



Project Information Sheet

Enabling market uptake of innovative separation and cleaning solutions for material recycling of all product groups contained in bio-wastes and MSW (SEPARATE)

Programme area:	Recycling
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Website:	http://www.separate-wastesystems.eu/
Benefits (max. 150 characters incl. space):	Achieve maximum recycling rates of high quality organic material, metals and recyclables and produce carbon neutral electricity and heat
Keywords:	Recycled, separation, bio-waste, municipal solid waste
Sector:	Recycling
Type of solution	Technology
Duration:	01/09/2013 – 30/04/2016
Budget:	€ 521,057 (EU contribution: 49.62%)
Contract number:	ECO/12/333021

Summary

The SEPARATE project aims at removing non-technical barriers to market replication of an innovative waste separation and cleaning process that radically improves the quality of bio-waste stemming from Municipal Solid Waste (MSW) and separate bio-waste collection. Through this eco-innovative process, bio-waste can be recycled into high added-value fertiliser and used effectively in anaerobic digestion. Bio-waste can thus climb the waste hierarchy to be recycled and generate income instead of incurring a complete loss of valuable organic material through incineration or landfilling. The proposed technical solution consists of two innovative technologies working in an integrated system that firstly separates incoming MSW (or other potentially polluted organic waste) with a high-pressure hydraulic press into a wet organic fraction and a dry non-organic fraction with an efficiency of 98%. In the next steps, the organic fraction is further cleaned in a cleaning system and a series of sink tanks leaving only 0.5-2% of impurities in the organic material. This represents an almost revolutionary 30% efficiency improvement in terms of separation and purification resulting in high-added value organic material that is perfectly suitable for a) anaerobic digestion thus avoiding greenhouse gas emissions and b) fertiliser production that saves resources by substituting phosphate, potassium and lime fertilizers and by improving the quality of depleted agricultural soils in the EU.



Expected and/or achieved results

SEPARATE will enable market uptake of innovative separation and cleaning solutions for material recycling of all product groups contained in bio-wastes and MSW. The project aspires to remove the remaining non-technological barriers to the market replication of the bio-waste separation and cleaning system and to raise awareness about the radical 30% efficiency improvement of the proposed solution in terms of separation and purification resulting in high-added value organic material.

To this end, the Dutch-Belgo-British consortium will:

- Design and produce a mobile unit to test, analyse and assess different waste streams in 2 European countries;
- Obtain external assessment and certification of waste input and output from respected institutes;
- Carry out in-depth market analyses to shape replication and exploitation actions in five European markets;
- Produce a business plan and communication material;
- Divert 20.000t of mixed bio-waste from landfill whilst at the same time:
 - o Recycling of 16.000t of bio-waste into 13.120t of fertiliser;
 - o Producing 5.46 Mio kWh electricity through anaerobic digestion;
 - o Recovering 200t metal and 1000t of recyclables (glass, plastic and cardboard);
 - o Avoiding GHG emissions of 22.848t CO₂ equivalent.

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