



Sustainable and Innovative European Biogas Environment

Transnational Legal Environment

End Version

Finalized on the 28th of February 2012

Elaborated by PP7

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This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF.



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND

Transnational Legal Environment

Structure of reports / EXECUTIVE SUMMARY

INTRODUCTION

Consortium members of eight countries have prepared and submitted national report in the framework of the SEBE project, to demonstrate the current legal environment concerning the production and usage of biogas in their own countries.

The main goal of the present Transnational Report is not only to include and summarize the result of the national reports in one report, since merely describe the essential relevant rules of the legislation concerning the biogas utilization could not be sufficient to provide a full view. It is also very important to emphasize and describe the common issues, challenges and action plans of the countries involved in SEBE project, together with the possible regional and EU wide solutions, by synthesizing the information given in the national reports.

The present Transnational Report focuses on three key main areas: support mechanisms connected to biogas production, features of the administrative process of biogas plants and the 'future' ways of the utilization of biogas (biomethane injection to the natural gas grid and using biogas as a vehicle fuel), as these areas are not really developed in the partner countries at the moment, but an expansion can be expected in the upcoming years.

As for the structure of the Transnational Report: chapters are divided adhering to the three key areas. Each chapter contains the short description of the current legal environment of the partner countries in connection with the topic concerned. Moreover, in most of the chapters, the considerable recommendations for the adjustment of the relevant legislation are also mentioned to assist the final result of the SEBE Project.

In the last chapter ('Key recommendations, messages'), the most important recommendations for key stakeholders are highlighted.

STRATEGIES AND POLICIES ON RENEWABLE ENERGY/BIOGAS

Before describing the current status and characteristics of the legal environment of the biogas utilization, it is very important to get an insight into the current strategies and policies of each partner country concerning not only biogas, but the whole renewable energy sector. It can be concluded, that most member countries have their own strategies (strategy documents) concerning renewable energy. The existence of such renewable energy strategy proves that the partner countries have realized the importance of the energy generation from renewable energy sources.

On top of that, in all partner countries the main targets are defined in the national renewable energy action plans which were submitted to the European Commission in accordance with the provisions of the RES Directive.

Austria's latest Energy Strategy was published in 2010. It determines 3 priorities: a constant upgrading of energy efficiency, expansion of renewable energies (e.g. utilization and expansion of potentials in hydropower, wind power, biomass and photovoltaic) and the long-term secure of energy supply. In order to achieve these goals, Austria's primary objective is to stabilize energy consumption on the level of the year 2005 (1,100 PJ). In its National Renewable Energy Action Plan, Austria's goal is to cover 35,48 % of gross energy consumption from renewable energy sources. To achieve this number, in electricity generation, electricity from wind power, hydropower and photovoltaic shall be raised, furthermore, in heat generation, the use of biomass and biogas is in the focus.

In Slovakia, according to the national report, energy from biomass and solar energy have the greatest potential. Slovakia has a number of documents, issued for the promotion of renewable energy sources, for example: The concept of renewable energy sources (2003), The concept of using agricultural and forest biomass for energy purposes (2004), Energy Policy (2007), The strategy for greater use of renewable energy sources in Slovakia (2007), and Action Plan for the use of biomass for the years 2008-2013. Some key priorities of the Energy Policy are:

replacement of old electricity production facilities, using domestic primary energy sources for electricity and heat production, increasing the share of renewable energy in electricity and heat production.

In Slovenia, the main principles concerning renewable energy are laid down in the Action plan for renewable energy 2010-2020. According to the action plan, a high increase in the use of RES is expected; it shall be 67% more than in the year 2005. The RES Directive determined a very ambitious objective concerning the share of renewable energies in the final energy consumption (25 % by 2020), however, according to recent analysis, Slovenia will probably reach “only” 22,1 % share of RES by 2020. To reach the determined targets, construction of large hydroelectric power stations is the most economically beneficial option according to Slovenia’s energy policy. Furthermore Slovenia puts an emphasis on increasing the share of biofuels. The increase in the share of biofuels is planned to be encouraged with exemption from the excise duty, and by direct payments to the producers.

According to the national report of the Czech Republic, the share of renewable sources in the total energy consumption is relatively low, although an increase is expected. The target share of renewable energy in the total gross energy consumption for year 2020 is 13,5 %. The most important renewable energy source for the achievement of the above target is biomass, as it has the highest potential in the Czech Republic. The key elements of the Czech Republic’s energy policy are determined in the State Energy Concept, which is planned to be amended soon (in 2011). The amendment will probably put the nuclear energy sector, renewable energy sources and other plants using natural gas in the focus. As for electricity generation, in the latest predictions it is declared, that biogas can multiply the amount of electricity produced from RES, and it is planned, that a new pricing policy shall be connected to it.

The Hungarian National Renewable Energy Action Plan has targeted to increase the share of renewable energy sources to 14,7% until 2020. The keywords of the Hungarian energy policy are security of supply, environmental sustainability and climate protection, agricultural and rural development, development of the green economy. For the achievement of these ambitious targets the Hungarian Government plans the supervision of the current support scheme in the next year. Investment in the natural gas infrastructure and in the electricity infrastructure are essential points of the Hungarian energy strategy. New Energy Strategy is currently being prepared which may contain the relevant details of the energy policy and the necessary instruments.

The most important strategic documents of Germany are the Biomass Action Plan (2009), the National Renewable Energy Action Plan (2010), and the Energy Concept (2010). These strategies contain the goals in the energy sector for the next years. Besides that the Integrated Energy and Climate Programme sets the framework of conditions for supporting renewable energy sources. The keywords are quite similar as the Hungarian targets: promoting the expansion of renewable energy sources, optimization of the energy systems, creating new jobs, reduction the costs of utilization renewable energy sources.

The main Italian objectives are strengthening the support mechanism, increasing the flexibility in support of incentives, correcting the economic viability of the investments, weighting the promotion of heat, transport and electricity. In the context of The State of Environment in Italy there is the provision of devoting extraordinary effort in increasing energy efficiency and reducing energy consumption.

In Poland the Energy Policy of Poland till 2030 (PEP 2030) is the primary legal document about the energy sector. The main directions of it are improving energy efficiency and the security of fuel and energy supplies, diversification of electricity generation, development of renewable energy sources, development of competitive fuel and energy markets and the reduction of the environmental impact of the energy industry. Besides that the PEP defines activities which are expected to realise in the sector of energy infrastructure (few examples: increasing transmission capacity of gas transport and storage systems, building new power plants, developing cross-border systems etc.). The keywords of the PEP are: energy efficiency, security, diversification. The energy policy will strive to meet the commitment contained in the EU strategies, which assume the transformation of Europe into a low-carbon economy with a reliable, sustainable, and competitive energy supply. In Poland the active participation of the local authorities plays a key role in the supporting the implementation of the energy strategy.

To summarize up, in their recent strategies and action plans, every partner country is committed to increasing the share of renewable energies, both on the supply and on the consumption side, by determining ambitious target to be reached by 2020 in accordance with the RES Directive.

SUPPORT SCHEMES PROMOTING BIOGAS IN PARTNER COUNTRIES

It can be deduced from the national reports, that the partner countries have different renewable energy potentials and operate different schemes of support for energy from renewable sources at the national level. Most of them apply support schemes that grant benefits solely to energy from renewable sources that is produced on their territory. There are also differences concerning the level of the support, as the countries apply rather different prices.

Basically there are two main types of support:

- feed-in tariff system (in some cases combined with bonuses and additional payments, or with other systems)
- green certificate system (certificate system).

The main characteristic of the feed-in tariff system is that the electricity produced from renewable energy sources shall be purchased by a certain entity (or entities) on a purchase price determined in the legislation or by the competent state authority. This purchase price is usually higher than the purchase price which can be obtained on the electricity market.

In the countries, where a certificate system is applied, it is typical, that the producers of renewable electricity are entitled to receive a certain number of certificates, after a certain amount of the produced electricity, which can be sold on a price determined in the legislation or by the competent state authority, which is an extra amount on top of the selling price.

In some countries, the investors have the opportunity to choose between more schemes, in which case there are not any overlaps between the different systems, they cannot be chosen at the same time. In several countries, the feed-in tariff system can be combined with other options.

Certainly there are similarities (e.g. Poland and Italy – certificates system), but even in countries, where the feed-in tariff is the main type of support, there are still many differences in the main and most important characteristics (e.g. the duration of the support, the entity obliged to purchase the renewable electricity and the prices)

In the next subchapter, the main characteristics of support systems of each partner country will be described.

Renewable energy

Features of support schemes

In **Austria** a special agency was established by the Eco Electricity Act in 2006, called Eco Electricity Clearing Agency (OeMAG). The OeMAG is obliged to buy and trade the electricity produced under renewable energy act.

The OeMAG has to purchase the electricity for a determined price (feed-in tariff) set by the Ministry, with considering some minimum and maximum values determined in the Eco Electricity Act. The feed-in tariffs are granted for 15 years. The tariffs are different based on the capacity of the plant and the type of renewable energy resource. In case waste is used as an input material in a power plant, the feed-in tariff shall be reduced with a certain percentage (at the moment with 20%), to compensate the lower price of waste as an input material.

To claim feed-in tariff, the power plant has to meet certain fuel efficiency. Power plants that fulfill this criterion shall apply with OeMAG. The OeMAG decides about the applications in the order of their arrival.

In 2006, annual budget limitations were introduced for the granted feed-in tariffs. This means that in case the budget determined for the support of renewable electricity is spent for the current year, the OeMAG has to reject the application, even if the plant meets all the requirements. At the moment two budget limits are determined: one separately for photovoltaic and one for all other categories. In case of such rejection, the producer has to wait and apply for the next period. Certainly in case of a rejection, the producer still has the right to sell the electricity on the market, which carries the risk that the electricity will be sold for a much lower price than the feed-in tariff. At the

moment, the budget for photovoltaic is spent until 2023 and the budget for other renewable electricity is spent until 2015.

In certain cases, the producers are eligible for bonuses such as bonus for efficient CHP units.

In **Slovakia**, electricity from renewable sources is promoted mainly through price regulation based on the obligation to purchase electricity and pay a fixed feed-in tariff. The feed-in tariff consists of the price for electricity to cover grid losses and an additional payment of the difference between the price for electricity to cover grid losses and the fixed feed-in tariff.

The obligation period is limited to 15 years and starts in the year in which a system is put into operation or in the year of reconstruction or upgrade.

The feed in tariff is determined by the Regulatory Office, taking into account the type of renewable energy source, the technology used, the date of the commission and the size of the installed capacity. The feed-in tariff applicable in the year in which a given system is put into operation will apply for the entire obligation period. The regulatory authority may increase the tariff according to the rate of inflation and the technology used. The feed-in tariff for new systems is guaranteed for three years and in the consequent period it shall not be lower than 90% of the tariff applicable in the first period.

The amount of tariff will decrease if the project is co-funded from the state budget:

- Government grant of 30% of the purchase cost: reduction by 4%.
- Government grant of up to 40% of the purchase cost: reduction by 8%.
- Government grant of up to 50% of the purchase cost: reduction by 12%.
- Government grant of more than 50% of the purchase cost: reduction by 16%.

In **Slovenia** the feed in tariff system consists of 2 types of support schemes: a uniform annual (fixed) price system and a uniform annual premium system. Participation in the feed-in tariff system is only available for power plants that obtained the status of a qualified electricity producer and connected to the low or middle voltage grid (or in case the producer is connected to the high voltage grid, the prices and premiums shall be reduced with 5 %). Every producer that use renewable energy sources shall be considered as a qualified energy producer, however, it is not an automatic status, the producer could obtain it only as a result of a certain proceeding.

The uniform annual prices and premiums are valid for 10 years, and the amount is decreased by 5 % after 5 years of operation, and by another 5 % after 10 years of operation.

The uniform annual (fixed) prices (price of assured redemption) and the uniform annual premiums are differentiated, based on the size (capacity) of the renewable energy device, and based on the type of the used renewable energy source.

In case the producer chooses the uniform annual premium as the type of support, the producer has to sell the electricity on the market (for a market price) and is eligible for a premium on top of the electricity price achieved in the market.

The uniform annual (fixed) price consists of two parts: a fixed part and a variable part. The fixed part does not change during the whole time of the contract. The variable part changes annually or more frequently, but it is not determined for all kind of renewable energy sources (e.g. a variable part is determined at the moment for renewable energy devices on biogas, produced from biomass, but not determined for biogas produced from biologically decomposable waste.)

Above the price of assured redemption, in some cases devices could also be eligible for bonus payments. The eligibility criteria can be the volume of the used dung and compost (in some cases together with a capacity limit) and heat energy-efficiency. The bonus payment is determined as a percentage (10, 15, 20%) of the operational support of the device concerned.

Providing additional subsidies is not common concerning RES power plants. There is only one exception: farmers have the opportunity to obtain subsidies of up to 50 % of the investment costs. Applying for such subsidy has the effect, that the redemption prices are decreased.

In the **Czech Republic** the operators of the distribution and transmission system are obliged to purchase electricity produced from renewable energy sources. The producer has the right to decide between two support systems: feed-in tariff system or green bonus system.

In the feed-in-tariff system, the producer is eligible for a price determined annually by the Energy Regulatory Office taking into account the criteria of 'zero net present value' of all expenses and incomes related to the project during the investment evaluation. According to the relevant act, the tariffs shall be set so that the 15 year investment recovery can be ensured. It is also determined in the legislation, that in the following year, tariffs cannot be less than the 95 % of the tariffs determined for the current year. The tariff is paid by the system operator concerned.

The tariff determined for a plant for the first year of operation shall be the same for the whole period of operation of the plant concerned. This firstly determined tariff can be adjusted with regards to the price index of the industrial producers by at least +2% and by +4% at most. This adjustment shall not apply for plants using biomass and biogas.

The feed-in-tariff system ensures that the produced electricity will be purchased for a purchase price higher than the market price.

If the producer chooses the green bonus system, the produced energy shall be sold on the energy market, for a market price. On top of the market price for the electricity, the producer is eligible for a bonus, to be paid by the operator of the grid where the producer is connected. In case the producer not only produces but consumes energy, results of the measurements shall be submitted to the grid operator regarding the amount of the produced and self-consumed energy.

The amount of the bonuses shall be determined by taking into account the current energy prices and the risk factor that a purchaser is not ensured in this system therefore the producer has to find a purchaser for the produced energy. This can result in receiving overall higher amounts for the sold electricity; however the legislation does not determine a limit for the changes in the amount of the bonus in the consequent years like it is determined in case of feed-in-tariff.

In **Hungary**, electricity from renewable sources is supported through a feed-in tariff system. In this system the transmission system operator is obliged to take the renewable electricity from the producer, and to pay the feed-in tariff. Electricity trading companies are obliged to buy this electricity in proportion of the total electricity sold by them, based on an agreement between them and the transmission system operator.

Eligible technologies are all renewable energy generation technologies and waste utilization. Cogeneration of heat and electricity was also eligible for the feed in tariff until 30th June 2011, but as from the 1st July 2011 only in case it is based on renewable energy sources (and it is supported like other renewable energy based production).

The biogas plant operator needs the approval of the Hungarian Energy Office to join the feed-in tariff system. The duration of the feed-in tariff is defined by the Hungarian Energy Office in the approval.

There are certain factors of differentiation: the used technology (electricity production based on renewable energy sources or waste utilization); capacity of the production (20 MW and 50 MW are the limits); type of renewable energy (but only wind power plants with a capacity between 20 and 50 MW are distinguished); time zones of the day (peak, valley, deep valley)

The current system does not provide remuneration for heat production or clean biogas injection into the natural gas grid.

The current system will be replaced by an adjusted feed in tariff system next year, whereby the tariff will be differentiated based on technology, capacity, the timing of providing feed in tariff will be defined by law, the rate will be partly fixed partly variable.

The support system in **Germany** is based on feed-in tariff, which the grid operator pays to the system operator. The amount of tariff is set by law and is usually paid over a period of 20 years. The criteria for eligibility and the amount of tariff may vary according to the source of energy. For some technologies there are several tariffs depending on the system capacity.

On top of the feed-in tariffs, in certain cases the plant operator could be eligible for different types of bonuses, such as technical bonus (in case innovative technologies in reference to installation or gas processing are applied), bonus for electricity from energy crops, or CHP bonus.

For installations commissioned after 1st January 2010, the tariffs and bonuses shall be reduced by a certain percentage each year. The percentage of the reduction is different based on the type of input materials, in case of biomass it is currently 1%.

In **Italy**, electricity from renewable sources is mainly promoted on one hand through a quota system. This means, that a certain quota of green electricity shall be produced or fed-in by every producers and importers each year as an obligatory. Currently this quota equals to 2%, but it shall be increased by 0,35% each year. This quota system is connected to a green certificate system: the certificates represent the environmental value of electric energy from renewable sources, and shall be given to producers, with a capacity higher than 1 MW. One certificate typically represents the generation of 1 MWh of green electricity. The eligible power plants receive certificates in a number that is equal to their net electricity output, multiplied by a factor, which is different based on the type of renewable energy source. The certificates are valid for 15 years. The certificates can be sold directly in the market, or the Italian National Energy Services Company (GSE) is obliged to buy them, on a price determined by the Electric Market Manager for each year. Unsold certificates can be 'retired' by GSE at a certain price.

The green certificate system cannot be combined with other incentives: the plant that received any kind of incentives is automatically excluded from the green certificate system.

For power plants under the capacity of 1 MW, commissioned after 31st December 2007, feed-in tariff system is the type of support. The amount of tariff could depend on the type of the renewable source. The feed-in tariff is valid for a period of 15 years.

For plants fuelled by biogas and biomass, excluding liquid biofuels with the exception of pure vegetable oils another option for support is available: an 'all-inclusive' flat rate. This option can be combined with public incentives without exceeding the 40% of the cost of the total initial investment.

In **Poland** there are two types of support: guaranteed minimal price for electricity fed into the grid, and the system of colour certificates.

The guaranteed minimal price is based on the level of the average electricity sale price in the preceding year, and is determined by the Chairman of the Energy Regulatory Office for each year. In Poland there is an obligation of purchase which means that the whole amount of electricity generated in renewable energy sources connected to the grid has to be purchased, at least on this minimal price.

The producers of heat and electricity can gain further incomes from selling their colour certificates. There are currently 4 types of certificates (green, yellow, violet, brown).

The green certificates are for the producers of renewable electricity after each produced MWh. Yellow and violet certificates are connected to the electricity produced in a high efficiency cogeneration. The yellow is for the electricity generated from gaseous fuels in plants under a certain installed capacity (1 MW), the violet is for electricity produced from gas processed from biomass. The producer shall choose between these two certificates. The green and the yellow or violet certificates can be combined, but the yellow or violet certificate can only be granted for the amount of electricity that is bind with the amount of heat, used for usable purposes. The brown certificates are connected to plants producing biomethane to be fed-in to the grid.

According to the Polish Energy Law, every electricity generators and electricity suppliers shall fulfill a certain quota of certificates. As an alternative, the companies may pay a substitute fee.

The support system in the form of green certificates is guaranteed till 2019, for violet certificates till 2018, while for yellow certificates only till 2012.

Tendencies of support schemes

A stable, long-term, predictable support scheme, with prices that are able to ensure at least the return of the investment can really encourage the investments in renewable energy. Despite that, for example in Poland, the system of colour certificates is defined only for a short or medium term as mentioned in the previous chapter, which could cause uncertainty to future investors.

In Austria a budget limitation is set for the granted feed-in tariffs. This could also constitute a huge obstacle for future investors, as the budget available for most renewable electricity producers is already spent until 2015. This has the effect that a biogas plant operator has to apply as soon as possible, to get a feed-in tariff for the years after 2015. It is planned to increase the budget limitations, and it is also planned, that queued applicants of wind power and photovoltaic will be offered a contract with OeMAG earlier than 2015, but only in case they accept a lower feed-in tariff.

By the determination of the different payable prices for the electricity produced from the different types of renewable energy sources, the governments can influence, which type of technology can expand. It can be declared from the national reports, that in the past few years, the prices paid for solar energy have increased significantly. In most of the partner countries, the support of solar energy has the highest level. In some countries it caused a 'boom' in installing solar plants, for example, in Austria, where at the moment nearly 3.700 applications of solar energy producers are queued, or in Slovakia and the Czech Republic.

The boom in solar energy in several partner countries has resulted in introducing restrictions and other instruments to reduce the number of such investments. In some cases, taxes have been imposed, or capacity limits were set, under which feed-in tariff or other support cannot be granted.

Recommendations

Because of the differences in the applied support schemes of the countries the implementation of a EU-wide common, unified support system would be welcomed but do not seem real option at present. The RES Directive has also recognized this, and declared, that "for the proper functioning of national support schemes it is vital that Member States can control the effect and costs of their national support schemes according to their different potentials"

On the other hand in accordance with the RES Directive, two or more Member States still have the possibility to decide, on a voluntary basis, to join or partly coordinate their national support schemes.

However, as the duration of the support is a key element for the investors, it is highly recommended to consider determination of a minimum duration of the support on a European level in case of feed-in-tariff system.

ADMINISTRATIVE PROCESS FOR INSTALLATION OF BIOGAS PLANTS

Besides the support system, another key element of the investors' decision is the licensing procedure, through which a biogas plant can be realized. In the next subchapter, the characteristics and the legal environment of the administrative procedures of each partner country will be described.

Main characteristics of the administrative process including digestate management

In **Austria**, the whole administrative process of biogas plants takes at least 1,5 years from the submission of all required documents to the start of regular operation. In case the plant's capacity is under a certain value, a simplified approval procedure can be carried out.

As Austria is a federal republic, the regulatory framework could be different based on the location of the biogas plant, however the main characteristics of the procedures are very similar. As the first step of the process, safety and

building regulations have to be fulfilled in accordance with the Building Law and the Regional Planning Act. This process shall be carried out by the mayor of the community or the regional council. Otherwise the applicable legal provisions are different, depending on the input material, and on the type of produced energy (heat or electricity): in case the biogas plant uses waste, the approval procedure shall be carried out in accordance with the Waste Management Act; in case the biogas plant produces heat for sale, the provisions of the Trade Regulations shall be considered; if electricity is produced in the biogas plant, the Electricity Services Act shall apply. In case the Trade Regulations or the Waste Management Act is applicable, decisions based on the other acts can be included in the same process.

In case the Waste Management Act or the Electricity Act is applicable, the responsible authority is the provincial government. In case of the Trade Regulations, the process shall be carried out by the district commission.

After at least 6 months from the submission of the required documentation, negotiations on the construction permit and operation license shall be carried out during a hearing. In case there are any defaults or other problems with the documentation, the authority shall require additional documents, which could cause delays. If there are not any additional requirements, the applicant could obtain the construction permit and the operation license by the end of the hearing.

In case of a simplified procedure, there is not a hearing, instead of that, the project has to be published for 4 months on municipality level. In case during this 4 month period no objections are raised by the local community, the biogas plant will obtain the approval.

After the construction is finished, the operation can start immediately, but the responsible authority shall be notified about it, based on which an official check takes place.

Digestate management in Austria- When bringing digestate into the agricultural land, the provisions of the Nitrate Action Plan shall be considered. Furthermore, experts recommend a storage facility for digestate of up to 6 months.

In Slovakia recently new administrative and legislative restrictions have been enacted: to construct a renewable energy plant, the investor has to apply for a "certificate of compliance", which can prove that the investment plants are in compliance with the long-term concept of Slovakia's energy policy. Such certificate shall be issued by the Ministry of Economy. Power plants under a certain capacity (1 MW) are exempted from this obligation, but only non-photovoltaic energy facilities. The limit in case of photovoltaic devices is 100 kW.

For the operation of the biogas plants, the permit of the Regulatory Office is also required in case the capacity of the power plant is higher than 1 MW. In case the plant's capacity is under 1 MW, a notification shall be sent at least 30 days before the start of the operation.

Recently the **Slovak** Transmission System Operator has stopped issuing affirmative statements for the connection of new power plants to the transmission system, until the end of 2011. Without this statement, obtaining a 'Certificate of Compliance' is impossible at the moment.

Information about other required permits, licenses, statements, approval is still necessary from the authors of the national report.

*Digestate management in Slovakia-*Processing waste, during which digestate is generated shall be considered as waste recovery, which shall be carried out in accordance with the regulations concerning waste management.

</u> - Digestate shall be considered as a fertilizer in the Czech Republic. For bringing it to agricultural land, a registration or notification is required, which is an administrative procedure, carried out by the Central Institute for Supervising and Testing in Agriculture (CISTA). In case of digestate which originates from processing waste, a registration is required in each case.

In the **Czech Republic**, the Ministry of Environment has issued a guideline on the conditions for the biogas approval, which aims to help and guide the state administration officers and the investors. The guideline binds the competent authorities to perform a uniform procedure concerning all environmental aspects.

As for environmental protection aspects, in some cases an identification proceeding or an EIA process (Environment Impact Assessment) shall be carried out by the competent regional authority. If the plant removes non-hazardous waste with the capacity over 50 tons daily, an IPPC permit (integrated pollution prevention and control) has to be obtained, which sets out the conditions for the operation, and integrates several different approvals, decisions and statements into one permit. In case discharge of waste water is expected, the competent water right office has to issue permission for it, with determining emission limits. Besides the above mentioned, an independent permit shall be obtained issued by the competent regional authority, which sets emission limits for the biogas plants.

For the building aspect, two procedures shall be taken into account: modification of the territorial plans and building licensing. The first is only required, if the intended location of the biogas plant is not determined as a 'suitable' territory in the territorial plans. In this case the investor is entitled to invoke a modification, because without it, the building cannot be approved. The building permit process is carried out by the competent building authority that issues a building permit in accordance with the provisions of the Building Act.

In the territorial and building procedure, the competent municipal office has to issue a statement, concerning waste discharge. Furthermore, in case biodegradable waste is processed in the plant, the plant operator has to obtain an approval for the operation in accordance with the Waste Act. In case the plant processes animal by-products, a positive statement of the competent public health protection body is required for the approval.

The whole approval procedure takes 3 months.

Digestate management in the Czech Republic

The administrative process of biogas plants is a complex, difficult and quite slow process in Hungary as many authorities, several (sometimes more than 20) sub-authorities and a big number of public utility companies can be involved during the whole process.

Before the permit processes, the investor should identify whether the renewable energy unit is indicated in the regional plan. In case not, such plan has to be modified which takes rather long time, even 1 year.

The investor has to obtain first an environmental permit which is essential because it shall be attached to the application for the construction permit. It has to be clarified if an environmental permit or IPPC permit is necessary. This means that the investor has to initiate an EIA screening with the Inspectorate for Environment, Nature and Water, the administrative time limit of which is 45 days. The whole environmental licensing lasts in average more than 3 months.

The next permit which shall be obtained by the investor is the building permit. Special provisions shall apply for biogas plants with more than 0,5 MW capacity. In these cases the competent authority is the Hungarian Trade Licensing Office (MKEH) instead of the regular building authorities. Construction permit process consists of two main parts: constructional licensing, and after that, operational licensing.

After the construction work is done, but before obtaining an operational permit, an installation procedure and a trial run shall be carried out in order to connect the plant to the grid. The installation procedure shall not exceed 180 days and is inspected by the Hungarian Energy Office (HEO). After the successful installation, the authority grants the operational permit, which is essential for the actual operation and use of the building.

The whole construction licensing process takes around 6 months (3 months for each – constructional and operational licensing – phase).

Besides the above mentioned, the investor has to obtain a power plant license. Regarding the power plant licensing process there is a distinction based on size of the power plant. For power plants with more than 50 MW capacity two separate licenses are necessary (one for the installation and one for the production), for power plants with more than 0,5 MW capacity but less than 50 MW capacity the HEO grants these licenses in one procedure in a single license (small power plant license). The administrative time limit of the HEO is 3 months (in case of plant with more than 50 MW capacity it is 2x3 months).

Digestate management in Hungary- Digestate is not considered as a fertilizer. There is a lack of specific legislation concerning digestate, while the respective ministerial decree classifies agricultural waste and sewage expressly as fertilizer and for the utilization of these materials only a simplified approval process is required. Nevertheless the digestate is classified as a non-agricultural waste and for the utilization of it, a highly administrative and time consuming; approval process is required.

In **Germany** the main provisions regarding the building permit are settled in the regional Bauordnung. There are special provisions for „small plants”. The local authority is competent in granting the building permit. In Germany farmers have special rights for building biogas devices outside the village.

The next permit which the investors have to purchase is the „emission permit” from the regional authority. It contains the conditions of the biogas plant in reference to emission, security, optical appearance, materials etc. In practice and depending on the particular situation (location, administration etc.) it can be much more complicated.

More information about the details of the administrative process (competent authorities, duration of the procedures) is still necessary, but based on the German legal framework the process seems to be quite smooth and trouble-free.

Digestate management in Germany- There are many regulations concerning digestate. The country report contains a detailed list from the laws which shall be considered by the investors, plant operators and farmers. These regulations deal with the utilization of untreated and treated organic waste and mixtures, assuring sustainably functions of land, using fertilizers etc. Besides that in Germany the current community laws are implemented regarding the animal by-products. It means that Germany uses the classification (categories) of the relevant EC Regulation and the national laws are in conformity with the community requirements.

According to the relevant law (LD 387) in **Italy** the complexity of the procedure is depending on the type of renewable energy source and the plant capacity. Single procedure is an option for renewable energy plants which is granted by the regional authority and other institutional body delegated by the region in 30 days. In Italy there is a guideline of the Minister of the Environment and the Ministry of Welfare which aims to help the investors. It establishes exemption of VIA (environmental impact evaluation) for plants with $P < 20$ kW and foresees the issue of regional norms with simplified procedures for micro-generation plants. It also lists the documents which to be enclosed to the authorisation request.

The Italian legislation settles the competences depending on the installed power of the biogas plant.

The environmental single text contains six parts about the norms regarding the environmental authorization. The application must be sent to the competent region. The investor has to attach the plant design plan and the technical report about the plan as well.

Besides that, to start the production the investor needs to obtain a permit to construct or a ‘declaration of start up’, have to submit a request for an Environmental Impact Valuation, Landscape Authorisation (in areas with landscape bound). The investor needs to obtain the approval of the agency that manages the protected area, approval for the emissions into atmosphere, opinion fire by Fire Brigade, authorisation hydro geological, seismic, army and grid manager.

Due to the existence of the previously mentioned guideline the conditions of the building and operating permits in Italy are clear and obvious so the administrative process is quite simple.

Digestate management in Italy- There is no official definition for digestate at the moment. In Italy the relevant regulations regarding the digestate are different depending on the type of biomass feed in, agricultural or not for the use of the energy generated, and kind of treatments on the exit stream. The obstacles concerning the utilization digestate in the fields are the lack of regulation about biomass input and treatment of digestate before use in field.

In Italy it is allowed to spread digestate in fields, the details of the regulation (storage times, policies, and restrictions of spreading, transport modes, documents requirements and the doses of nutrients) are laid down in a ministerial decree.

The issue of the biogas plants which use only vegetables as raw material is more complicated, because there are different orientations in the regional standardization of the agronomic use of digestate non-livestock. The biogas plant operators shall consider the regulars of the normal agronomic use plans and the limits of nitrate utilization.

The whole process of biogas plant establishment takes in average about 3 years in **Poland**. The first step (project preparation) includes all administrative procedures and takes about 1 to 1,5 years. In this administrative period the investor shall prepare a feasibility study about feedstock availability, technology choices, financial analysis, founding sources.

Agricultural biogas plants are classified in a category of projects which may potentially have a significant environmental impact. This indicates that the investor needs the approval of the environmental authority. It is an essential element in the process, because the investor shall to ensure this decision to the application forms for other permits. This approval is based on the results of the Environmental Impact Assessment, provisions of the Environmental Impact Review, reservations from the public consultations and opinions given by the of regional director for environment protection and the sanitary inspection. The investor has to submit the information sheet on the project, the copy of the map of the area on which the project will be located, an extract from land record relevant for area where the project will be located and area which the project will affect, and an extract from the Local Physical Arrangement Plan. The authority granting the decision analyses the project from the perspective of terms relating to its characteristics, type, location and scale of possible environmental impact. The authority also consults for an opinion the Regional Director for Environment Protection and the applicable entity of State Sanitation Inspection. In the first step a screening procedure occurs. It determines whether or not the project is subject to Environmental Impact Assessment (EIA). If they ascertain the need to conduct the EIA, they should at the same time indicate the scope of the environmental impact review (EIR). The administrative authority, upon receiving both opinions, takes the decision on the possible requirement for performing full EIA, in the form of a ruling. Such a ruling is to be issued within 30 days of initiating the procedure regarding the decision on environmental conditions. In that case when there is no obligation to conduct the EIA, the realization conditions of the project are stated in the environmental decision. This decision is the same as the project information sheet. This procedure lasts in average 2-3 months. It is a longer procedure if the project is obligated to conduct the EIA. The main steps are: preparation and analysis of the Environmental Impact Review, public social consultations and consultations with public authorities. The project needs the approval of the Regional Director for Environmental Protection and the Sanitary Inspection (in 30 days from the day receiving all relevant documents about the project).

Moreover they have to ensure public society consultation (in 21 days from the public announcement). The decision is valid for four years. It can be elongated with two years, if it is necessary.

The next step is the decision on build-up terms and land use. Regarding the Administrative Procedure Code the administrative time limit for this decision is 1 month, but in complicated cases it can last 2 months. The investor has to attach the application form for the decision of the environmental authority, the delimitation of borders of the site and the description of the project. If there is no Local Physical Arrangement Plan, a decision shall be granted on the terms for build-up and use of land. The description of the project shall fully contain all technical parameters.

According to the Building Law biogas plants require building permit. The construction work shall not start until the investor obtains this building permit.

The application must be accompanied by the decision of the environmental authority, construction design, decision about terms of build-up and land use, when such is required. The approval is granted by the district administration office in 1 month days from the day receiving the application (it can be prolonged up to 65 days, in more complicated cases). The building permit is valid for 3 years.

After the administrative process, the plant can be connected to the electricity grid. After the project preparation the next stages are realization and commissioning.

The investors in Poland have to face the complexity of the legal conditions before starting the project, because of which the whole licensing procedure is very complex and time consuming.

Digestate management in Poland- The current regulatory framework is very strict and does not consider digestate from biogas plants as a valuable organic fertilizer. The main problem is that the digestate can be classified either as a fertilizer or as a waste. According to the Fertilizers and Fertilization Law any material that is to be registered as a fertilizer or a mean for soil improvement need a formal approving decision of the Ministry of Agriculture allowing this material to be introduced on the market. This formal approving decision means that the investor or biogas plant operator shall make different tests and studies about the digestate. It's important to know the main parameters of the material (content of nitrogen, potassium, phosphorus etc.).

Currently the amendment of the Fertilizers and Fertilization Law is still in preparation. It should be clarified if the digestate will be registered as a fertilizer or as a waste. Now the digestate has to fulfil strict requirements to spread on the surface of the land.

Recommendations concerning administrative procedures

This subchapter is supposed to focus on the main obstacles, which according to the national reports could really hinder the realization of a biogas plant. As the issues mentioned in this subchapter are applicable in many partner countries, some recommendations have been raised, which should be considerable on the EU level, to meet the objectives mentioned in the RES Directive concerning the simplification and the speed up of the administrative procedures.

1. Available database about existing installations and possible places for installation

For the success and promptness of the administrative procedures, and for the foundation of the investors' decision prior to the submission of the relevant applications, it is very important for the investors to be in possession of the most and up to date information, which is available as easily and quickly as possible. From this point of view it is very important to know, which areas of the country are appropriate to realize the project, and what parts are not at all, because of the fact, that similar installations already exists there or because construction on the chosen area is prohibited for any reasons.

Therefore it would be undoubtedly useful to establish a database in each member state in the framework of the national statistics, in which all existing installations are listed altogether with some basic data concerning them (e.g. their capacity). The database shall be actualized regularly as well with the details of the new installations. In case the country establishes such database it is also very important to ensure permanent and easy access to the data contained.

Beside the above mentioned, it would also be very useful if the member states made well structured recommendations, which part of the country they would suggest for establishing a certain kind of renewable energy installation. The parts of the country where it is not allowed to construct certain type of installations at all should be also listed in the framework of the database.

2. Available, transparent information about administrative procedures

According to the RES Directive, Member States shall take the appropriate steps to ensure that on the processing of authorization, certification and licensing applications for renewable energy installations and on available assistance to applicants are made available at the appropriate level.

There are some European countries where it causes difficulties to the investors that exact information about the requirements for initiating the administrative procedure of a biogas plant and other details regarding the main rules of the procedure is hardly available anywhere but in the legal provisions. As the licensing procedure in most countries is a quite complex procedure, ruled by several legal provisions, it is very important for the investors to have transparent and easily accessible sources where they can acquire all the necessary information for starting such process. A good example could be the Czech Republic, where a guideline on the conditions for the biogas approval has been introduced by the Ministry of Environment, to help state administration officers and operators as well.

Based on the aforementioned the disclosure of exact information concerning the licensing procedures in a transparent, well-structured system, maybe even preparing a guidance in a plain and intelligible language could really help the investors in all EU countries facing up with this issue.

3. Timing of the total licensing procedure

Examination of the national reports of the partner countries made it clear, that the administrative procedures in most partner countries are very complex procedures, in which many different authorities are involved, and many statements and approvals are required.

A time saving, professional administration process is a key element which could really help the widespread usage of renewable technologies.

According to Article 13 of the RES Directive, Member States shall take the appropriate steps to ensure that administrative procedures are streamlined and expedited at the appropriate administrative level.

As many Partner countries are dealing with the problem regarding the duration of the licensing procedure it shall be considered that a EU-wide guideline shall define, that the duration of the administrative procedures concerning biogas plants shall catch up with the average of the countries of the region or an other solution may be to maximize the admin. process time on a EU level.

4. Optimizing the number of involved authorities or sub-authorities

In some partner countries, the complexity of the procedure has the effect, that the different stages of the procedure are carried out by many different authorities, and in some cases, the same authority shall be involved again, that has already examined the same project. For the simplification and fastening of the procedures, it is essential to reduce the number of involved authorities (and sub-authorities).

Based on the above mentioned, in our opinion it would be reasonable to emphasize the following principles at a European Union level:

In case the same (specialized) authority has already examined the project in a preceding section of the administrative procedure, the same (specialized) authority shall not be drawn into the process at a further step again.

5. Spatial planning issue

Many partner countries have to face the following administrative burden, which has a negative influence on the timing of the licensing process: the spatial plan of the relevant local administrative unit has to be modified, if it does not contain the building to be built. For example in Hungary, power plants with a capacity of more than 5 MW shall be considered as a „structure with regional importance”, which has the consequence that for constructing such buildings, the modification of the land-use plan of the county concerned is necessary. Having regard to the fact that the modification of the land-use plan is a subject to local legislation, it can extend the duration of the licensing process with even 1-2 years.

As this issue causes difficulties in many partner countries, it should be considered, that as a principle it should be determined in the RES Directive that it is not necessary to include renewable energy installations in the respective spatial plans.

6. Regulation concerning digestate, and its use on agricultural land

Having regard to the fact, that the amount of the digestate of biogas production is quite significant, it may be reasonable to determine at European Union level that the approval process for placing digestate into agricultural land shall be considered as an administrative process, for which the Member States shall apply the provisions of the RES Directive concerning the obligation of the Member States to ensure that the administrative procedures are streamlined and expedited.

BIOMETHANE AND BIOFUEL PRODUCTION FROM BIOGAS

Besides producing electricity, there are two other ways the biogas can be utilized in case it is upgraded meeting quality requirements: it can be fed in to the natural gas grid, or it can be used as a vehicle fuel. The main goal of the present chapter is to get an inside view of the biomethane utilization in the partner countries.

Current status of biomethane production

At the moment, there are 8 biogas upgrading facilities in **Austria**, in which nearly 864 m³ biomethane is produced per hour, based on which nearly approximately 6,9 million m³ biomethane could be produced each year. As for support of biogas upgrading, a different feed-in tariff shall be applied in case biogas is upgraded to biomethane, and it is fed into the natural gas grid, and it is used for electricity production. Furthermore, operators of biogas upgrading facilities are eligible for a bonus for biogas upgrading.

In **Slovakia** according to the available information, no upgrading facilities can be found at the moment.

Slovenia does not have a facility for biogas upgrading at the moment, but there are some companies that are working currently on biogas upgrading.

In the **Czech Republic**, the main planned purpose of biogas upgrading would be the use of it in motor vehicles. Plants for biogas upgrading for such purpose is planned to be promoted based on the National Strategic Plan of Country Development for 2007 -2013. According to it, biogas stations and plants for biofuel cleaning for the purposes of motor vehicle drives and filling stations could be supported.

Currently there is no biomethane production in **Hungary** either. Only one biomethane project is proceeding at the moment, and there is one other planned project. The National Renewable Energy Action Plan of Hungary plans to enter the feed-in tariff for heat production. If it would be realized, it may raise the interest of the investors to start biomethane projects.

Based on the country report in **Germany** in 2009 there were nearly 30 biogas upgrading facilities. Furthermore, nowadays there are about 20 projects under preparation.

According to the national report of **Italy**, a clear definition of biomethane does not exist currently, and this is the main factor which hinders the utilization of biogas for natural gas grid injection or as vehicle fuel. Furthermore, in Italy the equivalence between natural gas and biogas is not determined in the legislation either.

According to the given information, there is no biogas upgrading facility in **Poland** at present.

Legal environment of biomethane injection into gas grid

In **Austria**, biomethane injection is an existing practice. To feed biogas into the natural gas grid, the upgraded biogas has to comply with the reference values determined in guidelines G31 and G33 of the Austrian Association for Gas and Water. If the upgraded biogas meets the above requirements, the grid operator is obliged to connect the biomethane producer to the grid. All costs of the connection shall be borne by the producer. However, there are some defaults in the legislation at the moment concerning biomethane injection, as a feed-in tariff system is not determined yet, the prices are subject to an agreement between the producer and the biomethane purchaser. There are plans, to establish a system of certificates of origin for produced biomethane. According to the plans, these certificates shall be traded at an exchange.

In **Slovakia** as mentioned before, according to the available information, there is no biogas upgrading facility yet. *To know, if the same rules shall apply to biogas producers as to natural gas producers, more information is necessary from the authors of the national report.*

In **Slovenia** – though until now there is no operating biogas upgrading facility – the biogas upgrading facility should be treated like any natural gas producer.

In the **Czech Republic**, at the moment several factors hinder the biomethane injection to the natural gas grid. The first factor is the attitude of distribution system operators: they do not show much interest in the injection of biomethane to the grid. Besides that, the connection of biogas upgrading facilities to the natural gas grid has not been coordinated yet. Furthermore, the ownership of the connection point, or the share of the costs between the investor and the system operator is not determined in the respective regulation.

Another problem could be that though technical rule TPG 902 02 determines the main parameters and requirements for biomethane, which is possible to be fed into the natural gas grid, but these parameters are not mandatory, which means that the distribution system operator is entitled to require the fulfillment of other (even stricter!) parameters.

Otherwise, biomethane injection is rather promoted through the support of renewable electricity production: in case the producer does not produce electricity directly from biogas, but – besides fulfilling other conditions – the producer proves to the energy system operator the acquisition of the biogas fed into the natural gas grid, such producers are also eligible for a support just like other renewable electricity producers.

In **Hungary** the grid operators are obliged to accept biomethane in the natural gas grid, but the biomethane to be fed in shall meet the quality requirements of the natural gas determined in the legislation. The relevant regulation is the 19/2009 (I.30) Governmental decree, according to which the biomethane producers have the same status as the natural gas producers. It means that the same provisions shall apply to biomethane producers in connection with the connection procedure as well: the biomethane producer shall submit a request for offer to the grid operator, in which the producer has to define the planned volume and the technical parameters of the produced biomethane. The biomethane producer is obligated to clear the biomethane and to fulfil the quality requirements. Based on the submission of such request, the grid operator is obliged to provide an offer within 60 days for the technical and economical conditions of building the connection point at its system. The mandatory content of such offer is determined by the same governmental decree. The connection fee is to be paid by the biomethane producer and may not exceed the necessary and verified costs of the investment. In case the producer and the operator can come to an agreement on that, it is also possible, that the producer realizes the necessary connection equipment, in which case the producer could be exempted from the connection fee (though the ownership of the equipment will belong to the grid operator).

In **Germany** the grid operators are obliged to accept biomethane to the gas grid. According to the GasNZV Act the costs of the connection are shared between grid operator and the biogas plant operator. The biogas plant operator is obliged to suit the gas quality requirements. The relevant standard properties are laid down in DVGW technical rules G 260 (gas properties) and G 262 (use of regenerative gases). The grid operator and the biogas plant operator have to make an agreement regarding the determination of the technical capacities.

Currently **Italian** laws ensure the connection to the gas grid only for natural gas producers. Nevertheless Italy has no exact definition for biomethane, furthermore the equivalence between natural gas and biogas and gas from renewable sources is not yet provided.

According to the Energy Law in **Poland** biomethane can be injected to the gas grid. The Energy Law defines biogas as a gaseous fuel. The biogas plant operator and the grid operator shall conclude a contract about the grid connection. It's important that the grid operator has to treat equal the biomethane if it suits the technical requirements. This means that the biogas plant operator shall clean the biogas and shall upgrade to meet the quality requirements of the natural gas. The main rules of the support scheme are settled in the Energy Law. The investor is entitled to have an income from selling the brown certificates. It means that if the biogas plant produces biomethane to the gaseous grid, the plant operator would be eligible for brown certificates. This is new option that has been introduced in January 2011. There is no exact administrative time limit for the grid connection. In practice it should be similar to the connection to the electricity grid.

To summarize up, in most partner countries, though biomethane injection to the natural gas grid is not really an existing practice currently, the legislations of the countries usually do not create major obstacles to it, however due to the fact that biomethane injection is not really common yet, there is a lack of specific regulation concerning this

topic in most partner countries.

On the EU legislation level, it can be established, that only a few principles are determined. According to the Natural Gas Directive (Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC) there are some rules concerning biomethane injection: in the preamble, it declares that the “Member States should take concrete measures to assist the wider use of biogas and gas from biomass, the producers of which should be granted non-discriminatory access to the gas system, provided that such access is compatible with the relevant technical rules and safety standards on an ongoing basis.” The substantive part of the directive stipulates that “the rules established by this Directive for natural gas, including LNG, shall also apply in a non-discriminatory way to biogas and gas from biomass or other types of gas in so far as such gases can technically and safely be injected into, and transported through, the natural gas system.”

The RES directive contains only a few stipulations concerning biogas injection to the natural gas grid. According to paragraph 9 of Article 16 of the RES directive „where relevant, Member States shall assess the need to extend existing gas network infrastructure to facilitate the integration of gas from renewable energy sources” . Furthermore, according to paragraph 10 of the same article: „where relevant, Member States shall require transmission system operators and distribution system operators in their territory to publish technical rules(...), in particular regarding network connection rules that include gas quality, gas odoration and gas pressure requirements. Member States shall also require transmission and distribution system operators to publish the connection tariffs to connect renewable gas sources based on transparent and non-discriminatory criteria.”

Recommendations

As the RES directive shall be supposed to determine the main principles for all type of renewable energy, but at the moment, it only contains some “soft instructions” concerning biomethane injection, it is highly recommended to determine in it, that the Member States shall be obliged to accept the injection of biogas (biomethane) into the natural gas grid, in case the quality of the injected biogas (biomethane) corresponds to the specifications determined in the standard on natural gas, applicable in the Member State concerned.

Furthermore, the advantages of the injection of the biomethane to natural gas grid instead of using it to produce electricity shall be taken into account, and it shall be considered, that for the promotion of biomethane injection, a support mechanism shall be included in the RES Directive.

Actual status of biofuel production from biogas and regulatory environment of using biogas as a biofuel

In **Austria** there are gas driven cars, which could be used with biogas as well, but their number is rather low. The Federal Ministry of Agriculture, Forestry, Environment and Water management introduced an action plan concerning “Bio-CNG” (which contains at least 20 % biomethane). The action plan contains some financial benefits, like exemption of parking fees and tolls. The main problem with this action plan is that it is not mandatory, therefore its implementation is not ensured. Furthermore, the lack of legislation which would ensure that the taxes for gaseous vehicle fuels will not increase for a certain period definitely hinders the widespread use of gas driven cars.

Otherwise, the same rules are applicable for biogas as vehicle fuel and other gaseous vehicle fuels, including safety regulations and the rules for the required specifications/attributes.

In **Slovakia**, biogas is currently not used as vehicle fuel, though the possibilities of it have been recognized: there are nearly 600 cars driving with CNG at the moment, which could also be operated with biogas, furthermore biogas could be also used in railways.

In **Slovenia**, biogas is not used as a vehicle fuel either. Though Slovenia has undertaken to achieve 5,75% share of biofuels, which goal will probably increase to at least 10 % until 2020, they still not have significant production capacities for biofuel. Moreover, there are only plants for the production of biodiesel.

As mentioned before, there is no biogas upgrading facility at the moment, but there are companies that are developing this technology at the moment. One of these companies is cooperating with car sellers, and car remodelers. Furthermore, for the expansion of the use of biogas as vehicle fuel, support by the natural gas companies, municipalities and major enterprises could be also important.

There are about 1000 vehicles running with CNG and nearly 30 CNG filling stations in the **Czech Republic**. Using CNG is supported through many instruments such as exemption from consumer tax, zero road tax for CNG vehicles up to 12 tons. Though these vehicles could also run with biogas (biomethane), until recently, using biogas as a vehicle fuel was an unscheduled topic. Recently in the amendment of the previously mentioned National Strategic Plan of Country Development for 2007 - 2013, the promotion of the promotion of plants for biogas upgrading for its use in motor vehicles has been implemented. Furthermore, similar to the biomethane to be injected to the grid, requirements for biogas as vehicle fuel have also been determined in a technical regulation (CSN 65 6514). In spite of that, currently the infrastructure is still missing, therefore biogas is not used as a vehicle fuel at the moment.

In **Hungary** the Biofuel Act has a definition for biofuel: products, used as vehicle fuel or as a component of vehicle fuel, typically produced from biomass. However biogas is not defined in the Act directly as a type of biofuel, in case biogas meets the requirements mentioned in the definition, it shall be considered as a type of biofuel. Currently there is only one biogas filling station in Hungary (Zalaegerszeg), so the utilization of biogas as vehicle fuel is not common yet. However, the expansion of the use of biogas in the transportation sector could be encouraged by the fact, that pursuant to the Act on the Excise Duty, the rate of the duty concerning this type of fuels (gaseous fuels) is 0 HUF/nm³ at the moment, which means that biogas as vehicle fuel can be exempted from the excise duty.

In **Germany** biogas as a vehicle fuel doesn't play an important role. There is just one biogas fuel station in Jameln in operation since 2006. Based on the country report we have no more information.

In **Italy** there is no biomethane station at the moment and it is not possible to use vehicles with biomethane. Nevertheless utilization of CNG is common, the Italian government promotes and encourages the spread of it for a long time. There is a bonus support system which can be combined with other incentives.

Nowadays there is no regulation in Poland concerning the use of biogas as a vehicle fuel as the utilization of biogas as a vehicle fuel is not common yet.

KEY RECOMMENDATIONS

On the EU level, the following key recommendations shall be considered by the decision makers for reaching a better legal environment on biogas utilization:

1. Support schemes

It can be concluded, that because of the differences in the applied support schemes in the countries, the implementation of a EU-wide common, unified support system would be welcomed but do not seem possible at the moment. It can be also concluded that in the partner countries the duration of the support is limited. In some cases the relevant laws determine the duration (e.g. 10 years or 15 years), in some cases a competent authority has to determine it on a case by case basis, taking into account the time which is necessary for the recovery of the investment costs (e.g. in Hungary), and in other cases, the support is only ensured until a certain year (e.g. in Poland).

Though the ensured duration of the support is a key element for the investors, currently the EU legislation does not contain any limitations which shall be met by the member states when determining the duration of the support. Therefore it is highly recommended to determine the minimum duration of the support on the EU level.

2. Administrative procedures

a) Timeframes of the administrative procedures

It is clear from the national reports, that in most partner countries, the licensing process of a biogas plant is a very complex, time-consuming, and highly administrative procedure, in which several administrative levels and

authorities are involved. However, there are some good practices as well, as in some countries ambitious steps were taken to implement the principles defined by the RES Directive concerning the simplification and speed up of the administrative procedures. Therefore the timeframes of the licensing procedure is differing in those countries.

As many Partner countries are dealing with difficulties regarding the duration of the licensing procedure it shall be considered that a EU-wide guideline shall define, that the duration of the administrative procedures concerning biogas plants shall catch up with the average of the countries of the region or an other solution may be to maximize an administrative time limit on a EU level.

b) Spatial planning

This issue of spatial planning is connected to the problems with the duration of the administrative procedures. In many partner countries the spatial plan of the relevant local administrative unit has to be modified, if it does not contain the biogas unit to be built.

As this issue causes difficulties in many partner countries, by affecting the timeframes of the licensing procedure in a highly negative way, it should be considered, that as a principle it should be determined in the RES Directive that it is not necessary to include renewable energy installations in the spatial plans.

3. Injection of biomethane to the natural gas grid

In most partner countries, biogas (biomethane) injection to the natural gas grid is not an existing practice at the moment. In spite of this, in most countries it would be possible to feed in biomethane, as the legislation of the countries does not reject it expressively, only the same rules shall apply for the biomethane producer than to natural gas producers. This rule is also determined in the Gas Directive, as it is laid down that the rules established in this Directive for natural gas, shall also apply in a non-discriminatory way to biogas in so far as such gases can technically and safely be injected into, and transported through, the natural gas system.

However on the EU legislation level it is declared only in the Preamble of the Gas Directive, that Member States should take concrete measures to assist the wider use of biogas and gas from biomass, the producers of which should be granted non-discriminatory access to the gas system.

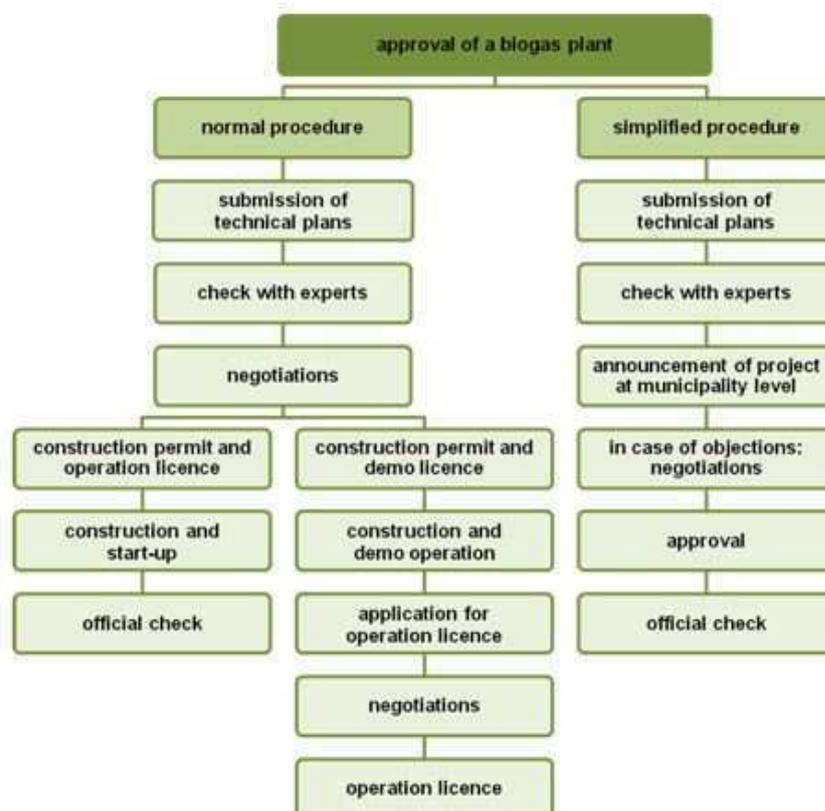
Therefore to emphasize more the importance of it, it is highly recommended to determine in the RES Directive as well, that the Member States shall implement the necessary measures to ensure that producers of biogas (biomethane) have non-discriminatory access to the gas system into the natural gas grid, in case the quality of the injected biogas (biomethane) corresponds to the specifications determined in the standard on natural gas, applicable in the Member State concerned.

Furthermore in most partner countries, there are not any support schemes connected to the biomethane injection, there is only one exception: in Poland the introduction of the brown certificates is planned, through which the support of biomethane injection can be realized on the model of the certificate system applicable for electricity and heat production.

As the cost-efficiency of using biogas directly in the natural gas system instead of producing electricity from it could be much higher, it is should also be considered, that the promotion of biomethane injection to the natural gas grid shall be more in the focus, by connecting support systems to it. Therefore the adjustment of EU legislation shall be considered, with introducing a few principles concerning the support of biomethane injection.

ANNEX

Annex 1: Diagram of main approval procedures for a biogas plant in Austria

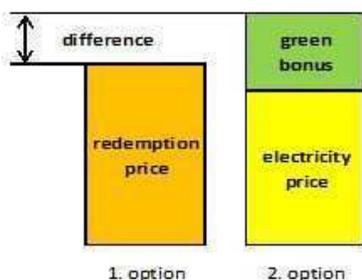


Annex 2: Uniform annual prices/premiums for electricity from qualified power plants in Slovenia

Type of QPP regarding primary energy source	Power capacity	Uniform annual price (cent€/kWh)	Uniform annual premium (cent€/kWh)
Hydroelectric QPP	Up to 1 MW inclusive	6,16	2,40
	From 1 MW up to 10 MW inclusive	5,94	2,18
Biomass QPP	Up to 1 MW inclusive	9,41	5,65
	Above 1 MW		
Wind QPP	Up to 1 MW inclusive	6,07	2,32
	Above 1 MW	5,86	2,11
Geothermal QPP		5,86	2,11
Photovoltaic QPP	Up to 36 kW inclusive	37,42	33,66
	Above 36 kW	37,42	23,66
Other QPP¹³		12,09	8,33
Combined QPP (CHP) using RES ¹⁴		6,70	2,94
QPP or heating plant using communal waste ¹⁵	Up to 1 MW inclusive	5,32	1,56
	From 1 MW up to 10 MW inclusive	4,95	1,20
Heating plant for district heating	Up to 1 MW inclusive	7,30	3,55
	From 1 MW up to 10 MW inclusive	6,89	3,13
Industrial heating plant ¹⁶	Up to 1 MW inclusive	7,09	-

Source: Official Gazette of RS, No. 75/06; QPP stand for qualified power plant

Annex 3: Schema of the redemption price and green bonuses difference in the Czech Republic



Annex 4: Redemption prices for electricity produced from biogas 2008-2011 in the Czech Republic

redemption prices (CZK/MWh)				
Renewable Energy Source	2008	2009	2010	2011
Biogas stations AF1 1)	3900	4120	4120	4120
Biogas stations AF2 2)	3300	3550	3550	3550
WWTP after 1 January 2006	2330	2420	2470	2520
WWTP 1 January 2004-31 December 2005	2630	2730	2790	2850
WWTP before 1 January 2004	2740	2840	2900	2960

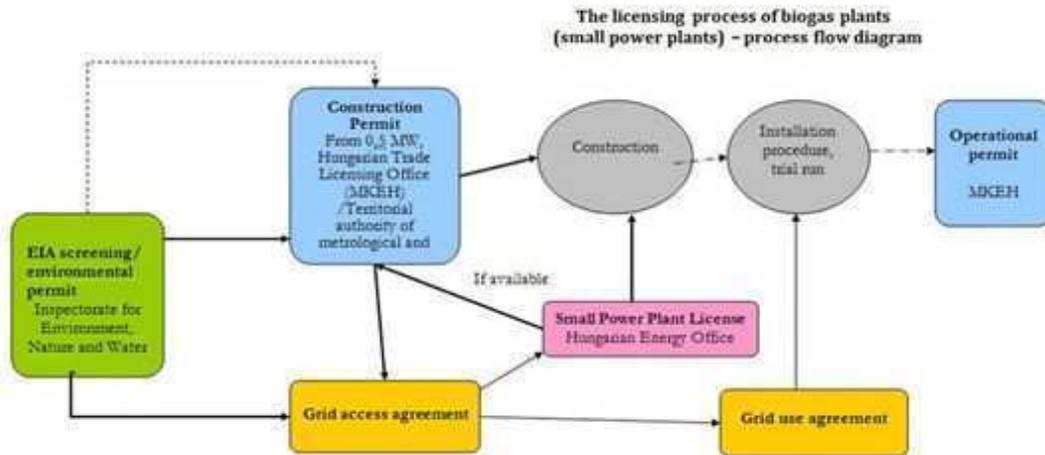
Annex 5: Green bonuses of electricity produced from biogas 2008-2011 in the Czech Republic

green bonuses (CZK/MWh)				
Renewable Energy Source	2008	2009	2010	2011
Biogas stations AF1 1)	2620	2580	3150	3150
Biogas stations AF2 2)	2020	2010	2580	2580
WWTP after 1 January 2006	1050	880	1500	1550
WWTP 1 January 2004-31 December 2005	1350	1190	1820	1880
WWTP before 1 January 2004	1460	1300	1930	1990

Annex 6: Administrative time limits for the parts of the licensing process in Hungary

PROCEDURE		ADMINISTRATIVE TIME LIMIT
<i>Environmental licensing</i>	<i>ELA screening (examination or consultation)</i>	<i>45 days (2 months in case a public hearing is held)</i>
	<i>Environmental permit / IPPC license</i>	<i>3 months</i>
<i>Construction permit</i>		<i>2 months</i>
<i>Grid connection</i>		<i>no time limit defined</i>
<i>Power plant license</i>		<i>3 months</i>
<i>Installation procedure</i>		<i>180 days</i>
<i>Operational permit</i>		<i>2 months</i>

Annex 7: The licensing process of biogas plants in Hungary



Annex 8: Prices of substitution fee relevant for colour certificates in Poland:

Certificate	2008	2009	2010
Green	248.46 PLN/MWh (62.12 EUR/MWh)*	258.89 PLN/MWh (64.72 EUR/MWh)*	267.95 PLN/MWh (66.99 EUR/MWh)*
Yellow	117.00 PLN/MWh (29.25 EUR/MWh)*	128.80 PLN/MWh (32.20 EUR/MWh)*	128.80 PLN/MWh (32.20 EUR/MWh)*
Violet	-	-	59.16 PLN/MWh (14.79 EUR/MWh)*

*exchange rate: 1 Eur=4.0

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