

Urban waste for biomethane grid injection and transport in urban areas

Project No: IEE/10/251



***Report on the National expert
consultation meeting about
biomethane use in Croatia***

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UrbanBiogas website: www.urbanbiogas.eu

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1 Introduction

Biomethane can be used in the same efficient and versatile manner as natural gas – for transportation, heat and electricity and in addition to this, the feeding of upgraded biogas, biomethane, into national gas grids offers a flexible energy solution to meet European renewable energy targets. Due to these advantages biomethane is becoming increasingly important on the political agenda and also as a business opportunity in Member States across the European Union.

In order to highlight the biomethane production and utilisation concept developed for City of Zagreb, outlined within the IEE UrbanBiogas project, National expert consultation meeting was organised. The aim of the meeting was familiarizing Croatian business community with possibilities of biomethane production by promoting "waste-to-energy" concept and biomethane utilisation either in transport as biofuel or filling in the natural gas grid. It provided basic information of biomethane market in Croatia and inspiration how to utilise that potential.

The National expert consultation meeting was held on 28th April 2014 in Zagreb, in the appropriate conference room of Energy Institute Hrvoje Požar. The seminar was attended by 10 participants (the list of participants is given in the Chapter 3.2, while photo documentation in the Chapter 3.3.).

The agenda was tailored according to the above cited text. The first part was concentrated on presenting the European Union market and industry trends related to renewable energy sources with special emphasis on the biogas and biomethane production and utilization. The second part was dedicated to project UrbanBiogas and the main message from the project through the promotional video which was followed by presenting the potential biomethane market in Croatia plus results of Biogas production and Biomethane use concepts for the City of Zagreb. The agenda is presented in the Chapter 3.1.

2 Description of the National expert consultation meeting

Mr Damir Pešut, Head of the Department for Energy System Planning at the Energy Institute Hrvoje Požar welcomed the event. He presented the activities of the Energy Institute Hrvoje Požar in the development of energy sector in Croatia and underlined parallel in relation to trends in the EU.

He presented the facts in the domain of sustainable development of renewable energy sources. A successful European cross border biomethane market relies heavily on environmentally and economically sustainable production across the entire biomethane lifecycle. In addition to this, the biomethane market requires support in finding solutions to market barriers, bringing together potential business partners and most importantly, the promotion of biomethane into the mainstream by positioning it on the agenda of key EU gas/energy bodies.

In the first presentation, Mr Željko Jurić (EIHP) presented the UrbanBiogas project. 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 and also explained that the same activities of the project are occurring simultaneously in other 4 target cities of the project.

The presentation was followed by UrbanBiogas video showing the best practice in Waste-to-biomethane concepts.

In his second presentation, Mr. Željko Jurić gave an overview of activities in order to develop biogas and biomethane market in Croatia, as well as the good practices in other EU Member

States. The main driver for biogas market development was the implementation of the Feed-in tariffs system for electricity generation from renewable energy sources, including biogas. Encompassing support schemes with feed-in-tariffs and tax reliefs increase the profitability of biomethane and flatten the cost differences between natural gas and biomethane while well developed waste management systems facilitate the production. Long term-targets (2030-2050) aiming at fossil free societies, provide investors with the necessary security. The European Commission should start recognising the potential of biomethane and actively contribute to the development of the European market. Biomethane is usually not explicitly mentioned in the Commission's policy and legislation papers. Alluding to the insignificance of the market does not seem valid anymore since the green gas is increasingly capturing more market share from CNG: in Sweden biomethane has already overtaken CNG with the share of more than 50% and in Germany the share more than doubled only within one year (2012) from 6 to more than 15%. All in all, there is still a lot of important work left to be done regarding the elimination of market barriers and convergence of national policies and procedures. Support and legal contribution from the EU institutions could give a positive push to the future development of green gas. The common conclusion is that main prerequisites for development of biomethane market in Croatia are feed-in tariffs or other support mechanisms, priority access to the gas grid and development of technical standards of biomethane quality.

Mr Marko Matosović (EIHP) presented the Biogas and Biomethane Production Concept for the City of Zagreb. He presented four possible scenarios for quantities of biodegradable part of municipal waste that is suitable for anaerobic digestion for the City of Zagreb. Based on these scenarios he presented the calculations of prospective biogas and biomethane yield. Biogas production, depending on the reference scenario for waste collection, will amount to between 1.1 for minimum scenario and 6.95 million m³ of biomethane for maximum scenario in 2020. He presented the potential locations for the Biogas Production and Upgrading Plant that were considered in the concept in the domain of several factors. He also presented the potential sources of funding for the development of the concept in the city of Zagreb.

Mr Bruno Židov (EIHP) presented the highlights of the Biomethane Use Concept for the City of Zagreb. The main conclusion of the presentation is that, there is sufficient potential in the biowaste of the City of Zagreb to supply 60 existing CNG busses for the public transport with biomethane. However, the power is not sufficient to have the direct filling stations which implies that "waste-to-energy" concept could be closed by injecting the biomethane in the natural gas grid and having the filling station somewhere else (at the already dedicated locations). He also presented rationale beyond selected upgrading technologies and provided estimations for the upgrading investment and production prices of biomethane - from anaerobic digestion till the injection.

The section of presentations was followed with thorough discussion of all present.

3 Conclusion

Europe is still considered the dominant player in the market. While this growth is welcome, it has prompted an influx of questions regarding sustainability in the anaerobic digestion industry. For this growth to be managed safely best practice methods will need to be implemented in order to promote and allow sustainable biomethane production to continue.

Main challenges that need to be tackled, not only in Croatia, but also at the level of the European Union are:

- Insufficient financial incentives: The current national support schemes, set up for renewable energies, tend to be limited to green electricity while green gas is often left outside these systems. Moreover, taxation schemes across Europe should offer similar incentives for biomethane as for liquid biofuels (on energy unit basis). The

future Directive on Energy Taxation as well as support schemes should acknowledge the important role that biomethane plays in decarbonising the European energy sector.

- Lack of cross-border cooperation: different technical standards and certification schemes as well as reluctance of Member States to benefit from the EU's cooperation mechanisms (laid down in Renewable Energy Directive) hamper the development of cross-border trade. The EU should support by all available means cross-border cooperation which would also foster the internal energy market.
- Lack of a common European gas quality standard for the gas grid access
- Insufficient CNG/LNG vehicle fuel infrastructure: the network of gas filling stations and the amount of gas driven vehicles are not sufficient in most parts of Europe.
- Lack of political recognition: At national levels, only a few Member States have set explicit targets for biomethane. Also at the European level, biomethane is seldom explicitly mentioned in policy and legislative papers; it is usually included in the terms of natural gas or biofuels and even ignored in modelling work and impact assessments.

The overall conclusions from the event are that there is certainly a market for biomethane from biowaste in Croatia. Finally, national biomethane market size is assessed which indicates significant potential at least in terms of fulfilling the biofuel goal by 2020.

3.1 Agenda



Savjetodavni sastanak stručnjaka za prirodni plin u cilju promocije uporabe biometana/National expert consultation meeting

28.4.2014.

Energetski institut Hrvoje Požar
Savska cesta 163, Zagreb
Dvorana 208, II. kat

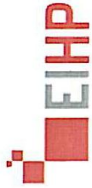
PROGRAM

- | | |
|--|--|
| 11⁰⁰ – 12⁰⁰ | <i>Welcome words; EU and Croatia market trends - Damir Pešut (EIHP)</i> |
| 12⁰⁰ – 12¹⁵ | <i>IEE UrbanBiogas project - Željko Jurić (EIHP)</i> |
| 12¹⁵ – 12³⁵ | <i>Video presentation "Waste- to-Biomethane" concept</i> |
| 12³⁵ – 13⁰⁵ | <i>Market development of biogas and biomethane in Croatia, examples of good practice from the EU and the obstacles to implementation of the concept of biogas and biomethane from organic waste for the City of Zagreb - Željko Jurić (EIHP)</i> |
| 13⁰⁵ – 13¹⁵ | <i>Discussion</i> |
| 13¹⁵ – 13³⁰ | <i>Coffee break</i> |
| 13³⁰ – 14⁰⁰ | <i>Biomethane production concept for City of Zagreb - Marko Matosović (EIHP)</i> |
| 14⁰⁰ – 14³⁰ | <i>Biomethane utilisation concept for City of Zagreb - Bruno Židov (EIHP)</i> |
| 14³⁰ – 15⁰⁰ | <i>Discussion and conclusions</i> |

Pridružite nam se na: <https://www.facebook.com/pages/Urban-Biogas-Waste-to-Biomethane-end-Use-for-Transportation/118232588288154>



3.2 List of participants



IEE UrbanBiogas project:
"Urban waste for biomethane grid injection and transport in urban areas"

National expert consultation meeting in Croatia

28th April 2014, Energy Institute Hrvoje Požar,
Savska cesta 163, Zagreb

List of participants

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11.					
12.					
13.					



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3.3 Photo documentation



Photo 1. Presenters and audience of the National expert consultation meeting



Photo 2. Presenters and audience of the National expert consultation meeting



Photo 3. Presenters and audience of the National expert consultation meeting