

Urban waste for biomethane grid injection and transport in urban areas

Project No: IEE/10/251



Report on Biogas and Biomethane Training in Zagreb - Croatia

WP 4 – Task 4.2 / D 4.2

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UrbanBiogas website: www.urbanbiogas.eu

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1. Introduction

In the framework of the WP4 of the UrbanBiogas project, the training seminar on biogas and biomethane production from waste was organised in the City of Zagreb. The purpose of the seminar was to promote the production of biogas and biomethane from organic waste among decision makers, local government officials and other interested parties. Good practice examples of biomethane production and usage in EU, as well as technical and financial solutions of biogas and biomethane production were presented during the seminar.

Preparation of the training seminar started in May 2012, by choosing possible lecturers?? and themes. In order to cover all needed subjects of the training program, Fraunhofer IWES supported preparation of the seminar, with three comprehensive presentations on the following topics – technical aspects of biogas production, technical solutions of biogas cleaning and upgrading, and financial options for biomethane projects. The Agenda of the training seminar is shown in the Appendix I.

Following, a target group of seminar's participants was identified. An invitation by e-mail was sent to the companies and individuals involved or interested in biogas/biomethane production from bio-waste. Beside the direct e-mails, the announcement regarding the training seminar on biogas and biomethane production from waste was given on the EIHP's web-site (<http://www.eihp.hr/>).

The training seminar was held on 21st September 2012 in Zagreb, in the appropriate multimedia conference room of Energy Institute Hrvoje Požar. The seminar was very well attended. There were 51 participants at the seminar, including 5 lecturers. The list of participants is given in the Appendix II, while photo documentation in the Appendix III.

Brief information on the UrbanBiogas project and information about the training seminar, as well as all presentations can be found on the following EIHP's web page: http://www.eihp.hr/english/projekti/urban_biogas.html.

2. Description of the Training Seminar

The seminar was opened by Mr Robert Bošnjak and Mr Laszlo Horvath from EIHP. Mr Bošnjak welcomed participants, while Mr Horvath presented EIHP's important recently finished and ongoing RES projects, with special focus on biogas.

In the second presentation, Mr Željko Jurić (EIHP) presented UrbanBiogas project activities. He presented project objectives, project partners and other basic information about the project. He gave an overview on performed and expected activities in the implementation of the UrbanBiogas project. The Waste-to-Biomethane concept was promoted in the project. It implies the use of the organic urban waste fraction for biogas production and upgrading, in order to inject biomethane into the natural gas grid and/or to use biomethane in transport.

Furthermore, Mr Željko Jurić presented good practice examples of biomethane production and usage in EU. For better understanding of his presentation, at the beginning, upgrading technologies were briefly described. Following, the main characteristics of developed biomethane markets (Germany, Austria and the Netherlands) were presented. Finally, Mr. Jurić presented factsheets of good practice projects for biogas production from waste, upgrading and utilization (injection in the gas grid and usage as vehicle fuel), prepared in the framework of IEE UrbanBiogas project.

The next topic of the seminar was presentation of the film "Biomethane: great way of turning waste into clean fuel", which promotes Waste-to-Biomethane concept.

The core of the training seminar was presentations given by Mr. Henning Hahn (Fraunhofer IWES). In his first presentation, technical aspects of biogas production were shown, with information on a successful biogas plants in operation. Mr. Hahn described potential feedstock materials, digestion process, characteristics of produced biogas, energy production (heat and power) and utilisation of digestate.

Mr Hahn analysed feasibility of biogas upgrading to biomethane in the second presentation. He prepared information on the status of biomethane production in Europe. Additionally, common upgrading technologies, namely Pressure Swing Adsorption, Water Scrubber, Chemical Absorption (e.g. Amine Scrubbing), Physical Absorption and Membrane separation, were presented.

In the last presentation prepared by Fraunhofer IWES, economic aspects and financing of biomethane projects were presented. Mr Hahn showed the most important preconditions for a successful financing of biomethane projects, economics of biomethane projects, biomethane business models, as well as comparison between corporate financing and project financing. At the end of the presentation, possible financing options in Germany and EU, common financing inquiry by banks in Germany and overview on the financing liquidity during the typical project period were elaborated.

The seminar was continued with two presentations of EIHP's activities on biogas/biomethane. Ms Duška Šaša presented IPA project "Agricultural Biomass Cross-border Development of Energy in Posavina (ABCDE Posavina)". The focus of the project is on production of biogas and biofuels from agricultural biomass in the rural region, which covers Croatian Vukovarsko-srijemska county and few municipalities in Bosnia and Herzegovina (Šamac, Domaljevac-Šamac, Orašje, Odžak and Brčko district). Ms Željka Fištrek presented IEE BiogasIN project. The objective of the BiogasIN project is to promote sustainable biogas market development in Central and Eastern Europe, or more precisely in 28 target regions in Bulgaria, Croatia, Czech Republic, Greece, Latvia, Romania and Slovenia.

The training seminar was closed with discussion on barriers for biomethane production and usage. Unfortunately, the biomethane market in Croatia is not yet developed.

3. Conclusion

The training seminar on biogas and biomethane production from waste was useful event for the participants. Positive opinions on the seminar were identified by evaluation forms, gathered from seminar's participants (33 participants evaluated the seminar). Organization of the seminar should help in the implementation of the "Waste to Biomethane" projects in the City of Zagreb.

Appendix I – Final Agenda



Training Seminar on Biogas and Biomethane Production from Waste

21st September 2012
Energy Institute Hrvoje Požar,
Savska cesta 163, Zagreb

AGENDA

8 ³⁰ - 9 ⁰⁰	Registration of participants
9 ⁰⁰ - 9 ¹⁰	Welcome - Laszlo Horvath (EIHP)
9 ¹⁰ - 9 ⁴⁰	Presentation of UrbanBiogas project - Željko Jurić (EIHP)
9 ⁴⁰ - 10 ¹⁰	Good practice examples of biomethane production and usage in EU - Željko Jurić (EIHP)
10 ¹⁰ - 10 ²⁰	Video on the WtB concept (Fraunhofer)
10 ²⁰ - 10 ⁴⁵	Discussion www.urbanbiogas.eu
10 ⁴⁵ - 11 ⁰⁰	Coffee break
11 ⁰⁰ - 11 ⁴⁵	Biogas production basics - Information on a successful biogas plant operation - Henning Hahn (Fraunhofer)
11 ⁴⁵ - 12 ³⁰	Feasibility of biogas upgrading to biomethane - Henning Hahn (Fraunhofer)
12 ³⁰ - 13 ⁰⁰	Discussion
13 ⁰⁰ - 14 ⁰⁰	Lunch break
14 ⁰⁰ - 14 ⁴⁵	Successful financing of biomethane projects - Henning Hahn (Fraunhofer)
14 ⁴⁵ - 15 ³⁰	EIHP's activities on biogas/biomethane - Duška Šaša, Željka Fištrek (EIHP)
15 ³⁰ - 16 ⁰⁰	Final discussion