Ecopreneur.eu input on Circular Business Models

Provided as comments on the BSI Draft Standard for CE, 13 January 2017

A. Proposed grouping of circular business models

1. VALUE CREATION: Circular design, supply/purchasing and manufacturing

- Circular design: Maximum long-term value creation and preservation
- Waste reduction: Waste reduction in the production process
- Circular sourcing: Only sourcing circular products or materials, preferably local
- Collaborative production: Cooperation in production chain leading to closing material loops
- Cradle-to-cradle: Product redesign to 100% closed material loops
- Produce on order: Only producing when demand is present
- Customer vote: Making customers vote which product to make
- Lean: Lean manufacturing in combination with circular principles

2. VALUE DELIVERY: Online or local

- Digitization: Shifting physical activity to virtual
- Direct delivery: Direct local delivery, without retail

3. VALUE CAPTURE: Optimal use

- Sharing platforms: Products and services are shared among users
- Performance based contracting: Long term contracts, responsibility with producer or service provider
- Product-based services: Services connected to a physical product
- Pay per use: One-time payment to use product or service
- Subscription based rental: Against a low periodic fee consumers can use a product or service
- Maintenance: Product life extension by maintenance services
- Repair: Product life extension by repair services
- 3D printing: Using 3D printing to produce spare parts
- Progressive purchase: Pay periodically small amounts before purchase

4. VALUE RECOVERY: after use

- Next life sales: Product gets a next life
- Take back management: Incentive to ensure product gets back to producer
- Refurbish, remanufacture & resell: Product gets a next life after adjustments
- Biomass cascading: Materials are cascaded and reused, recycled or disposed
- Upcycling: Materials are re-used and its value is upgraded
- Recycling: Materials are reused and recycled

B. Questions concerning circularity - N.B. No criteria

Insert: *Questions concerning circularity every actor in the value chain. While the focus depends on the position in the chain, circularity requires every actor in the chain to consider all four stages of the total value proposition for the end user.*

1. VALUE CREATION

What materials are embedded in our products and services?
What is their exact composition and do they contain substances of very high concern from the REACH list, POP or similar regulation?
Where do they come from?
How were they manufactured?
Are they environmentally sustainable from a life cycle perspective?
Were they obtained fairly?
Do chain partners claim a fair margin for their added value?
Can we redesign our product or service to become more circular?
Can we switch to secondary raw materials, non-scarce and/ or sustainable biomaterials? (Where sustainable biomass needs to be further defined[1]
Which of our suppliers are willing to work with us on circularity?

2. VALUE DELIVERY

How is the product or service delivered?
Can it be delivered more directly, locally, or online?

3. VALUE CAPTURE

Who is responsible for the resources during the life cycle?
What does the contract (e.g. the performance-based contract, lease contract, sales contract) with the client/user for the product or service at hand say about circular aspects?
How can the use be optimized?
Can the duration of use be prolonged?
How can externalities be internalized? In other words how can the cost of environmental, health and other negative effects on society of production, delivery, consumption and waste be included in the pricing mechanism and in the business model - for all partners in? (This question is strongly related to stewardship in the CE)
Can more value be captured?
Can financial barriers for use be lowered?

4. VALUE RECOVERY

What happens after use?
Are there obstacles for collection, transportation, re-use or recycling?
And in the long run?
How can the rest value be maximally recovered?

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[1] see e.g. http://www.corbey.nl/files/media_base/original/199.pdf and http://www.biomassfutures.eu/public_docs/final_deliverables/WP4/D4.1%20Sustainable%20Bioenergy%20-%20criteria%20and%20indicators.pdf

C. Further comments

1. Implementing one of the circular business models from the list in Table 1, in itself does not necessarily or directly lead to a more circular outcome. That will only happen if the entire system is designed and intended from the start to be circular, implementing circular business models for value creation, delivery, use *and* recovery.

   For instance:
   - Product modular design in itself only enables reuse but does not mean it will be reused; produce on demand will help improve resource efficiency and stocks but the used products may still lead to lots of waste.
   - Digitization accounts for the exchange of electronic files instead of physical products. It is a way to improve resource efficiency. It needs to be integrated with the externalities of creating maintaining the IT infrastructure and the inflation of data exchange.
   - Lease agreement: the definition is incomplete and it is important to know what will happen at the end of the lease contract, will the product be refurbished reused… or will be discarded? There need for an additional condition to make leasing circular and different from a conventional leasing system (that has been existing for decades for products). In the example, what happens after "say a 6-12 months contract". (The word say is not to be used in a standard)
   - Bioplastics may be sourced from renewable materials but if they cannot be recycled, they may in fact be less circular than recyclable oil-based plastics.

2. Taking one step at a time may be the only way forward. For instance, switch to a bioplastic and at the same time start a serious innovation to develop and implement a recycling loop for that bioplastic. However if the necessary steps towards an integral system redesign are *not* made, the switch could be close to greenwashing.

3. The list includes many established business models such as produce on demand, pay per copy, leasing and recycling. The challenge is to integrate, improve and expand them to create circular business models along the cycle(s).

4. SMEs and many other companies, depending on their position in the value chain, often use only 1 circular business model, e.g. 3D-printing, repair services or reverse logistics. These should be accounted for as such, just like for manufacturers, and evaluated on the basis of an integral approach along the value chain.