

## Opinion

# Circular business models can help companies meet sustainability rules

Making products more efficiently using fewer resources, and designing them to last longer, can create economic advantages

BY HERNAN SAENZ

Tough sustainability regulations can increase operating costs and disrupt supply chain practices, putting companies under pressure to find new ways to run viable and competitive businesses while complying with environmental, social and governance rules.

Circular business models can help to meet this dual challenge — even in the most difficult-to-abate sectors — by reducing resource use and emissions while creating revenue growth, resilience and competitive advantage. However, for this vision to become reality, we need to think of ‘circular’ in its widest sense.

Most people equate circularity with recycling or reducing resource consumption, but this is a narrow view. Leading companies are evolving three distinct circular strategies that create economic and environmental value.

The first strategy is to build a business model around the circular use of feedstocks; the second is focused on extending the longevity of products and implementing ways to reuse or repair them; and the third is concentrated on selling products as a service or introducing shared consumption models, allowing manufacturers to increase the use of a product while reducing total production and resource extraction.

Circular business models benefit companies by developing new revenue streams and improving supply chain resilience by securing a steady supply of sustainable raw materials. The switch to more sustainable operations may also attract new customers.

### The right models

Each industry will use the model (or models) best adapted to its needs; some sectors, such as machinery and equipment, are likely to deploy all three. And, as companies have begun to discover, each model has its own scaling challenges and choke points.

Companies seeking to shift to circular feedstocks for plastics, textiles or metals, for example, have realised that demand will rapidly outstrip supply as government regulations and fiscal policy are likely to fuel strong global demand for sustainable raw materials, overstretching current supply. This trend is one reason why recycled PET, the polymer used to make most plastic bottles, has a 10 to 20 per cent premium over primary PET in most markets.

To develop sufficient quantities of sustainable inputs, leading companies have begun to partner with those who have access to used feedstock, and to build circular ecosystems that generate value from reuse. Partners can provide materials that are recycled through traditional mechanical means or via emerging advanced chemical recycling technologies that can process hard-to-recycle plastics such as flexible films.

Some companies are going one step further and integrating the missing parts of the feedstock supply chain into their business through joint ventures, co-investment, or long-term, high-volume contracts. For example, Dow recently announced an advance agreement to purchase an estimated 65,000 tonnes of plastic waste-derived pyrolysis oil from Freepoint Eco-Systems. The agreement will enable the construction of an advanced recycling facility in Arizona, and Dow will use the circular feedstock to produce virgin-grade plastics.

Innovations in bio-based feedstocks — those developed without fossil fuels — can also help to meet sustainable feedstock goals if deployed correctly; however, they are likely to play only a small role.

Bio-based plastics are typically made from plants such as corn or sugar cane and ideally come from agricultural waste to ensure that they do not compete with food production.

In general, though, companies should take care when implementing bioplastic strategies, as most bio-based plastics are not biodegradable, meaning they still must be recycled, or end up in a landfill. Further, biofuels also compete for bio-based feedstocks such as agricultural waste, and so demand also risks outpacing the supply of these resources.

### Packaging innovations

Some consumer products companies are likewise replacing plastic packaging with reusable or compostable packaging. Innovative packaging reduces waste and often has other benefits such as lowering energy usage, greenhouse gas emissions and reducing waste and costs for consumers.

Procter & Gamble's Tide brand, for instance, recently launched a laundry detergent in the form of a tile made of thousands of miniscule fibres that eliminates the need for liquids, fillers and plastic packaging. The tiles are effective in cold water, also helping consumers trim energy costs.

Companies face many challenges as they adopt circular business models. To increase the amount of recycled feedstock, businesses will need to agree how to share the costs and economic risks across their value chains. But early movers are showing the way forward and several have built large-scale circular businesses by partnering with other companies along the supply chain.

Circular business models can thus help companies contribute to a more sustainable economy while creating new sources of revenue, increasing resilience and reducing resource use.

*Hernan Saenz is a senior partner at Bain & Company and global head of the firm's performance improvement practice*