

Sustainability

A Step Toward Making Your Company More Sustainable

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Summary. One model that holds great promise for sustainability is the circular economy (CE) — instead of digging up materials, using them once, and then throwing them away, companies in a CE recapture the enormous volume of resources in their value chain in order to use them again and again. Such an approach sounds good in theory — but how does it work in practice? The authors suggest four steps: Closing the loop is an essential first step. Companies should move from *Take-Make-Use-Dispose* linear value chain to a *Take-Make-Use-Recover* circular value chain. In the second step, companies should look for ways to improve resource efficiency within the circular value chain — for instance, by understanding where and how your products wear down so you can make them more durable. In step three, companies should look at alternative business models. For example, Signify, formerly Philips Lighting, moved from selling light bulbs to

offering lighting-as-a-service. And finally, companies should reach outside their own walls to engage their partners and customer in the wider effort to conserve the planets finite resources. **close**

To tackle urgent planetary challenges such as resource depletion and climate change, we need to fundamentally rethink the way we do business in industrialized systems. One model that holds great promise is the circular economy (CE) — instead of digging up materials, using them once, and then throwing them away, companies in a CE recapture the enormous volume of resources in their value chain in order to use them again and again.

Such an approach sounds good in theory — but how does it work in practice?

We have spent several years studying the CE in different industries and have revealed four main steps companies can follow to put a CE-approach into practice. The four steps bring together the physical side of CE with the monetary and customer perspective.

Step 1: Close the Loop

Closing the loop is an essential first step in realizing a CE. Simply put, the CE model requires companies to change from a *Take-Make-Use-Dispose* linear value chain to a *Take-Make-Use-Recover* circular value chain. The loop can be closed either by direct reuse of products, by part-reuse measures such as refurbishment or traditional recycling, or through biodegradability. This first step is not easy and you need to get the following two points right:

Use an intelligent product design. Modularity, reversible connection techniques, and the avoidance of mixed materials are important product design decisions to ensure the closing of the loop. This simplifies assembly and disassembly and helps to recover the product at the end of life. While the majority of phone producers use gluing, composite and mixed materials — which makes proper part reuse or even recycling of a phone difficult — the Dutch company Fairphone designed a modular smartphone that consists of seven building blocks that are press-fitted and not glued. The result: simple

parts like the battery of the phone can be replaced directly by users, while complex parts like the audio connection can be replaced in repair shops. Circular design requires close collaboration with all partners along the circular value chain, as it is unlikely and often inefficient for a single firm to realize all the different activities (production, take back, disassembly, etc.) on its own.

Collaborate closely with partners. The aim of collaboration is to create an overall shared value proposition. This is challenging, as companies are not used to interacting with all the companies in the loop, but have rather focused on direct supplier or customer relationships. The Swiss fabric producer Schoeller quickly learned that their new business idea of circular workwear (in which customers rent workwear for a certain period of time and then return them for re-use) were impossible without this kind of cooperation because of cross-company design requirements and a lack of specific knowledge about all phases of the loop. As orchestrator, Schoeller built a circular ecosystem with seven partners, eventually naming it wear2wear. A core principle for Schoeller was that all partners share the same sense of purpose, otherwise they were replaced by more suitable partners to strengthen ecosystem's cohesion.

Step 2: Improve the Loop

This step ensures that the circular offering contributes to solving environmental problems, therefore reducing the amount of resources and slowing down the flow of resources in the loop. This includes patterns like reparability, local production, and the use of renewable energies.

To improve the loop, you need to dive deep into your own, as well as your partners', production processes and customer activities to understand the ecological footprint along the entire loop. This holistic view results in trade-off decisions, which are often not easy to make. While the choice of a specific material might reduce the environmental footprint of your company, it might increase the technical complexity and costs of another company in the ecosystem. You have to proactively highlight such trade-offs, learn how to manage them, and find solutions that are best for the environment, but still consider the needs of the individual companies as well.

Technology can help. Schoeller and its partners integrated smart assets, like radio frequency identification (RFID) codes, in their workwear which allowed them to collect data on how customers use the clothes. They can react accordingly and prevent future wear and tear, as well as return the right workwear to the right customers. One of Schoeller's partners, German yarn producer Carl Weiske, uses used PET bottles as their raw material — waste as input — and in so doing massively reduced the use of antimony in their production, a carcinogenic element.

Step 3: Monetize the Loop

After having closed and improved the loop, the next pressing question you should ask yourself is how to capture the value of the circular product. One such revenue model is performance-based contracting, which essentially means that customers only pay for the performance of a product but not for the product itself. Signify, formerly Philips Lighting, is a great example. Signify moved from selling light bulbs to offering lighting-as-a-service. In so doing, customers save money by paying only for the light they use, while ditching the hassle of burnt-out bulb replacement and disposal, as well as navigating system upgrades. More importantly, Signify retains control of its products, making it easier to reclaim valuable materials, while maintaining an ongoing customer relationship. Everybody wins — including the planet.

Another innovative revenue model was applied by Fairphone with their cash back system. Customers receive between \$20 and \$40 when they return their phone. Currently they are also experimenting with a revenue model called phone as a service. Here, customers do not own the phone but rather the right to use it for a limited period of time.

To monetize the CE, you should think about multiple options — a portfolio of innovative revenue models for your circular solution. Only the market can tell you at the end which revenue model is most suitable for your circular solution, so do not focus on a single choice too early in the process. Key challenges include the following: First, you need to break the dominant logic in your industry and develop a radically new revenue model. Even very open-minded leaders tend to

have a hard time doing this. Second, you need to invest enough time in the creation of the revenue model. Many companies we have worked with put a lot of effort in the development of first-class technologies, products, and processes, but often forget the development of the right revenue model. Remember: even the best circular product is of no value if the revenue model is not attractive for the customers.

Step 4: Excite the Loop

The aim of this step is to create attractive value propositions which go beyond the fact that the product is circular. Experience selling, for example, describes how a company can create additional value for its customers by offering not only the product but an entire experience with its product, which can lead to higher customer demand.

California-based Patagonia is known worldwide for its experience selling pattern. They have built their brand reputation to the extent that buying their outdoor clothing is also an environmental commitment and statement. As part of its brand promise, their Worn Wear program offers a repairing service for defective garments and a coordinated second-hand resale. The company also often goes beyond its role as a traditional retailer — vocally lobbying on behalf of its customers for environmental legislation and the protection of public lands. As a result, customers are willing to pay a higher price for Patagonia products, just to show that they are part of the bigger purpose the company is pursuing.

A circular economy on its own will not solve the planetary challenges we now face. But it's a huge step in the right direction. As they set out on their CE journey, we suggest executives to ask themselves a single, powerful question: What would you do differently today if you were responsible for taking back all the products you sold?

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