

The Waste2Go project will provide an innovative and readily applicable approach to address the issue of valorisation of MSW into chemical feedstocks for the chemical industry.

The **WASTE2GO** consortium is composed of eight partners coming from five European countries, whose complementary expertise will enable to successfully deliver the expected results:

#### **PARTNERSHIP**

Centre for Process Innovation Limited	(WP4)	UK
Universitetet for miljø- og biovitenskap	(WP3)	NO
Fraunhofer IBP	(WP8)	DE
Geonardo Environmental Technologies Ltd.	(WP9)	HU
Feyecon Development & Implementation BV	(WP6)	NL
Chemoxy International Limited	(WP5)	UK
Akzo Nobel Functional Chemicals BV	(WP7)	NL
G. W. Butler Limited	(WP2)	UK

**WASTE 2 GO**  
www.waste2go.eu



The 7<sup>th</sup> Framework Programme (FP7) for research and technological development is the EU's primary instrument for funding research and demonstration activities from 2007 to 2013 (GA No. 308363)

The Waste2Go project, co-funded by the European Commission under the FP7, started its work on 1<sup>st</sup> October 2012 and will run until 30<sup>th</sup> September 2015.

Project budget: € 4,712,849  
EU contribution: € 3,495,426

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DEVELOPMENT AND VERIFICATION OF AN INNOVATIVE FULL LIFE SUSTAINABLE APPROACH TO THE VALORISATION OF MUNICIPAL SOLID WASTE INTO INDUSTRIAL FEEDSTOCKS

Waste2Go aim's to develop a process in which the biogenic fraction of municipal solid waste (MSW) is converted from a waste stream into a source of various sustainable chemical feedstocks.

Waste2Go will develop enzyme based systems which will convert the MSW into a range of high value, oligomeric chemical feedstock's. This approach provides a renewable feedstock which could displace fossil derived materials, whilst avoiding current bio-refining processes which employ crop derived feedstocks. There is a full Life Cycle Analysis of the process as part of the project to establish both the economic and environmental benefits of turning a waste stream into a high value source of chemicals. In addition, it will reduce the environmental burden of MSW, transforming the biogenic component into an economically viable and sustainable raw material.

A cascade approach will prioritise outputs against value.

- A number of thermo-mechanical (TM) process trials for the biogenic fraction of MSW will provide a suitable feedstock for the enzyme biodegradation process.
- A number of novel and commercially available enzymes will be trialled in order to find a system that can degrade the material from the TM process into a number of oligomeric and monomeric intermediates rather than simple sugars.
- The enzyme system is then scaled up to allow the digestion of trial material
- Alongside the biodegradation process there will be the development of novel equipment to allow the separation of the intermediates into discreet fractions increasing their value.
- The fractionated output of the biodegradation process will be put through application screening process to show the viability of the materials produced.

Via the illustrated cascade approach, the initial residues will be used to produce chemical monomers with commercial applications and secondary residues will then be valorised as a renewable energy source.

