

## **Research and Development Request**

### **Title:**

WASTE-6a-2015: Green Material Exchange System (GMES)

### **Summary:**

A Greek company along with a Greek University and local authorities are preparing a project proposal to aid urban/semi-urban areas to meet long-term solid waste sustainability and recycling goals. A Green Material Exchange System will manage recyclables' flow based on the development of a web-based platform. They are looking for Universities, SMEs on socioeconomics, waste management, software development and results dissemination. Municipalities will also be involved for evaluation purposes.

### **Description:**

Aim of the project is the development of a Green Material Exchange System (GMES) that will track and manage recyclables flow within urban and peri-urban areas. Apart from the significant environmental benefits, the project will help urban and peri-urban areas to meet long-term sustainability and recycling goals with a positive impact on municipal finances through disposal cost savings and revenues from the sale of recyclables. Furthermore, the project will act as an influencer to raise public awareness towards waste recycling. Long-term ambition is the creation of an on-line green market for recyclable materials, with the involvement of a range of major stakeholder, towards a circular economy.

The GMES is based on the development of an Internet marketing platform that will reward citizens and large waste producers for engaging in a more environmentally friendly behavior towards recycling. The users will be able to earn Green Coins (rewards points) by recycling waste at source. Users of the platform (citizens and companies) will be able to earn Green Coins just by delivering recyclables to drop off points, based on the total weight of recyclables. The value of the Green Coins will be defined through an algorithm/mechanism that will be developed by the project team based on the fluctuation of price of recyclables in the real market. Green coins will be credited to the user's Green Wallet and redeemed on-line through an electronic rewards catalog to goods (not money). For large waste producers, incentives such as reduction in municipal taxes, green certifications and others will be applied based on recycling programs they apply.

The platform will also serve as an education, information and entertainment tool and allow users to track their recycling activities, compare recycling levels to other users and view their Ecological Footprint status over a certain period of time. Data regarding the amount and type of recyclables delivered by citizens and companies at drop off points will be added on the platform's database. The database will be frequently analyzed by the systems administrator and a variety of socio economic indicators (e.g GDP, level of awareness) will be compared to recycling indicators (recycling rate).

For the realization of the project, the following work-packages will be elaborated:

- Development of a web based software platform, which will be managed by citizens, large producers, recyclers, recyclable materials and the operation of the GMES.
- Creation of a mechanism that will transform value of recyclable materials into Green coins.
- Improvement of the public perception of recycling. The project will target to the improvement of





public perception towards recycling through information and communication campaigns. The campaigns will clearly identify the benefits of recycling to the community and especially to the environment.

- Strategic selection of two or three pilot communities in urban or semi-urban areas to implement the GMES.

- Development and implementation of a suitable promotion policy of the GMES.

The team will engage different partners from EU. Universities are sought for research and development on the Environmental, Social and Economic Impacts of the project. SMEs are also needed on the following sectors: a) Environmental Engineering-Solid Waste Management, b) Economics, c) Social Analysis, d) Software development. Municipalities and local authorities at different countries have to be engaged in order to evaluate this project with actual citizens. Furthermore, recyclers will be engaged in the project as main partners and an SME will be involved for the management of the dissemination and exploitation of the results.

It is crucial to find an experienced coordinator for this project to handle the overall management.

Proposal Deadline: 21/04/2015 (1st stage)

Deadline for Partner Requests: 06/03/2015

### **Advantages and innovations:**

Nowadays, there are several recycling collection systems based on the principle of source separation, such as vending machines, pay as you throw systems, the classic door to door collection systems, drop off systems etc.. All these systems have a different philosophy in order to convince the consumers-citizens to recycle materials. It is very important to achieve making people's recycling philosophy creative, cleaner, attractive and even fun. So, through this proposal, GMES is introduced based on the "drop-off" notion, which it is expected to be more attractive to the citizens compared to existing recycling systems, will result to cleaner recyclables and will eventually increase the recycling participation rate.

GMES aims towards: a) purest and cleaner recyclables, b) active consumers, c) control of the ecological footprint of each consumer, d) enhancement of the environmental awareness, e) reduction of municipality expenses.

### **Type and role of partner sought:**

The Greek team is seeking for the following partners from EU:

- Universities for research and development on the Environmental, Social and Economic Impacts of the project.

- SMEs on

- Environmental Engineering-Solid Waste Management/recyclers

- Economics/Social Analysis

- Software development

- Management of the dissemination and exploitation of the results

- Municipalities and local authorities at different countries to evaluate this project with actual citizens

### **Framework Programme/Call:**

H2020 - SC5

WASTE-6a-2015: A resource to recycle, reuse and recover raw materials

Eco-innovative solutions



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