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Circular Economy And The Textile Industry

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How many times a day do you slip into textiles? Your wardrobe and clothing, your towels, your blankets, even your car seat. It is difficult to imagine a world without textiles — they are a fundamental element in everyday life and a very important sector of the global economy.

There are **over 300 million employees** along the value chain in the \$1.3 trillion clothing industry. While clothing sales have increased from 2000, doubling their usual production, their usage has dramatically decreased because of the fast-fashion phenomenon. Shifting to a circular system could

help the industry unravel a \$560 billion economic opportunity. This requires renewed business models and collaboration across the value chain.

Applying CE Principles To The Textile And Fashion Industries

The current system for producing, distributing and using clothes moves in a linear way. Tons of nonrenewable resources are selected to produce apparel that will most likely be used for a limited period of time. Think about that \$5 t-shirt you bought for a last-minute event or emergency that you threw away after only a couple of months. This kind of system not only leaves economic opportunities unused, but it puts great pressure on the resources themselves, creating multiple negative impacts.

According to the [Ellen McArthur Foundation](#), CE is based on different principles:

- Preserving and highlighting capital by controlling limited stocks, along with balancing renewable sources flows.
- Optimizing the resources themselves by circulating products, components and materials used at their highest quality.
- Increasing system effectiveness by revealing and designing out negative externalities.

But why do we need a CE system in textiles?

With a [linear economy system](#), there are no actual chances of effectively adopting sustainable principles. There are some limits to this system: Clothing companies are cutting off the costs while making the products more affordable for the consumers. Lowering the costs makes production quicker, creating multiple lines and collections every season.

Do you still think that biweekly new collection releases in well-known fast-fashion stores are normal?

This practice not only lowers the quality of clothing, but contributes enormously to environmental pollution and waste production. Many, if not all, of these negative impacts could be mitigated if the textile sector chose a circular model. Textile experts from across Europe have come up with different circular economy-inspired [innovation trends](#) that are expected to massively impact the industry in the coming years: digitization, sustainability, source efficiency and new businesses, along with new consumption models.

According to the Ellen McArthur Foundation, in the U.S., clothes are worn for just a quarter of the time clothes are worn in the rest of the world, and customers miss out on \$460 billion each year by throwing away clothes that could still be used in some way. If the fashion and textile industry keeps following this path, by 2050 it could use more than 26% of the carbon budget.

Like the [recycling process](#), which seeks to reintroduce both products and waste in a new industrial scheme, a circular system is regenerative and restorative, and it provides multiple benefits not only for businesses, but also for the environment and society in general.

Do you want high-quality, versatile clothes that never end up as waste and save you money?

In a circular system, products enter the economy at their highest value and reenter after use. They never end up as waste. The value of clothing can be fully captured, and once clothing is no longer being used, it can be recycled.

The Textile Industry In China

Textiles and clothing are one of the main [Chinese economy pillars](#), not just from an employment opportunity angle, but also from a market perspective, shared both globally and domestically.

Yet, in terms of waste, China produces up to 26 million tons annually, according to a [report](#) from the Ministry of Foreign Affairs. The Chinese Association for Circular Economy estimates that up to 15% of discarded textiles are reutilized, either recycled, resold or donated. However, it is important to keep in mind that textile-waste data is often inaccurate, as explained in the report.

As the largest apparel exporter, China manufacture produces [roughly 39% of the globe's textiles](#). Nearly [45% of the total textile produced in China](#) is wasted, and of all collected waste, only 3.5 million tons were recycled in 2017.

How is textile waste collected? There are [two different types](#) of offline disposal, as outlined in the Ministry of Foreign Affairs report: collection containers in residential communities and take-back initiatives at retailers.

Another way to reuse textile waste is by recycling the materials and remodeling them back into their original form. Minimizing the usage of raw materials can reduce the textile industry's pressure on the environment, while the recycling process requires a great amount of energy, meaning material reuse could be a great alternative.

At the Materials Experience Center (MEC), powered by Santoni, they champion sustainability and material experimentation in order to contribute to a circular production of yarn, making synergy between material and design. (Full disclosure: Author's company works with MEC.) The same goes for Manteco textile producers in Italy focused on their zero carbon footprint project or Kornit digital printers focused on creating more direct to garment fabrications along with waterless printing solutions.

China is a pioneer of CE domestically. In 2008, China passed [one of its first CE laws](#), seen as a way to mitigate global environmental risks, along with stimulating innovation and new business models. In the last few years, the CE policies have been growing internationally, meaning China could lose its role as the world's top textile exporter. I believe that further development of the Chinese CE would be a way to retain this role.

Meanwhile, we need to take action on our own. A circular approach would be enormously beneficial for both the environment and the market while reducing industries' pressure on natural sources.