



LIFE16 ENV/IT/000179



BIOGAS AND DIGESTATE WITH CONTROLLED AMMONIA CONTENT BY A VIRTUOUS BIOWASTE CYCLE WITH INTEGRATED BIO&CHEMICAL PROCESSES

OBJECTIVES

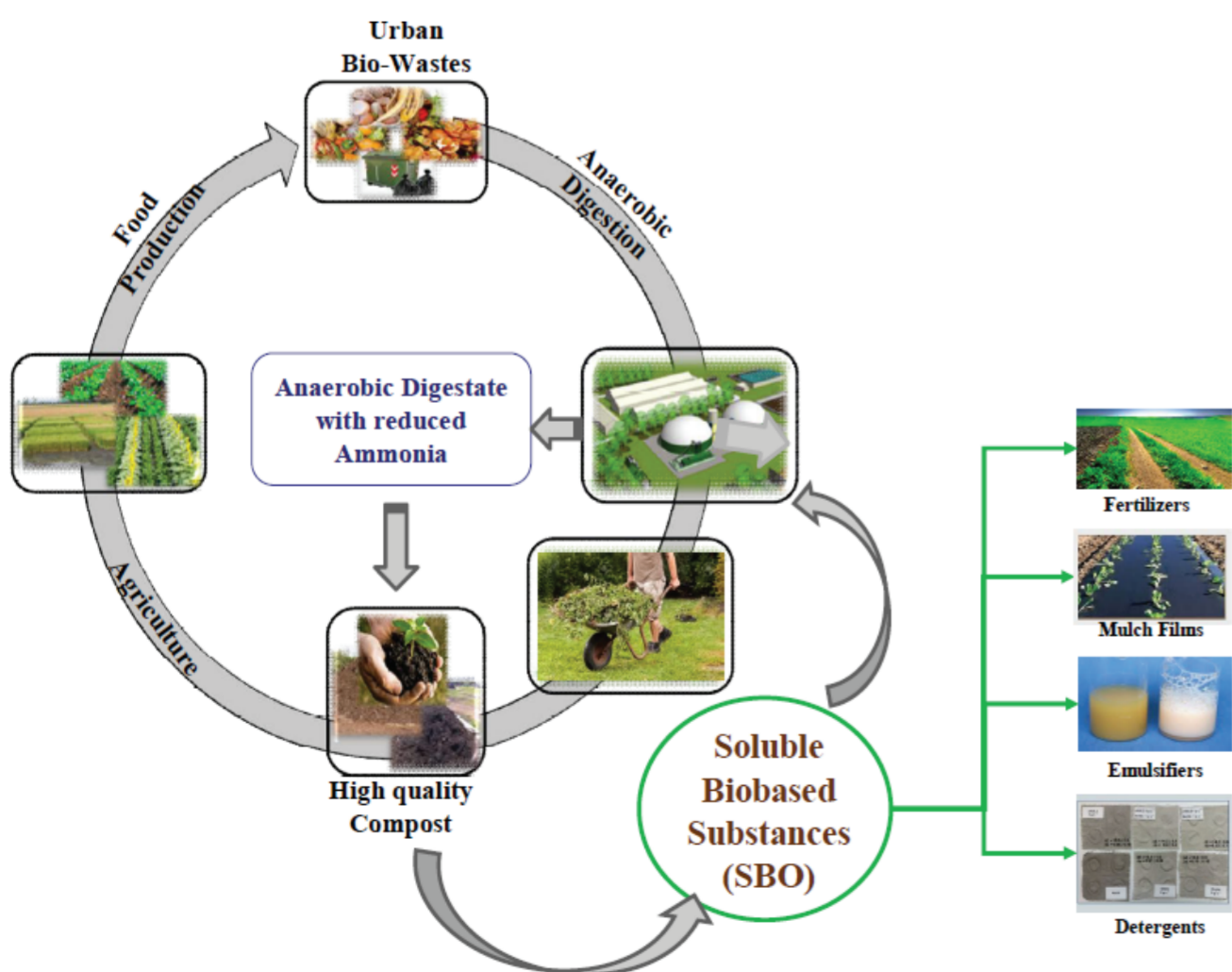
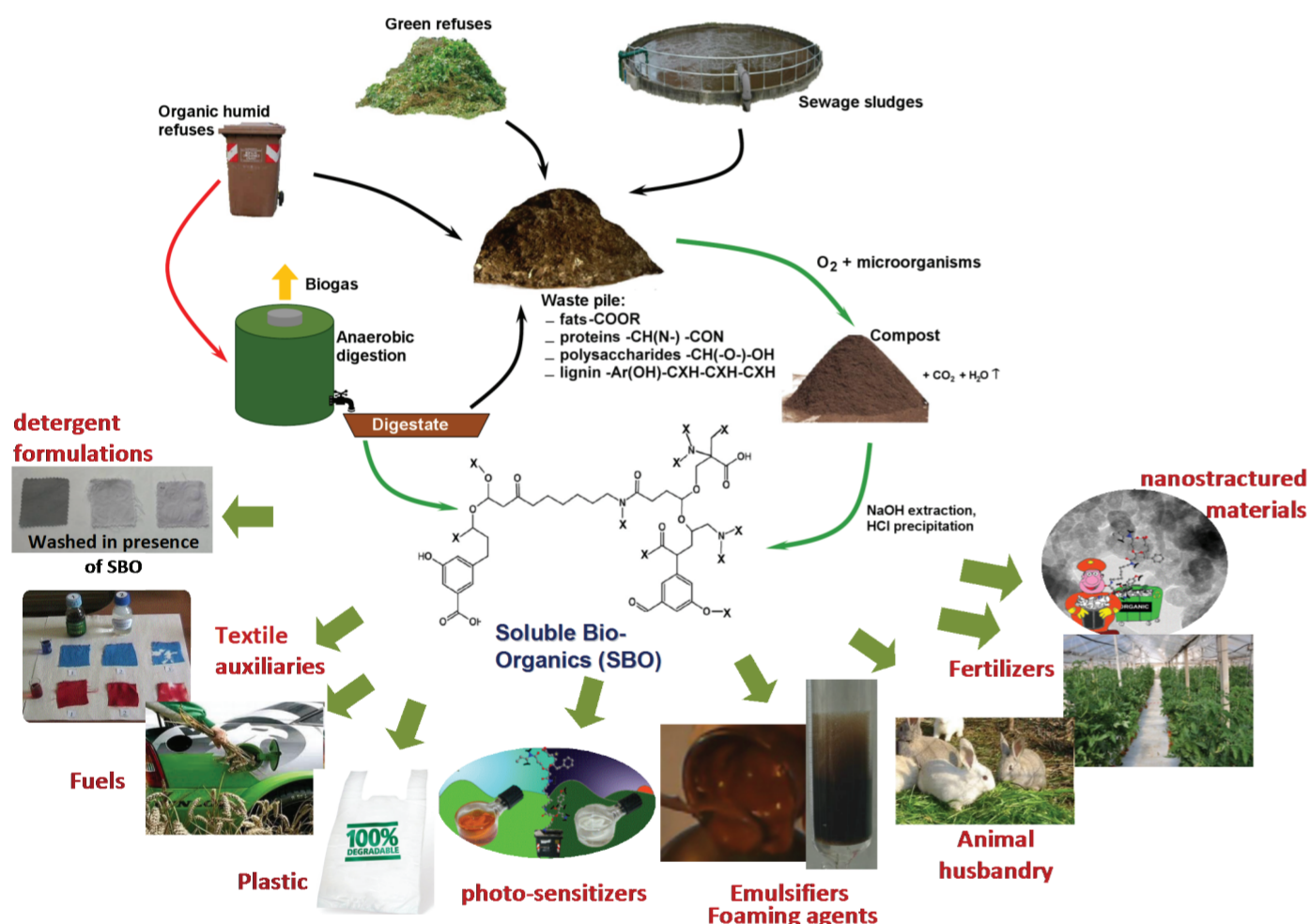
1. Validate a processes yielding multipurpose **soluble new biobased substances (SBO)** by hydrolysis of **municipal biowastes (MWB) compost**
2. Prove that **biowastes can yield biobased products**, which in turn can be used to **improve the fermentation process** of the sourcing biowaste and its **environmental**
3. Demonstrate a **new business model** allowing the valorization of biowastes through integrated biochemical and chemical processes in real operational environment with **reduced entrepreneurial risk**

KEY ACTIONS

1. Fabricate **hydrolysis prototype (HP)** with 50 t/yr SBO production capacity
2. Install HP in the ACEA MWB treatment plant (Italy)
3. Validate the SBO assisted anaerobic fermentation process
4. Replicate the process in Greece and Cyprus using local biowaste
5. Produce enough SBO for market validation of multiple applications

PROCESS & PRODUCTS

URBAN BIOWASTE SOURCES AND BIO-BASED PRODUCTS



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

EXPECTED IMPACTS

DURING PROJECT LIFE

- ↓ 1,5 t/yr decrease of **NO_x**
- ↻ 2,000 m³/yr **sewage sludge water** reuse
- ↓ 30,000 €/yr savings from no secondary treatment

5 YEARS AFTER THE LIFE PROJECT

- ↓ 35,000 t/yr decrease of **CO₂**
- ↓ 135 t/yr decrease of **NO_x**
- ↓ 425,000 t/yr lower **ammonia** production
- ↓ 53,000 t/yr lower **biowaste** production
- ↓ 2,940-109,200 t/yr consumption of **chemicals**

AIMS OF LIFECAB

1. Maximise **recycle and re-use**
2. Limit **landfilling** to non-recyclable and non-recoverable waste
3. Demonstrate **replicability and transferability** of innovative technology to process **municipal waste**
4. Produce **biowaste derivatives** as **ecofriendly auxiliaries** for use in agriculture and chemical industry
5. Support local, regional and or national administrations for a sustainable use of municipal waste recycling and resource policies

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