two million litres of baby milk in four European countries due to a packaging problem, the company is attempting to calm consumer fears that their children were in danger of ingesting a printing chemical from drinking the product.

By Ahmed ElAmin, 23-Nov-2005

BAUWERK PARQUET: WOOD FOR GENERATIONS



BAUWERK[®] *Parkett*



Parquet for Generations

Bauwerk parquet is designed to last. It should never become a waste product or consume unnecessary or environmentally harmful energy. Raw materials are preserved and the resource water is treated with consideration. Bauwerk acts in a fair and socially responsible manner, both within the company and in public. EPEA Switzerland is assisting Bauwerk in its implementation of the cradle to cradle[®] vision and supporting the company during the certification process by the cradle to cradle[®] product innovation institute. Raw materials are analysed as to their composition and environmental impact and traced back to their origin. During the certification process for Bauwerk's new silente technology, both the suppliers and Bauwerk's manufacturing facilities were subjected to close scrutiny.

BAUWERK PARQUET: WOOD FOR GENERATIONS

BAUWERK[®]
Parkett

Bauwerk Parquet is the first Parquet
Cradle to Cradle Certified™ Gold





OFFICE CHAIRS: GIROFLEX «SWISS QUALITY»



DIAGRAMM GIROFLEX



giroflex



Materialvalue
CHF 35
(2010)



REDESIGN FROM DOWNCYCLING TO UPCYCLING

A paradigm change for electronic industry

WEEE
WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT

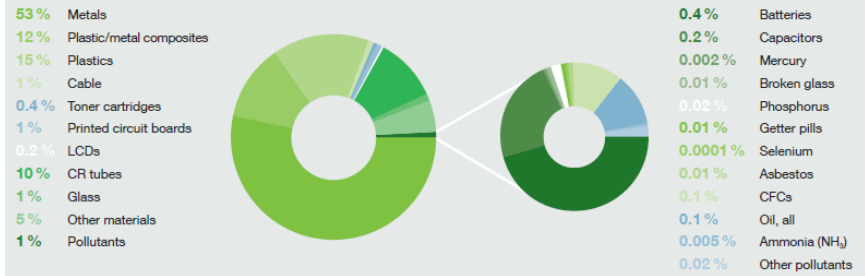
EXPORT OF E-WASTE: ELECTRONIC GOODS AS TECHNICAL NURIENT

Export of e-waste



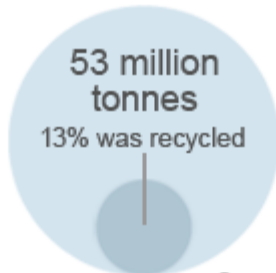
e.g: Search Field SENS - SWITZERLAND

Pollutants, shown separately, account for 1% of the total fractions produced.



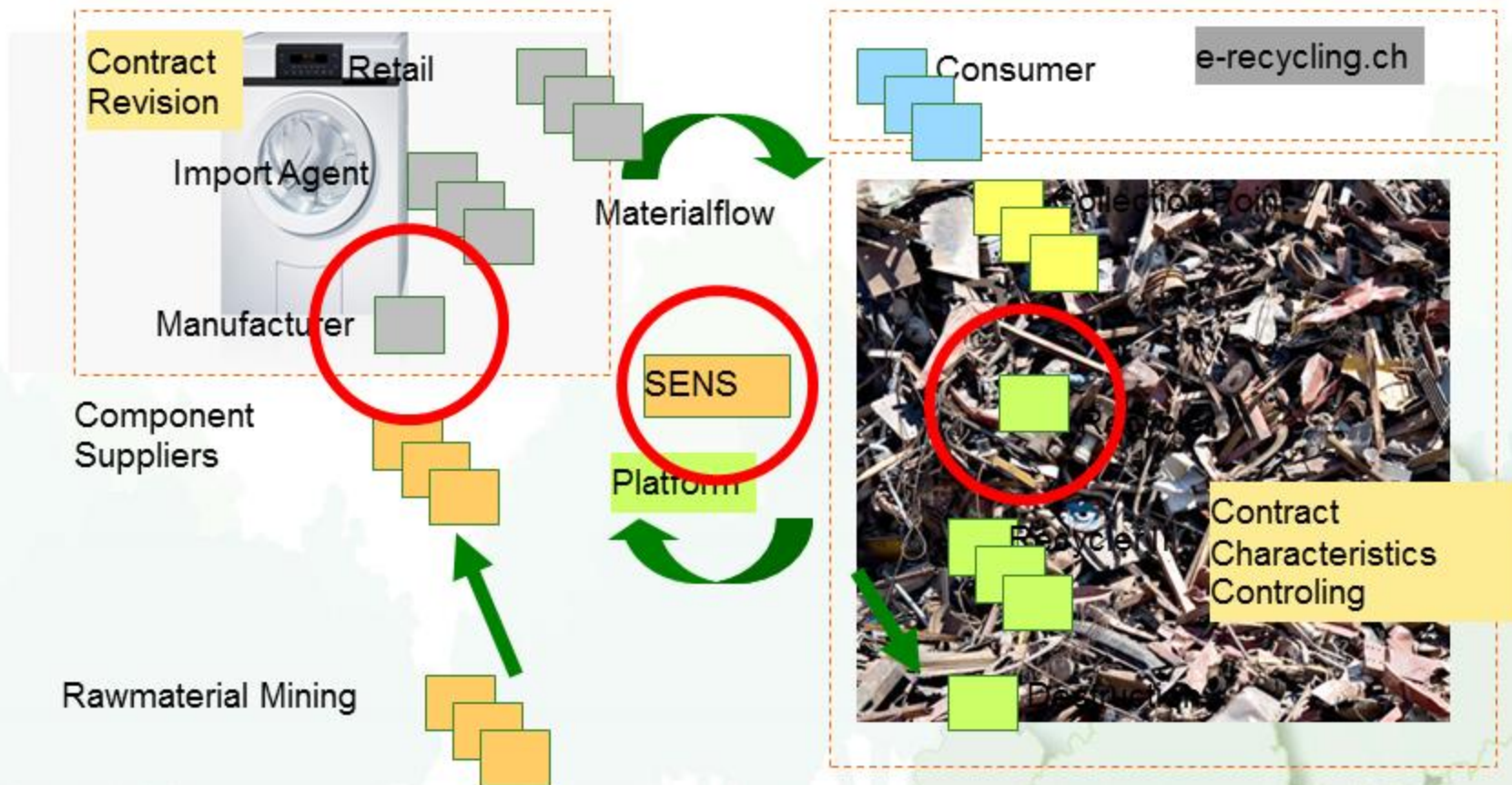
The table from the report of the technical inspectorate SENS, SWICO Recycling, SLRS 2011 indicates the complexity of today's system. 75% materials of electronics and electronic goods are reused. 50% metals, 25% plastics mostly thermal recycled. However 25% of waste remains and offers a potential. The Cradle to Cradle® approach improves the quality of the raw materials in the closed loop and has the goal to eliminate waste.

E-waste generated worldwide in 2009



Source: ABI Research

ELECTRONIC GOODS: TODAY'S RESOURCES CYCLE

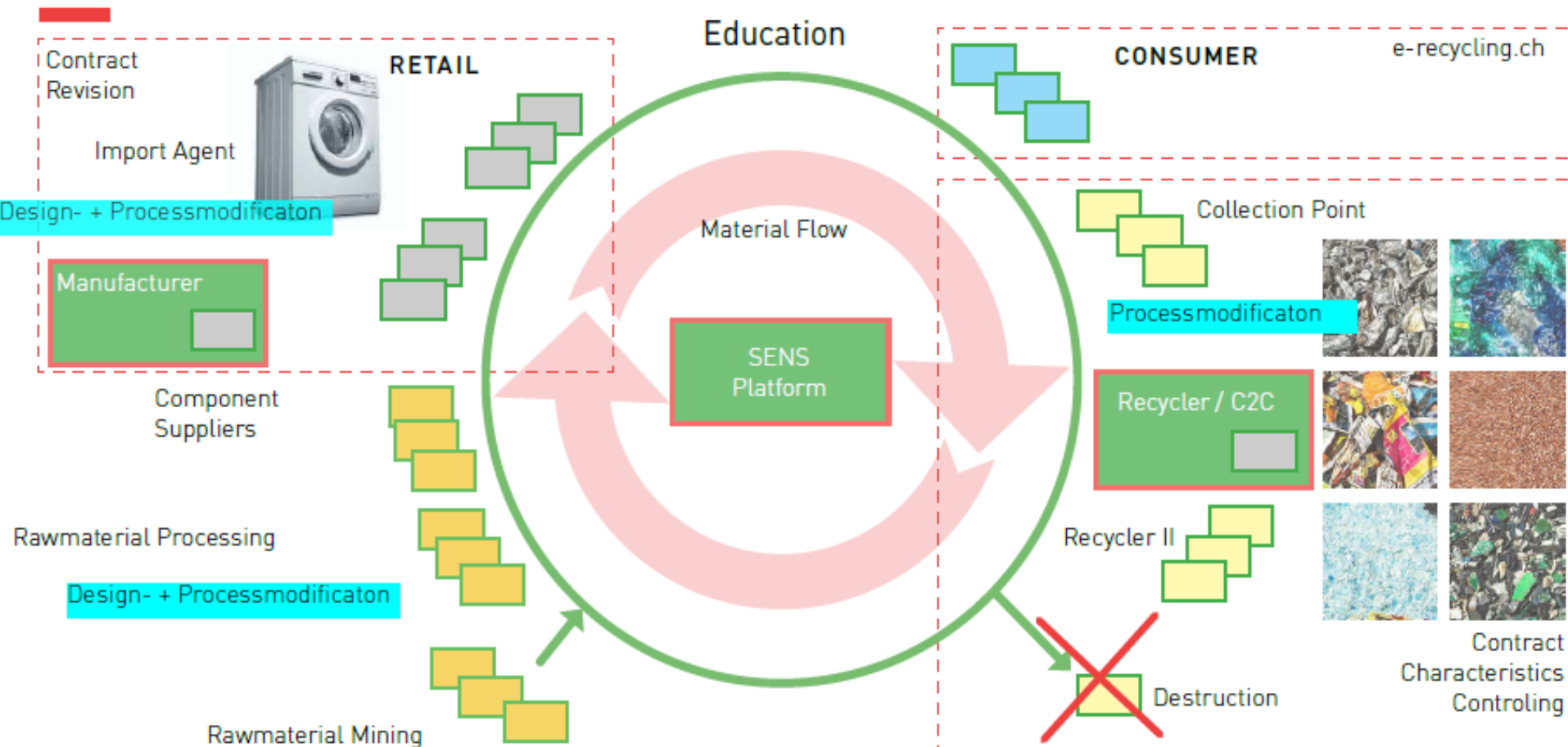


ELECTRONIC GOODS: CRADLE TO CRADLE® RESOURCES BUSINESS CASE



SENS eRecycling

ELECTRONIC GOODS: SEARCH FIELD CRADLE TO CRADLE® MATERIAL CYCLE



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Cradle to Cradle® Products Innovation Institute:

<http://c2ccertified.org>