Potential of nature-based solutions for creating resourceful circular cities

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The COST Action Circular City (CA17133; "Implementing nature-based solutions for creating a resourceful circular city") aims to establish a network testing the hypothesis that a circular flow system that implements nature-based solutions (NBS) for managing nutrients and resources within the urban biosphere will lead to a resilient, sustainable and healthy urban environment. To date, most NBS are implemented serving only one single purpose. Adopting the concept of circular economy by combining different types of services and returning resources to the city, would increase the benefits gained for urban areas.

The Action's main output will be a guideline on combined NBS and circular economy possibilities within the urban environment. The work to achieve this will be carried out in five working groups (WGs):

- **WG1** "Built environment" investigates the NBS - circular economy aspect on building and settlement level with the main focus on vegetated building materials and resources to be obtained from the corresponding NBS.
- **WG2** "Sustainable urban water utilization" considers the implementation of a save and functional water cycle within the urban biosphere, defines available resources within the water flow, performs risk assessment on urban water and evaluates NBS for storm water management and waste water treatment.
- **WG3** "Resource recovery" aims to transform implemented NBS for mitigation or treatment purposes to sources for a variety of resources to be harvested, used, reused and recycled.
- **WG4** "Urban Farming" facilitates the implementation of urban farming with main purpose of food production within a city, but additionally paying close attention to other resources available from urban farming, usually considered waste.
- **WG5** "Transformation tools" coordinates and leads the interdisciplinary activities between the WGs with the main aim to facilitate implementation of NBS in circular cities by 1) investigate performance-based assessment tools, 2) developing simplified tools and information for stakeholders, and 3) establish public relations strategies and approaches.

The contribution will present the results already achieved by the WGs by summarizing main
results from the review papers each WG has produced.