

Research & Development Request

ERANETMED-JC-Energy-2014: Biomass products from local and cheap raw materials free of toxic impurities

Summary

A research team from a Greek University is preparing a project proposal on the production of highly efficient biomass products from local raw materials. Environmental impact and risk assessment for vulnerable ecosystems in the proximity of biomass use will be performed. The team is looking for Universities, Research Institutes or SMEs specialized in environmental psychology with focus on intentions that dictate certain behavioural patterns regarding environmental issues.

Creation Date 20 November 2014
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Reference RDGR20141119001

Details

Description

Climate change is nowadays a reality that we have to deal with; it is expected to affect human health and well being for the worse either directly or indirectly. For these reasons substitution of fossil burning with renewable energy sources enjoys a prominent position (see also Dir 2009/28/EC). Out of these, biomass use is an appealing alternative. However, despite its numerous advantages, biomass burning is not considered a "clean" solution since its incomplete combustion leads to significant worsening of ambient air as well as to toxic non-fly remnants. Furthermore, energy yield varies considerably between biomass products from high to very low. This situation is worse in underprivileged or semi-rural communities which have limited access to high quality petrol alternatives. It is evident that realization of efficient, sustainable and environmental-friendly use of biomass for heating is long due for Mediterranean countries.

The proposed project aspires to produce highly efficient biomass products from local and/or cheap raw materials which at the same time are devoid of toxic impurities. The proposal will also tackle the pivotal difficulties in quantification of heat potential and ambient air pollutants generation. Non-fly combustion residues after biomass burning is another common problem that needs to be resolved; viable and cost-efficient solutions for their utilization will be proposed. Environmental Impact Assessment and risk assessment for vulnerable ecosystems in the proximity of biomass use will be performed for all the implementation actions of the proposal. Finally the social impact on the (local) community will be addressed.

The project consortium is already a joint venture between two Greek Universities, a Greek Technological Educational Institute and a German Research Center. Moreover, the project needs to engage a University Faculty or a Research Institute. Private companies specializing in the needed discipline are also highly desirable. This discipline is environmental psychology with focus on intentions, opinions and cognitive biases that dictate certain behavioural patterns

regarding environmental issues (e.g. NIMBY, BANANA etc). The problem examined is the recording of opinions on renewable energy alternatives use (in relation to fossil fuel use). The target groups will select semi-rural communities in Northern Greece (and in two other Mediterranean regions). Sub-group characterization is also possible. The research should go beyond the mere quantification of opinions in relation to demographic characteristics; it should explore the reasons, the hopes and the fears that dictate a certain opinion and that ultimately form a certain behavior. The research team of the partner will have to design, compose and apply questionnaires on a predetermined sample of citizens. The questionnaires' interviews will be either performed by the research team or by members of the collaborating partners who will have been trained by the partner needed beforehand. Analysis and conclusions will be drawn by the partner. It is expected that based on these results a social marketing tool will be proposed by the partner for future improved acceptance of alternative energy sources, which will be implemented either during or after the end of the project.

The team is looking for a University or a Research Institute or an SME relevant to environmental psychology with focus on intentions, opinions and cognitive biases that dictate certain behavioural patterns regarding environmental issues.

Proposal Deadline: 02/02/2015

Deadline for Partner Requests: 25/12/2014

Advantages and Innovations

The proposal is a good example of circular economy model where locally produced biomass becomes the means for satisfying local (and translational) heating needs. The project creates sustainable solutions against climate change while at the same time it deals with environmental impacts of the whole life cycle of the products.

Technical Specification or Expertise Sought

Environmental Psychology, Applied Psychology

Stage of Development

Proposal under development

IPR Status

Secret Know-how

Keywords

Technology

010001006	Protection against intoxication
010001007	Assessment of Environmental Risk and Impact
010002003	Ecology
010003001	Biotreatment / Compost / Bioconversion
010003009	Waste to Energy /Resource

Market

006005015	Biomass and Biofuels
006012003	Energy for the community/public sector
008004004	Other pollution and recycling related

NACE

E.38.3.2	Recovery of sorted materials
E.39.0.0	Remediation activities and other waste management services
Q.86.9.0	Other human health activities

Network Contact

Issuing Partner

Foundation For Research And Technology Hellas

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Dissemination

Send to Sector Group

Environment

Client

Type and Size of Organisation Behind the Profile

University

Year Established

0

Turnover

100 - 250M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
Greek

Client Country

Greece

Partner Sought

Type and Role of Partner Sought

The Greek research team is seeking for Universities, Research Institutes or SMEs (one partner) specialized in environmental psychology with focus on intentions, opinions and cognitive biases that dictate certain behavioural patterns regarding environmental issues.

Type and Size of Partner Sought

SME 11-50, University, R&D Institution, SME <10, SME 51-250

Type of Partnership Considered

Research cooperation agreement