



Cradle to Cradle Design Initiatives: Lessons and Opportunities for Prevention through Design (PtD)

Ken Alston

McDonough Braungart Design Chemistry

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I will focus on a different zone—products/materials that might be going into the facilities/buildings. The term sustainable development is defined as “Meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Bruntland, Report, 1987). We can buy into the goals of ecology, but we are trying to make it practical. The typical question is “Is growth good?” Perhaps there is a better question. The sustaining challenge is “What is it that you want to grow?” Growth is a positive thing, as long as sustainability is addressed.

In common with other things, there are reasons for incorporating sustainability into design:

- Cost savings;
- Identification and management of risk;
- Brand differentiation (corporate and product);
- Managing the competitive arena;
- Redefining the market.

There are impacts on different scales. An example of an impact on a global scale is global warming. It is not new, but it takes a while to get the inertia in the system to make a change.

There is social pressure to become sustainable. Also, there are impacts on people to consider; for example, toxic substances. We need to know what everything is made from. A study conducted by Pollutioninpeople.org highlighted the chemicals found in people in Washington State. A wide range of chemicals were found, including perfluorinated carbons (PFCs), pentabromodiphenyl ether (PBDEs), Phthalates, pesticides, dichlorodiphenyltrichloroethane (DDT), polychlorinated biphenyls (PCBs), mercury, lead, and arsenic (Schreder, 2006).

Another requirement or expectation driving the market is that manufacturers are obligated to make a good faith effort to comply with all of the regulations that are meant to safeguard human and environmental health. In this case, legislation is the standard reference. But compliance is increasingly complex, costly, constantly evolving, and often risk-based instead of hazard-based. Why is it that the government is feeling the need to step in? If design is right from the beginning, there’s not a need for regulation. There is a need to improve the design of the system through the actions of manufacturers, product developers, material suppliers, and other stakeholders.

There is a window of opportunity in design, and after you miss this window, change becomes expensive due to retrofitting and rework.

Cost, performance, and aesthetics are used as traditional principles of design; we need to add ecological intelligence and social responsibility.

What is the design paradigm we are working on? Manufacturing looks at a cradle-to-grave model. There are two problems with this linear flow. What are the materials we are making things from and what are its human health and environmental attributes? At the end of life of the product why aren’t we able to reuse things more effectively?

About a month ago, Wal-Mart recalled lead-laced baby bibs because manufacturing from other nations did not meet safety standards. We need to start thinking about what happens at the end of life of the product.

E-mail address: info@mbdc.com.

What do we do about it? We try to do it in the “less bad” mode, but being less bad is not the same as being good. We need to move to a new paradigm: Cradle to CradleSM.

We are trying to change it to a more positive spin. How do we generate more positive value for the environment, society, and business?

Nature is not just efficient, it’s also effective. Eco-effectiveness embraces nature’s design principles. Nature uses current solar income (nature grows from sunlight). Nature celebrates diversity (biological diversity in response to local conditions). Waste equals food (the resulting materials become the building materials for another process and are handled safely).

How do we emulate this? There is a technical metabolism. There are technical nutrients of fully and safely recyclable materials to manufacture products.

An example of our Cradle to Cradle paradigm are changes we made to a fabric that was made in a mill in Switzerland, and the trimmings could no longer be dumped or burned, so the company sent them to Spain for disposal. There’s something wrong with the fundamental design when the waste textile trimmings that would be used for seating fabric—next to a person’s skin—is deemed too hazardous for land filling. We eliminated 97% of the chemicals that would normally be used in the manufacturing project, and now the trimmings are safely mulched and composted by local garden clubs.

Everything in this paradigm is designed to do the same thing and go back into the biological environment. We have a range of products that we are building now. I hope you consider the Cradle to Cradle paradigm for what you are making and the materials you are using. Thank you.

References

- Bruntland, G. (Ed.). (1987). *Our common future: The World Commission on Environment and Development* Oxford: Oxford University Press.
- Schreder, E. (2006). *Pollution in People, The Toxic-Free Legacy Coalition, Seattle, WA*.
- Cradle to CradleSM is a service mark of MBDC