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## Upcycling Becomes a Treasure Trove for Green Business Ideas

Forget recycling. Reusing materials discarded in the manufacturing process is a growing force behind a fresh new industry.

By [Jennifer Wang](#) | [Entrepreneur Magazine - April 2011](#)

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Upcycling goes vertical: Looptworks' Scott Hamlin. Photo© Terracycle

Like everything about [Looptworks](#), the signature on CEO and co-founder Scott Hamlin's e-mail is a call to action: "Did you know that it requires more than 400 gallons of water to make one organic cotton T-shirt? Upcycle."

If you're not up on the green lingo, the best way to think of upcycling is that it's like a sexier, even greener version of recycling. When something is recycled (or "downcycled"), it's broken down into something of lesser quality--a process that consumes energy. Upcycling adds value by transforming or reinventing an otherwise-disposable item into something of higher quality. It's the ultimate in reuse--and a whole new industry sector is shaping up around it.

Looptworks personifies the upcycling trend. Hamlin launched the Portland, Ore.-based company with partners Gary Peck and Jim Stutts in September 2009. The three apparel industry veterans were inspired by the sustainable manufacturing methods of outdoor gear companies like Royal Robbins and Patagonia, but they wanted to take it even further--all the way to what Hamlin calls "closed loop manufacturing." Looptworks was one of the first players to truly close that manufacturing loop and make a business of upcycling--but it certainly is not alone.

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"There's a plethora of people looking into different angles in different industries--the opportunities in upcycling are fascinating," Hamlin says.

For its part, Looptworks uses what it calls "pre-consumer excess" as source material for its accessories, gear and apparel. Most of that is factory textile waste that, if Looptworks didn't intervene, would be headed for incineration or the dump. The result is a collection of bright and stylish offerings--like the Hoptu, a neon orange laptop sleeve made of leftover wet-suit material (\$30), and a patchwork sweatshirt-fleece hybrid Tranquilla vest equipped with "rescued" buttons and tags (\$120). The fact that production is limited based on available materials ups the items' production price--and their appeal.

Upcycling has proved to be great business for Looptworks, though Hamlin is more likely to brag about the 16 million gallons of water he's conserved by upcycling and the fact that he's only bought five brand-new items for the business (including a hard drive, cables, a stamp to make business cards and some signs). After less than two years, the company employs 12 full- and part-timers and creates nearly 50 retail offerings. Hamlin says factories have started to approach him for ideas about how to deal with their excess.

"Our goal," he says, "is to influence consumer awareness and figure out a way to promote this non-mass-produced approach on a large scale."

### A Green Movement Goes Viral

Upcycling is ushering in an entirely new wave of entrepreneurial innovation. Its popularity is particularly clear in online artist marketplaces like Etsy and ArtFire, which offer an abundance of upcycled goods: colorful jewelry cuffs made from old vinyl records (\$10 to \$28), chairs constructed out of used baseball bats and hockey sticks (\$299), dinged-up suitcases made into pet beds (around \$70) and trendy suitcases crafted from jerrycans (\$140). For artists, the materials for upcycling can cost next to nothing. The number of products on Etsy tagged with the word "upcycled" rocketed up from about 7,900 in January 2010 to nearly 30,000 a year later--an increase of 275 percent.

Even luxury-goods firms like Hermès are in on the act, repurposing leftover scraps from their signature scarves and Birkin bags for a home furnishings and accessories line dubbed "petit h." (It debuts in the states in October.) And celebrity chefs like Mario Batali have teamed with upcycling companies to make lotions and soaps out of waste grease from restaurants.

That scale that Looptworks' Hamlin is aiming for is already happening on the post-consumer end of the upcycling market. If Etsy is considered the epicenter of do-it-yourself upcycling, then New Jersey-based TerraCycle takes on that same function in mass upcycling. The company turns actual garbage into hundreds of products, like Oreo wrapper backpacks and bicycle chain picture frames. With a large-scale collection infrastructure developed over the past 10 years, TerraCycle nabs about 1 billion pieces of garbage every quarter that ultimately end up on the shelves of big-box retailers like Target and The Home Depot.

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Tom Szaky, founder and CEO of TerraCycle, started the operation as a humble provider of worm poop while he was a Princeton University freshman. But over the years the company's increasing fortunes have mirrored the burgeoning opportunities in the green market. In 2009, sales revenue hit \$7.5 million; in 2010, it jumped to \$20 million. Since January, Szaky has added operations in nine more countries, bringing the total to 20.

There's also serious behind-the-scenes innovation happening. Terra-Cycle employs "polymer scientists" who are immersed in figuring out ways to manipulate paper, organics and plastics into materials like a new plastic lumber and textile made from Capri Sun drink pouches. Meanwhile, teams of designers are figuring out how to make jackets from Doritos bags and luggage from energy bar wrappers.

"The market is ripe for more innovation," Szaky says. "[Valued] at \$12.5 million, TerraCycle is, without any debate, the biggest upcycler in the world. But compared to other industries, that's small--and that means there's way more opportunity."

### Reusing, and Diversifying

Upcycling can be a boon to existing businesses as well. For Hammer & Hand, a Portland, Ore., design-build construction firm, upcycling became a jobs-saving revenue stream during the recession. It began a decade ago, when co-founder and president Sam Hagerman quit using dumpsters.

"I was writing the garbage man a \$10,000 check every month, and I realized that could support a living wage and a half," he says. So he bought a truck and started an in-house recycling system in the yard of the office building (which boasts flooring made from recycled bleacher seats).

From then on, Hagerman took reusable parts from construction sites--framing components, light fixtures, appliances and lumber. "I realized we could get a beautiful pile of lumber for free," he says, "and turn around and add value to it."

When the construction industry got a walloping in 2008, Hagerman weathered the downturn by entering the upcycled furniture market, along with the home energy and the handyman business. "We saved the jobs of 40 people," he says. "We got creative by necessity, but we changed our business because it also makes financial sense."

If there is a downside to upcycling, Hagerman says, it's the inefficiencies related to organizing, moving and storing the supply. Regardless of how cheap any reclaimed materials are, they can represent a huge waste of energy and time if you don't already have a purpose in mind when you take possession of them. Plus, there's the danger of running out. "You can't develop a line of something, because there's no guaranteed way to get more of the material," he says.

Changing consumer attitudes are contributing to the upcycling boom, says artist Justin Gignac, who started the NYC Garbage project in 2001, when he made a bet that with the right package design, you could sell anything, even garbage. These days, there's a waiting list for his prettily packaged clear plastic cubes of Manhattan-scavenged trash (\$50 a piece), and he's sold more than 1,300 of them to buyers in 29 countries. Gignac believes that today's consumers are more aware of waste and appreciate the ingenuity of people creating new stuff from old.

As Hamlin of Looptworks points out, success is mostly about quality and style, not just green. "The product has to be best-in-class, and it has to be cool, innovative, stylish, fit right--all of those things," he says. "And at the end of it, it happens to be upcycled. That's the way it should work. To me, it's a win-win for business and the environment."

### Lessons in Green Retailing

Small retailers are also finding success with upcycling. The Re-Inspiration



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store in Atlanta's West Design District is one of them.

Housed in a loft-like space, the store is stocked completely with upcycled or recycled items that owner Brooke Schultz consigns from independent artists--"eco-whimsy," she says, pointing out bobby pins from old Scrabble pieces, lamps made with Kahlua bottle handles and robot-like garden decorations composed of welded wrenches and pipes.

"I look for original objects, where it's clear more care was put into making them," Schultz says. "Being one-of-a-kind is part of the appeal."

But even in a recovering economy, there's more to running a specialty retail store than finding cool stuff to sell. It's only been a year and a half, and Re-Inspiration is already profitable--and Schultz says the store is getting ready to go bigger.

Here are a few of Schultz's rules for success:

**Make it innovative.** "People are interested in going green, so we've taken that idea and really executed it," she says. Re-Inspiration also offers an interactive component, with workshops that teach customers how to upcycle their own stuff.

**Change is good.** "Our store is dynamic," says Schultz, who every few months does a massive reorganization that makes the space look completely fresh, with different vendors and new products.

**Service, service, service.** Schultz has seen similar retailers fold due to customer service issues. "Have service right out of the gate, and offer the type of caring you can't get at a big box," she says. "It's all about how you treat your customers."

### Upcycling in History

Before the Industrial Revolution, when new technologies made it more cost-effective to create new (often nonbiodegradable) things rather than reuse them, upcycling was a fact of life. Fabrics were separated into fibers like wool and cotton, broken down again and spun into new products. Henry Ford even practiced an early form of upcycling, using the crates car parts were shipped in as vehicle floorboards.

Upcycling's resurgence in the business world can be traced to the 2002 publication of *Cradle to Cradle: Remaking the Way We Make Things*, a book (printed on a synthetic paper made from plastic resins and inorganic fillers) by architect-and-chemist duo William McDonough and Michael Braungart proposing the idea that manufacturers were practicing a "cradle-to-grave" production approach, which recycling just wasn't good enough to counteract.

McDonough, who also co-founded McDonough Braungart Design Chemistry, a cradle-to-cradle consulting and certification firm, agrees that a growing number of companies are prioritizing the benefits of upcycling--and enjoying its business advantages. "Smart manufacturers understand that thinking of use cycles means thinking about a customer's long-term relationship with a product and brand," he says.

The challenge, of course, is making sure the application of cradle-to-cradle philosophy isn't too superficial--and makes good business sense.

### Ways to Upcycle

When it comes to collecting recyclable and upcyclable materials, the business opportunities are "amazing," says Gal Raz, associate professor at the University of Virginia Darden School of Business. "There are so many ways to incorporate reuse in your business model and branding approach, but you have to figure out how it fits."

No kidding. Check out all the different ways businesses are upcycling.

Company	What they upcycle	Brilliance
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<b>Equator Coffees and Teas</b>	Coffee waste to grow protein-rich mushrooms in developing countries	Promoting sustainable farming--and good coffee
<b>Hammer &amp; Hand</b>	Home construction and repurposing materials for furniture	Saving jobs with a new revenue stream
<b>Hello Rewind</b>	Customers' favorite old T-shirts are turned into laptop sleeves; profits help sex-trafficking victims	A self-sustaining social enterprise that capitalizes on a sentimental, one-of-a-kind product
<b>Hermès</b>	Leftover material and damaged goods for a new line of accessories and décor	Proving that luxury can be sustainable--yet equally expensive
<b>Looptworks</b>	Overproduced textile waste to create a new retail line	Going straight to factories and rescuing raw materials (for a great price)
<b>Patagonia</b>	Fleece made of plastic bottles	Spawning a clean manufacturing movement among outdoor-clothing manufacturers
<b>TerraCycle</b>	Trash to make new retail products	Turning trash into treasure, literally

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Sort by   [Subscribe by email](#)  [Subscribe by RSS](#)Real-time updating is **enabled**. ([Pause](#))**Xclamationguy** 2 weeks ago

The resurgence of upcycling is a strong indicator of better things to come. A new approach to both production and consumption.

Like

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**George Briggs** 2 weeks ago

Some very interesting facts I had no idea about which I will be able to use for my company. However I would like to note the fact that an organic shirt takes 400 gallons of water to make is a bit misleading as there's no context or competitive evidence. How much water does a regular shirt use? And generally shirts aren't made one at a time so is that 1 really mean a batch o shirts and is this water being reused? No doubt there are very good points presented in the article but just some things to be skeptical about.

@georgebriggs

[www.georgebriggs.ca](http://www.georgebriggs.ca)

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**Jill2day** 2 weeks ago

Thanks for the shout out to Etsy Makers! I have been reconstructing used sweaters into upcycled garments for over two years now (after being laid off of a corporate job) It is a rewarding, responsible and creative way to support my self and supply others with unique items. I have also made memorial sweaters where I have taken the sweaters of a passed-on family member and remade them into comfort sweaters for their loved ones. [www.jill2day.etsy.com](http://www.jill2day.etsy.com)

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**Pacific Coast** 3 weeks ago

Find out more about upcycling and get some great project ideas at <http://www.upcycling.us>

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**Bikemann** 1 month ago

For another upcycling success story see [www.sarabella.com](http://www.sarabella.com) and send in your colorful plastic bags.

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**Brooke B Farrell** 1 month ago

Not to be too self-serving, but thought I'd point out another great resource for businesses that are looking to upcycle at scale -

RecycleMatch <http://www.recyclematch.com/> is the first B2B online marketplace that let's companies buy, sell or give their waste and recyclables online. It's a great resource for those seeking materials, and our ultimate goal is to help foster a more efficient business ecosystem where our resources and their value are kept in the economy instead of being tossed into a landfill. (BTW, we were named 2010 Entrepreneur Magazine's 100 Best Ideas List - how awesome is that!)

Thanks Entrepreneur Magazine for all the focus on this re-emerging industry! So many opportunities ready to be explored by innovative entrepreneurs!


@BrookeBF from @RecycleMatch

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