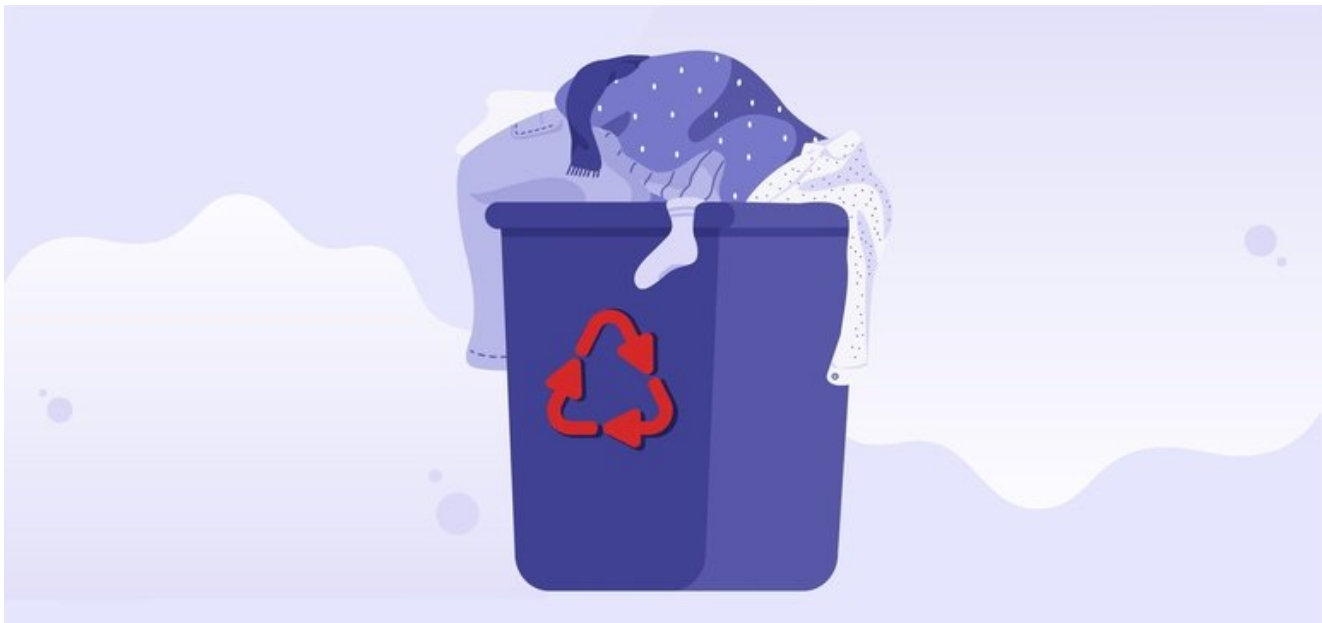


Can textile recycling be the next 'zero waste' frontier?

wastedive.com/news/textile-recycling-zero-waste-helps-fabscrap/579655



Can pairs of old jeans save cities and towns thousands of dollars monthly on waste hauling costs, while helping them meet sustainability goals? To start, the answer depends on whether those jeans are Levi's or Forever 21.

The United States alone generated nearly 16.9 million tons of textile waste per year in 2017, accounting for more than 6% of the waste stream. According to Steve Lisauskas, who runs government affairs for the Massachusetts-based consulting firm WasteZero, while materials like plastic bags may get a lot of attention in the news, "when you look at the waste stream, it's a very, very small percentage... So we, having spent a lot of time in the data, started asking, 'Well, how about textiles?'"

There's much to make textiles an attractive target for local governments looking to reach ambitious "zero waste" or diversion rate goals. They can be a high volume, high value commodity. They're so high in value, in fact, that many operators offer hauling services for free — a stark difference from the ever-fluctuating costs of conventional recycling, which have drastically increased in recent years.

Currently, the most common method for textile recycling requires consumers to independently access a drop-off bin, either on the street or at a donation center like Goodwill or The Salvation Army. But Lisauskas says adding curbside collection to the mix could vastly improve the recovery rate for textiles, which currently hovers around 15%.

Since 2016, his firm has partnered with Ohio-based Simple Recycling, which provides collection in nearly 60 municipalities across the U.S., to bring curbside services to cities in Massachusetts.

"If we go back to the '80s, before bottle and can recycling was widespread, we had drop-off opportunities in a variety of cities and towns in a central location," Lisauskas told Waste Dive. When that was the case for the city of Worcester, he recalls, the recycling rate was 2%. When the city implemented curbside recycling alongside a pay-as-you-throw program, the recovery rate went up to 36%.

Dan Green, the president of Helpsy, a company that services textile drop-off bins, believes the analogies between textiles and container recycling are not always helpful. He points out, while bottles, cans, cardboard and even organics are consumed and disposed of frequently, textiles are a less predictable commodity.

"It's not like they're throwing out clothes a little bit every week," explained Green. "They might throw 100 pounds all at once, or maybe 25 pounds four times a year. So driving the truck down the street every morning doesn't make a whole lot of sense to us."

Though rarely discussed, the term "recycling" does not mean the same thing for textiles as it does in other markets. This is an important point, according to Steven Bethell, president of the Toronto-based used clothing broker Bank & Vogue.

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"One has to get away from the idea that this is something you're going to crush up and grind into a new thing," he said. For every 100 pounds of clothing that makes it to Bethell's warehouse, 25% of that will end up resold to thrift stores for good value. This portion of his profits is what makes operational costs worthwhile. Bethell described the market as a dramatic hierarchy that descends in value, starting at \$4.50 per pound for thrift-store clothing, and "whittling away" to pennies a pound or less by the time it reaches fiber downcycling markets.

In short, a pair of low-value, cotton-elastane-polyester blend Forever 21 jeans, size XL, might be downcycled into car insulation for pennies or less. A pair of high-value, pure cotton, vintage Levi's resold to consumers in secondhand shops is ultimately what makes that end-of-life path possible.

The high value of secondhand clothes masks the fact that other forms of fiber recycling are profoundly unprofitable. It's a dynamic often overlooked by those increasingly contemplating the virtues of textile recovery. And as the portion of textiles suitable for thrift has been on a steady decline for years — thanks to trends in fast fashion which have reduced the quality and resale value of garments — some in the sector question the ability of these markets to remain resilient, particularly as shutdowns from the coronavirus pandemic have created an unprecedented pile-up that may take months to recover from.



Planet Aid donation bin being serviced in Massachusetts
Karine Vann/Waste Dive

Fashionability meets recyclability

New York-based Helpsy services clothing drop-off bins from Philadelphia to Boston. Last spring, when Marie Kondo called for people to purge their homes, donations of clothing and home goods across the U.S. skyrocketed. The company published an open letter entitled, "The donation model is broken: we can't recycle your ripped towels if we don't also get your Nikes." It criticized press for advising consumers to send their best clothes to donation centers like Goodwill, leaving only low-value garments and rags for textile drop-off bins.

"Aluminum cans are aluminum cans, but the quality of material is really just a function of how clean it's kept and how uncontaminated," said Green. With textiles, however, clothing varies drastically in value from one piece to the next, "from being not worth collecting, to kind of paying for your whole operation."

As a middle-man service provider that pays for drivers and storage, Helpsy is not responsible for sorting clothes, and Green cannot know the exact value of his credentials — the industry term for used clothing collected directly from consumers — until it has been sold. But his business model is dependent on there being a certain percentage of recovered garments that will be fashionable enough, brand-name enough, and durable enough for graders to sell to secondhand stores such as Goodwill or Buffalo Exchange.

This is just a few days worth of clothing we kept out of the trash in NYC and Connecticut. We process 30,000-35,000 lbs of clothes and shoes day from this warehouse. We have 2 other warehouses in NJ and MASS. The scale is important to see.

HELPSY bins: <https://t.co/qip2Auvw4r> pic.twitter.com/1m2udpeMnu

— HELPSY (@helpsy) [May 28, 2019](#)

Bethell, who in addition to running Bank & Vogue owns a line of high-end vintage clothing, stresses the fashion element in this ecosystem, which he believes is often understated in discussions of textile recycling.

"When you go into a thrift store — and this is very real — someone wants to go in and buy a jacket, wear it on Friday night and be proud of it. That is a really big departure from anything else that municipalities deal with," he said.

A range of factors can contribute to what makes a garment appealing to secondhand markets and is generally tied up with demographic factors including location, age, class and even waist-size. Recovered clothing from the Midwest or the South are worth about half as much as those from the Northeast, according to Helpsy's data, due to regional differences in these categories.

"Part of it is branding and reputation, but it mostly has to do with uniqueness. People in the Northeast are less likely to buy their clothing from Walmart and Target. There's a stronger representation of higher end and more unusual products," Green said.

As operators like Helpsy sell per pound, the size and quality of garments is a crucial detail. Conversely, infants' and children's clothing tend to be higher in value, as they are lighter per piece and enjoy fewer wears before reaching the donation bin, thanks to how quickly kids grow out of them.



Textile sorting warehouse in Mississauga, Ontario, as depicted in Adam Minter's book "Secondhand"
Permission granted by Adam Minter

Fiber factors

While 50% of Helpsy's most fashionable recovered garments will sell for a decent value in a thrift store somewhere — either in the United States or to countries such as Guatemala, where an estimated 80% of clothes are purchased secondhand — the markets for its remaining volume are far less stable.

According to the Secondary Materials and Recycled Textiles Association, roughly 30% of recovered textiles will end up in the hands of the wiper rag industry, where they will sell for anywhere between 10 to 20 cents per pound, depending on the market. However, similar to thrift, there are certain standard requirements for what fabrics can be accepted into this pool. While fashionability is not important to the rag market, the type and quality of the fiber certainly is, and because rags are functional rather than aesthetic, the standards are high.

"A janitorial service doesn't want to buy rags that scratch the furniture, an oil and gas company doesn't want a polyester rag that's going to discharge static electricity and set off an explosion," journalist Adam Minter wrote in his book "Secondhand: Travels in the New Global Garage Sale."

Minter's research revealed that simplicity is essential to the rag industry — both in terms of a fabric's print, but more importantly, its fiber content. Historically, the industry used only fabrics consisting of pure cotton, due to its high level of absorbency, but as polyester makes up a larger share of incoming used textiles they've opened the door to that as well. Meanwhile, pure cotton has become something of a rarity. In "Secondhand," Minter

documented one rag producer so hard-pressed to find a steady stream of cotton fabric that it began manufacturing wiping rags out of virgin cotton commissioned from a producer in North Carolina.

It's not just rags that depend on the simplicity of a garment's blend. Circular economy, fiber-to-fiber (F2F) recycling initiatives depend on it, too.

"A lot of the recycling that can turn fabric back into fabric requires that the feedstock be 100% cotton or 100% poly," said Jessica Schreiber, a former sanitation worker and founder of the New York-based textile recycling nonprofit Fabscrap. "So much of the clothing that we wear now is blended that it's not even eligible for the other recycling processes that are in development."

Re:newcell is one such initiative. In March, the company produced its first dress with H&M, made entirely of secondhand jeans, through a process of chemically breaking down cotton and turning it into a new fiber. Bethell, who supplied the denim for the initiative through his clothing trading company, recalls retrieving 50,000 pounds of cotton denim required sifting through one million pounds of jeans.

"When we overcomplicate and put elastane [or polyester] into products, it makes them very difficult to create a circular economy, which is where we need to head," Bethell said. "It's just like when you get these really complicated plastics, it says you can recycle it in a specific way, but it's just not practical."

This inability to control materials upstream is why Minter remains skeptical of F2F technologies, most of which Schreiber believes are still five years away from mass implementation.

"There's so many ifs stacked upon ifs that with the recycling side of it, I don't think you can really plan on that basis," he told Waste Dive, explaining he chose not to investigate those technologies in his book. "I think they're pretty close to sci-fi at this point."

Schreiber, whose nonprofit collects pre-consumer textile waste from fashion design studios and clothing brands to divert it from disposal, said more and more recovered fabrics unsuitable for thrift, wiper rags, or F2F recycling are ending up on the lowest value chain.

At this stage, they will be mechanically ground up into a low-grade pulp called shoddy. Because shoddy accepts most fibers and blends, it has become the Hail Mary of the textile recycling world, where 20% of recovered textiles will end up, according to the Institute of Scrap Recycling Industries. But as supply has come to far exceed demand, more and more shoddy processors have started charging a fee for their services.



Re:newcell dress made from secondhand jeans
Permission granted by Re:newcell

"On the post-consumer side, I think there's a growing need for the shoddy process because clothing is becoming more and more disposable," said Schreiber, who worries that while supply increases, demand is in stark decline. For example, mattress padding was, until recently, a large and steady market for the application of shoddy, but today, "a lot of new mattresses — you've probably seen the commercials for Casper and Purple and Helix — are using synthetic foam or plastic."



Shoddy material
Permission granted by Fabscrap

Uncertain future

The pandemic has only heightened fears about surplus volume in the world of used textiles. As states were on lockdown and residents were confined to their homes for months, a decluttering phenomenon took place on a scale previously unknown, even to Marie Kondo.

"I can't tell you how many people I've spoken to here in Minnesota who say they're using the quarantine as an opportunity to do spring cleaning in their garages," Minter said. "They've got huge garbage bags filled with clothes. When this does end, we'll have a huge

surge of secondhand goods going into these Goodwills. They're going to have a hell of a time managing it all at once... This is going to dwarf them."

Meanwhile, many thrift stores and sorting centers — not considered essential businesses in many cases — were shut down starting in March. And as they reopen, new precautions may make the sorting process slower. Simple Recycling, for example, only just began offering curbside collection services in recent weeks, after shutting down operations in many states. The company did not respond to requests for comment for this story.

Green of Helpsy said, while he has kept operations running, the financial consequences have been "devastating."

Though "people are cleaning out their houses, and our volumes are high," Green said last month, "my customers are mostly closed. So we've been selling to people who are putting it in storage, meaning we have to sell [our stock] at a lower price."

At the time, Green estimated the company was only doing 65% of its usual business. "It's a disaster for a business with a 5% profit margin, especially because the clothing still gets produced," he said.

Meanwhile, even as stores reopen, "consumer confidence will take a long time," said Bethell. His colleagues in Germany opened their thrift stores at the end of April, and as of May they still had yet to reach pre-pandemic levels of shopping. Furthermore, many precautionary measures in stores may continue to impact product turnover. According to [one May news report](#), Salvation Army thrift stores in Georgia, for example, were serving customers just three days a week and imposing a limit on how many customers could shop at one.

There are varying opinions about the extent to which this pile-up will impede the secondhand economy, textile recycling's most high value end market, for the long-term. Though things are less certain for brick and mortar thrift stores, increased use of online consignment platforms may help to turnover product.

On May 27, Walmart [announced](#) it would be partnering with thredUP to sell used garments through its website. "The opportunity to expose Walmart's massive customer base to resale is huge," [wrote GreenBiz of the partnership](#). "It's been projected that resale will triple to a [\\$23 billion market](#) by 2023, so it shouldn't be so surprising that large-scale retailers like Walmart are looking to get in on the action."

Some are optimistic that overall, the pandemic disruptions are just a bump in the road.

"I look at it from a waste reduction perspective, which is: Are we still going to have waste, and are our cities and towns still going to need to reduce it?" said Lisauskas of WasteZero. "After we get to the other side of COVID-19, which hopefully we do quickly,

people will still be generating textile waste."