



# Summary of the Sixth Inter-Association Workshop | Budapest, HU

13.07.2017

On the **13 July 2017**, the sixth BIOSURF Inter-Association workshop was held in **Budapest (HU)**, with 40 participants.

### **Welcome & Introduction to Workshop**

Welcome message from **Kornel Kovacs (HBA)** and introduction to the workshop by **Stefano Proietti (ISINNOVA)**.

### **The present status and future prospects of the biogas/biomethane industry in Europe**

**Jan Stambasky (EBA)** introduced the European Biogas Association and members who are part of it.

A focus on European biomethane industry was then provided: technologies and infrastructure for biomethane are now feasible and biomethane can be produced through several processes, i.e. upgrading from biogas, gasification of renewable organic matter followed by syngas conversion to biomethane, power to gas (technologies producing methane fuel from biogenic carbon or utilizing biological pathways).

Then he presented the state of the art of biogas industry throughout Europe in the period 2009-2015, in terms of number of plants that in 2015 were around 17,376 in operation of which about almost 11000 are in Germany and more than 1500 in Italy.

Concerning biogas in Combined Heat and Power, Europe can account of a total of:

- 8.3 GW of electrical installed capacity;
- 63.6 TWh of Generated electricity
- 32.2 TWh of Generated heat

In Europe, the number of new **biomethane** plants commissioned per year is growing more and more, reaching +30% in 2014 with respect to the year before, but a small decrease of this growth rate is registered in 2015: +16% with respect to the year before. Most of these plants are located in Germany, Sweden, UK and the Netherlands.

Some figures on biomethane production in 2014 (only from anaerobic digestion) are summed up as follows:

1. 200,000 Nm<sup>3</sup>/h: Biomethane upgrading capacity;
2. ~1.8 Bn m<sup>3</sup>: Approx. biomethane production;
3. 367: Number of biomethane plants in Europe; 70% of them inject gas into grid;
4. 10%: Approx. use of biomethane in transport

According with the forecasts, the future of biogas and biomethane will see great developments, reaching in 2030 almost 50 billion Nm<sup>3</sup>/year of biogas/biomethane produced (biogas 30 and biomethane 18 billion Nm<sup>3</sup> respectively) and used in several applications: Electricity, heating & cooling (biogas) and Fuel and Grid (biomethane).

At the same time, forecasts shows the beginning of a sharp decrease in the use of natural gas since 2014 (Current average annual decrease: 22 bcm) in favour of renewables. This means that we expect that this trend will continue to decrease.

Moreover, concerning gas future, 2<sup>nd</sup> transition is coming. The vision developed for 2050, by ADEME, shows the future gas consumption split per production technologies: 1/3 from NG, about 1/3 from Gassification and 1/3 by AD.

For what concerns transport, the use of biomethane shows a high saving potential in terms of CO<sub>2</sub> emissions (ranging from 40-97% less CO<sub>2</sub> emissions for BIO CNG vehicles with respect to LPG vehicles). It is worth also mentioning the wide potential of Liquid Biomethane which can be suitable with a larger number of applications replacing diesel.

Finally, Jan Stambasky concluded highlighting that the lack of biomethane trade prevents further biomethane developments. Currently, cross-border trade is limited to bilateral agreements (CH-DE, DK-DE) and international trade is mainly done through road transport.

The potential of biomethane production is not equal to the national demand and the international trade would eliminate this discrepancy.

To conclude, it was stressed the necessity for a strong push on biomethane right now and highlighting that the biomethane industries can be a pillar of EU energy because of its huge technical potential.

## **Biomethane Roadmap for Austria**

**Franz Kyrchmeyr (AKB)** provided a short presentation on the state of the art of biogas and biomethane in Austria, focusing on the currently feedstock used, mainly coming from renewable resources from agricultural land.

First of all, an overview on the biogas and biomethane developments in Austria in recent years was provided. The main figures are summed up as follows:

- CHP
  - ~ 290 plants producing electricity and heat
  - ~ 550 GWh<sub>el.</sub> + 300 GWh<sub>th.</sub>
- Biomethane production
  - 14 plants have installed an upgrading system and connection to the gas grid
  - ~ 2,500 m<sup>3</sup> installed capacity
  - ~ 15 Mio Nm<sup>3</sup> biomethane production capacity but not reached yet
- One new plant is running to treat spent grain and produce steam and heat

As many plants are reaching the time, feed in tariffs are running out Austrian Association worked strongly on post feed in tariffs for existing plants during last years.

An amendment of renewable energy act has been published End of June 2017, providing rules for both existing and new plants:

### **1. Post feed in tariff for existing plants**

About 2/3 of existing plants may receive post feed in tariff at first stage for 3 additional years (then further negotiations are needed) if they respect the following conditions: remote control avoiding grid overcapacity; energy efficiency > 60 % (electricity and heat); feedstock: max. 60 % from corn and cereals (mass balance). Moreover, the government wants to keep only the most efficient plants in operation which are willing to reduce corn and cereals as main feedstock.

### **2. New Plants:**

As for new plants, feed in tariffs are available for plants under the following preconditions:

- Remote control avoiding grid overcapacity
- Feedstock: max. 30 % corn and cereals (mass balance)

This option is available for plants with capacity lower than 150 kW el. with direct CHP and energy efficiency over 67,5 % (electricity and heat) and for plants over 150KW<sub>el</sub> only with upgrading, grid injection and electricity production when it is "needed".

Currently it can be stated that the Austrian Natural Gas sector wants biomethane and recently made public the will to use 2 billion m<sup>3</sup> biomethane that corresponds to a not negligible part of the total gas demand that is around 8 billion m<sup>3</sup>.

Concerning feedstock, the potential from bio waste, waste from farmland and farm fertilizer must not be neglected and biogas could be the key technology using the left over from previous production steps as food, feed or chemistry production and organic waste. Data shows the total potential of biomethane is around 535 Million Nm<sup>3</sup>, of which 70 are from bio-waste. Energy crops was considered the best option to produce biogas. Now the intention is to use straw from corn and the current production amounts to 200 000 ha.

In Austria energy grids (power and gas) are well developed and distributed on the territory and this will play a key role for future developments of biomethane. Thus, fixing 2050 climate and energy targets without involving the gas grid is a great mistake.

Concerning how to create a win win situation, FK answered to this question highlighting that, according to the expected forecasts, there would be a reduction of 2% per year in the energy demand and this would lead to higher grid costs and chain reactions. To contrast this, a possible shift to renewables is important to favour stable costs, renewable electricity on demand (2500 GWh<sub>th</sub> biomethane for power), renewable transport (1600 GWh biomethane) and, of course, mitigation of GHG.

Finally, among the main challenge identified, FK highlighted the change in the used feedstock with a big potential from non-food/feed sources and the need for technology improvements. The current energy situation is not a driver for further development and, since 2050 climate targets are not taking into account developments in the energy grids, good cooperation between biogas/biomethane and natural gas stakeholders is necessary.

## **Biomethane Roadmap for France**

**Marie Verney (ATEE)** presented a brief state of the art of the biomethane development in France. Currently 32 biomethane injection units are operating in France (April 2017), mainly producing biomethane from agricultural feedstocks and in small part from agro-industrial waste and household waste. It is expected to have around 50 units in operation by the end of 2017.

Concerning biomethane production, 215 GWh were produced in 2016 – one and a half higher than what produced the year before (83 GWh in 2015).

Moreover, 252 projects are queuing for grid connection, most of them are located in the North of France.

More details on these key figures are provided in the presentation.

## **Biomethane Roadmap for Germany**

**Frank Hofmann (GBA)** provided a brief overview on biomethane in Germany.

Currently above 9,000 biogas plants in operation with an installed capacity of above 4,000 MW<sub>el</sub>. About 150 new biogas plants in 2015: mainly small manure based plants (max. 75 kW<sub>el</sub> and more than 80% manure in the input). The CO<sub>2</sub> reductions were around 19 Mt (for electricity) and above 20 Mt (manure treatment). Moreover, in 2016, more than 42000 job were created.

For what concerns biomethane, after a booming biomethane market until 2013 the market growth for biomethane has slowed down. Nowadays, 197 feed-in plants are in operation (10 new in 2016 and 4 new in April 2017) producing about 201,865 m<sup>3</sup>/h raw biogas treated.

Some key figures concerning biomethane:

Today the total production amount to 940 Mm<sup>3</sup>, corresponding to 9,4 TWh injected in the grid, of which about 85,1 % is used in CHP; 4,3% as vehicle fuel, 3,2 % for heating and 7,4% in other uses. There are about 120 biogas filling stations in operation; additional 170 filling stations offer a blend of biomethane and natural gas.

Barriers have been mostly identified in:

- The CHP sector: no sufficient compensation according to the Renewable Energy Sources Act;
- Heat market: sole heating applications are hardly supported (obligation to use in CHP due to higher CO<sub>2</sub>-reduction);
- Fuel sector: stagnating CNG vehicles sales, new regime CO<sub>2</sub>-Quota bear many risks and uncertainties, lack of transparency at fuelling station totems (price signs at fueling station);
- International Trade: Prohibitive national legislations, lack of EU-wide mass balance system.

Due to the barriers mentioned above, national drivers are rather scarce at the moment, but interest in German biomethane upgrade technology and cross-border trade from abroad is growing.

Several perspectives for development are still valid:

- There is still a significant potential for development (e.g. organic household waste, manure, etc.)
- The future role of biogas/biomethane in the electricity sector will be to provide flexibility to the system (balance fluctuation from wind and solar energy)
- The transportation sector has huge potential for biomethane. More renewables in transport sector are needed and electrification is limited. Political support needed!
- Independency of foreign gaseous sources might become a more important issue for the EU.
- Finally, LNG could provide possible future development

Concerning the near future, the next reform of the Renewable Energy Sources Act is coming up in 2017. Auctions are going to be introduced for all renewables. The government is currently revising the electricity market system as a whole and has announced to make major changes to the current design by 2017. (Fossil) CHP-legislation is under revision, possibly with a new momentum regarding CO<sub>2</sub>-saving and chances for biomethane. Finally, International barriers need to be addressed in order to provide market uptake.

## **Biomethane Roadmap for Italy**

After a short introduction on **CIB (Italian Biogas Consortium)** and its members, **Lorenzo Maggioni** introduced the state of the art of biogas and biomethane in Italy, focusing principally on legislation, outlining the main barriers and showing the effective potential of investing in this area.

As for biogas market, Italy holds the second position in the Europe after Germany. More than 4 Billion € have been invested in the last 6 years in this sector. Actually, there are more than 1,700 biogas plants (agriculture + sewage + waste + industrial) with a total installed capacity of more than 1,300 MW<sub>el</sub> (for the moment biogas used only for electricity production) and about 3 billion of biomethane equivalent Nm<sup>3</sup>/yr are used, for the moment, only for electricity production. 12,000 qualified green jobs created thanks to biogas.

For what concerns biomethane, only 7 biomethane plants are in operation without connection to the grid. During last year, 20 new plants have been already authorized and in June 2017 the first plant in Italy has injected biomethane into the grid.

Three ongoing exemplary projects were then presented:

- 1) The Project of Cooperativa 3A. Located in Sardinia where there are not NG grids and NGVs. Actually they are using LNG in CHP. Aim of the project is to produce Liquid Biomethane from manure to be used for refuelling the company trucks and other vehicles.

- 2) The project of CAVIRO: with the aim to produce 8 million m<sup>3</sup>/y biomethane (gaseous) and 8 million m<sup>3</sup>/y LBM.
- 3) Project of SESA: SESA is one of the most important Italian companies involved in the activities of recycling, recovery, disposal and transportation of waste. The company has invested in the biomethane sector about 42 million euro, spread over 5 years, for a plant producing 4.500 m<sup>3</sup> biomethane / h (LBM + bioCNG) already authorized, with the aim to run more than 150 natural CNG and LNG trucks for the collection and transport of waste.

Concerning alternative fuels, in Italy there are currently more than 43 Million vehicles, of which: about 2,260 M are LPG vehicles (5,2% on the total); about 1005 M are NGV (2,6% on the total) and 0,132 M are E-vehicles (0,3% on the total).

On December 2013, the biomethane decree, which introduces and regulates the incentive system, entered into force and the main technical barriers have been overcome. Now in Italy it is possible to produce biomethane from agriculture and organic fraction of municipal solid waste. The decree foresees different scenarios depending on the final use of biomethane:

- Biomethane injected in the natural gas grid:
- Biomethane used in transport:
- Biomethane used in high efficiency cogeneration plants

With the new Decree (Summer 2017), better chances are in place for LBM. The attention is focused on biomethane used in transport for which more interesting subsidies are foreseen for “advanced biomethane”.

An update on the current regulation was then provided followed by the presentation of the BIOGASDONERIGHT model: a model based on the predominant use of by-products and double crops, so as not to compete with food and fodder production. It allows to produce more in a sustainable manner, while contributing to the growth of renewable energies. (see the presentation for details).

To conclude, thanks also to the Biogasdoneright model, in Italy biomethane could be a very important advanced bio-fuel. It could contribute to achieve the climate targets thanks to the reduction of CO<sub>2</sub>eq emissions, it increases security of supply and Italian energy independence from other countries. In Italy biomethane has an enormous potential (maximum technical potential of 8 billion m<sup>3</sup> bioCH<sub>4</sub> / y).

### **Biomethane Roadmap for Serbia**

Dragan Zukic (Serbian Biogas Association) introduced his company and provided a general overview of the situation of biogas in Serbia.

The Serbian Biogas Association is a non-governmental and non-profit association founded in 2012 to achieve goals in the field of development and encouraging the production and use of biogas as a renewable energy source in Serbia. The association has 26 members that have 6 power plants with a total installed capacity of 9.2 MW.

The main objectives of the association are:

- Providing service to members:
  - Service information and solving current problems
  - Help and provide information to new members
  - Base of raw materials
  - Informing about events in the industry
  - Organizing trainings and workshops

- Joint Procurement of Raw Materials
- Cooperation with FvB and EBA
- Communication and cooperation with line ministries and official institutions in order to improve the business of the biogas sector

Currently, the main ongoing activities of the association are:

- Gathering all existing and potential owners of biogas plants into one association
- Creation of an independent study in cooperation with the World Bank - IFC
- Reorganization in order to professionalize the association
- Organizing workshops for training operators on biogas plants

As for biogas production, currently the main feedstock used comes from agriculture. They don't use waste or sewage but the intention is to try to cover also those in the next future.

Anyway, this is a sector under development and a series of barriers have been identified in:

- Security of feedstock supply and demand: lack of raw material market, no national biogas database, low agricultural productivity, poor infrastructure.
- Licenses (procedures for construction): demanding procedure, time consuming, responsibilities and requirements are not always clear.
- Communication and knowledge: insufficient information on good experience, lack of local knowledge and publicly available data. No National Laboratory.
- Technology: only few biogas plants in operation, technology, plant design and main components have to be imported.
- High investment costs (about 10-20% higher compared to Germany)
- FiT 2013 tariff has been reduced compared to 2009
- Actual FiT's are not sufficient to stimulate development
- Long period of return on investments (12 years and longer)
- High demand on own equity
- Electricity grid faults result in lower operation times
- Unnecessary labor cost burden
- Grid connection, sometimes to be financed by the biogas operator
- Lack of bank financial capacity

Poor economic situation for investors/limited alternative finance

## **Biomethane roadmap for the United Kingdom**

**Gaynor Hartnell (REA)** provided a short presentation on the state of the art of biogas and biomethane in UK mainly focussing on current deployment of biomethane, current status of financial incentives for biomethane (RHI and Renewable Transport Fuel Obligation), and challenges.

Currently in UK there are around 80 biomethane projects in operation with the capacity to produce over 3TWh of renewable gas. A summary of data on production until April 2017 was then provided. As for feedstock, about 62% comes from agriculture, 27% from Food waste and Biodegradable waste, 11% from sewage sludge. Statistics on the number of project per biogas flow rate, pressure tier and CO2 technology removal was then provided (see the presentation for details).

### Financial Incentives:

The **Renewable Heat Incentive (RHI)**, introduced in 2011, is the primary policy that supports biomethane in the UK and is the world-first financial incentive to promote the generation of renewable heat and biomethane injection.

The RHI is essentially like a feed in tariff for renewable gas and constitute the main driver for biomethane injection. Tariffs for the RHI are reduced (“degressed”) automatically, according to how much deployment takes place.

In March 2016, the UK Government’s consultation on the Renewable Heat Incentive was issued. One of the proposals in the consultation was to “reset” payment levels back to what they were at the beginning of the year. Government recognised that the tariffs were falling too rapidly to sustain deployment, and this is why they proposed the tariff “reset” (details on it are in the BIOSURF Newsletter of December 2016 ([here](#))). Among the conclusions: biogas produced from wastes and residues not subject to cap. New projects (FIT and RHI) will see payments from biogas produced from other feedstocks (i.e. products / energy crops) to be limited to 50% of overall payment.

Biomethane tariffs were to be “reset” this spring but:

- The legislation was incorrect and was withdrawn
- Emergency legislation to prevent automatic degression was planned
- The election was called before the emergency legislation was made

The **Renewable Transport Fuel Obligation (RTFO)** has been introduced in 2008 and it regulates biofuels used for transport and non-road mobile machinery. Under the RTFO suppliers of transport and non road mobile machinery (NRMM) fuel in the UK must be able to show that a percentage of the fuel they supply comes from renewable and sustainable sources. Biomethane as a vehicle fuel earns 3.8 RTFC’s per kg where the feedstock used is 100% waste and 1.9 RTFC’s /kg for non waste.

Recent consultation document issued, proposed special target to encourage “development fuels”- Biomethane may be one of them. Currently, it seems the implementation of the reformed RTFO was coming under political pressure just before the election, with doubt as to whether the changes would be made, and post election this is probably even further down the political agenda.

Thus to conclude, the challenges now in UK are:

- Waiting for the return of attractive tariffs
- Grid capacity
- Methane leakage – methodology being developed, with intention of testing around 30 projects
- Increasing tightening of landspreading of digestate- more storage capacity may be required  
Implementing the energy crop cap.

## **Biomethane Roadmap for Hungary**

**Kornel Kovacs (HBA)** provided a brief overview on biomethane in Hungary.

The Renewable Energy Directive fixed in 2009 fixed a 2020 target for Hungary of 13% from RES on total energy and 10% concerning use of alternative fuels. The government increased this percentage to more than 14%. There were made some mistakes in the calculation of the RES contribution and and new calculations are ongoing. This underestimation was due to several factors, i.e., household biomass utilization is 2.5 times higher than estimated earlier because of the fact that people cut trees illegally and this is not included in the estimations.

In Hungary, biogas is mostly used for producing electricity (10% of renewable electricity comes from biogas) and only a small percentage is used for heating (0,22%).



The main barriers to the biogas/biomethane developments are due to the very limited political support (particularly for what concerns biomethane) and non – competitive biogas technologies used.

#### Support schemes

The support system for electricity from renewable sources has been modified in mid-2016 and has been partially replaced by the new Renewable Energy Support Scheme (METÁR) which came into force 1 January 2017. The system comprises three sub-systems for support determined by the plant's capacity, namely a feed-in tariff (which remains unchanged), a 'green premium' without tendering and a 'green premium' granted through tendering procedures. Furthermore, a so-called 'brown premium' has been introduced addressing solid biomass and biogas plants which serves as a technology-specific successive rate to the feed-in tariff. In general, additional support is provided by subsidy programmes for the use of renewable energy sources, mainly granted under the Environment and Energy Efficiency Operational Programme. However, many invitations to tender are still to be published.

Despite industry is not growing, research is still going on, in particular they are investigating the possibility of using willow and photoheterotrophic algae cultivation which is showing to have a very promising potential for biogas development in Hungary.

Within the BIOSURF project, the exchange of experiences is a big opportunity for learning and starting up the market. HBA took part in several meetings (see the presentation for details) showing the aims and outcomes of the BIOSURF project to decision makers and stakeholders.

#### **Biomethane in the PAN-LNG project**

Henrik Domanovszky (NGV Hungary) , presented the PAN-LNG project.

The Hungarian Gas Transport Cluster Association (MGKKE) developed this project in order to develop the filling infrastructure of liquefied natural gas (LNG) which has been selected among the eligible projects of Connecting Europe Facility (CEF) this year. The primary objective of the project is to prepare the construction of the infrastructure required for the development of LNG-based transport and to physically install the first filling points and ensure the supply thereof. Thanks to the support the development of the LNG network can be implemented from over 90 percent European Union funds.

In this project, at least five filling stations can be constructed in Hungary from the funds of the European Union serving long-distance cargo transport as well as local transport, offering liquefied and compressed natural gas by 2017.

#### **Sustainable raw material supply for the Production of Biomethane – A cross-sectoral sustainability criteria and indicators**

The moderator **Diego Piedra-Garcia (FNR)** introduced the Agency for Renewable Resources (FNR) and the project H2020 ISABEL. The workshop star with a summary of the EU sustainability regulations in the area of renewable energies production:

- Renewable Energy Directive (RED - DIRECTIVE 2009/28/EC)  
On 30 November 2016, the Commission published a proposal for a revised Renewable Energy Directive COM(2016) 767
- Fuel Quality Directive (FQD – DIRECTIVE 2009/30/EC)
- Communication from the Commission on voluntary schemes and default values (COM 2010/ C 160/01)
- Indirect Land Use Change Directive (iLUC – “amendments to RED and FQD”; DIRECTIVE (EU)2015/1513)

These regulations are the requirements baseline for the renewable energy sources production. After this summary, it followed an analysis about how these directives were implemented into national laws in the six BIOSURF countries (France, UK, Italy, Austria, Hungary and Germany) focusing on additional requirements as well as respective gaps in the researched countries. This analysis was followed by a short introduction to the voluntary schemes.

Due to the infant stage the biomethane production in Hungary, the interaction with the stakeholders were more about informing them about the European political framework. The stakeholders' interaction started after the presentation inasmuch as they asked after the session about more information about the new RED II (Renewable Energy Directive).

### **Carbon footprinting within the context of the BIOSURF project**

During the session „Carbon footprinting within the context of the BIOSURF project” Stefan Majer (DBFZ) presented the main findings regarding the GHG-assessment of Biomethane within the BIOSURF project. Amongst others, the specific challenges for the GHG emission calculations for Biomethane in the context of the EU RED sustainability certification have been highlighted. These challenges are:

- The allocation of by-products: according to the RED methodology, by-products can only be allocated following their lower heating value. However, digestate as the main by-product of the biogas process usually has a high water content and can therefore often not be considered in adequately.
- Results from D5.1 have been presented which include options to deal with this issue.
- GHG mitigation effects from the use of agricultural wastes and manure: The use of agricultural waste materials for biogas production can help to avoid emissions associated with the conventional storage and handling of these materials. However, accounting for this benefit within the GHG calculation for biomethane production is not clearly defined within the RED methodology.
- The approach for D5.2 has been introduced. This Task will provide a database for future calculations
- He gave an outlook on the upcoming results for the calculation of GHG emissions for exemplary pathways.

### **Concept for biomethane cross-border trade administration**

Speaker: **Attila Kovacs**

In lack of sufficient political and financial support for biogas/biomethane investments in Hungary the interest in export possibilities was very high. Some biogas producers running out of feed-in-tariff period, also waste management consultancies view biomethane export as the only potential way in the future. There is a growing expectation that the BIOSURF project – together with the related and follow-up activities – will result in creating an operational administrative framework for exporting biomethane into other European countries. It was emphasized that establishing a national biomethane register in Hungary should also be has encouraged and supported.

### **Conclusions**

The workshop raised substantial interest among the Hungarian stakeholders, together with the BIOSURF consortium members 57 participants attended the event, among them the representatives of the Hungarian Energy and Public Utility Regulatory Authority, Association of Agricultural

Producers, Hungarian Chamber of Agriculture, Hungarian Natural Gas Vehicle Association, biogas plant operators, engineering and consulting companies, research institutions and universities.

The attendees were informed about the results of the work carried out in the different Work Packages of the BIOSURF project and listened to presentations about the status of biogas/biomethane industry in the participating countries.

The Hungarian participants were especially interested in receiving information on the biogas/biomethane related support systems applied in other European countries. This interest is explained by the fact that in Hungary the support system for biogas is far from being satisfactory, while no financial incentive is offered for biomethane producers. In this respect, special attention was given to the recently agreed arrangement in Austria on providing “brown-tariff” under specified conditions to biogas producers, whose original feed-in-tariff period is going to end. There was also a suggestion/request for the BIOSURF project preparing updated information on biomethane related financial support in the BIOSURF countries.

Some participants raised the question whether the BIOSURF project addressed the feasibility and sustainability of biomethane production from landfills and asked for such information.

The future development of gaseous transport (CNG, LNG, bio-CNG, bio-LNG) was seen with a certain scepticism regarding the passenger car segment. The Hungarian government – like in many other EU countries – gives clear priority to e-mobility, while there are no incentives to promote CNG fuelled cars. It was noted, however, that the possibilities for biomethane (and natural gas) in the heavy-duty sector are much stronger. The findings of the BIOSURF project on sustainability and GHG emission reduction potential of biomethane are very important, they provide supporting arguments in favour of using biomethane as a transportation fuel.