Project: BiG>East

(EIE/07/214)

Biogas lectures and study visit to biogas plants in Denmark

Report of the study tour Denmark

Deliverable D 8.3 Task 8.4

Submitted by: Teodorita Al Seadi

Research Coordinator, Principal Scientist, Inst. of Chemical Eng., Biotechnology and Environmental Tech.

Tel. +45 6550 4168
Fax +45 6550 1091
Email tas@kbm.sdu.dk
Web http://www.sdu.dk/kbm

Addr. Niels Bohrs Vej 9, DK-6700 Esbjerg, Denmark

With the support of:



The sole responsibility for the content of this publication lies with the authors. It does not represent the opinion of the Community. The European Commission is not responsible for any use that may be made of the information contained therein.



1. Study Tour Description

The biogas study tour took place in Denmark the 7-9 September 2009, as a part of the Work Package 8 (Task 8.3). The study tour was arranged and organized by University of Southern Denmark (SDU) and targeted the partners from Croatia, Slovenia, Greece, Latvia, Bulgaria and Romania. As all the partners showed interest to participate, it was decided that the study tour in Austria will be organized mainly for participants from Bulgaria, Latvia and Romania, while the study trip to Denmark will be mainly for the participants from Croatia, Slovenia and Greece.

SDU was responsible for the preparation of the study trip agenda and the invitation. These were distributed to all the BiG>East project partners, which were responsible for the further dissemination and for the registration of participants. The study trip was originally scheduled during summer 2009, but due to summer holidays and busy periods for the farmers was rescheduled in 7-9 September

The three-day program was divided into two parts, a theoretical presentation during the first afternoon and two days of visits to biogas plants.

7 September:

In the morning the participants had sufficient time for arrival and check-in at hotel Britannia, in the city center of Esbjerg.

The program of the first day started at SDU headquarters in Esbjerg in the afternoon, firstly with a light meal and coffee, and later on with interactive theoretical lectures on biogas, provided by Teodorita Al Seadi, research coordinator at SDU/KBM and by Kurt Hjort-Gregersen, expert in biogas economy, from Copenhagen University.

During the three hours of theoretical input, the participants learned about

- Danish biogas sector and market,
- Biogas production and utilization,
- Design of biogas plants,
- Environmental and agricultural benefits of biogas and of using digestate as fertilizer
- Digestate separation technologies
- Economy of the biogas plants and the main requirements for biogas projects
- Permitting procedure in Denmark
- The visit agenda and the main data of the biogas plants which will be visited the next days

The participants had the opportunity for discussions and questions, which was actively used during the theoretical presentation.

In the evening the participants had time at their disposition.



8 September.

Visits on the western and north -western Peninsula of Jutland

The participants were picked up at their hotel at 8:30 and taken by bus to visit the agricultural biogas plant at Blaabjeg biogas plant in western Denmark. The plant manager and his assistant guided the participants through their visit, presented all parts of the plant and ended up in the control room, where computers are running the operation of the plant. The participants could ask questions and received comprehensive expert information.

After the visit, the participants were taken by bus to Lemvig. Take away lunch, coffee and refreshments were offered by SDU and available during bus transport between two visits.

The next visit was at the second largest biogas plant in Denmark, Lemvig Joint Biogas Plant in Lemvig, in the central-northern part of Jutland peninsula. A very well prepared plant manager welcomed us and showed us around. Printed information materials about the plant and biogas brochures were handed out to participants. At the end of the visit all were invited for coffee and cakes to the eating room of the plant, where further questions were answered by the manager and interesting discussions took place.

In the evening, a common dinner and wine was offered by SDU to all the participants, at Britannia Restaurant in Esbjerg.

9 September

Visits at biogas plants in eastern and southern Jutland

The visit started at Filskov Biogas plant, which was of a smaller scale, joint biogas plant, processing manure and organic wastes. The plant was considered interesting, as a possible option for the new member states, because of its smaller size.

From Filskow, the trip went to Lintrup, where the participants visited the whole plant, guided by the plant manager and asked numerous questions about the technical operation and the plant economy.

All the way, there was a positive impression about the openness of the answers received and the detailed information provided by plant managers.

From Lemvig, the participants were transferred by the same bus to the airport, for check-out and departure and the bus returned back to the hotel with the ones not leaving the same day.



2. Agenda



INVITATION BiG>East

Guided study tour at biogas sites in Denmark

7-9 September 2009

Location: Jutland peninsula, in Denmark

Language: English

Participants: Stakeholders and partners from BiG<EAST target countries

Participation fees: Free of charge Costs paid by the BiG<EAST project:

- Bus transport during the study trip, light lunches the 7,8 and 9 September and dinner the 8 September. Costs to be covered by participants:

-Travel to Denmark, hotel accommodation +all breakfasts, other meals and expenses except for what is mentioned

above as paid by the BiG<EAST project.

Registration: by e-mail to: <u>tas@kbm.sdu.dk;</u> Registration deadline: 26/08/2009

AGENDA of the study tour

7th of September		8th of September		9th of September	
Morning: Transfer from airports/ railway station to Esbjerg; Check-in at Britannia hotel in Esbjerg. www.britannia.dk You can book your hotel room online, or call +45 75 13 01 11		8:30-9:30	Departure from hotel to Blaabjerg Biogas Plant in Western Jutland www.blaabjergbiogas.dk	09:00-10:00	Departure from hotel to Filskov Biogas Plant in Eastern Jutland www.filskovenergi.dk/
		9:30-11:00	Guided visit at Blaabjerg Biogas Plant	10:00-11:30	Guided visit at Filskov Biogas Plant
		11:00-12.30	Departure to Lemvig	12:00-13:00	Quick lunch, offered by the BiG>East project
13:00- 14:00	Coffee and sandwiches at SDU Headquarters, Niels Bohrs Vej 9, 6700 Esbjerg, Denmark www.sdu.dk	12:30-13:30	Quick lunch, offered by the BiG>East project	13:00-14:00	Departure to Lintrup Biogas Plant in South- Western Jutland
14:00- 16:30	Biogas in Denmark. Presentation by Teodorita Al Seadi, KBM-SDU	13: 30-15:30	Guided visit at Lemvig Biogas Plant in Northern Jutland www.lemvigbiogas.com	14:00-15:30	Guided visit at Lintrup Biogas Plant www.linkogas.dk
16:30- 17:00	Discussions and practical information	15:30-18:00	Return to the hotel in Esbjerg	16:30	Return to the hotel and end of the study trip programme
17:00	Time at your disposition	19: 30	Dinner offered by the BiG>EAST project		

Small changes may occur in the study trip programme. For registration and further information please contact:



Research Coordinator, Principal Scientist, M.Sc., Inst. of Chemical Eng., Biotechnology and Environmental Tech., University of Southern Denmark

Tel. +45 6550 4168

Mobile +45 3051 1553 Email tas@kbm.sdu.dk



3. List of participants

- 1. Srećko Kukić, Croatia
- 2. Ljubo Šaško, Croatia
- 3. Damian Nemes, Slovenia
- 4. Mariangela Soldano, Italy
- 5. Aggelos Makrygiannis, Greece
- 6. Nikolaos Pantazis, Greece
- 7. Dace Bite, Latvia
- 8. Kurt Hjort Gregersen, Denmark
- 9. Teodorita Al Seadi, Denmark
- 10. Dominik Rutz, Germaniy
- 11. Biljana Kulisic, Croatia



