



# Fashion Can't Recycle its Way Out of these Problems: Digging in on Circularity

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When it comes to the apparel and textile industries, it's hard to imagine a topic that receives more attention than [sustainability](#). (Yes, attention is one thing and action another.) Nestled within that all-encompassing sustainability bucket is another oft-used but less understood term: [circularity](#).

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Both apparel companies and consumers use the term circularity very loosely, with varying definitions and guidelines available. To help clear up the confusion, we've put together an explainer about everything you should know when it comes to circularity in apparel and footwear, including what it is, how it's different from [recycling](#), what's being done to advance it, what's holding it back, and why it's actually good for business.

## What is circularity?

There are multiple definitions for circularity as it pertains to apparel and textiles, and it's often—and incorrectly—used interchangeably with sustainability or even recycling. This is one reason why there remains so much puzzlement.

One of the clearest definitions of a circular economy comes from the [Ellen MacArthur Foundation](#), which defines it as such: "A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems."

"For fashion this means creating business models that keep clothing in use for longer, making clothes from safe and renewable materials, and ensuring clothes are made to be made again, so that at the end of their use they can be safely and easily used to make new clothes," Laura Balmond, project manager for Make Fashion Circular at the Ellen MacArthur Foundation, further explained to Sourcing Journal.

A circular economy is also often known as a "closed-loop economy" or, alternatively, "cradle-to-cradle."

Circle Economy, a co-op social enterprise focused on advancing and raising awareness of circularity, has developed the "DISRUPT 7" framework in an effort to define a common language. According to Gwen Cunningham, program lead of the Circle Textiles Program at Circle Economy, the group analyzed terms and definitions from over 20 NGOs, government agencies, academics and consultancies to identify the key elements of a circular economy:

- **Design for the Future**
- **Incorporate Digital Technology**
- **Sustain & Preserve What's Already There**
- **Rethink the Business Model**
- **Use Waste as a Resource**
- **Prioritize Regenerative Resources**
- **Team Up to Create Joint Value**

## How does the circular economy differ from the linear product lifecycle?

Unlike the linear product lifecycle, in which items are purchased and then discarded, a circular economy prioritizes the reuse of products and the recreation of old products into new ones.

As various associations promote the advancement of a circular economy, one often hears the phrase: "There is no away." This idiom intends to remind people that even when a product is responsibly disposed of—say via recycling—it still exists and still has a negative environmental impact.

The statistics around the impact of apparel are disheartening. According to Circle Economy, the average consumer purchases 60 percent more clothing than they did 15 years ago. What's more, they only wear them for half as long. One-third of women wear clothing items as few as five times before tossing them.

The numbers around textile recycling are even more dismal: Less than 1 percent of existing textiles are returned to textiles, Cyndi Rhoades, CEO/founder of [Worn Again Technologies](#), said during "[Closing the Loop](#)," a Sourcing Journal webinar.

## How is circularity different from recycling?

Although recycling is considered to be an important component of sustainability, circularity takes things much further by bringing the concept of reducing waste to the beginning of the design process.

What this means is that when products are first designed, their end of life is taken into account. So, for example, products designed with circularity in mind will be made to last longer, and manufactured using materials that can be more easily recycled and reused as inputs for clothing. This latter point is especially important because when apparel is recycled, it's often turned into such things as carpet insulation because the contents become inferior to virgin inputs.

"Many people think a circular economy is about just recycling better; however, fashion cannot recycle its way out of the problems it faces today," said Balmond. "If we are going to create a thriving industry that works in the long term, we must look way beyond recycling—we must think about how clothes are used and made, and how businesses can give customers access to fashion without the creation of such vast levels of waste and pollution."

### **What happens to products that aren't circular?**

Products that aren't designed with circularity in mind most often end up in landfills. At least 85 percent of the clothing that Americans purchase goes to landfills each year, said MeiLin Wan, VP, textile sales at Applied DNA, a company that uses biotechnology to solve commerce challenges. This translates to about 80 pounds per person per year of textile waste going to landfills, she said.

If the apparel industry continues on its current path, it may use more than 26 percent of the carbon budget associated with the 2 degree C global warming limit, according to the Ellen MacArthur Foundation.

A [2018 report from Quantis projected](#) that the apparel and footwear industries already accounted for more than 8 percent of global climate impacts, or the equivalent of 3,990 million metric tons of carbon dioxide in 2016.

### **What are the challenges of moving toward circularity?**

There are many hurdles confronting circularity. For one thing, the apparel industry is deeply rooted in legacy systems and processes, and implementing change is difficult and often expensive. However, much of the industry has come to accept that circularity has evolved from an important priority to one that's required.

"Shifting today's fashion industry from its take-make-waste approach to a circular economy requires changes across the system," said Balmond. "We cannot fix fashion's waste and pollution problems and create a thriving industry by just tweaking one or two elements and telling customers to change."

"We need a redesign for the entire industry," she continued. "We need to bring together players from across fashion and devise systemic solutions. This requires the industry as a whole to recognize the extent and nature of the problems, to align behind what success looks like, and to work together to achieve it."

### **What is being done to advance circularity?**

There are many different methods that apparel and textile companies are undertaking to progress and encourage circularity, and addressing fiber content is a cornerstone of this.

While using recycled fabric scraps is perhaps one of the best-known ways of helping advance sustainability, the practice brings its own host of challenges given that recycling fabrics using blended fibers is extremely difficult. [The sorting of textiles](#) is a time-consuming, inefficient and often inaccurate effort in which workers must examine individual labels in order to properly identify the fiber content. When apparel is recycled, it's most often turned into rags, insulation or upholstery stuffing.

Cognizant of these challenges, many companies are developing more sustainable fiber replacements for traditional blended fibers.

Eastman Chemical Company [introduced a performance fiber](#) made entirely from recycled post-consumer plastic bottles. The fibers, known as Avra, are designed as a replacement for activewear polyester and are circular because they can be recycled again into new fibers. The company also announced plans to pursue the creation of an advanced circular recycling technology for polyester waste that cannot be recycled by current mechanical methods.

[PrimLoft's Bio Performance Fabric](#) comprises 100 percent post-consumer recycled fibers that are engineered for multi-year use and break down only when exposed to landfills or oceans. These are deemed to be circular because the company intends to take them back for recycling into new PrimaLoft fibers.

Lenzing's Tencel's lyocell fibers, made using the company's Refibra technology that upcycles cotton scraps and combines them with raw materials from sustainably managed forests, are a widely used solution in [sustainably made denim](#).

Beyond fibers, there are many other examples of companies using material sciences to create fabrics and products in more eco-friendly ways. Native Shoes, for example, has footwear made entirely [from plant-derived components](#), while [H&M](#) and [Chanel](#) both offer products made from Piñatex "pineapple leather."

## **How does clothing rental and reuse promote circularity?**

Business models that increase the use of clothing is a crucial component of creating a circular economy for clothing, said Balmond.

"We have seen clothing production double over the last 15 years, while the amount of time that clothing is used before it is disposed of has fallen by around 40 percent," she noted. "At the same time, our analysis has shown that doubling the average amount of time clothing is worn could help almost halve the industry's GHG emissions."

"Rental can play an important part in that if it leads to garments being used more," she added. "This means considering stock levels and ensuring the clothing is made from safe and renewable materials, and made to be made again—so that at the end of its use it can be taken back and used to make new clothes."

Extending the life of clothing is considered to be more valuable at promoting sustainability than recycling because it doesn't require the energy inputs that the recycling process does, and more businesses that offer consumers the choice of renting clothing are indeed cropping up. [Rent the Runway](#), a site that began by allowing users to rent formal clothing, is perhaps the most prominent example of a business that has been able to scale such a model.

[Gwynnie Bee](#) is another example of a company offering apparel rental, while apparel retailers currently dabbling in rental services include [Banana Republic](#), [Urban Outfitters](#) and [Express](#).

Although the number of businesses that rent or sell used clothing is growing, the adoption rate is still relatively low, and the outlooks have been mixed. [ThredUp's 2019 Resale Report](#), published with responses from 2,000 women polled by GlobalData, said 64 percent were willing to buy used clothing vs. the 45 percent who said the same in 2016 and the 52 percent in 2017. (ThredUp is an online apparel resale and consignment store.)

According to GlobalData, the number of women who buy secondhand reached 56 million in 2018, up from 44 million in 2017.

The results for clothing rental services, however, have been less promising thus far. A study from [retail tech firm CGS](#) found that just 3 percent of its 17,000 respondents had previously used a clothing rental service, and only 5 percent had considered it. With that said, the firm acknowledged that the early age of the business model was likely a contributing factor to the low adoption rates, noting that 39 percent of respondents who hadn't tried or considered rental services cited ignorance of their existence or a lack of understanding.

Attempting to combat, or at least marginalize, fast fashion, some apparel retailers have established their own takeback programs.

[Patagonia's Worn Wear program](#) lets customers mail in their used Patagonia clothing in exchange for a store credit. The clothing is cleaned and sold on Patagonia's site for a discounted price. The company [said earlier this year](#) that the program has grown 40 percent in the past year.

[Taylor Stitch's Restitch program](#) sells cleaned and repaired clothing that its consumers have sent back. To participate, consumers drop off their used clothing at a Taylor Stitch retail store, or they can download a shipping label online. In return, they receive credits toward new merchandise.

For Days, [a closed-loop apparel startup](#), not only offers a membership model that promotes circularity by selling basics and replacing them for a minimal fee once they wear out, but it's also teamed with such brands as Harper Wilde for apparel recycling. [Under the program](#), Harper Wilde consumers can return their old bras via a prepaid shipping label, where they will be mechanically shredded into fibers.

Reusing clothing can have a significant impact on preserving environmental resources. Using a piece of clothing for an additional three months can lower the garment's water, carbon and waste footprint by 5 to 10 percent, according to Circle Economy.

Make Fashion Circular at the Ellen MacArthur Foundation [launched the Jeans Redesign project](#) in 2019, with brands signing up to make jeans in line with a set of guidelines based on the principles of the circular economy, said Balmond. "The guidelines will work to ensure jeans last longer, can easily be recycled, and are made in a way that is better for the environment and the health of garment workers."

Participants include such established global brands as Gap, H&M and Lee, as well as newer companies like Boyish, HNST, Reformation and Mud. The first pairs are scheduled to begin selling in 2020.

## How can circularity be good for business?

Although upgraded systems, technology and work forces to produce products for a circular economy costs money, research indicates that it's good for business as well.

"Circular economy business models can ensure our clothing never becomes trash," noted Balmond. "By embracing approaches such as repair, rental, resale and recapture, the industry can start to unlock some of the \$560 billion it currently misses out on because of clothing being barely worn before it is discarded, and then rarely recycled."

She added: "Many fashion brands have been caught in a zero-sum game, where efforts to improve social or environmental outcomes seem to be at odds with economic imperatives. Instead, by designing out waste, keeping materials in use and regenerating natural systems, the industry can realize new areas of growth by meeting customer needs in new ways—like rental and subscription—and providing environmental benefits."

One common misconception about circularity is that the move to a circular economy fails to take the social impact of the transition into account, said Circle Economy's Cunningham, with a reduction of new-clothing manufacturing leading to job loss. To address this, Circle Economy launched a jobs and skills program that "acknowledges and addresses the complexity of the world of work," she said, "and takes a holistic approach to ensuring a positive transition to circular economy for work and workers."

As part of this, Circle Economy works with businesses, government agencies, research and multilateral organizations, and education institutions to define and identify circular jobs. It also determines the environment required to create and sustain them, as well as the technology that can facilitate advancement.

### TAGS

■ CIRCULARITY ■ CLOTHING RENTAL ■ RECYCLING ■ SUSTAINABILITY

