

The circular economy: a threat or an opportunity?

A circular economy is an alternative to the traditional linear economy (make-use-dispose), in which resources are kept in use for as long as possible. At the end of their service lives, products and materials are recovered and regenerated. Graeme Philp, chief executive of Gambica*, examines the implications for industry.

The concept of “the circular economy” has come to the fore in EU environmental policy discussions and developments in recent years. Last year, for instance, the European Commission ran a large public consultation on how different sectors of industry might help to keep finished products and materials in use for longer, through practices that include modularisation and component reuse.

At the time of writing, a Commission “action plan” on the circular economy was pending publication. It is understood that this will outline a strategic intent to further resource efficiency within the EU, minimising material waste and

energy losses in the process. It is likely to have implications for equipment manufacturers, making the concept worthy of consideration.

The Ellen MacArthur Foundation, which has been one of the driving forces behind the concept, has defined the circular economy as “...an industrial model, regenerative by intention”. A key aim is to eliminate waste as we currently conceive it. Tighter component and product cycles define the circular economy and set it apart from disposal, and even recycling, where large amounts of embedded energy and labour are lost.


There is also a differentiation between a product’s consumable and durable components. Consumables in the circular economy are made largely of biological ingredients or “nutrients” that can be returned to the biosphere. Energy required to fuel the cycle should be renewable by nature, to decrease resource dependence.

along the lines of delivering a purchased service rather than a single, standalone product, and, what is more, a service that is backed by greater technical support, to guarantee ongoing provision.

Some examples already exist: Xerox’s pay-per-copy model for selling office equipment, for instance; and Rolls-Royce’s power-by-the-hour service package for aircraft engines, whereby maintenance, repair and overhaul services are charged for each hour of flight. Thought of in this way, the circular economy is a far-reaching concept that goes beyond, say, adhering to PAS 141 in order to re-use and refurbish electrical and electronic equipment that has come to the end of its useful life.

In the coming years, it could be that equipment manufacturers are encouraged to re-think their business models via economic incentives such as subsidies to deliver services rather than finished goods. Alternatively, regulation could provide a

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For equipment manufacturers, the circular economy implies changes in their existing ways of doing business. It coincides with the notion of “product service systems” and the development of “through-life engineering services”. When combined, these suggest potentially radical changes in business models

driver in the shape, for example, of ecodesign requirements to make products more durable, while reducing the amount of water and energy embedded within them.

There are likely to be many competitive advantages open to first-movers but central to this will be giving thought and attention to a fundamental change in business model – something which will be a major inertial challenge for many organisations. ■

* Gambica is the trade association for the automation, control, instrumentation and laboratory technology sectors in the UK. For more information, please contact Graeme Philp at graeme.philp@gambica.org.uk. The Ellen MacArthur Foundation has recently published a report that sets out its latest insights and analysis on the circular economy. The 20-page report, *Towards a Circular Economy: Business Rationale for an Accelerated Transition*, examines the need for a transition, what the impact might be on the economy, society and the environment, and how we might get there. You can download it from <http://goo.gl/aTiDn3> www.gambica.org.uk