

Sustainable Innovation 2016

21st International Conference

'Circular Economy' Innovation & Design

7th – 8th November 2016

University for the Creative Arts

Epsom, Surrey, UK

www.cfsd.org.uk



Unlocking New Value from the Circular Economy of Toilets & Sanitation.

C Hicks

Toilet Board Coalition, Switzerland

New study finds value left on the table where no one has been looking – the human waste value chain. A Circular Economy lens unlocks the business & innovation opportunity of the decade!

The Toilet Board Coalition (TBC) is a business led public-private coalition catalysing business solutions for universal access to sustainable sanitation. The TBC acts as a facilitation platform to ensure close collaboration between private, public and non-profit players to bring together the best technologies, expertise, financial resources and networks to build market-based sanitation initiatives that can be implemented sustainably. The TBC runs the Toilet Accelerator, working at the systems level to co-create the necessary ecosystem to support sanitation businesses to scale, and working directly with promising businesses in emerging and frontier markets that have the potential to deliver sustainable and resilient sanitation at scale. This paper will present new findings from our 2016 feasibility study into the application of Circular Economy business models to the provision of sanitation in developing countries in Africa and Asia. The study is being conducted with a group of entrepreneurs in developing countries who have derived new products from human waste, and are developing innovative sanitation businesses in these locations. The study links these new product offerings with a group of larger organisations – multinationals and city authorities – who can create opportunities to scale up the innovation. Applying a Circular Economy lens to the sanitation value chain in developing countries presents potential to activate the opportunities of the biocycle with effectively leapfrogging to fully circular future sanitation systems. The study explores routes to disruptive innovation, in three domains:

- a) Valorising human waste as a source of materials and energy. For example recovering nutrients suitable for agricultural use, biogas to fuel power generation or manufacturing processes, and clean water.
- b) Integrating human waste with other waste streams to maximize the value retained and minimize the environmental impacts. For example process food and farm waste together with human waste, encourage the use of compostable food packaging which can be treated along with food waste.
- c) Equipping communities for the above waste systems, using service models to provide and sustain the necessary equipment and facilities.

For example lease the equipment and facilities, based on local manufacture and use of recycled materials, and funded by the revenues from the new waste streams created through a) and b). The paper will summarise the results of the feasibility stage of the project. By the time of Sustainable Innovation 2016 the project will have moved to in depth support of a short-list of the entrepreneurs, aiming to leverage their innovations into wider scale-up. Sharing the findings at this stage will connect the project to additional partners, knowledge sources, and funders. This can directly help the current wave of entrepreneurs, and deepen the knowledge-base to improve design of sanitation and waste systems in future.