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3 ways companies can start embracing the circular economy

Making and using food, clothes, cars, buildings, and other products causes 45% of our emissions. To solve climate change, we need to rethink how we make things.

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By Adele Peters 4 minute Read

Even though the primary focus of climate action so far has been shifting to renewable energy, tackling climate change will also require completely rethinking how we make and use products. A new report from the Ellen MacArthur Foundation, an organization focused on the circular economy, found that if the world shifted to renewables, that would only account for 55% of our current emissions. The remaining 45% of emissions mostly come from making and using food, clothes, cars, buildings, and other products. To meet the climate goal of zero emissions by 2050, all of those things also need to change.

"We've been focused almost exclusively on renewable energy and efficiency, which are obviously essential, but it's clear that we can't meet the objectives unless we actually tackle production and consumption as part of the equation," says Andrew Morlet, chief executive of the Ellen MacArthur Foundation. The report looked at what would happen if five key industries adopted a circular approach, meaning that instead of the current system—digging up materials, using a lot of energy to make something, and then a consumer eventually sending the end product to a landfill—materials could be used in a closed loop. If the steel, plastic, aluminum, cement,

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and food industries adopted this approach, the report calculated that it would reduce 9.3 billion metric tons of greenhouse gases in 2050, as much as eliminating all of the current emissions from transportation.

Other industries, from fashion to tech, will also need to adopt the same approach. The report outlines three key principles for a circular economy.

Design out waste and pollution

Products need to be designed differently so that they can be used longer, resold, repaired, upgraded, and upcycled into new products, says Morlet. That means, for example, choosing materials that can easily be recycled and designing the whole product so that it can be taken apart. "The fact that you can design to repair or remanufacture products significantly increases the value of those products over time and also captures the energy and the inputs that go into creating that product and putting them into people's hands," he says. "If we can keep that energy used longer by having the products used longer, that lowers the energy demand of the system and helps in delivering the climate targets very dramatically."

For a food company, it might mean using food waste as an ingredient in a new product. Companies also need to choose low-carbon materials. Design choices can also eliminate waste in the broader system—whether that means offering a car-sharing service to address the fact that cars spend the majority of the time parked, or finding new ways to reduce the huge amount of food that's grown but never eaten.

Keep products and materials in use

With the right designs, companies can create new systems and services to reuse materials and not waste the energy used to create them. That might mean new ways of packaging products, such as Loop, a system that major brands are testing to bring reusable packaging to everyday products like shampoo and ice cream. For Ikea, it means moving to new models such as furniture rental so products like bookcases and tables don't end up thrown out at the curb. If a piece of clothing is worn twice as long, it could potentially avoid 44% of the product's emissions. When a product reaches the end of its life, the next step is to capture the materials inside. For plastic, for example, recycling 1 metric ton could reduce emissions by as much as 3 tons compared to making the same amount of material from virgin fossil fuels.

Regenerate natural systems

Industrial agriculture isn't sustainable, from the pollution caused by fertilizer use to the fact that antibiotics used in farm animals are leading to antibiotic-resistant bacteria that can harm human health. Another part of the circular economy involves rethinking agriculture in a way that regenerates natural resources. Regenerative agriculture—a set of farming practices that have the potential not only to make soil healthier but also to capture more carbon in that soil—is one important part of the approach. A circular approach also means capturing nutrients from food waste that is currently sent to landfills and bringing those nutrients back to farms. "Essentially, the circular economy of food starts to reconnect the flow of nutrients to make much better use of food as it actually moves through the system," Morlet says.

A growing number of companies, from major corporations to startups, have started to embrace the circular economy over the last five years, he says. As the connection to climate change becomes better understood, that growth will likely accelerate. Morlet argues that a circular approach is also good business. "There's a tremendous amount of value in rethinking products and services and then capturing that extraordinary amount of waste that exists," he says. "For the energy and climate issue, not only is it able to contribute 45% of the solution space, but it also represents a new form of economic value to companies."

About the author

Adele Peters is a staff writer at Fast Company who focuses on solutions to some of the world's largest problems, from climate change to homelessness. Previously, she worked with GOOD, BioLite, and the Sustainable Products and Solutions program at UC Berkeley, and contributed to the second edition of the bestselling book "Worldchanging: A User's Guide for the 21st Century."