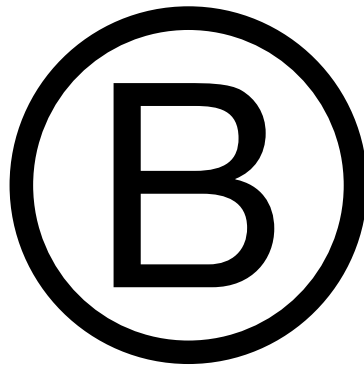


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B Resource Guide:

Cradle to Cradle Design and Production



B Resource Guide: *Cradle to Cradle Design and Production*

What's in this Guide:

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- II. What is Cradle to Cradle Certification?
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I. Definition: What is Cradle to Cradle Design (C2C)?

“Cradle to Cradle” thinking posits that intelligent design can eliminate the concept of waste. The concept was developed by William McDonough and Michael Braungart, who started a firm that consults and certifies C2C production in 1995 and have written a bestselling book and range of case studies about C2C concepts and experience. MDBC, their consulting firm based in Charlottesville, VA, certifies companies and government agencies that follow their C2C criteria and allows them to share a common brand mark.

Cradle to Cradle design refers to a production process where products are developed for closed-loop systems in which every output ingredient is safe and beneficial – either to biodegrade naturally and restore the soil (called a biological nutrient), or to be fully recycled into high-quality materials for subsequent product generations (called a technical nutrient).

II. What is Cradle to Cradle Certification¹

Cradle to Cradle Certification provides a company with a means to tangibly, credibly measure achievement in environmentally-intelligent design and helps customers purchase and specify products that are pursuing a broader definition of quality. This means using environmentally safe and healthy materials; design for material reutilization, such as recycling or composting; the use of renewable energy and energy efficiency; efficient use of water, and maximum water quality associated with production; and instituting strategies for social responsibility.



To be considered for certification, the company must submit detailed information around its production process for a certain product or products. If a product achieves the necessary criteria, it is certified as “silver,” “gold,” “platinum” or as a technical/biological nutrient (available for homogeneous materials or less complex products). The company can then use the Cradle to Cradle branded certification mark, seen at left. Products can be annually recertified with additional submissions of information.

The Cradle to Cradle Design Protocol is available at:
http://www.mdbc.com/c2c_mbdp.htm



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Cradle to Cradle certification criteria, certification process summary, application forms, and a list of current registrants is available at: <http://mbdc.com/c2c/>

To contact MBDC about certification, email certification@mbdc.com.

III. Implementing Cradle to Cradle Design?

MBDC and its affiliates in the US and Europe can help your company integrate C2C principles into your production and/or receive Cradle to Cradle certification for your products.

• MBDC

<http://www.mbdc.com/>

McDonough Braungart Design Chemistry, LLC (MBDC) invented the concept of Cradle to Cradle design and is a product and process design firm dedicated to revolutionizing the design of products and services worldwide. MBDC offers services for every level of client time commitment—from ninety-minute Cradle to Cradle Design Paradigm presentations, to multiple-day Cradle to Cradle Design Education, ongoing Cradle to Cradle Design evaluation and product development consulting, and on-demand materials research and information management tools. MBDC's website also includes a C2C community forum (http://community.mbdc.com/n/pfx/forum.aspx?webtag=mbdc_c2c) and blog (http://community.mbdc.com/n/blogs/blog.aspx?webtag=mbdc_blogI).

• Material ConneXion

<http://www.materialconnexion.com/consulting.asp>

Material ConneXion is the leading global platform for material innovations and solutions. Based in New York, with offices worldwide, this consulting firm advises Fortune 500 companies such as Whirlpool and Procter & Gamble, smaller forward-thinking companies, and government agencies seeking a competitive edge through strategic materials selection. It is the world's leading knowledge base for information about new and innovative materials. Material ConneXion provides all disciplines of design development: product, packaging, architectural, interior, apparel and more.

IV. C2C Case Studies

McDonough has written extensively about his work with various clients, see: http://www.mcdonough.com/writings_c2c_case_studies.htm.

Selected Case Studies:

Carpets: The Promise of Nylon 6 – BASF

http://www.mcdonough.com/writings/promise_nylon.htm



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Seating: The Anatomy of Transformation – Herman Miller
http://www.mcdonough.com/writings/anatomy_transformation.htm

Transforming the Textile Industry – Victor Innovatex
http://www.mcdonough.com/writings/transforming_textile.htm

Restoring the Industrial Landscape – Ford Motor Company
(http://www.mcdonough.com/writings/restoring_industrial.htm)

From Inspiration to Innovation – Nike
(http://www.mcdonough.com/writings/inspiration_innovation.htm)

Below is an excerpt from the case study on MBDC's work with Nike:

From Inspiration to Innovation: Nike's Giant Steps Towards Sustainability²

Nike is working toward a cradle-to-cradle manufacturing and product life cycle system. A two-phase collaborative effort between MBDC and Nike, launched in 2000, is setting new design guidelines and auditing all of the company's major material suppliers. Since 2001, research has focused on the chemicals used in the manufacturing process and the development of a list of materials that will comprise a positively defined materials palette.

"Our goal," said Winslow, "is to take responsibility for our product through its entire life cycle." To do so, Nike has begun to "align the life cycles of all its footwear, apparel, equipment, and accessories as closely as possible with natural cycles." When that goal is reached, Nike and MBDC will have identified a palette of chemicals and materials with wholly positive effects and designed systems for their perpetual retrieval and re-use. Products will then flow in discrete biological and technical cycles, nourishing the soil or circulating as high quality technical nutrients from producer to customer and back again.

The company's publicly stated corporate goals strongly suggest it means business. By 2020 Nike aims to:

- Eliminate the concept of waste in product design, using materials, energy, and resources that can be readily recycled, renewed or reabsorbed back into nature.
- Eliminate all substances that are known or suspected to be harmful to human health or the health of natural systems.
- Close the loop and take full responsibility for its products at all stages of product and process lifecycle, including the end of a product's useful life when consumers are likely to dispose of it.
- Develop financial structures that promote greater product stewardship in design, engineering, and manufacturing, as well as create new financial models to reflect the full cost of doing business.



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V. Resources

Cradle to Cradle: Remaking the Way We Make Things by William McDonough and Michael Braungart; North Point Press, 2002.

This is the book that started it all. The authors argue that conventional, expensive *eco*efficiency which measures things like recycling or emissions reduction is inadequate for protecting the long-term health of the planet. Our industrial products are simply not designed with environmental safety in mind; there's no way to reclaim the natural resources they use or fully prevent ecosystem damage, and mitigating the damage is at best a stop-gap measure. What they propose in this clear, accessible manifesto is a new approach they've dubbed "*eco-effectiveness*": designing from the ground up for both ecosafety and cost efficiency.³

• GreenBlue

http://www.greenblue.org/cradle_vision.html

GreenBlue is a nonprofit institute that stimulates the creative redesign of industry by focusing the expertise of professional communities to create practical solutions, resources, and opportunities for implementing sustainability. GreenBlue offers an online primer on the basic concepts behind Cradle-to-Cradle thinking and design principles at: http://www.greenblue.org/resources_education.htm.

¹ <http://www.mbdc.com/certified.html>

² http://www.mcdonough.com/writings_c2c_case_studies.htm

³ Publishers Weekly, 2002 Cahners Business Information, Inc.