

Session Cross-cutting: April 11th 13.45 hrs

5s1: Visions for circularity: critical exploration of the implementation of the concept of a circular society

Creating a Circular City: Apeldoorn

Keijzers ERP 1), Aalbers CBEM 2), Hellemans AH 3)

- 1) Wageningen Food & Biobased Research,
- 2) Wageningen Wageningen Environmental Research,
- 3) Gemeente Apeldoorn

The City of Apeldoorn would like to upcycle biomass from its public spaces. As part of the EU-funded project CityLoops (www.cityloops.eu) they are exploring the possibilities to become a circular city. Several demonstration projects were identified to test the possibilities of creating a circular bio-waste economy inside the boundaries of the city. Examples are the production of bokashi from leaves, the production of 3D-printed objects from Japanese Knotweed and the production of fibre-based products (e.g. paper) from grass. Besides bio-waste Apeldoorn is also looking at construction and demolition waste. In total seven European cities plan to pilot a series of circular economy actions tackling these two waste streams with the aim of achieving material circularity. During the project the cities will implement demonstration projects, evaluate success and impact while documenting the implementation process and finally embed, upscale and replicate the measures in the city, region and across Europe. In order to achieve the goals of the cities, four supporting actions are undertaken:

- Develop an evaluation framework, combining a series of circularity and sustainability indicators, to measure success. With this evaluation framework the results of the demonstration projects are connected with the global sustainability goals and the impact of the different demonstration projects in the cities are compared.
- Develop a methodology for assessing urban circularity, together with a decision support dashboard. This dashboard will show the material flows inside, and in and out of the city. It will enable the City of Apeldoorn to visualise their progress into becoming a Circular City.
- Different stakeholder engagement processes are tested to accompany the demonstrations from start to finish. Engagement of citizens, industry and city counsel is crucial in the change towards a circular economy, both on larger and on demonstration scale.

- Exploit the potential of public procurement to support the demonstration activities. One of the most important instruments for a city council to direct towards a circular city - and on which it most control - is by introducing circular solutions into public procurement.

Wageningen Food and Biobased research together with Wageningen Environmental Research are supporting the City of Apeldoorn, Seville, Porto and Mikkeli in creating a circular bio-waste economy on city scale. Combining academic background with field work on city level.

Keywords: Circular City, Bio-waste, Procurement, Upcycling