



The Upcycle: Beyond Sustainability--Designing for Abundance

William McDonough , Michael Braungart

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From the authors of *Cradle to Cradle*, we learn what's next: **The Upcycle**

The Upcycle is the eagerly awaited follow-up to *Cradle to Cradle*, one of the most consequential ecological manifestoes of our time. Now, drawing on the green living lessons gained from 10 years of putting the Cradle to Cradle concept into practice with businesses, governments, and ordinary people, William McDonough and Michael Braungart envision the next step in the solution to our ecological crisis: We don't just use or reuse and recycle resources with greater effectiveness, we actually improve the natural world as we live, create, and build.

For McDonough and Braungart, the questions of resource scarcity and sustainability are questions of design. They are practical-minded visionaries: They envision beneficial designs of products, buildings, and business practices—and they show us these ideas being put to use around the world as everyday objects like chairs, cars, and factories are being reimagined not just to sustain life on the planet but to *grow it*. It is an eye-opening, inspiring tour of our green future as it unfolds in front of us.

The Upcycle is as ambitious as such classics as Rachel Carson's *Silent Spring*—but its mission is very different. McDonough and Braungart want to turn on its head our very understanding of the human role on earth: Instead of protecting the planet from human impact, why not redesign our activity to improve the environment? We can have a beneficial, sustainable footprint. Abundance for all. The goal is within our reach.

The Upcycle: Beyond Sustainability--Designing for Abundance Details

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From Reader Review The Upcycle: Beyond Sustainability-- Designing for Abundance for online ebook

Glenn Roberts says

This book is full of good ideas on changing our manufacturing systems to plan for the reuse of the components of any product. Also deals with a method to recycle the carbon going into the atmosphere in safe and useful ways. Plus a whole lot more. The only thing that bothered me about this book is the constant referencing of the authors' previous book *Cradle to Cradle*. *This work has the appearance of being a defense, and explanation, and mostly an advertisement for C2C.*

The construct of usufruct should guide our every process.

John Szalaszny says

Business leaders - please read this book and improve your bottom lines while leaving an improved, if not a positive, imprint on the environment. The Upcycle is a refining of the author's Cradle to Cradle, providing insights learned through their interactions with business in their crusade to make products sustainable. Not by reducing the bad in today's manufactured goods, but rethinking the entire design process to actively find solutions with no negative environmental impacts. Solutions not just for the first use, but through the reuse of component materials without loss of potential - a simple example is keeping PET plastics as food grade recycles and not as a composite plastic polyfill for a jacket.

This is not a how-to book for environmental consumers (outside of awareness of the Cradle to Cradle certification). However, if you wish to be an environmentally friendly business, this will show you ways to impact your product design and how to demand the same from your supply chain.

Kristian says

If someone has told you to read Cradle to Cradle, but you haven't yet, just read this instead. Newer, clearer explanations of the same material.

This book is great content wise. The ideas of how to think about products, resources, etc. are all wonderful. However, I think this is still too naive that all we need to change is the way we go about working in our current consumerist culture, not analyzing the idea that we should and can just consume whatever we want.

This book when combined with "Flourishing: A Frank Conversation about Sustainability" (<http://www.goodreads.com/book/show/16...>) can yield some excellent discussion, thinking, and combinatorial viewpoints that can make you think about how and what your "designs" are made of, as well as why you should be designing them in the first place.

Upcycle, like cradle-to-cradle before it, still don't ever really analyze the why you're making things other than that you are a business that makes things... That is unacceptable to me in the greater strive towards sustainability. That said, if you are making stuff, please read this and use their thoughts and directives to help

you analyze your decisions and materials.

Good stuff; not quite great stuff.

Mary Revoy says

It is a just read for everyone. Truly inspiring ideas contains in this book. I enjoyed reading it. I can't wait to see more and more things upcycled!

Patrick Dean says

The thesis of "The Upcycle" is that...well, here's a quote: "Abundance -- of us, of our products -- is not the scourge: Society can accommodate and encourage even hundreds of thousands of products, from thousands of cultures, and even honor every one of the 10 billion people predicted to be here later in the century."

McDonough and Braungart posit that the idea of lowering one's carbon footprint is a bit too negative, too pessimistic. Instead, humans should seek to add sustainable abundance through intelligent and sustainable use of resources. Just as billions or trillions of ants, for example, exist on earth by contributing to its natural fecundity, so can humans, as when we compost and create fertile soil where none existed, add to the positive environment of earth.

It's a seductive line of thought, especially if you've ever had the sneaking suspicion that the best thing you can do for the environment is, well, die.

But it also gives me pause, and I would love for someone more biologically-trained to take up this question: don't even animal species exceed carrying capacity and endure cataclysmic population crashes? Isn't there finally a limit to what humans, even the most up-cycling, biomass-enhancing, value-adding humans, can do to forestall that fate? Isn't the natural world, with its complete and self-restoring systems, of limited use, finally, as a parallel to the world we have created?

Man, I'd love to see what Bill McKibben would say about this book.

Lance Eaton says

McDonough and Braungart's follow up to their previous book, *Cradle to Cradle*, is a solid book to help think more critically and creatively about developing a more sustainable world through human efforts. They highlight a variety of work that is already being done with regards to upcycling and where more work can be done. At its core is the argument is that there isn't a "waste" problem insomuch as there is a design problem that we must think more proactively about design with the full cycle of the products resources and their long-lasting implications. From furniture to clothing to waste management (or more appropriately renamed, nutrient management), they show pathways to making human practices more sustainable.

If you enjoyed this review, feel free to check out my other reviews and writings at **By Any Other Nerd** /

Ron Moss says

One of the most hopeful books I have read in a long time. We not have an energy problem, we just have our resources in the wrong places. For instance, carbon is great for soil but not the atmosphere. With proper design, all currently scientifically possible, there will be no waste, just nutrients for other things. The sad part about reading such a positive book is it makes it harder to take the nonsense Republicans spew out every day, trying to do their job of winning power so they can further exploit the 99% for short term profit, not of making the nation better.

Kirsten Zirngibl says

I like the sentiment. Really, I do. However, there is a lot of self-repetition, and gets a bit too syrupy in tone. Also, it doesn't really discuss the macroeconomics of the shift it proposes. Because it is speaking to business execs and bureaucrats, I think it should have better covered how to hurdle those kinds of obstacles rather than just the technical ones.

Todd Martin says

In *The Upcycle: Beyond Sustainability-Designing for Abundance*, the author's argue that companies can solve all of our environmental woes through better design of their products. The book somewhat builds upon their earlier publication *Cradle to Cradle*, though it's more a reiteration of the same principles presented in this earlier work.

McDonough and Braungart's contention is that if every product and process were designed in a way that they not only did not create pollution, but actually benefited the environment, then we'd ride a virtuous circle to a healthy planet. Of course, if pigs had wings, saddles and the maneuvering capabilities of a jet fighter it would make the morning commute a heck of a lot more fun, but we've got quite a ways to go before this dream becomes a reality as well.

As an environmentalist, I fully support the measures that the authors are proposing. Renewable energy, non-toxic raw materials, design for re-use are good ideas. By looking at the entire lifecycle of an object it would be possible to benefit and even improve the environment. Who wouldn't want that? Though the goal is a noble one, I found the book and its ideas to be rather a mess. Here are but a few reasons why.

1. McDonough and Braungart poo-poo environmental regulations despite the fact that they have a long and proven track record of success. Why is the air quality in Beijing so much worse than that of any US city? Because the protections afforded under the Clean Air Act do not permit companies to pollute indiscriminately. China has no such regulatory oversight.

In 1948 twenty residents died and 14,000 were sickened when a toxic cloud emitted from U.S. Steel's Donora Zinc Works and its American Steel & Wire plant engulfed the mill town of Donora, Pennsylvania.

Between 1868 and 1969 the Cuyahoga River in Northeast Ohio caught fire 13 times.

These environmental disasters no longer occur in the US, not thanks to ‘upcycling’, or better design, but due to the Clean Air and Clean Water Acts. Environmental regulations may not solve every problem, but they are effective at solving some problems. The authors should acknowledge this fact, but they don’t because ...

2. McDonough and Braungart are in the business of selling their message to corporations; and some corporations don’t like regulatory requirements or having pollution controls imposed upon them.

Here’s the thing though, when it comes to environmental protections, we should use the best evidence available to determine what works rather than rely on a preconceived solution. In some cases environmental regulations may be the best approach, in others recycling, conservation, or even improved design. By taking environmental regulation off the table, the authors reveal that they are not so much interested in solving environment problems, but in selling their particular product. I’m not saying that their product is bad, but only that it is of limited use (as I’ll describe).

This also makes the book read as if it were an extended sales pitch for cradle to cradle certification (which the authors operate). The book is replete with their buzzwords, but instead of ‘just set it and forget it’ we’re treated endlessly to ‘upcycle’, ‘downcycle’, ‘technical nutrient’ and ‘cradle to cradle’. The book has the unsubtle whiff of self-promotional advertising copy.

3. The unflaggingly cheery examples McDonough and Braungart use in the book to illustrate their points may sound good in a corporate boardroom, but they are often nonsensical. By way of example ...

The author’s state that a goal of zero emissions from a manufacturing facility is a silly thing because trees emit oxygen and we wouldn’t want zero emissions from trees would we? (I feel like I have to say in all seriousness that I’m not making this up or exaggerating their point in any way). So ... at the risk of stating the obvious, when an individual speaks in terms of zero emissions ... they are referring to air pollutants. You know ... things like benzene, mercury, soot and compounds that form smog. These substances are considered pollutants because they negatively impact people’s health. Oxygen is not a pollutant (obviously), and it is not regulated as a pollutant. The analogy between a manufacturing operation emitting pollution and a tree emitting oxygen is blinkered.

What this illustrates is the author’s desperate attempt to spin pollution (something viewed negatively) in a positive, business-friendly way. And again, this gets back to my second point, they are selling their wares to corporations, and businesses don’t like to hear that they are polluters, that they negatively affect people’s health or that they are wasting/depleting resources.

4. McDonough and Braungart repeatedly speak out of both sides of their faces. A few examples:

They extoll Wal-mart’s renewable energy initiative (that’s fine, this behavior should be encouraged), but are silent as to the company’s other practices. For example, the company sells cotton clothing in the US that was made in China and Bangladesh, from cotton grown in the US. Surely, an energy efficient strategy would not involve a trip around the world prior to sale. They also fail to mention how Wal-Mart rates with regards to the author’s stated goal of ‘social fairness’. Perhaps we should ask the survivors of the Bangladesh garment factory fire?

The authors decry CO2 cap and trade regulations in one breath then admit that carbon offsets provide a powerful incentive for renewable energy in the next. They can’t have it both ways.

They propose sweeping change over incremental improvements (making something “less bad”), but

everything that they are suggesting in reality is entirely incremental in nature. In fact the C-2-C certification program that they founded is based on incremental improvements.

5. The solutions that McDonough and Braungart are proposing are completely conventional ... renewable energy, non-toxic manufacturing processes, design for reuse. All of these solutions are either partly or wholly available right now. We could cover the country in solar panels and windmills, start driving all electric cars, reconfigure all manufacturing processes to eliminate pollution. So, one must ask, why isn't this being done? Cost and competitiveness are key to operating a successful business. Even a small cost or market advantage can translate into big profits. So you can be sure that if the things that McDonough and Braungart are proposing worked, they would be readily adopted in practice. Part of this is surely a failure of imagination, but the heart of the matter is that these problems are incredibly difficult, costly to solve and require infrastructure that doesn't currently exist.

New and safer technologies are adopted when they have been proven to work and shown to be profitable. But McDonough and Braungart's ideas often rely on voluntary measures, immature technology or strategies that aren't scalable or cost effective. There is no better example than that of their first book *Cradle to Cradle* which they printed using recyclable plastic. Plastic books have utterly failed to replace paper books in the marketplace. This idea simply wasn't ready for prime time. With *The Upcycle* the authors went back to paper. Though they chose the most environmentally friendly materials they felt were available they could have eliminated the impact on the environment entirely had they chosen to distribute the print and audio book solely through electronic means. What this shows is that they are more interested in sales than the environment. That's fine, but guess what ... this is the same priority of every other business. When forced to choose between \$\$ and the environment, businesses will choose \$\$ every time, which of course is why McDonough and Braungart's voluntary measures are so woefully inadequate to the problem at hand.

This brings us to what I perceive as the biggest problem with the book. The intent of the ideas presented in *The Upcycle* is to re-invent manufacturing such that all activities lead in a virtuous circle of bettering the environment so that everyone can live in abundance, all the time. Upcycling, they claim, both heals the planet and provides the answer to all of our material needs. As a result, it obviates the need for individuals to change their behavior, sacrifice anything meaningful or be inconvenienced in any way.

But here's the thing, solving hard problems requires hard work and difficult choices, which in turn often requires sacrifice. If development of sensitive wetlands destroys ecosystems that migratory birds rely on for survival, we may have to stop turning their habitat into condominiums in order to preserve these species. The best solutions to environmental problems should be implemented. If sacrifice, regulations, population curtailment, or end of pipe control measures turn out to be the best solution and they are taken off the table as the authors propose, then 'having it all' is nothing but a dangerous delusion.

We truly have become both soft in body and mind if we neither want to do the hard work required to solve our problems or be told inconvenient truths about the negative consequences of our behaviors. It's this type of symptomatic dysfunction that has infected every aspect of our social and political processes. If the promises of 'upcycling' turn out to be empty or overblown (as I believe is the case), then the book is nothing more than an enabling tool for bad behavior, and an excuse to pass the buck. Instead of taking personal action to reduce waste, consumption, pollution, and our heavy footprint on the planet, I fear this book will enable people to rationalize away personal responsibility. Nothing is required of us if we believe upcycling provides the solution to all the planets ills. Yet, like the plastic book itself, upcycling has simply not shown that it is up to the task.

Paula says

I have not read the authors' first book, *Cradle to Cradle*, but I don't think that was a great hinderance. The principle ideas from the first book are repeated here. The basic ideas are to make products completely nontoxic to humans and environment, and completely recyclable. I was more interested in reading this book, because the authors have had about a decade of experience in implementing the ideas from the first book in several industries. I wanted to hear how they may have succeeded, and what new ideas they might have. I applaud their work. This is definitely worth implementing. I just wish the writing were of a better quality. It would have made it a more pleasurable experience, and leave me with less skepticism about whether their ideas will become popular enough to make a difference.

I also wonder at the authors' seeming naivety. They are optimistic that any industry will benefit from taking up their practices, which is undoubtedly true from the perspective of the community. However, they never seem to take into account that some of the major polluting industries externalize the cost. The dead zones in our oceans, for example, are caused by the run-off from industrial farms (mostly growing corn for animal feed) and Concentrated Animal Feeding Operations. These industries are subsidized and encouraged by the U.S. government, and are not held accountable for the damage to our waterways. Global Warming is driven primarily by the meat and fossil fuel industries, but they are not held accountable for the natural disasters that they are causing. If they were held accountable, then they would have strong incentive to change. However, as long as they can externalize the costs, they will not likely do anything.

I wish the authors every success. But, since their methods are not addressing the major problem of externalization of costs by big business today, I cannot read this book without a wry smile. I keep thinking that the authors' successes are a little like wielding a bucket to save the sinking Titanic.

Angel Oakley says

Love this book! Bill is spot on. We need to rethink our use of materials. It starts with being conscious of what we support with our buying power. Wide-scale adoption has a pretty big bell curve, lots of awareness and education needed in this area. Amen to the concept!

Florian says

I think I already knew the major parts of the approached concepts but this book gives concrete examples. It really makes me think about *The Blue Economy 3.0* and *Small is Beautiful*.

Brian Tracz says

This book had some interesting ideas about sustainability, and I am not really in a position to criticize their recommendations on scientific grounds. The overall message is that better design, with an eye to not only human needs but also human desires, is the primary solution to our environmental woes. As the authors note, we tend to design for the first use, not for perpetual use. There is a plethora of optimism in the book, such as in McDonough and Braungart's claim that "we don't have an energy problem, we have a materials-in-the-

wrong-place problem."

That said, we're on Goodreads, and I thought I'd note that this book is repetitive and, at times, ideologically thin. The style is one of exhortation with example citation. Interesting examples make the book readable, but I would not praise this as being an all-inclusive "philosophical work" on how to reorient ourselves toward the environment. The authors' style does not back this optimism up: the argument essentially goes "We did [insert some self-promotional example]; therefore, it is the solution to the sustainability problem." But this doesn't follow. I could imagine people reading this book and concluding: "Government regulation and personal restraint are secondary considerations to obtaining products better designed to meet our every desire." This might be true, but there's no argument for it.

However, if the book is merely a reorientation towards how we engineer things, then it certainly deserves praise, as does its predecessor.

Mike Moskos says

Finally an environmental book with a positive message.

Theirs is a simple idea really: prevent environmental damage by designing things properly from the start to use only those chemicals that won't ever present a problem. Not as simple as it sounds, but as more companies embrace the idea, recalcitrant companies will be forced to since costs will be lower.

The smartest ideas are always the simplest.

Steve says

My most often recommended book was Cradle to Cradle. Now it is the Upcycle. Upbeat and right on target. Read it, then change the world.
