

Moving towards Life Cycle Thinking by integrating Advanced Waste Management Systems: WASTE4THINK

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Abstract

The challenge for facing highly increasing environmental and health problems of modern society, caused by an ever-increasing industrial development and economic growth worldwide, calls for a restructuring of waste management systems, using renewable resources and low-carbon solutions in agreement with the concept of circular economy. The main point of circular economy is the use of natural resource materials in a closed-loop, leading to zero-waste generation and sustainability (Ghisellini et al., 2016; Lieder and Rashid; 2016, Sauvé et al., 2016).

The main concept of the HORIZON 2020 Waste4Think project is to introduce and promote 20 eco-innovative solutions that cover the whole waste value chain. These solutions will be applied and assessed in 4 European cities: a) Zamudio (Basque Country, Spain); b) Halandri (Greece); c) Seveso (Italy); and d) Cascais (Portugal) (Waste4Think, 2015). The eco-innovative solutions will provide: IT tools, apps for citizens, educational materials and serious games, tools for citizen, changes based on economic instruments and social actions, and finally implementation, valorization and reuse of alternatives for the recovery of high-grade materials (*Figure 1*).

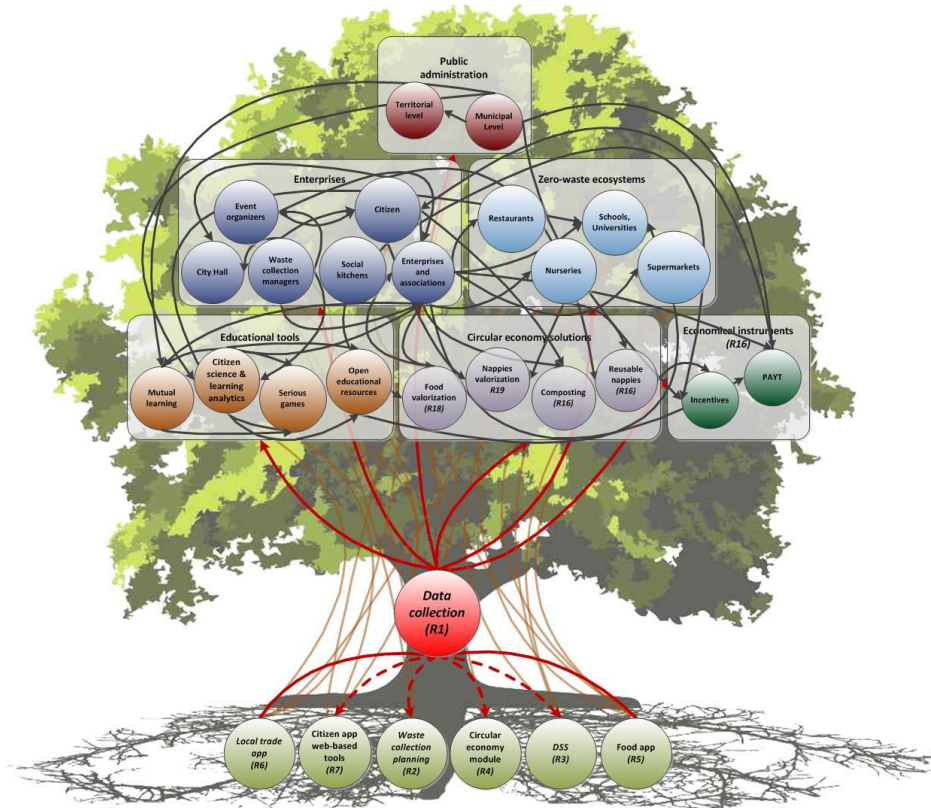


Figure 1. Living organism of Waste4Think Systemic Approach

The Waste4Think goal is to rethink the current waste management practices. This means rethinking design, construction and waste management in order to develop a healthy ecosystem where people are placed at the center. An overall, systemic waste management approach is needed, based on sustainability, efficiency and quality of life. An overview of the proposed Waste4think ecosolutions is presented.

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