



## ***D2.1 | Networking & Cooperation Plan***

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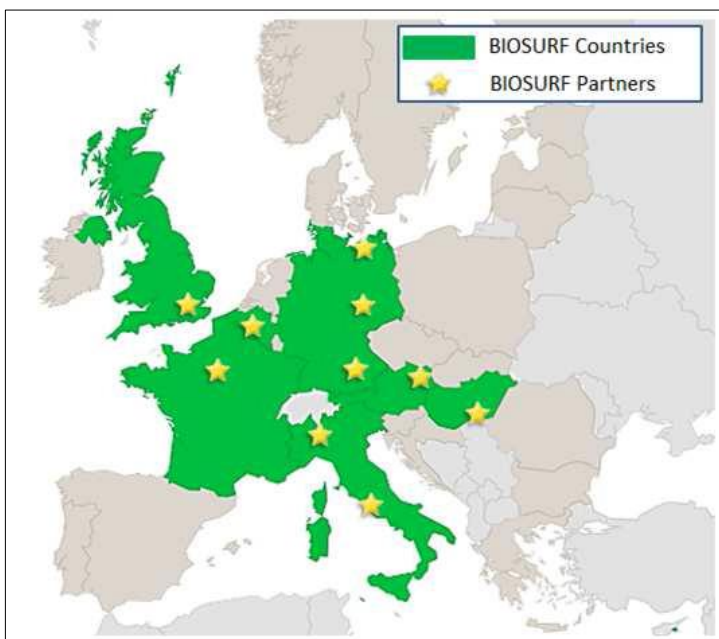


## BIOSURF in a Nutshell

BIOSURF (**B**iomethane as **S**ustainable and **R**enewable **F**uel) is an EU-funded project under the Horizon 2020 programme for research, technological development and demonstration.

The objective of BIOSURF is to increase the production and use of biomethane (from animal waste, other waste materials and sustainable biomass), for grid injection and as transport fuel, by removing non-technical barriers and by paving the way towards a European biomethane market.

The BIOSURF consortium consists of 11 partners from 7 countries (Austria, Belgium, France, Germany, Hungary, Italy and United Kingdom), covering a large geographical area, as indicated in the figure on the left.



The intention of the project is:

- To analyse the value chain from production to use, based on territorial, physical and economic features (specified for different areas, i.e., biofuel for transport, electricity generation, heating & cooling);
- To analyse, compare and promote biomethane registering, labelling, certification and trade practices in Europe, in order to favour cooperation among the different countries and cross border markets on

the basis of the partner countries involved;

- To address traceability, environmental criteria and quality standards to reduce GHG emissions and indirect land-use change (ILUC), as well as to preserve biodiversity and to assess the energy and CO<sub>2</sub> balance;
- To identify the most prominent drivers for CO<sub>2</sub>-emissions along the value chain as an input for future optimization approaches and to exchange information and best practices all across Europe with regard to biomethane policy, regulations, support schemes and technical standards.

### 1. Introduction and Structure

**BIOSURF** consists, in WP2 (**Networking and Cooperation**), of a continuing stimulation of the full biomethane chain (decision makers, industry and the larger civil society) by the biogas/biomethane national associations and networks that are partners of the project, through a regular schedule of meetings, workshops, public conferences, awareness and technical events that are expected to provide information on and boost the biomethane market.

Within WP2, BIOSURF will engage actors that are in the position to make a significant breakthrough in the development of biomethane. This involves creating the conditions and the specific opportunities for widespread networking, cooperation and participatory debate, with the aim to consolidate the knowledge produced by the partners by sharing it with the world of stakeholders and collecting from them inputs to be reflected within the project's products. This is done through the consolidation/enlargement of biogas/biomethane national associations of stakeholders, with both national and trans-national tasks.

WP2 has a dual dimension, as it operates throughout the project's countries, and holds international sessions involving the whole group of networks on a rotating basis between the countries. Similarly, WP2 maintains an internal work plan and concurrently interrelates with the other project WPs, particularly WP8 for communication and dissemination activities and WP3, WP4, WP5 and WP6, whose knowledge improvements bear considerable weight on the success of the engagement effort of the networks.

D2.1 aims to provide a guide for the format and the organisation of the activities of the associations envisaged within the project.

Section 2 provides the rationale for the functions of the biogas/biomethane associations within the project, as well as its general aims, and the activities to perform during it.

Section 3 defines the modalities and tools to operate the associations and networks in each of the project countries for the aims of the project. It contains details of the potential stakeholders to be involved in the activities of the associations and an initial planning of their actions.

Section 4 explains the rationale and the modalities for trans-association cooperation, with particular focus on trans-association workshops.

## 2. Activities of the Biogas/Biomethane Associations

**BIOSURF** will consolidate and possibly enlarge the six national biogas associations and networks already existing in Austria, France, Germany, Hungary, Italy and United Kingdom (respectively AKB, GRCETA, GBA, HBA, CIB and REA, plus EBA for European supervision) which have a multi-stakeholder membership (industries, farmers, producers, etc.).

The BIOSURF partners will use a broad range of modalities (including e-mails, invitation letters, phone calls, direct meetings, etc.) to operate the networks. In several cases, they already know or have in mind the main stakeholders to be involved in project activities, so they will decide case by case how to approach and engage them.

Although each network will function according to its own procedures and customs, thus retaining a distinctive trait, the objectives of the networking activities within BIOSURF in general terms are the following:

- Raise the profile of biomethane, bringing it to the centre of public policy debate and interaction with the business community and other institutions;
- Focus on the overarching benefits induced by biomethane;
- Address the persisting legal, fiscal and organisational obstacles to market break-through;
- Ensure media attention and citizen awareness truly becomes a priority by providing a tailor-made direct communication to their respective stakeholders and potential multipliers in their own language and on the basis of their local context;
- Attract interest not only in national organisations, but also in regional and local ones.

The BIOSURF partners are committed to ensure the following activities at the national level:

- One-to-one/small size/working meetings with representatives of the stakeholders' groups to discuss specific topics to be agreed on for concrete advancements for the development of the biomethane market;
- **6** general workshops during the project duration to gather around 20 stakeholders per meeting (including consortium partners concerned). They can focus on technical and non-technical topics, to be chosen, each time, according to main interests and needs of stakeholders: e.g., on biomethane registries, sustainability criteria, GHG emissions, public acceptance, etc. Participation is on a voluntary basis, and can change over time;
- **1** trans-association workshop (see section 4 below);
- **1** national conference per country, gathering all main national stakeholders (50 persons, including the consortium partners concerned) in a one-day meeting; by presenting the project results, it will be an opportunity to exploit them in a larger and more strategic perspective through the involvement of national decision makers, potential investors and financing institutions;
- The associations will interact with existing local, national and EU networks and associations through several modalities, e.g., they will receive the BIOSURF products (deliverables, folders, newsletters, etc.), the BIOSURF partners will participate in their events and vice versa. In particular, the following linkages and interactions with existing national and EU networks and associations are ensured (although they are not limited to these):
  - EBA is member of EREF (European Renewable Energies Federation), and EUFORES (The European Forum for Renewable Energy Sources) and has cooperation with AEBIOM (European Biomass Association), ECN (European Compost Network), NGVA Europe (Natural Gas Vehicle Association), EUROGAS, GIE (Gas Infrastructure Europe) and Marcogaz (Technical Association for the European Natural gas Industry);

- AKB is member of EBA and of Renewable energy Austria (EEÖ: Erneuerbare Energie Österreich) and European Biogas Association EBA. It works together with the relevant ministries (environment, agriculture, commerce, health) and chambers for commerce, agriculture and gas & heat etc;
- GRCETA has a partnership with CLUB BIOGAZ (Biogas Club of the Technical Association for Energy and the Environment) and collaborates with AAMF (Association of Biogas Farmers of France) and also GrDF (Gas Grid Operator);
- GBA is member of EBA and and of EREF (European Renewable Energies Federation) and has partnership with DVGW (German Technical and Scientific Association for Gas and Water) and DWA (German Water Association). GBA is involved in the standardization of biomethane (CEN 408) and the overall standardization of biogas with the ISO TC 255;
- HBA is member of EBA, the National Renewable Energy Forum and of the Hungarian Gaseous Fuel Cluster. HBA is cooperating with other renewable energy associations and with environmental NGO's. HBA keeps close contacts with the national biogas associations of Austria, Czech Republic, Germany and Serbia;
- CIB is member of EBA, NGVA Europe (Natural Gas Vehicle Association), CTI - Comitato Termotecnico Italiano (Standardization Body), ITABIA (Italian Biomass Association), Kyoto Club (Non-Profit Organisation engaged in reaching the greenhouse gases reduction targets set by Kyoto Protocol), AssoGasMetano (natural gas carriers and natural gas stations Association), Coordinamento FREE (Renewable Sources Association), NGV System Italia (Natural Gas Vehicle Association);
- REA is a member of EBA, a member of EREF (European Renewable Energies Federation), EUFORES (The European Forum for Renewable Energy Sources), ECN (European Compost Network), NGVA Europe (Natural Gas Vehicle Association), Energy Networks Association in UK, CEN-TC408 (for Standards for transport and biomethane for injection in the natural gas network). It co-operates with other renewable energy trade bodies in UK and in other EU states.

All meetings and workshops will be evaluated by means of a short evaluation form given to the participants.

### 3. Focus on the Project's Countries

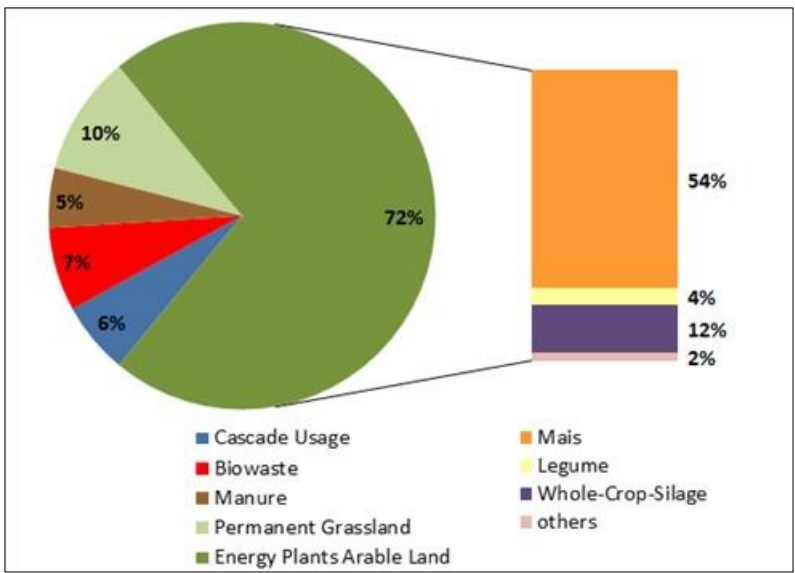
#### 3.1 Austria

##### 3.1.1 General framework

In 1999 all states of Austria introduced a law for feed-in tariffs for electricity from renewable sources. Through an amendment in 2002, these laws were amended and inherited into a country law called Ökostromgesetz. This law was already amended several times but still does only include feed-in tariffs for power production from renewables and does not give subsidies for gas grid injection only. Following this law, there are about 289 biogas plants producing electricity and heat from crops, manure and biowaste. In total they have an installed capacity of 82 MWel. and sell on average 500 up to 550 GWh electricity and about 300 GWh heat.

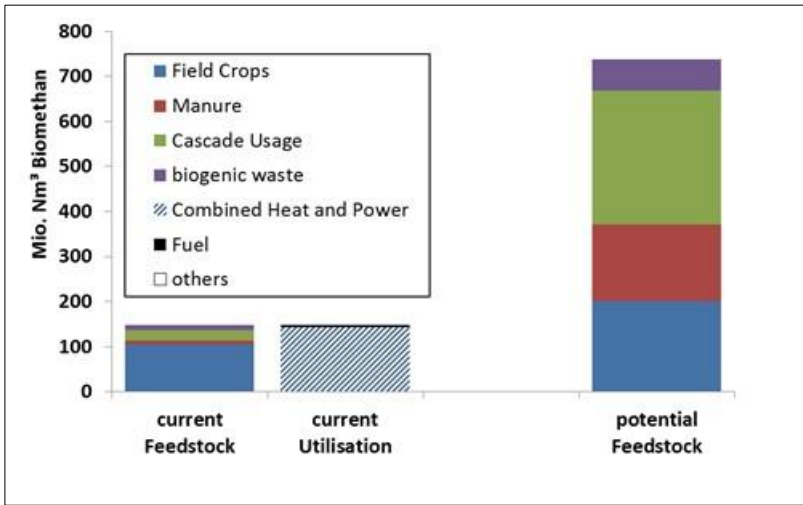
In 2005 the first biogas upgrading and gas grid injection began operating. Since then, 12 biogas plants have installed an upgrading system and are now connected to the gas grid, while 3 of them also have a filling station at the plant or nearby. There is good cooperation between biogas and natural gas stakeholders, with 180 methane filling stations and around 10,000 methane cars already running.

Due to fast rising prices of crops and discussions about the use of energy crops for energy production, scientists, companies and plant operators have started thinking about alternative substrates.



Used feedstock of Austrian biogas plants (based on energy content):  
 Source: Austrian Compost & Biogas Association: Arbeitskreis biogas 2014 (sample from 180 plant operators)





Currently used feedstock and potential of feedstock for biogas production coming mainly from agricultural residues, manure and biowaste  
 Source: Austrian Compost & Biogas Association

In comparison to the renewable energy act (Ökostromgesetz), which sets out clear targets and feed-in tariffs for renewables, there is only an indicative target without an explicit goal for the year in which it has to be fulfilled, and no subsidy instruments for biomethane.

Through an amendment of the Ökostromgesetz, plant operators can additionally receive a bonus of 2 Cent/kWhel. for the electricity produced if the biogas used was upgraded to biomethane and transported via the natural gas grid before final application in a high efficient CHP. To guarantee traceability, relevant stakeholders started to develop a biomethane register ([www.biomethanregister.at](http://www.biomethanregister.at)), which started in 2012.

Challenges for the future concern:

- Change in used feedstock with a big potential from non-food/feed sources;
- Further technology improvements needed;
- The current energy situation and discussion about GHG are sadly not a driver for further development;
- Lack of political interest;
- Market demand insufficient with only a few cities with methane busses, a few lorries on the market and CHP after grid injection only at the beginning stage;
- Need for an agreement at the political level about the future part of the gas grid and biomethane with a 2050 target.

### 3.1.2 Stakeholders and Activities

Apart from members of the association, an indicative list of stakeholders to be involved during the BIOSURF lifetime and their main mission is as follows:

Stakeholder	Mission
BMWFV	Federal ministry for commerce, science and research (responsible for legislation).
BMLFUW	Federal ministry of agriculture, forestry, water and environment (responsible for environment, climate change and resources).





BMF	Federal ministry of finance (responsible for taxes and therefore also for exemptions).
WKO	Chamber of commerce (Interest group of commerce).
LKO	Chamber of agriculture (Interest group of farmers).
FGW	Chamber of gas and heat (Interest group for gas traders).
IV	Association of industry (Interest group for industries).
OMV, WienEnergie, EVN, EnergieAG, Salzburg AG	Relevant gas grid operators and gas traders.
AGCS	Austrian gas clearing & settlement (running the biomethane register).

An indicative list of events and their timing is as follows:

Event	Timing
<b>6 general meetings</b>	<ul style="list-style-type: none"> <li>• June 2015 (M6)</li> <li>• December 2015 (M12)</li> <li>• March 2016 (M15)</li> <li>• June 2016 (M18)</li> <li>• December 2016 (M24)</li> <li>• March 2017 (M27)</li> </ul>
<b>One trans-association workshop</b>	<ul style="list-style-type: none"> <li>• February 2015 (M2)</li> </ul>
<b>One national final conference</b>	<ul style="list-style-type: none"> <li>• December 2017 (M36)</li> </ul>

## 3.2 France

### 3.2.1 General framework

France is a promising market for biomethane, with several strengths:

- 6 existing upgrading plants injecting into the natural gas grid of which 4 are on farms / 2 biowaste;
- Production: 70 GWh / year;
- Authorization of injection into the grid as allowed since November 2011;
- 60 to 150 Nm<sup>3</sup>/h (250 to 600 kWh) injected into the natural gas grid;
- 290 filling stations with 3 options: CNG/BioCBG/EcoCBG (the latter being 30% of biomethane and 70% of natural gas);
- A big and committed gas distribution grid operator (GrDF and TIGF particularly) covering the whole territory;
- Rules and regulation are well established and the registries are already in place;



- A strong demand for biomethane in comparison with the different renewable electricity sources.

The construction of biomethane plants can require a lot of time because of the different legislations and authorisations.

At February 2015 there are just 6 plants injecting for the equivalent of 70 Gwh / year. But 10 more should be injecting in 2015 and more than 600 are in the planning stage for a potential considered around 1,400 plants by 2030.

From a market standpoint, the government promotes BioCBG through tax cuts but building stations remain a challenge and electric cars are still seen as a very competitive solution.

### 3.2.2 Stakeholders and Activities

Apart from members of the association, an indicative list of stakeholders to be involved during the BIOSURF lifetime and their main mission is as follows:

Stakeholder	Mission
ADEME	Environment and Energy National Agency: it studies and gives its opinions on the options and helps everyone involved in the network.
SER	Renewable Energy Office which promotes all renewable energy sources.
<i>GRT gaz</i>	It owns and operates the longest high-pressure natural gas transmission network in Europe. In charge of the management of the grid capacities considering biomethane / natural gas.
<i>TGIF</i>	Operating the gas grid in the southwestern part of France.
<i>GrDF</i>	It operates the gas grid on the distribution level. It is in charge of the biomethane registries.
Club Biogaz	Association of more than 200 members from the entire network, promoting Biogaz.
AAMF	Association of Biogas plant owners, mostly farmers, helping them through each step of the process.

An indicative list of events and their timing is as follows:

Event	Timing
<b>6 general meetings</b>	<ul style="list-style-type: none"> <li>• June 2015 (M6)</li> <li>• November 2015 (M11)</li> <li>• June 2016 (M18)</li> <li>• December 2016 (M24)</li> <li>• June 2017 (M30)</li> <li>• November 2017 (M35)</li> </ul>



<b>One trans-association workshop</b>	<ul style="list-style-type: none"> <li>• December 2015 (M12)</li> </ul>
<b>One national final conference</b>	<ul style="list-style-type: none"> <li>• December 2017 (M36)</li> </ul>

### 3.3 Germany

#### 3.3.1 General framework

Germany is one of the leading countries in the biogas and biomethane sector, having:

- over 8,000 biogas plants with more than 13,182 billion m<sup>3</sup> biogas production per year;
- over 156 biomethane plants;
- around 920 CNG filling stations;
- around 100,000 CNG cars;
- a very large and capillary gas distribution grid, with around 510,000 km of natural gas grid.

The most important instrument for the promotion of renewable energies in Germany is the Renewable Energy Act (EEG). A guaranteed compensation per kWh does not exist for biomethane fed into the gas grid – unlike for electricity generated from renewable energies. Producers of biomethane have to market their gas individually. The government employs various measures to support biomethane and to develop demand in the market. Aside from its application to heat and combined heat and power (CHP), bio-methane is also used in gas-dedicated vehicles. Many diverse regulations are employed to promote the feed-in of biogas in Germany. As of 2014, however, the German government has put further support of biomethane in the EEG on hold, due to the relatively high costs of biomethane in relation to other renewable energies. Thus, for the time being, the number of plants will stagnate and the amount of biomethane in the grid will remain at about 7 TWh.

Some impulses might, however, still be expected in the heating sector and in the use of biomethane as a fuel. Both sectors could induce some new plants to be built in the near future, but not nearly in the dynamics which the EEG used to facilitate.

The heating sector is regulated by the Renewable Heat Act which obliges home owners to measures in energy efficiency and use of renewable energy sources upon renovation of their properties. Biomethane is one of the applicable options, but not broadly used because the use of biomethane is only allowed if used in a CHP unit. Hence, many home owners turn to other options fitting better into their individual energy concepts. The fuel sector is regulated by a quota based on GHG. Mineral oil companies have to prove an overall GHG reduction in their fuel portfolio of 3.5 % each year starting in 2015, to be raised to 4 % in 2017 and 6% in 2020. Biomethane is one of the options, but the system being new the market is currently rather hesitant due to many unsolved questions regarding GHG-reduction-assessment and uncertain pricing development.

#### 3.3.2 Stakeholders and Activities

Apart from members of the association, an indicative list of stakeholders to be involved during the BIOSURF lifetime and their main mission is as follows:

Stakeholder	Mission
DVGW	German Technical and Scientific Association for Gas and Water.
DENA	German Energy Agency. Initiator of the project "biogas partner" with the task to establish political, economic, environmental and technical frameworks for the creation and implementation of a biogas feed-in system.
erdgas mobil	It is an initiative of leading German energy providers (13 companies).
BNetzA	<i>The Bundesnetzagentur</i> promotes effective competition in the regulated areas and ensures non-discriminatory access to networks. It protects important consumer rights and is also the root certification authority under the Electronic Signatures Act. In addition, it is responsible for implementing the Grid Expansion Acceleration Act.
BMWi	The Ministry for Economic Affairs and Energy's goal is to reinvigorate the social market economy, stay innovative in the long term and strengthen the social fabric in Germany.
German Bioenergy Association	The German Bioenergy Association is active in the promotion of all forms of bioenergy along the entire added value chain in Germany and abroad.

An indicative list of events and their timing is as follows:

Event	Timing
<b>6 general meetings</b>	<ul style="list-style-type: none"> <li>• June 2015 (M6)</li> <li>• November 2015 (M11)</li> <li>• June 2016 (M18)</li> <li>• December 2016 (M24)</li> <li>• June 2017 (M30)</li> <li>• November 2017 (M35)</li> </ul>
<b>One trans-association workshop</b>	<ul style="list-style-type: none"> <li>• December 2016 (M18)</li> </ul>
<b>One national final conference</b>	<ul style="list-style-type: none"> <li>• December 2017 (M36)</li> </ul>

### 3.4 Hungary

#### 3.4.1 General framework

For Hungary, where natural gas has the biggest share in the energy consumption mix (44%) and up to 80% is imported, partial substitution of imported natural gas by domestically produced biogas should be particularly appealing. The country produces a vast amount of organic waste and agricultural by-products relative to its size. There is a remarkably strong and successful biogas-

related research and development activity at Hungarian universities. All these aspects call for a strong development of the biogas/biomethane industry and for complex use of biogas/biomethane for electricity generation, heating & cooling and as transportation fuel.

Unfortunately, the potential is far from being used. The current status of the biogas industry is shown in the table below (based on data from the Energy Regulatory Office):

		Agriculture	Sewage	Landfill	Other*	TOTAL
Number of plants	number	35	13	20	2	70
Biogas production	1,000 m <sup>3</sup> /year	58,947	32,143	25,714	5,791	122,596
Biogas production	GWh/year	589	321	257	58	1 226
Electrical energy production						
Installed electrical capacity	MWel	32	15	12	2.4	61.4
Generated electricity	GWh	224	112.5	90	16.8	443.3
Thermal energy production						
Thermal energy production	GWh					0
Co-generated thermal energy	GWh	22.4	67.5	0		89.9
Stand-alone thermal energy	GWh				13.7	13.7

- Other\*: (industrial waste, including waste streams from the food and beverage industry)

Presently there is only one biogas plant equipped with an upgrading unit, producing biomethane for use in transportation.

The rapid growth of the biogas industry in Hungary is hampered primarily by the lack of straightforward and supportive policies. The government's announcement in 2010 about the planned revision of the renewable electricity feed-in tariff system created positive expectations while the FIT in Hungary was among the lowest in the EU and the stakeholders were expecting substantial improvements. Over 4 years have passed since then and the new, improved system still has not yet been introduced. These major political uncertainties scare away potential investors and financing institutions and very few new biogas projects are realised.

The result of the unfavourable political environment is that the biogas industry in general and biomethane production in particular are in their infancy in Hungary. Important legislative measures, regulations, and incentives are still missing.

The National Renewable Energy Action Plan includes quite modest target numbers for biogas and biomethane (far below the realistic potential):

Production in ktOE	2010	2015	2020
Biogas for electricity generation	7	23	55
Biogas for heating & cooling	0	30	56



<i>Biomethane for transportation</i>	0	1	5
<b>Total</b>	<b>7</b>	<b>54</b>	<b>116</b>

If no new measures for improving the support system (making it feasible, stable, reliable and trustworthy) are taken, then even these modest targets will not be achieved by 2020.

Hungary has a very well-developed and dense natural gas distribution system. In principle biomethane producers have rights equal to natural gas producers and biomethane can be injected into the natural gas grid according to the Law on Natural Gas (XLII./2003). Hungarian standard (MSZ1648) contains the most important quality parameters for natural gas, the same should be applied when biomethane is to be injected into the natural gas grid. The possibilities offered by the natural gas distribution network are not at all employed; there is no biogas plant which would produce biomethane for injection into the natural gas system. The main reasons for poor past development (but also the main opportunities for improvement) are the following:

- No feed-in tariff is offered to biomethane producers (FIT is available only for green electricity);
- No premium or bonus is offered for green electricity generation from biomethane;
- The complicated permit procedure puts a high burden on project developers (depending on local conditions, biogas investors need to get 20-24 permits from various authorities before the construction of a biogas plant can start);
- The Ministry responsible for agriculture, rural development and environment does not acknowledge the importance of biogas technology in up-to-date agricultural technology and rural development;
- Financial institutions are reluctant to take political risks;
- Substantial volumes of organic waste are being exported to neighbouring countries where more financial support is provided to biogas producers;
- There are only 4 public CNG refilling stations in the whole country;
- Public awareness regarding climate change, GHG emission risks and on the importance of domestic renewable energy production is very weak, correspondingly the political parties do not feel that voters expect them to push renewable energy industries forward.

Most of the above mentioned issues can and will be addressed through the BIOSURF project. Positive examples from Western European economies together with success stories will be brought to the country, networking among the stakeholders will develop, the latest achievements in technological development will be disseminated, and cross-border business ties will be fostered.

Particularly strong emphasis is to be put on the development of transportation based on gaseous fuels, natural gas/biomethane blends should be produced and marketed through cooperation between the natural gas and biogas industries both in CNG and LNG forms.

### 3.4.2 Stakeholders and Activities

Apart from members of the association, an indicative list of stakeholders to be involved during the BIOSURF lifetime and their main mission is as follows:

Stakeholder	Mission
MKEH	Hungarian Energy and Utility Regulatory Office.



NGM	Ministry of Economic Development.
MVM	Ministry of Agriculture, Rural Development and Environment.
MKIK	National and Regional Chambers of Commerce and Industry.
MAK	National and Regional Chambers of Agriculture.
MOL	Hungarian Oil and Gas Corporation.
E-ON HU	E-ON Hungary.
MC Zrt	Hungarian Sugar Factory.
EK	Energy Club Hungary.
MMEF	National Renewable Energy Forum.
MGKKE	Hungarian Gaseous Fuel Transportation Cluster
MBSz	Hungarian Biotechnology Association.

An indicative list of events and their timing is as follows:

Event	Timing
<b>6 general meetings</b>	<ul style="list-style-type: none"> <li>• April 2015 National Biogas Conference ((M4)</li> <li>• November 2015 (M11)</li> <li>• March 2016 (M15)</li> <li>• August 2016 (M18)</li> <li>• November 2016 (M23)</li> <li>• March 2017 (M27)</li> <li>• September 2017 (M33)</li> </ul>
<b>One trans-association workshop</b>	<ul style="list-style-type: none"> <li>• June 2017 (M30)</li> </ul>
<b>One national final conference</b>	<ul style="list-style-type: none"> <li>• November 2017 (M35)</li> </ul>

### 3.5 Italy

#### 3.5.1 General framework

In Europe, Italy is one of the most promising countries for the development of the biomethane market, having:

- a very large and capillary gas distribution grid, with around 280,000 km of natural gas grid (mostly concentrated in the northern regions);

- around 14,000 biogas plants, with about 1,100 MWeI of installed capacity;
- around 1,000 CNG filling stations;
- the highest number of gas powered vehicles in Europe, with more than 790,000 CNG vehicles.

Despite this enormous potential for biogas and biomethane, the use of biomethane still remains limited, with only one biomethane plant (from landfill) near Rome and four biomethane pilot plants (from AD) near Bologna, Lodi, Torino and Mantova.

Some of the main reasons for this are as follows:

- No incentives for biomethane production in Italy (until December 2013).
- Fragmentation and multiplicity of regulatory framework on authorization and installation procedures.
- No clear national policy about biofuel issues.
- No national policy framework supporting biomethane for transport (with subsidies existing for bioethanol production and tax exemptions for biodiesel production but not for biomethane).
- Lack of information on biomethane production and use among citizens, farmers and foresters.
- For the use of biomethane as a transport bio-fuel:
  - Uneven distribution of natural gas service stations (widespread in northern Italy; small number in the center and, especially, in the south);
  - Severe under-representation of natural gas service stations on the Italian highways;
  - The long authorization process to obtain permission to build a new natural gas filling station (on average 2 years);
  - For the moment, failure to introduce self-service natural gas stations (option introduced by the Decree of 31/3/2014);
  - Clearness and bankability of the “CIC – Certificati di Immissione in Consumo dei biocarburanti” (certificates of release for consumption of biofuels) market;
  - Introduction into the legislation of the concept of advanced biofuel as valid in other countries (the U.S. for example) and as proposed by the European Commission (October 2012), in relation to land efficiency and the reduction of greenhouse gas emissions;
  - Ex ante approval of a mid-term period increase of the biofuels induction obligation by 2020 subject to Law n. 81/2006, foreseeing a share for advanced biofuel from 4.5% in 2014 to 10% in 2020.

The Legislative Decree 28/2011, implementing Directive 2009/28/EC defines the general tools, mechanisms, incentives and institutional, financial and legal framework necessary for achieving the objectives up to 2020 on the overall share of energy from renewable sources in gross final consumption of energy and the share of energy from renewable sources in transport. Within the National Energy Strategy adopted on October 2012, biomethane for transport plays an important role, reaching 10% of renewable energy sources in the transport sector by 2020. The implementation of decrees containing detailed rules to support the production of biomethane and to define the technical and security conditions for the injection of biomethane into the natural gas grid are expected. Finally on 5 December 2013 a Ministerial Decree was issued defining incentives for the production of biomethane that is:

- Injected into the gas transport and distribution gas grid;
- Used in natural gas filling stations for transport;
- Used in high efficiency cogeneration plants.



Despite some regulations are still expected for the concrete boosting of the market, Italy is set to become a leader in the European market over the coming years.

### 3.5.2 Stakeholders and Activities

Apart from members of the association, an indicative list of stakeholders to be involved during the BIOSURF lifetime and their main mission is as follows:

Stakeholder	Mission
AEGG	Independent body which regulates, controls and monitors the electricity and gas markets in Italy.
Assogasmetano	National association bringing together the carriers (trucks and jumbo vessels) of natural gas and the owners of natural gas filling stations.
Confartigianato Trasporti	National association representing the heavy transport sector.
ASSTRA	National association of public and private transport fleet owners.
Confagricoltura	National association representing Italian agricultural enterprises.
CIC – Consorzio Italiano Compostatori	Association bringing together companies that produce biogas from waste.
Enel Rete Gas	Leader for distribution of natural gas in Italy.
ENI	Leader for distribution of natural gas (also as fuel).
Federutility	National association bringing together public and private companies that distribute natural gas.
FCA – Fiat Chrysler Automobiles	Leader for natural gas vehicles.
GSE	State-owned company that promotes and supports renewable energy sources (RES) in Italy.
Legambiente	National association for the protection of the environment.
Ministero delle Politiche Agricole Alimentari e Forestali – MIPAAF	Ministry for agriculture, food and forestry policies.
Ministero dello Sviluppo Economico - MSE	Ministry of economic development.
Regione Lombardia	Lombardy Region.
Regione Emilia Romagna	Emilia-Romagna Region.

Regione Veneto	Veneto Region.
SNAM	Leader for transport and dispatching of natural gas in Italy.

An indicative list of events and their timing is as follows:

Event	Timing
<b>6 general meetings</b>	<ul style="list-style-type: none"> <li>• May 2015 (M5)</li> <li>• September 2015 (M9)</li> <li>• March 2016 (M14)</li> <li>• September 2016 (M21)</li> <li>• March 2017 (M26)</li> <li>• September 2017 (M33)</li> </ul>
<b>One trans-association workshop</b>	<ul style="list-style-type: none"> <li>• June 2015 (M6)</li> </ul>
<b>One national final conference</b>	<ul style="list-style-type: none"> <li>• November 2017 (M35)</li> </ul>

### 3.6 United Kingdom

#### 3.6.1 General framework

Using conventional CHP, the UK biogas industry currently has around 80 operational farm-based plants (installed capacity of 60Mwe) and 80 operational waste plants (installed capacity of 104 Mwe). In addition there are a further 280 farm-based and 130 waste plants either under construction or in the pipeline with planning permission.

The biomethane industry in the UK has been slower to develop because of the late introduction of the Renewable Heat Incentive (RHI). It is paid on the volumes of biomethane injected into the grid. However in 2013/2014 there was a rapid increase in projects, with 6 plants operational and 23 plants under development.

The UK has an excellent gas grid network developed for the offshore oil and gas industry which was landed in Scotland and the east of England and distributed all over the UK.

Because of the lack of incentives, the only development in gas vehicles has been in trucks and buses with around 350 natural gas trucks, 350 dual fuel trucks, supplied from only 26 fuelling stations. However there are no filling facilities for CNG cars in the UK and the only cars available on the market have left hand drive. There are a few commercial gas vans available with right hand drive.

The main legislative driver is the Renewable Energy Directive (2020 targets) - 15% of total energy in the UK to be renewable (for heat, electricity and transport). The Renewable Heat Incentive (RHI) supports heat and biomethane injection to meet the 2010 targets. The Levy Control Framework is for the purpose of protecting the public interest with regard to household energy bills.



The RHI is levied from taxation (progressive) but the feed-in tariff is levied from households (regressive).

After the solar industry overspent the feed-in tariff budget, the government introduced strict budgetary controls & a degression mechanism. This mechanism applies to biomethane injection and could result in reductions in the tariff of between 5% and 10% in the next few months.

The main barriers to the deployment of the biomethane market are:

- budget constraints and future tariff degression;
- availability of waste feedstocks;
- the use of crops is still under debate – it is likely that sustainability criteria will be tightened to control the use of some food crops;
- Gas grid capacity at low and medium pressure is insufficient in some areas;
- Very high cost of grid connections which are paid by the developer and long delays in completing the connections;
- Matching the exact energy content (CV) of biomethane to gas grid needing the injection of propane;
- Sustainability Criteria- in force the 5<sup>th</sup> October 2015:
  - 60% GHG savings compared to GHG EU fossil heat average;
  - Lifecycle emissions of < 125.28kg CO<sub>2</sub> equivalent (34.8gCO<sub>2</sub>e/MJ) of biomass heat generated;
  - Consignment basis – no averaging;
  - Waste is exempt – emissions up to the process of collection;
  - Land criteria requirements to be introduced by April 2015 (all existing plants will have to comply with them).

### 3.6.2 Stakeholders and Activities

Apart from members of the association, an indicative list of stakeholders to be involved during BIOSURF's lifetime and their main mission is as follows:

Stakeholder	Mission
DECC	Department of Energy and Climate Change – government department that initiates legislation on renewable energy.
OFGEM	Government department that regulates the energy industry in the UK.
ENA	Energy Networks Association - The industry body for UK electricity and gas networks.
DEFRA	Government department responsible for farming and rural affairs.
NFU	National Farmers Union.
CLA	Country Land and Business Association.
NNFCC	National Non Food Crop Centre – Consultancy with government



	contract to track the biogas and biomethane industry in the UK.
DECC	Department of Energy and Climate Change – government department that initiates legislation on renewable energy.
OFGEM	Government department that regulates the energy industry in the UK.
ENA	Energy Networks Association - the industry body for UK electricity and gas networks.
DEFRA	Government department responsible for farming and rural affairs.
NFU	National Farmers Union.
CLA	Country Land and Business Association.
NNFCC	National Non Food Crop Centre – Consultancy with government contract to track the Biogas and Biomethane industry in the UK.
DECC	Department of Energy and Climate Change – Government Department which initiates legislation on renewable energy.
OFGEM	Government department which regulates the energy industry in the UK.
ENA	Energy Networks Association - The industry body for UK electricity and gas networks.

An indicative list of events and their timing is as follows:

Event	Timing
<b>6 general meetings</b>	<ul style="list-style-type: none"> <li>• June 2015 (M6)</li> <li>• December 2015 (M12)</li> <li>• June 2016 (M18)</li> <li>• December 2016 (M24)</li> <li>• June 2017 (M30)</li> <li>• December 2017(M36)</li> </ul>
<b>One trans-association workshop</b>	<ul style="list-style-type: none"> <li>• December 2016 (M30)</li> </ul>
<b>One national final conference</b>	<ul style="list-style-type: none"> <li>• June 2017 (M30)</li> </ul>



## 4. Trans-association Cooperation

The associations and networks in each of the project sites will be given the opportunity to regularly meet up in ad-hoc trans-association workshops that will be held in each BIOSURF country according to the consortium meeting rotation.

These sessions represent a crucial discussion venue where people from different backgrounds but with similar agendas will meet face to face. The cooperation concept animating this activity calls for trans-association meetings arranged as follows:

Host	Participants	Concrete Activities
Rotation involving: <ul style="list-style-type: none"> <li>▪ AKB</li> <li>▪ CIB</li> <li>▪ GRCETA</li> <li>▪ HBA</li> <li>▪ REA</li> <li>▪ GBA</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hosting association: all interested stakeholders</li> <li>▪ Visiting networks: the BIOSURF partners</li> </ul>	<ul style="list-style-type: none"> <li>▪ Open discussion of priority topics</li> <li>▪ Transfer of experiences</li> </ul>

Each consortium meeting, held every six months, will be integrated with a half-day trans-association workshop (around 20 external participants from the association hosting the meeting), in order to provide, mainly to stakeholders of the hosting country, updates on the entire project and on the activities of the other associations within the project.

An **Interim Report on Networking & Cooperation** (D2.2) will be produced at month 19, while the **Final Report on Networking & Cooperation** (D2.3), to be produced at month 35, will allow partners to draw lessons and conclusions from the activities and results of WP2.

The trans-national dimension of BIOSURF developed within WP2 is complemented by task 8.4 in WP8: in particular the project will ensure the proper exploitation and transferability of its results through the organisation of at least three workshops in non-partner countries (in Sweden, The Netherlands and Czech Republic, to be confirmed). These workshops will represent, through the involvement of the main national and regional stakeholders, the kick-off step and a visible milestone in the development of concepts (registries, guarantee of origin, tradable certificates, sustainability, GHG emissions reduction, etc.) elaborated within the project, with the aim of producing a replication effect beyond the countries participating in BIOSURF. In addition, EBA will use its European network to facilitate the application of results in other European countries.

