

STSM Report

Short term scientific missions (STSM) for 2016 of the RELY project (COST Action TU1401 "Renewable energy and landscape quality (RELY)" (http://www.cost.eu/COST_Actions/tud/Actions/TU1401))

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Title of STSM: Acceptance of biogas energy on the local level (comparison of the Czech Republic and Portugal)

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Content

Purpose of STSM	2
Description of work carried out during the STSM	2
Description of main results obtained during STSM	3
Foreseen publications resulting to the result of STSM	3
Future collaboration with host institution	3
Other comments / Acknowledgement	4
Confirmation by the host institution of successful execution of STSM	5
Poster announcing invited lecture	6

Purpose of STSM

Aim of this STSM is to follow work of Working Group 3 of the RELY project, which is aimed to investigate socio-cultural aspects of sustainable renewable energy production. Work is planned in close collaboration with Dr Ana Delicado of Institute of Social Sciences of the University of Lisbon (Portugal) and is generally focused on comparison of factors of local acceptance of facilities for generation of renewable energy in the Czech Republic and Portugal. Primary attention will be devoted to acceptance of biogas stations, whose position strongly differs in both countries. While in the Czech Republic can be found more than 500 of biogas plants (with total installed capacity 358 MW), in Portugal it is just around 40 biogas station. Since both countries are of similar sizes, these differences concerning numbers, sizes, locations, input materials, are quite surprising and challenging research question. We would like to in our research know more about what is behind of these obviously reserved attitudes towards biogas in Portugal, what are local experiences with operation of this types of facilities for regeneration of renewable energy, how input materials for these biogas stations are structured and how does recent development of biogas sectors reflect enormous amounts of wastes, which are annually landfilled in both countries and thus stays unused (around 60 % of municipal waste in both countries is still landfilled).

The ground work during STSM should be mainly devoted to gathering of relevant information and thematic literature retrieval concerning socio-spatial aspects of operation of biogas stations in Portugal, its perception by public and its local acceptance. Inventory of biogas stations in Portugal and their main characteristics will be then developed and evaluated. Based on this step and with help of colleagues from University of Lisbon, several fieldtrips to localities with biogas stations will be organized to observe, evidence their impact on its neighbourhoods and landscapes. Special attention will be devoted to potential examples of best practices of biogas station operation in Portugal. Based on this knowledge, basic structure of comparative paper on biogas in the Czech Republic and Portugal will be developed. An integral part of this STMS will consultations with experts on social aspects of renewable energy. Sources of scientific information available at the University of Lisbon (libraries, databases) will be utilized to enrich knowledge base of STSM applicant too. Attention will be also focused on other WG3 tasks in 2016 and planning of future activities and mutual scientific collaborations.

Description of work carried out during the STSM

Work planned and realized within this STSM can be divided into several parts. In the first part, relevant literature on acceptance of renewable energy systems and statistical data connected to development of biogas in both countries were gathered. Large attention was paid to theoretical concepts, which might frame comparative study of acceptance of energy systems by local population, public administration and entrepreneurs (Wustenhagen et al., 2007; Walker et al., 2007; Gross 2007; Zografakis et al. 2010, Rodgers et al. 2008 etc). Information sources and library of University of Lisbon were widely utilized while searching for suitable literature. It was found that data produced by both statistical offices on biogas sector are unbalanced (much more data is available for Portugal, which is quite paradoxical since biogas sector in Portugal (around 45 units) is much more smaller

than in the Czech Republic – more than 500 units). Stronger attention has been paid to agricultural biogas stations as the most frequented type of biogas stations in the Czech Republic.

Second part of STSM was focused on field visits and evaluation of individual case studies of biogas stations in Portugal. As part of the STSM 7 biogas station was visited (Valorsul – 1,7 MWe, Matto da Cruz – 1,7 MWe, Trajouce – 0,8 MWe in Lisbon area; Lagos as example of small-sized biogas station – 0,05 MWe and Barlavento biogas station as example of one of oldest stations in the southern Portugal – both in Faro region; Leiria and Norte biogas station in Leiria regions). Majority of biogas stations in Portugal are based on processing of bio-wastes (while in the Czech Republic it is primarily agricultural production – basically maize).

During STSM common work with Dr. Ana Delicado on draft of paper on comparison of Czech and Portugal biogas sectors was also carried out. In further steps paper will be more developed and proposed for publication of selected academic journal.

As a part of this STSM invited lecture was held at Institute of Social Sciences (June 28) on topic Acceptance of biogas energy on the local level. Dr. Ana Delicado kindly organized interviews with experts on biogas energy from Ministry of Economics of Portugal (Luis C. Duarte, Santino Diberardino).

Description of main results obtained during STSM

The main result of STSM is first draft version of paper focused comparison of biogas sectors in Portugal and the Czech Republic. Further steps of WG3 were also discussed.

Foreseen publications resulting to the result of STSM

- i) first draft of paper on comparison of biogas sectors in the Czech Republic and Portugal with special attention to acceptance of this type of renewable energy

Future collaboration with host institution

Future collaboration with Dr. Ana Delicado and the Institute of Social Sciences of the University of Lisbon is planned both within the RELY project (researches, papers) and future project activities.

Acknowledgement

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