

Closing the Waste Loop to Improve Liveability

by Leong Wen Shan



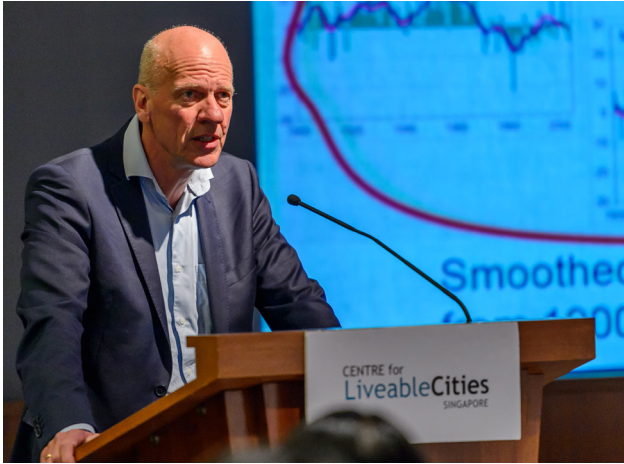
“Amsterdam has offered itself as a living lab,” said Kees Slingerland, Business Director of the Amsterdam Institute for Advanced Metropolitan Solutions (AMS).

As urban areas constantly change in size, density and activities, it is increasingly critical to find ways to make their resource systems and infrastructures responsive to new technology and to the challenges posed by climate change and resource scarcity.

Speaking at the CLC Lecture and panel discussion in May 2017 on ‘Circular Cities, Improving Liveability & Economic Climate in Amsterdam’ Mr Slingerland explained how the AMS was focusing on the circular economy as an alternative to a traditional linear economy, to minimise waste and recover and regenerate products and materials at the end of each service life.

“We have to deliver science and we have to deliver business,” said Mr Slingerland.

Also on the panel was his colleague Bob Geldermans, AMS Program Manager, and Dr Lee Hui Mien, Head of Sustainability at IKEA Southeast Asia. For the audience, the panellists defined the circular economy, distinguishing it from simply “good waste management” or recycling and upcycling.



Mr Slingerland explained that the big question in circular economy was, "How do we change the linear economy such that it creates less waste, or even better, no waste?"

Mr Geldermans added that the circular economy was about resource management design and making it a circular loop. It is not simply waste management where "a lot of it is downcycling [and] not in the highest utility possible. [We] incinerate valuable resources, which we call 'waste', which is basically a design failure."

Dr Lee added that good waste management tends to be reactive, where one looks at the waste generated and then searches for a solution. The circular economy is more anticipatory in that it plans in advance to estimate how waste can be managed. This means a more modular design with the ability to up- and down-size.

Elaborating on Ellen MacArthur's "butterfly" diagram in the example of construction works, Mr Geldermans described how chains are created within networks, processing, construction and demolition flows. The same could be applied to food flows and other productions.

This "value circle" requires the rethinking of "value", where what we see are "resources circulating", he said. "How do we retrieve these resources? Are we recycling at the highest utility possible or is it the downgrading of recycling at each level? "

Dr Lee followed up with the retailer's perspective. IKEA has conducted research on prolonging the life of its products and materials, and it found that "people do see value in things [and are] concerned about the things they throw away," she said.



In response, IKEA has explored modularity in product design, where the consumer is able to change certain parts of a piece of furniture. In terms of after-sales, it is also working with social enterprises to offer repair services. Some countries are also allowing consumers to lease their IKEA products.

A significant challenge is that cities are planned for the linear economy, with a "take, make, dispose" model of production.

This sometimes spills over to the legislative framework. For instance, in different countries the collection of back waste is interpreted differently. Japan, for example, requires the collector “to be a waste management company before takeback can be done,” said Dr Lee, effectively prohibiting IKEA from collecting used products to be recycled or reused.

Another challenge, and a more familiar one, is consumer mindset. Current lifestyles indicate that recycled materials are deemed as inferior.

That said, the circular economy could bring many opportunities, such as that of research and development. For instance, adopting reverse logistics in a city’s infrastructure could bring on greater forecasting, scheduling and storage capabilities. Planning with circularity in mind is also an opportunity for social behavioural study and modelling.



During the discussion, Mr Geldermans also addressed the current challenge of falling resource prices. Very often, producers and consumers believe that the circular economy would only succeed if it made “economic sense”. Low resource prices of late have made recycling or upcycling less appealing from a savings perspective.

The forces in reality are such that resource prices are not going up, said Mr Geldermans. He gave the example of oil, and

how forces behind its fluctuations were often beyond the control of single interventions. Therefore, interventions on multiple levels are necessary.

“At the end of the day, we need forces against it ... social drivers and also value,” he said. “We definitely need some financial incentives or some tax measurements – tax interventions – in order to make certain resources and materials [and] give them the price that they deserve.”

Dr Lee added that it could be useful “looking at how a product should be delivered.” In the example of batteries, for instance, because they are difficult to recycle “we should look at rechargeable batteries,” she said. “That will in itself reduce the use of one-time batteries.

“Mr Geldermans also suggested making certain labour actions cheaper “so that we can move forward with the idea or notion of repairing something rather than buying new products.”

Bringing back the idea of liveability, Mr Slingerland said that the liveability of cities is an issue that “we have to take care of”. And the circular economy can help.



“It’s a bit silly to see that the main driver of city development is ‘return on investment’ in financial terms. [There is] also the type of return on investment in terms of liveability, or in terms of possibilities to develop, and to be excited and to have a pleasant life or a comfortable life. That would be as important as just the financial issue.”

About the Speakers



SPEAKER

Kees Slingerland

Business Director,

Amsterdam Institute for Advanced Metropolitan Solutions (AMS Institute)

Kees Slingerland was Director General of the Environmental Sciences Group (ESG), Wageningen University and Research. Prior to this role, he has worked as advisor for the Dutch Ministry of Agriculture, Nature and Food Quality (LNV), as well as project manager for Nehem Intl., a leading consultancy promoting international development. He was the managing director of ARCADIS Netherlands, a leading engineering firm in environment, buildings and infrastructure.



SPEAKER

Bob Geldermans

Program Manager,

Amsterdam Institute for Advanced Metropolitan Solutions (AMS Institute)

Bob Geldermans leads the Circular City research program at AMS and is a researcher at the Delft University of Technology. In Delft, he was head of the section Climate Design and coordinated the trans-disciplinary Cradle-to-Cradle Lab, culminating in the first symposium on “Circularity in the Built Environment”. Bob has worked as a freelancer and as a consultant for Except Integrated Sustainability (Rotterdam) and the Ministry of Economic Affairs (The Hague).

About the Speakers



SPEAKER

Dr Lee Hui Mien

Head of Sustainability,
IKEA Southeast Asia,
Ikano Pte Ltd, Singapore

Dr Lee heads the sustainability department to strategise on integrating sustainability into everyday business. Prior to this, she was a research scientist working in the area of Sustainable Manufacturing. Trained in Circular Economy, she has been active in the environmental scene in Singapore. Currently, she serves as a member of the NEA Singapore Packaging Agreement governing board and the PUB Water Network Panel.



MODERATOR

Ms Jessica Cheam

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Jessica is the Managing Editor of Eco-Business, an award-winning journalist, TV presenter, director, producer and a social entrepreneur. She was formerly the political and environment correspondent for The Straits Times and is also an adjunct research associate for the Centre for Liveable Cities.

About CLC

The Centre for Liveable Cities was set up in 2008 by the Ministry of National Development and the Ministry of the Environment and Water Resources, based on a strategic blueprint developed by Singapore's Inter-Ministerial Committee on Sustainable Development. Guided by its mission to distil, create and share knowledge on liveable and sustainable cities, the Centre's work spans four main areas - Research, Capability Development, Knowledge Platforms and Advisory. The CLC Lecture Series is a platform for urban experts to share their knowledge with other practitioners. For more information, please visit us at <http://www.clc.gov.sg>

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