

Urban waste for biomethane grid injection and transport in urban areas

Project No: IEE/10/251



Report on the partner city events in which WtB is promoted

WP 7 – Task 7.2 / D 7.2

April, 2014



**ZAGREBAČKI
HOLDING**

Podružnica ČISTOĆA

Authors: Monika Kruhek - Zagreb City Holding - Waste Management Division, Croatia
Martinš Niklass – ZAAO – North Vidzeme Waste Management Company, Latvia
Flavia Duarte – IrRADIARE, Portugal
Monica Martins – Municipality of Abrantes, Portugal
Ernst Meissner – Graz Energy Agency, Austria

Contact: Monika Kruhek
phone: +385 1 6146 423
e-mail: monika.kruhek@zgh.hr
web: www.zgh.hr, www.cistoca.hr

The UrbanBiogas project (Urban waste for biomethane grid injection and transport in urban areas) is supported by the European Commission in the Intelligent Energy for Europe Programme). The sole responsibility for the content of this publication lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EACI nor the European Commission are responsible for any use that may be made of the information contained therein. The UrbanBiogas project duration is May 2011 to April 2014 (Contract Number: IEE/10/251).

UrbanBiogas website: www.urbanbiogas.eu



Co-funded by the Intelligent Energy Europe Programme of the European Union

Contents

Introduction	4
Signing of the partnership certificates	7
Partner city events in which WtB concept is promoted	17
The events taken by Zagreb City Holding	15
The events taken by Graz Energy Agency	22
The events organized by cooperation of Municipality of Abrantes, IrRADAIRE and Zagreb City Holding	24
Conclusion	43

Introduction

The objective of UrbanBiogas project is to prepare 5 European target cities – Abrantes (Portugal), Gdynia (Poland), Graz (Austria), Valmiera (Latvia) and Zagreb (Croatia), for the production of biomethane from waste which is fed into the natural gas grids and optionally used for transport.

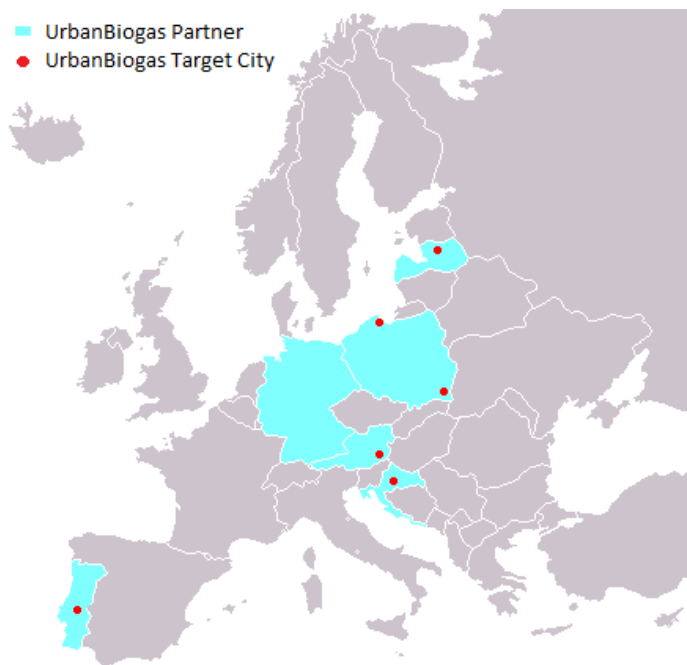


Figure 1: Map of target cities (Rutz.D, 2011)

The rationale of activities in WP7 lies in going beyond the promotion of the WtB concept in the target cities by means of promoting the concept in other EU cities/municipalities as well. Building such a platform enables the transfer of efforts and results of the UrbanBiogas project easily among signatories of partnerships.

The difficulties in the first interim period of the project in establishing partnerships on city levels were encountered due to the work overload of City bodies and consequently lack of interest and motivation for WP7 implementation. Hence, the solution was found in conclusion and signing agreements between waste companies/energy agencies.

In that regard, Firstly, European cities/companies with perceived high motivation for the WtB grid injection were carefully chosen. This way multiplication effect was enabled through transfer of knowledge, technology, experience and good practice examples. Also, partnerships established enabled further cooperation between cities/companies creating a network of interested stakeholders for the WtB injection. This approach was stimulative in creation of opportunities for new similar projects via cohesion and symbiosis between partners.

The advantages and long-term benefits of establishing partnerships are wide:

- Consolidation of relations and creation of opportunities for cooperation on EU and international level
- Stronger market visibility via promotion and dissemination of project activities
- Building up on innovation and technology
- Network building and learning of modern European practices

Typical agenda/schedule for meetings with potential partner cities/companies:

- Presentation of the UrbanBiogas project, its activities and main objectives
- Description of the current waste management system and biogas production in the Target City
- Presentation of the waste management, production of biogas and biomethane grid injection in the Partner City/Company
- Signature of Partnership certificate between Project partner/City and Target City/Company
- Study tours of the companies and facilities engaged in waste management and biogas production
- Workshops and presentations for target stakeholders – exchange of knowledge and experience
- Promotion and dissemination for broader public of the Partner City

Rationale beyond choosing partners:

- Different stages of development in waste management and biogas production in potential Partner Cities
- Geographical locations (diversity in climate, urban development, population growth, economy development – pre-requisites determining environment protection)
- Good relations and cooperation in the past



Figure 2 source: <http://developers.org/collaboration-is-everything/>

This document gives the list of partnerships signed between target cities/companies and EU cities/companies. Further, it also describes the events in which WtB concepts were promoted between them. The outputs of the project were various events implemented in the partner cities as well as the exchange of good practice examples, technology and knowledge between partner companies. In that way project was promoted and project activities disseminated beyond the framework of target cities.

Signing of partnership certificates

Core of the Task 7.1 was the creation of WtB city partnerships. ZAGREB CH, ABRANTES, ZAAO, PAE, and GEA needed to identify at least three partner cities per target city which are also interested in WtB grid injection. These cities will be the “UrbanBiogas Partner Cities”. With these cities the events of Task 7.2 needed to be implemented.

During the project implementation, following partnership certificates were signed:

1) Karlovac, Waste Management Company of Karlovac, Croatia (ZAGREB CH)



2) Rijeka, Waste Management Company of Rijeka, Croatia (ZAGREB CH)



3) Pinerolo, Waste Management Companies of Pinerolese, Italy (ZAGREB CH)



4) **Areanatejo**, Areanatejo Agencia Regional de Energia e Ambiente do Norte Alentejano e Tejo, Portugal (ZAGREB CH)



5) **Tartu**, City of Tartu, Estonia (ZAAO)



6) **Gütersloh**, Waste Management Company Gütersloh, Germany (ZAAO)



7) Liepas RAS, regional Waste Management Company, Latvia (ZAAO)




Partnerības apliecinājums

Apliecinājumu parakstījušās puses apliecina nodomu sadarboties kā partneri, lai veicinātu ES programmas Inteliģenta Enerģija Eiropai projekta "UrbanBiogas" aktivitātes: biometāna ražošanu no bioatkritumiem un lietderīgu izmantošanu. Partneri apliecina, ka veicinās projekta "Urbanbiogas" mērķu un uzdevumu popularizēšanu caur zināšanu un pieredzes apmaiņu un sabiedrības informēšanu. Apliecinot augšminēti, sertifikāts ir parakstīts 2014. gada 6. janvārī.



Valmiera pilsētas
pašvaldība



Liepājas RAS




8) Fundacion San Valero, Energy Agency (signed by acting manager for European projects Ms. Nieves Zubalez) Zaragoza, Spain (GEA)




Partnership Certificate

THE UNDERSIGNED PARTIES CONFIRM THE INTENT TO ACT AS PARTNERS IN THE PROMOTION OF THE URBANBIOGAS PROJECT ACTIVITIES. PARTIES WILL PROMOTE THE USE OF BIOWASTE FOR BIOMETHANE PRODUCTION TO THEIR CITIZENS. HENCE, THEY WILL INTERCEDE FOR CLEANER ENVIRONMENT AND SUSTAINABLE DEVELOPMENT THROUGH THE INJECTION OF BIOMETHANE IN THE NATURAL GAS GRID AND TRANSPORT USE.

PARTNER CITY CERTIFIES THAT IT WILL CONTRIBUTE TO THE ACTIVITIES OF THE URBANBIOGAS PROJECT THROUGH SHARING OF EXPERIENCE, KNOWLEDGE AND EXAMPLES OF BEST PRACTICE. URBANBIOGAS TARGET CITY CERTIFIES THAT IT WILL PROMOTE AND DISSEMINATE THE URBANBIOGAS PROJECT, ALL ITS ACTIVITIES AND OBJECTIVES, IN THE PARTNER CITY.

IN WITNESS THEREOF, THIS CERTIFICATE IS SIGNED ON MARCH 5, 2014.

PARTNER CITY
City of Zaragoza





URBAN
BIOGAS



www.urbanbiogas.eu

URBANBIOGAS TARGET CITY
City of Graz





- 9) **Maribor / region of Podravje**, Energap-Energy Agency of Podravje (signed by director of Energap DI Dr. Krmelj Vlasta), Slovenia (GEA)



- 10) **Tomar**, Polytechnic Institute of Tomar; Tomar, Portugal (ABRANTES, IRRADIARE)



11) **Ourém, Tecnorém, Engineering and Construction Company; Ourém, Portugal (ABRANTES, IRRADIARE)**



12) **Leiria, Polytechnic Institute of Leiria, Portugal (ABRANTES, IRRADIARE)**



13) **Alcanena, CTIC, Technological Center for Leather Industry, Portugal (ABRANTES, IRRADIARE)**



14) **Avis, Valnor, Waste Management Company, Portugal (ABRANTES, IRRADIARE)**



15) **Torres Novas, Nersant, Comercial Association of Santarém Regions, Portugal (ABRANTES, IRRADIARE)**



16) **Castelo Branco, Association of Municipality for region of Penamacor, Portugal (ABRANTES, IRRADIARE)**



17) **Region of Alta Estremadura, Enerdura**, Energy Agency of Alvaiázere, Ansião, Batalha, Leiria, Marinha Grande, Ourém, Pombal e Porto de Mós (ABRANTES, IRRADIARE)



18) **Abrantes, TagusValley**, Association for promotion to local investment, Portugal (ABRANTES, IRRADIARE)



19) **Abrantes, ACEE**, Association of companies and commercial, Portugal (ABRANTES, IRRADIARE)



20) **Abrantes**, Tagusgas, Manager of natural gas networks and responsible for the distribution of natural gas, Portugal (ABRANTES, IRRADIARE)



21) **Portalegre**, AREANATEjo, energy agency of the municipalities of Alter do Chão, Arronches, Avis, Campo Maior, Castelo de Vide, Constância, Crato, Elvas, Fronteira, Gavião, Marvão, Monforte, Nisa, Portalegre e Sousel.



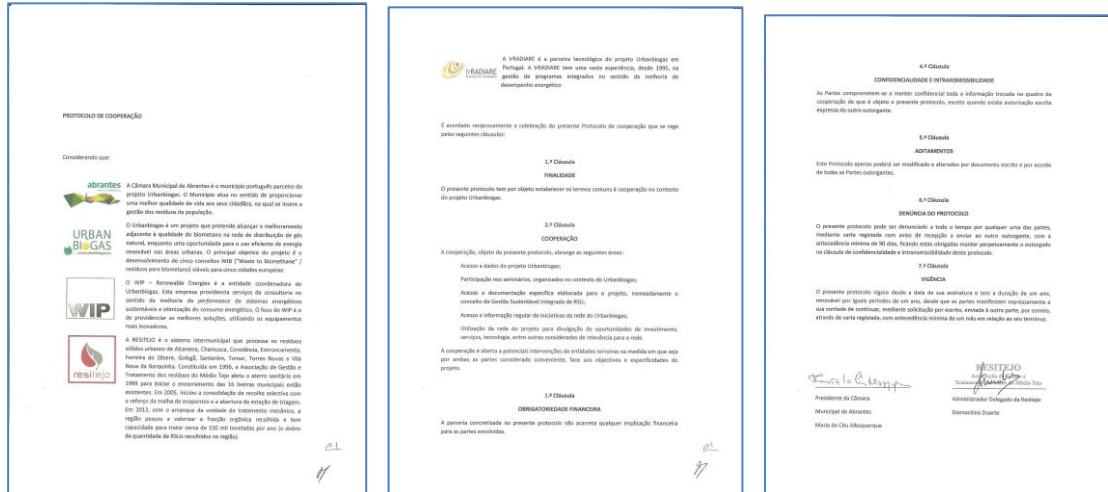
22) **Tagus**, Associacao para o Desenvolvimento Integrado do Ribatejo Interior, Portugal (ABRANTES, IRRADIARE)



23) **Municipality of Sardoal**, Portugal (ABRANTES, IRRADIARE)



24) **RESITEJO (under a signed protocol)**, waste management company of the municipalities of Alcanena, Chamusca, Constância, Entroncamento, Ferreira do Zêzere, Golegã, Santarém, Tomar, Torres Novas e Vila Nova da Barquinha (ABRANTES, IRRADIARE).



Partner city events in which WtB concept is promoted

ZAGREB CH, ABRANTES and PAE according to Task 7.2 should have initiated at least two concrete actions (events, such as WtB grid injection site visits, meetings of mayors, workshops, etc.) in the framework of the official city partnership exchanges. At the end of the project the events were implemented by ZAGREB CH, ABRANTES, IrRADIARE, ZAAO and GEA.

The events taken by Zagreb City Holding

The events by the city of Zagreb consisted of visits of ZAGREB CH to Karlovac, Rijeka and Pinerolo where the WtB concepts were presented and discussed. ZAGREB CH also promoted the project at the occasion of partner city exchange visits in Avis, Portugal and Zaragoza, Spain. These events were organized and coordinated by Abrantes and IrRADIARE.

➤ Actions taken by Zagreb City Holding in the City of Karlovac, Croatia:

ZCH UrbanBiogas team (Monika Kruhek, Bojan Ribić, Dinko Sinčić and Head of the company Branimir Valašek) together with representative of EIHP (Željko Jurić) have visited the premises of Čistoća Karlovac (waste management company in Karlovac in charge for waste management in the city) on April 10, 2013. On this occasion the

landfill site of the city was visited. City of Karlovac is disposing waste at the Ilovac landfill site which has been remediated recently.

Even though the landfill should be closed by the 2018, due to the lack of location for future Centre for waste management its duration is still unknown. Sorting facility for paper and cardboard and a flair for the landfill gas is also situated at the landfill site.



Figure 3. Landfill site Ilovac, Karlovac



Figure 4. Sorting facility at the Ilovac landfill site



Figure 5. Sorting facility at the Ilovac landfill site

Since the certificates signing, representatives of Zagreb CH and Čistoća Karlovac are actively cooperating on the exchange of knowledge in the field of waste management in biogas production.

➤ **Actions taken by Zagreb City Holding in the City of Rijeka, Croatia:**

ZCH UrbanBiogas team (Monika Kruhek, Bojan Ribić, Dinko Sinčić and Head of the company Branimir Valašek) have visited the premises of Čistoća Rijeka (waste management company in Rijeka in charge for waste management of the city) on June 20, 2013. On this occasion the site visit of the CNG filling station was organised. Filling station is newly built and it is the second one in the Croatia. It is used for filling the public transportation fleet, around 20 different busses powered by CNG.



Figure 6. Specific gas nozzles



Figure 7. CNG public transportation fleet operating in the Rijeka vicinity

Since the certificates signing, representatives of Zagreb CH and Čistoća Rijeka are actively cooperating on the exchange of knowledge in the field of waste management in biogas production.

➤ **Actions taken by Zagreb City Holding in the City of Pinerolo, Italy:**

ZCH UrbanBiogas team (Bojan Ribić and Dinko Sinčić) have visited the premises of Acea Pinerolese on July 16, 2013. On this occasion, the visit to their facilities for biogas and RDF production was organised.

ACEA operates in 47 municipalities with 159.000 inhabitants. The ENVIRONMENT department operates in the south west area of Turin province and is in charge of: MSW collection, separate waste collection, street sweeping and cleaning and waste treatment as well.

Capacity of OFMSW (Organic Fraction of Municipal Solid Waste i.e. biogas plant) is 50 000 t/a. Separately collected biowaste from households and restaurants is used directly in the AD production while green waste is used for composting. Digestate from the AD production is used afterwards for composting.



Figure 8. ACEA Pinerolese plant

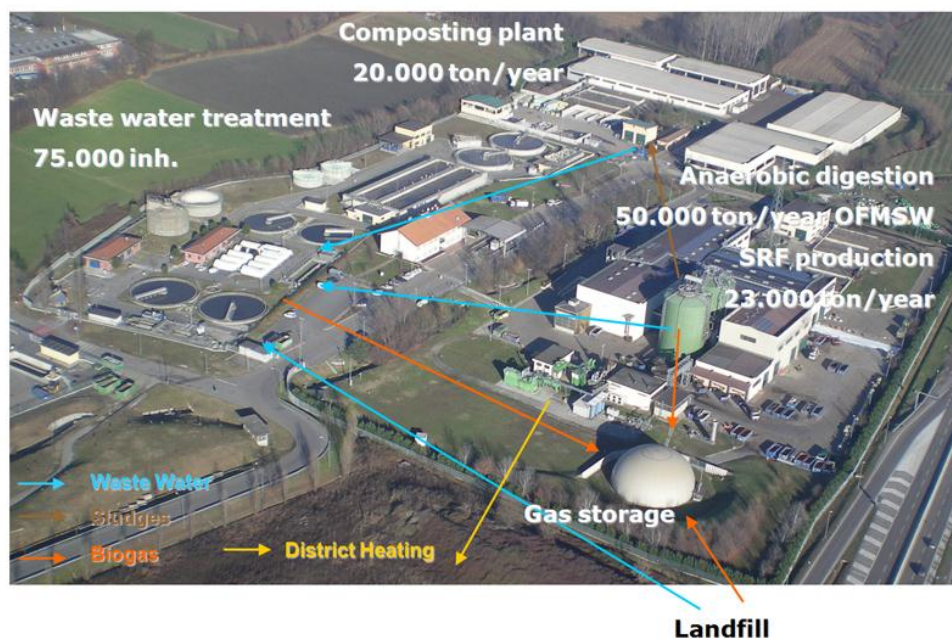


Figure 9. Layout of the ACEA plant

Also tour was taken in order to get acquainted with the waste management system of the Pinerolo region. ACEA is putting great effort in order to inform citizens about their activities, such as: campaigns, print advertise, internet, seminars and workshops, etc.



Figure 10. Separate waste collection in Sestriere at the elevation of 2035m

L'OPERA È PIÙ PREZIOSA, SE IL SACCHETTO È BIO!

Una delle maggiori fonti di "inquinamento" del rifiuto umido è la plastica! I soli sacchetti in plastica tradizionale, utilizzati per contenere l'organico, generano alte percentuali di scarto.

Per una raccolta "a regola d'arte", è necessario utilizzare sacchetti biodegradabili (tipo Mater-Bi o carta). In commercio ne esistono di diverse qualità: l'importante è accertarsi che il sacchetto sia biodegradabile e compostabile certificato.

Alcuni marchi ci aiutano nella scelta...

I sacchetti biodegradabili contengono il rifiuto organico vanno chiusi bene e depositati nei cassonetti marroni che si trovano presso gli Eco-Punti.

Anche la legge ha recentemente introdotto l'obbligo di utilizzare sacchetti biodegradabili per la raccolta dell'umido (D.Lgs. 4/2008).

UMIDO A REGOLA D'ARTE

Lo sapevi che...

Con il biogas prodotto dai rifiuti organici al Polo Ecologico Acea si genera una quantità di energia termica ed elettrica pari a quella utilizzata per riscaldare circa 2.000 abitazioni ed alimentare circa 4.000 appartamenti.

Con il rifiuto organico prodotto da una famiglia media in una settimana, si potrebbe alimentare un'auto per circa 5 km!

Nel rifiuto umido raccolto dai cassonetti marroni sono presenti impurità, costituite prevalentemente da plastica, poliaccoppiati (ad esempio la carta del formaggio), giornali e rifiuti tessili.

Nel territorio Pinerolese, diminuendo di un solo punto percentuale le impurità della nostra raccolta differenziata dell'umido, potremmo evitare alla discarica circa 150 tonnellate di rifiuti in un anno! Un impegno piccolo che genera un grande risultato!

Consulta le indicazioni per la raccolta differenziata su:
www.ambiente.aceapinerolese.it
oppure richiedile al tuo Comune.

raccolta.adarte@aceapinerolese.it
numero verde 800 808055

UMIDO
a regola d'arte

La qualità della raccolta differenziata dipende da te.

Figure 11. Campaign for the source-separated biowaste collection

Since the certificates signing, representatives of Zagreb CH and ACEA Pinerolese are actively cooperating. In that way Zagreb CH is learning good practices on biogas production.

The events taken by Graz Energy Agency

Graz Energy Agency has no official obligation to initiate concrete actions in the framework of the official city partnership exchanges but in preparation of the signature of the city partnership certificates some actions were organised which are mentioned below:

➤ Actions taken by Graz Energy Agency in the City of Zaragoza, Spain:

Graz Energy Agency has contacts with the city of Zaragoza from an EU Life-project. The representative organisation for environmental matters is integrated in the Fundacion San Valero which is one part of the whole San Valero Group (including schools, university, etc.). Graz Energy Agency has developed quite good contacts to San Valero Group in the last years and organised a seminar about biogas/biomethane and green CHP in June 2013 in Zaragoza. The waste to biomethane concept of the city of Graz was presented and technologies and fuels for green CHP were discussed. There were representatives of the strategic management, technicians and also teachers of San Valero Group in the event.



Figure 12: Biogas/Biomethane and green CHP seminar in Zaragoza, 17.06.2013.

In March 2014 a meeting with representatives (director and acting manager for European projects) of the San Valero Group was organised in Graz. The actual situation about the WtB plant in Graz was discussed and the documents developed within the UrbanBiogas project and the UrbanBiogas film with the subtitles in Spanish were handed over.

➤ **Actions taken by Graz Energy Agency and the Energy Agency of Podravje, Slovenia:**

On the 6th of March 2014, a meeting with director of the Energy Agency of Podravje was organised in Graz. The actual situation about the WtB plant in Graz was presented and the waste-situation in Maribor and the region of Podravje was discussed. The documents developed within the UrbanBiogas project and the UrbanBiogas film was handed over and the partnership certificate was signed. Further cooperation concerning WtB (seminar in Maribor) is planned for summer 2014.

➤ **Actions taken by Graz Energy Agency and the city of Fürstenfeld, Austria:**

Graz Energy Agency got in contact with the energy consultant of the Mayor of the city of Fürstenfeld (Mr. Brunner) at the beginning of 2013. Mr. Brunner was invited to the UrbanBiogas events in Graz in May 2013 (workshop business agreements and Study Tour) and participated in both events.

The events organized by cooperation of Municipality of Abrantes, IrRADAIRE and Zagreb City Holding

IrRADIARE, Abrantes and ZAGREB CH organized two partner city events in Avis, Portugal and Zaragoza, Spain in which WtB concepts of the target cities Abrantes and Zagreb were promoted. IrRADIARE and Abrantes organized both events (speakers, venues, catering, etc.) and Zagreb CH representatives (Monika Kruhek and Bojan Ribić) participated in the events as speakers. They also presented good practice examples from Croatia to stakeholders in Portugal and Spain. The events occurred on the 19th of February 2014 in Avis, Portugal and on the 21st of February 2014 in Zaragoza, Spain.

➤ **The event held on 19th of February in Avis, Portugal:**

The event in Avis took place in Valnor's installations. Valnor is a waste management company that covers 25 municipalities, in which Abrantes is included, which corresponds to a total area of around 11.980 Km².

The event was divided in two parts. The first one oriented to presentations from local entities and Zagreb and the second one was a visit to Valnor's installations.

The objective of this event was related to the presentation of the outcomes of Urbanbiogas, promoting the WtB concepts developed for Abrantes and Zagreb City.

The event attracted different types of stakeholders from municipalities, energy agencies, local companies and stakeholders interested in biogas projects, investments and opportunities.



Figure 13: Dissemination of Urbanbiogas project in the event

The event began with a presentation from Valnor's Administrator, José Pinto Rodrigues, highlighting some indicators of Valnor in what concerns the waste received and treated in the installations of Valnor and the outcome of energy production.



Figure 14: José Pinto Rodrigues, Valnor's administrator

After the opening session, Flávia Duarte presented Urbanbiogas project and its main objectives and also explained the status of the work developed close to the end of the project. After the presentation, the Urbanbiogas video was showed.



Figure 15: Flávia Duarte, IrRADIARE

Mónica Martins (Municipality of Abrantes) followed Flávia Duarte's presentation approaching the sustainable waste management in the region of the energy agency, in which Abrantes is included.



Figure 16: Mónica Martins, MedioTejo21

A more extensive presentation on the work developed by Valnor was held by Cláudia Simões regarding the solid urban waste treatment unit and also the future investments for biogas in Valnor. Presentation in details described the organization of the integrated system of Valnor and it was acknowledged that Valnor is planning to invest in the increase of the installed capacity for biogas production.



Figure 17: Cláudia Simões, Valnor

Afterwards, Monika Kruhek and Bojan Ribić (Zagreb CH representatives) held a presentation on the sustainable waste management in Zagreb and the status of the work implemented in the City in the framework of UrbanBiogas activities.



Figure 18: Bojan Ribic, Zagreb City Holding

The next presentation, by Areanatejo (an Energy Agency) focused on the energetic efficiency aspects and the biogas production in Valnor. The presentation highlighted a study undertaken by Areanatejo to assess what Valnor was doing and if it was according to all the related rules (which was confirmed).



Figure 19: Hélia Pereira, Areanatejo

The final presentation was held by an expert of the region in the fields of biofuels, Luiz Rodrigues. He presented an investigation in this area about the polytechnic that has been developing and how the training sessions are important for the region.



Figure 20: Luiz Rodrigues, Polytechnics' of Portalegre

After all presentations were held a space for debate was opened.



Figure 21: Audience of the event

The debate was important to understand the perspectives of Abrantes and the region regarding the Urbanbiogas project and its objectives. In the debate the region's planning for the next years was discussed.

The closing of the event was made by the councillor Manuel Jorge Valamatos, who is responsible for the transports' sector in the municipality of Abrantes. The councillor Manuel Jorge Valamatos highlighted the importance of the project to the municipality and how it has contributed to integrate new and innovative ideas in the municipal planning.



Figure 22: Abrantes's Councillor Manuel Jorge Valamatos

After the closing of the event, Zagreb City Holding representatives signed a partnership certificate with Areanatejo. Areanatejo is an Energy Agency that covers 16 municipalities and has as main objective to work towards energy efficiency related objectives in the covered region.



Figure 23: City partnership certificate signing between Areanatejo and Zagreb CH

In the afternoon, a visit to Valnor's installation was made. Below there is the structure of the visited Valnor's installation.

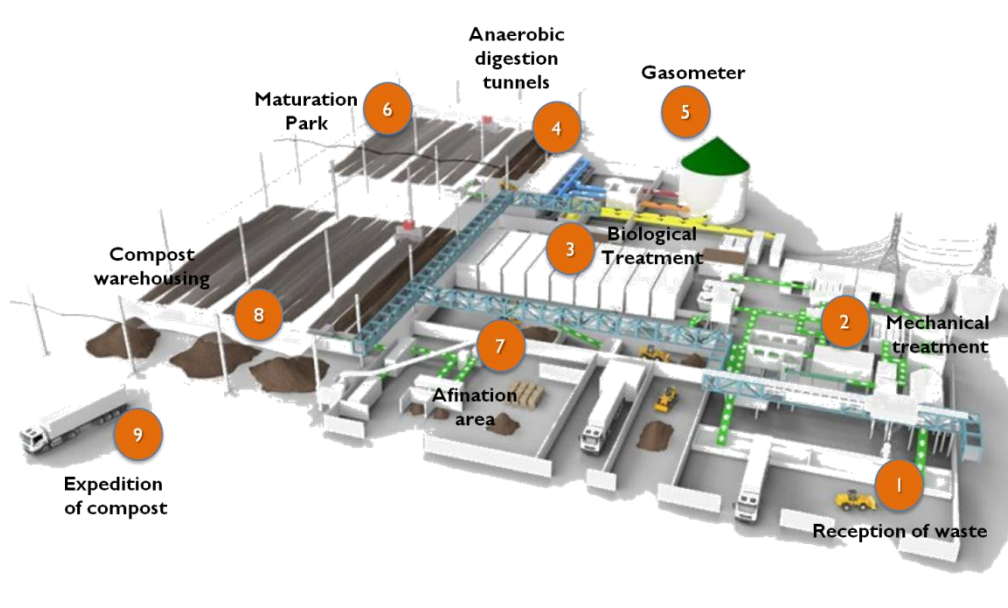


Figure 24: Valnor's installations

Cláudia Simões explained the processes that were occurring in the installations, during the visit.



Figure 25: Cláudia Simões, Valnor

The visit started in the waste separation and treatment process.



Figure 26: Visit to Valnor



Figure 27: Visit to Valnor

The unit of anaerobic digestion of Valnor was inaugurated in November 2013

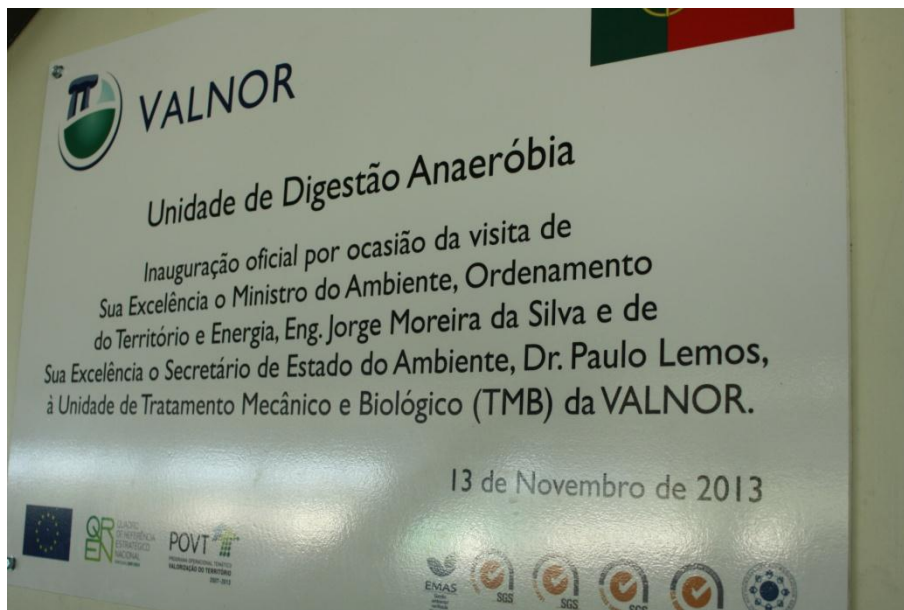


Figure 28: Inauguration of anaerobic digestion unit



Figure 29: Visit to Valnor – compost



Figure 30: Visit to Valnor – unit of biogas



Figure 31: Visit to Valnor – unit of biogas



Figure 32: Visit to Valnor



Figure 33: Visit to Valnor

The visit ended with an explanation on the biodiesel produced and used in Valnor's fleet.



Figure 34: Visit to Valnor – biodiesel production



Figure 35: Visit to Valnor – biodiesel



Figure 36: Visit to Valnor – biodiesel



Figure 37: Visit to Valnor

Valnor also reuses the used cooking oils to make soaps.



Figure 38: Visit to Valnor - soaps



Figure 39: Visit to Valnor

The event was considered a success by all participants allowing to know how the waste is treated, processed and reused in Abrantes region.

The visit was also important to see how Urbanbiogas purposes are reflected in the region.

This event counted on 18 participants.

A signed list is shown below.

19 de Fevereiro 2014

Centro Integrado de Valorização e Tratamento de Resíduos Sólidos de Avis/Fronteira

Nome	Entidade	Email	Rubrica
Arsénio Cristóvão	Constância	arsenio.cristovao@cm-constancia.pt	
Bruno Guimarães	Director Jornal A Ponte		
Dinis de Sousa	ValorSul	dinis.sousa@valor-sul.pt	
David Ferreira			
Gisela Buraco	Jornal A Ponte		
Gonçalo Germano	Constância	GONCALO.GERMANO@cm-constancia.pt	
Helena Sousa	IPL		
Helena Passarinho	Sardoal	h.passarinho@cm-sardoal.pt	
Jorge Silva	Ecoup	JORGESILVA@ECOUP.PT	
José Blanco	ARRAM Consultores	joséblanco.gamero@arram.com	
José Prates	JDP CONSULTING	PRATES.JABT@GMAIL.COM	
João Bexiga	DGE	JOAO.BEXIGA@DGE.PT	
Luis Amado		amadodasilva@gmail.com	
Luis Martinho Pitorro Soares	Ecoup	luis.pitorro@gmail.com	
Manuel Jorge Valamatos	Abrantes		
Nelson Oliveira	IPL		
Nelson Lebre	Abrantaqua		
Sónia Santos	Vila Velha de Ródão	gop.pedro@cm-vilavelha.pt	
Tânia Gomes	ValorSul	tania.gomes@valor-sul.pt	
Teresa Rodrigues	Ecoup	teresa.rodrigues@ecoup.pt	

MONIKA KRUIHEK ZAGREB CITY HOLDING-CISTOCA

 Bojan Ribic

 Seta Trajkovic - IRRADIARE

 monika.kruihek@zgh.hr

 bojan.ribic@zgh.hr

Figure 40: A list of participants at event in Avis, Portugal

The event held in Avis was important to understand the work developed so far in the region and also to disseminate the UrbanBiogas objectives and the outcomes that occurred not only in Portugal but also in Croatia. It was also important as it resulted in a certificate signature between a Portuguese energy agency and the Zagreb City Holding.

➤ **The event held on February 21, 2014 in Zaragoza, Spain:**

The event held in Zaragoza was organized by Abrantes and IrRADIARE in close cooperation with the cluster of biomass and energy of Spain. Zagreb City Holding was also represented in this event by Monika Kruhek and Bojan Ribić. The objective was to promote UrbanBiogas project in Spain, namely in order to obtain an interest in following the same guidelines towards a more sustainable waste management and also the use of biomethane. This was enabled by participation of a local cluster of biomass and energy in the event and a waste management company that highlighted the path towards biomethane grid injection and usage in transport. The intention of the Zagreb CH representatives was to introduce the citizens of Spain and Portugal with the waste management organization in Zagreb and to exchange knowledge and experience with the presented audience about their practices.



Figure 41: Urbanbiogas promotional material dissemination

The welcome and opening of the event was made by Marcos Nogueira from IrRADIARE and Francisco Javier de Miguel from CEB&E (Cluster of biomass and energy).



Figure 42: Welcome and opening

After the opening, Monika Kruhek (Zagreb CH) presented the Urbanbiogas project and also the WP for which the Zagreb City Holding is responsible and that brought them to the event in Spain. She also used the opportunity to introduce the audience to another Intelligent Energy Europe project, Clean Fleets.



Figure 43: Monika Kruhek presentation, Zagreb City Holding

Patrick Bárcia from Sysadvance presented company's technology of separation and upgrading of biogas – Methagen. Sysadvance is a leading player in gas separation and purification technology. Methagen units are high efficiency systems based on PSA technique producing high purity CH₄ ensuring simultaneously recovery rates close to 99%.

Mónica Martins and Flávia Duarte presented the municipal solid waste treatment and processing namely in Valnor as a best practice and also the UrbanBiogas objectives and the work developed.



Figure 44: Mónica Martins and Flávia Duarte, Abrantes and IrRADIARE

Bojan Ribić made a presentation on the waste management in the City of Zagreb and the work done so far on separate waste collection in the City.



Figure 45: Bojan Ribić, Zagreb City Holding

After the coffee break, André Castro from IrRADIARE made a presentation about Investment on renewable highlighting some relevant case studies and the tools to search for funding possibilities.

Another case study was presented by CEB&E and also their projects in the areas of biomass and energy.



Figure 46: Francisco Javier de Miguel and A. Blanco, CEB&E

Marcos Nogueira from IrRADIARE made a presentation on the planning and investment for 2014/2020, namely under the Covenant of Mayors that the region, where Abrantes is inserted, has subscribed.



Figure 47: Marcos Nogueira, IrRADIARE

The event had a debate before closing, giving the possibility to listen to some project possibilities with a waste management company in Spain - GRHUSA (<http://www.grhuesca.es/>) that attended the event and was interested in the results presented. In the end of the event Sysadvance company expressed their interest to sign a partnership certificate with Abrantes and Zagreb City Holding.



Figure 48: Dissemination of event in Zaragoza

Conclusion

The objective of the creation of Biomethane Partnerships for EU cities was to go beyond the promotion of WtB projects in the target cities and to promote the concepts in other EU cities/municipalities. First year and a half of the implementation of the project not much was achieved in that area since the primary task was to sign the certificates and conduct the activities at Mayor levels. After Interim report when it was definitely perceived that despite of partners constantly striving to raise the interest of City Councils, in most cities for partnerships signing their efforts didn't obtain any results. Therefore, it was agreed that the certificates could also be signed on company's levels (mostly waste management companies and energy agencies). After this agreement was made, partners managed to find many interested parties that wanted to anyhow participate in the project and share experience, good practices and to gain from the deliverables and useful documentation written as part of project tasks and activities. In the end the multiplication effect was even bigger than expected as those companies stayed in close contact with partners and this cooperation opened new doors for future collaborations and relations. It definitely soothed the communication across EU countries and all the participants gained from some valuable networking. As a result of these co-operations, 23 certificates and one protocol were signed.