Lifecab

LIFE16 ENV/IT/000179

con il sostegno della Comunità Europea
with the support of the European Commission
http://ec.europa.eu/environment/life/index.htm

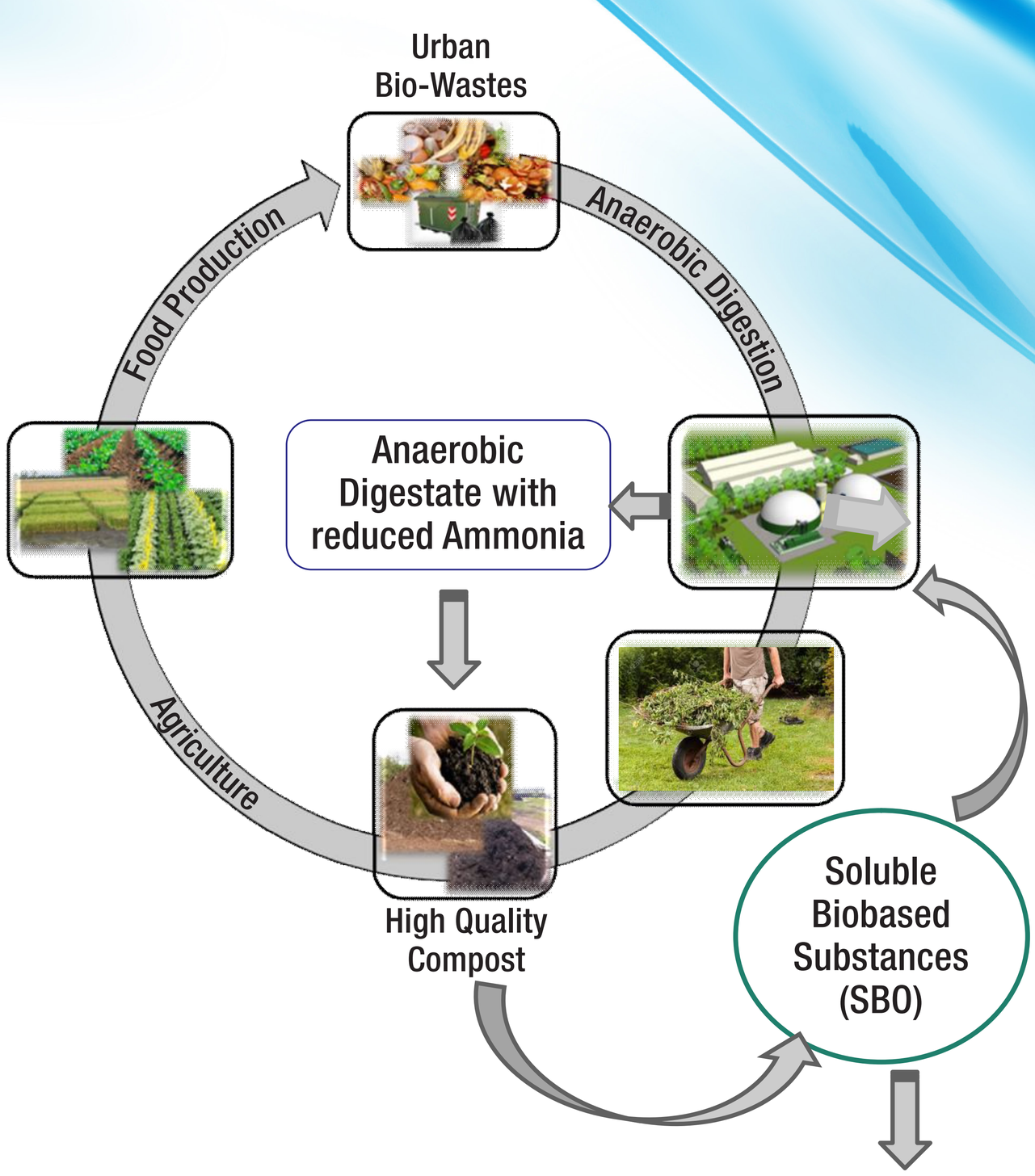
LIFECAB *aims to maximize recycling and reuse of municipal bio-waste (MBW) through the implementation of two new processes: (i) composting, coupled with chemical hydrolysis to yield soluble biobased substances (SBO), and (ii) anaerobic digestion in the presence of SBO to obtain a digestate with reduced ammonia and biogas with improved methane content compared to current technologies. During its life,* ***LIFECAB*** *will validate the two processes in real operational environment.*

LIFECAB *will operate in accordance with the following EU guidelines:*

- *maximizing recycling and re-use;*
- *limiting the use of landfills for non-recyclable and non-recoverable waste;*
- *developing a biobased economy using biowaste as source of biobased products;*
- *supporting local, regional or national authorities for sustainable MBW management and use.*

Within this framework, ***LIFECAB*** *addresses primarily the environmental impact of anaerobic digestates. The anaerobic fermentation of biowaste produces ammonia as co-product obtained from organic nitrogen mineralization. Ammonia inhibits methanogenic bacteria that are particularly sensitive to it. In Europe, the Nitrates Directive (91/676/EEC), limits the the application of N-containing wastes in agriculture to protect soil and waters from pollution caused by nitrates formed from ammonia. The proposed SBO assisted fermentation will allow obtaining a digestate with low ammonia content for safe soil spreading.*

LIFECAB *has wider ambitions, beyond the validation of the SBO assisted anaerobic fermentation. According to previous research, the SBO are efficient chemical specialities for multiple uses in the chemical industry, agriculture and animal husbandry. Building on these research findings,* ***LIFECAB*** *includes an after project life plan to validate in real operational environment also the multiple SBO uses. The project will set the basis for a virtuous biowaste cycle integrating biochemical and chemical technology, according to the scheme shown. In this fashion,* ***LIFECAB*** *will contribute to realize the final objective of turning a municipal biowaste treatment plant into a biorefinery producing biobased fuel and chemicals.*



The SBO hydrolysate obtained from composted urban gardening residue lowers ammonia in the anaerobic digestate of the organic humid fraction of municipal solid wastes and yields multipurpose biobased products.

www.lifecab.eu