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WP 3.1

Assessment of Biogas Policies in Romania

Deliverable 3.1

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Contents

1. Introduction

This report was written in the frame of the BIG>EAST project (EIE/07/214), which is supported by the European Commission within the Intelligent Energy for Europe programme. The report aims to give an overview about current policies on biogas production, utilisations and related issues in order to facilitate the broader implementation of biogas projects in the European Union. Emphasis of this overview will be on policies at the European level as well as on national level as it is one of a series of six reports dealing with the target countries of the BiG>East project: Bulgaria, Croatia, Greece, Latvia, Romania, and Slovenia. Thereby, policies in Romania (and all the European countries) includes legislation, standards, tax policies, incentives, funding sources, and waste treatment policies, which affect direct or indirect the success implementation of a biogas project.

Europe's current situation with exploding fossil energy prices and rising dependency on energy imports makes it highly necessary to produce and valorise biogas in terms of heat, electricity and fuel. In 2005 about 5.35 Mtoe of biogas were produced for energy uses in the European Union, nevertheless, the potential is estimated at more than 20 Mtoe.

However, future development of biogas technologies is highly dependant on the willingness of politicians and policy makers that formulate policies and introduce legislations.

Some of the main report questions seeking answers in the next chapters are the following ones:

- Which is the Policy and Legislative framework in Europe and Romania concerning RES and especially biogas?
- Which interactions occur between RES support schemes and other Policies (eg. Environmental, Agricultural Policy)?
- What is the current level of support for RES, biogas in Romania compared to Europe?
- Is this support in Romania effectiveness and efficient and if no what is needed?

2. EU Policies and Targets

2.1. Renewable energy policy in the European Union

The development of renewable energy - particularly energy from wind, water, solar power and biomass - is a central aim of the European Commission's energy policy. There are several reasons for this. Renewable energy has an important role to play in reducing Carbon Dioxide (CO_2) emissions - a major Community objective. Increasing the share of renewable energy in the energy balance enhances sustainability. It also helps to improve the security of energy supply by reducing the Community's growing dependence on imported energy sources. Renewable energy sources are expected to be economically competitive with conventional energy sources in the medium to long term.[1]

The European Commission has set the target to reduce greenhouse gas emissions from developed countries by 30% by 2020 and it has already committed to cutting its own emissions by at least 20% and would increase this reduction under a satisfactory global agreement[2]. In January 2007 the European Commission presented a "Renewable Energy Roadmap" as part of its "energy-climate change" package[3]. This Roadmap was endorsed by the Commission in March 2007 with the following targets:

- A binding target to have 20% of the EU's overall energy consumption coming from renewables by 2020, and;
- A binding minimum target for each member state to achieve at least 10% of their transport fuel consumption from biofuels. However, the binding character of this target is "subject to production being sustainable" and to "second-generation biofuels becoming commercially available".

In November 2007, the European Commission presented a "Strategic Energy Technology Plan (SET-Plan) - Towards a low carbon future"[4]. The SET-Plan proposes to deliver the following results: (i) a new joint strategic planning, (ii) a more effective implementation, (iii) an increase in resources, and (iv) a new and reinforced approach to international cooperation. The Commission hopes for endorsement (and financing commitments) from EU leaders for the SET-Plan in March 2008.

Furthermore, in January 2008 the Commission has put forward a larger package on renewable energies and climate change and published a Draft Directive "on the promotion of the use of energy from renewable sources which has to be reviewed and approved by the

[1] Source: http://ec.europa.eu/energy/res/index_en.htm

[2] Source: COM(2007)1final „An Energy Policy for Europe"

[3] Source: COM(2006)848final „Renewable Energy Road Map: Renewable energies in the 21st century: building a more sustainable future" (10.1.2007)

[4] Source: COM(2007) 723 final „A EUROPEAN STRATEGIC ENERGY TECHNOLOGY PLAN (SET-PLAN) Towards a low carbon future"

European Parliament and the Council before entering into force. This Directive is a comprehensive 'framework directive' on renewable energies including an update of the biofuels directive.

2.2. Biogas policies and markets in the European Union

Within the diversification of energy resources and the increased reliance on renewable energy resources, biomass is considered to play an outstanding role in Europe's energy policy. As highlighted in the Commission Biomass Action Plan[5], published on 7 December 2005, "Energy is key in helping Europe to achieve its objectives for growth, jobs and sustainability". The increasing oil prices and Europe's dependency on energy imports are considered to menace the economic growth within the European Community. In 2005, the EU met about 4% of its energy needs from biomass. The main objective of the Biomass Action Plan is to double this share by 2010. The plan would reduce oil imports by 8%, prevent greenhouse gas emissions worth 209 million tons CO_2-equivalent per year and create up to 300,000 new jobs in the agricultural and forestry sector.

Currently, the biogas sector in some European countries is faced by rapid technical and non-technical developments and innovations, and biogas markets are growing in these countries at a considerable pace. For instance, in Germany, the biogas market is booming although there was a significant decrease of new installed biogas plants in 2007. Until the end of 2007 about 3.700 biogas plants were in operation. Most of the newly installed biogas plants in Germany have an electric capacity of 500 kW by using CHP installations and are operated with energy crops as feedstock. New applications such as biogas up-grading to vehicle fuel (in Jameln) and feeding into the grid (in Pliening, Kerpen and Straelen) have come into operation. In Austria the number of biogas plants has increased from about 170 in 2004 to more than 340 in 2005 and to almost 600 in 2006, the majority of plants having an electric capacity of 100 to 500 kW. By September 2006, 62 landfill gas recovery plants, 134 sewage sludge digesters, 350 biogas and co-fermentation plants, 25 anaerobic waste treatment plants (industry), and 15 biowaste digestion plants (municipalities) were in operation. Finally, in Denmark the political aim is to produce 8 PJ from biogas through the construction of 40 new biogas plants by 2008. This target means a doubling of the present production and an increase of 1 PJ per year.

At the same time the biogas market is very small in many other European countries. This situation needs to be changed in the next years since these countries have to take actions in order to fulfill Europe's energy targets.

2.3. Legislation on biogas and related issues in the European Union

The production and utilization of biogas is affected and influenced by many European and national legislations.

[5] COM (2005) 628: "Biomass Action Plan"

Decision-making at European Union level involves various European institutions, in particular the European Commission, the European Parliament (EP), and the Council of the European Union. In general it is the European Commission that proposes new legislation, but it is the Council and Parliament that pass the laws. Other institutions and bodies also have roles to play. The rules and procedures for EU decision-making are laid down in the treaties. Every proposal for a new European law is based on a specific treaty article, referred to as the 'legal basis' of the proposal. This determines which legislative procedure must be followed. The three main procedures are 'consultation', 'assent' and 'co-decision'.

The following section gives an overview about European Directives and Regulations which are related to biogas production and utilization as well as to other important issues related to biogas. They may affect the European Biogas market directly or indirectly. The definitions about the borders of 'biogas production' allow a certain amount of flexibility, since many factors are important during the whole life cycle from agricultural feedstock production to the end use of biogas. Only the most important legislations were selected and briefly described (see Annex 1).

2.3.1 Directives

A directive is a legislative act of the European Union which requires member states to achieve a particular result without dictating the means of achieving that result. It can be distinguished from European Union regulations which are self-executing and do not require any implementing measures. Directives normally leave member states with a certain amount of flexibility as to the exact rules to be adopted. Directives can be adopted by means of a variety of legislative procedures depending on its subject matter. An overview of European Directives on biogas is provided by Rutz & Prassl (2008)[6] and in Annex 1.

2.3.2 Regulations

A regulation is a legislative act of the European Union which becomes immediately enforceable as law in all member states simultaneously. Regulations can be distinguished from directives which, at least in principle, need to be transposed in national law. Under the European Constitution regulations would have become known as "European laws" but this proposal has since been dropped. An overview of European Regulations on biogas is provided by Rutz & Prassl (2008)[7] and in Annex 1.

[6] Rutz D., Prassl H. (2008): Assessment of Biogas Policies in the European Union. – Report of the BiG>East Project; www.big-east.eu

[7] Rutz D., Prassl H. (2008): Assessment of Biogas Policies in the European Union. – Report of the BiG>East Project; www.big-east.eu

2.4. Summary on European biogas legislation

Although currently no specific Directive or Regulation exists which is only dedicated to the production and use of biogas, the need for the implementation of a legislative framework on biogas is highlighted by many institutions and stakeholders. For example the Committee on Agriculture and Rural Development of the European Parliament has recently drafted a report[8] and acknowledges biogas as a vital energy resource that contributes to sustainable economic, agricultural and rural development and environmental protection. It furthermore encourages both the European Union and the Member States to exploit the huge potential in biogas by creating a favorable environment as well as maintaining and developing support schemes to inspire investment in and sustenance of biogas plants.

More specifically, the Committee on Agriculture and Rural Development of the European Parliament highlights the need for a new biogas directive and review of legislation:

- First and foremost, an EU-directive on biogas production is needed, with specific targets for the agricultural biogas share within the target for renewable energy production, statistical elements, measures for construction and promotion of biogas-installations based on a national or regional impact evaluation, measures for dissemination and promotion of results gained from prior experiences, call for national and regional planning in order to restrict legal and administrative hindrances, and recommendations for the minimum level and yearly adjustment mechanism of payment for 'green-electricity' and 'green gas'.
- The legislation on the use of residues from biogas installations should be revised.
- A ban should be considered on using growth enhancers in animal feed containing heavy metals if this should be a European wide problem for later use of biogas residues on fields.
- The effective enforcement of the IPPC and Nitrates Directives are crucial, along with the Sewage Sludge Directive, Water Framework Directive, Birds directive, Habitats Directive and the Heavy Metals legislation.
- A strategy is needed to include biogas installations into the Kyoto-mechanism.
- EU-wide legislation is needed to ensure that biogas - upgraded to natural gas quality – can be fed into the natural gas network.
- Proposals are needed for further enhancing the use of animal by-products for biogas as announced in the 'Biomass action plan',
- Member States should include biogas in their mid-term evaluation of existing rural and regional development programmes and propose actions for the future. Rural Development strategies, including LEADER projects should contain development scenarios for biomass and biogas utilities.

[8] Source: Draft Report on Sustainable Agriculture and Biogas: a need for review of EU-legislation (2007/2107(INI)) 29.11.2007

- The Commission should present a coherent report on European biogas production to the European Parliament taking into account the above mentioned proposals and the progress made.
- Efforts should be made to fund research, development and demonstration.

3. Renewable energies support instruments in Romania

3.1 Legislative framework on RES and Biogas

Romania has a certain electricity over-capacity (Romania is currently an exporter in the Balkan region) with a significant share of hydropower (mainly large scale) in the total energy production, while the remainder is constituted by fossil fuels and nuclear power. In near future, the nuclear electricity development with two more reactors (in Cernavoda nuclear power plant) is considered to be a national priority. In terms of Renewable Energy Sources (RES), Romania has already achieved its target on share of RES in electricity consumption. The Romania target for 2010 is set at 33% that has to be achieved mainly by the current large hydropower production. The high potential of small-scale hydro power has remained almost untouched. A small number of wind, solar, biomass and geothermal projects have been implemented in the country. Provisions for public support are in place, but few renewable energy projects have so far been financed. The September 2007 energy strategy includes upgrading of hydro-power plants with total installed power of 2328 MW. Also targets for electricity from renewable energies were established: 35% by 2015 and 38% by 2020.

In this context, Romania has developed an institutional and legal framework in conformity with the EU acquis in order to promote energy efficiency and develop support instruments for RES.

Romania transposed in national legislation the provisions of the main directives for the renewable energy sources: 2001/77/CE (958/2005) and 2003/30/CE (GD1844/2005).

The national legislation is actually composed by:

- Law No 199/2000 regarding the efficient use of energy, amended and updated by Law No 56/2006, which aims to create the necessary legal framework for the development and implementation of national policies for the efficient use of energy.
- Law No 3/2001 ratifying the Kyoto Protocol to the United Nations Framework Convention on Climate Change. According to the Kyoto Protocol, Romania is obliged to cut its emissions of greenhouse gases by 8% from 1989 levels between 2008 and 2012.
- Government Decision No 163/2004 regarding the approval of the National Strategy for Energy Efficiency. The main objective of this strategy is the identification of

possibilities and means to increase energy efficiency over the entire energy network through the implementation of suitable programmes.

- Government Decision No 1535/2003 regarding the "Strategy for the Promotion of Renewable Sources of Energy" and Government Decision No 443/10.04.2003 concerning the promotion of the production of electrical energy from renewable energy sources. This latter Government Decision was amended by Government Decision 958/2005 (transposing Directive 2001/77/EC) and forms a legal framework for the promotion of renewable sources of energy.
- Directive 2003/30/EC for promoting the use of bio-fuels and other renewable fuels for transport GD1844/2005
- Energy Law (no.13/ 2007) – general provisions for renewable promotion

The above mentioned legislation has been supplemented by national legislation that transposes, in its entirety, the EU acquis dealing with energy efficiency and developed the needed support instruments for RES, including timeframes for implementation. Specific national legislation include the regulation of the ANRE (Energy Regulatory Authority): i) Procedure for certification of priority production, ii) Regulation regarding the green certificate market, iii) Regulation for issuing guarantees of origin, iv) Regulation for energy labeling, v) Procedures of the market operator (For issuing green certificates and for organizing the centralized green certificate market).

Renewable Energy targets
According to the newly proposed RES Framework Directive from 2008 Romania has to assure a 24% share of RES on the final consumption of energy in 2020, and at least 10% share of biofuels of final consumption of energy in transport by 2020.

The indicative target set by the RES electricity European Directive from 2001 imply that Romania has a share of 33 % of RES on gross electricity consumption by 2010 and according to the ***European Biofuels Directive from 2003*** biofuels consumption of 5.75% of petrol and diesel use for transport in 2010.

4. Biogas Policies in Romania

- Legislative framework on RES and Biogas

There is no specific legislation on biogas generation, use or transport. All the legislation applying to the RES is applying also to the biogas.

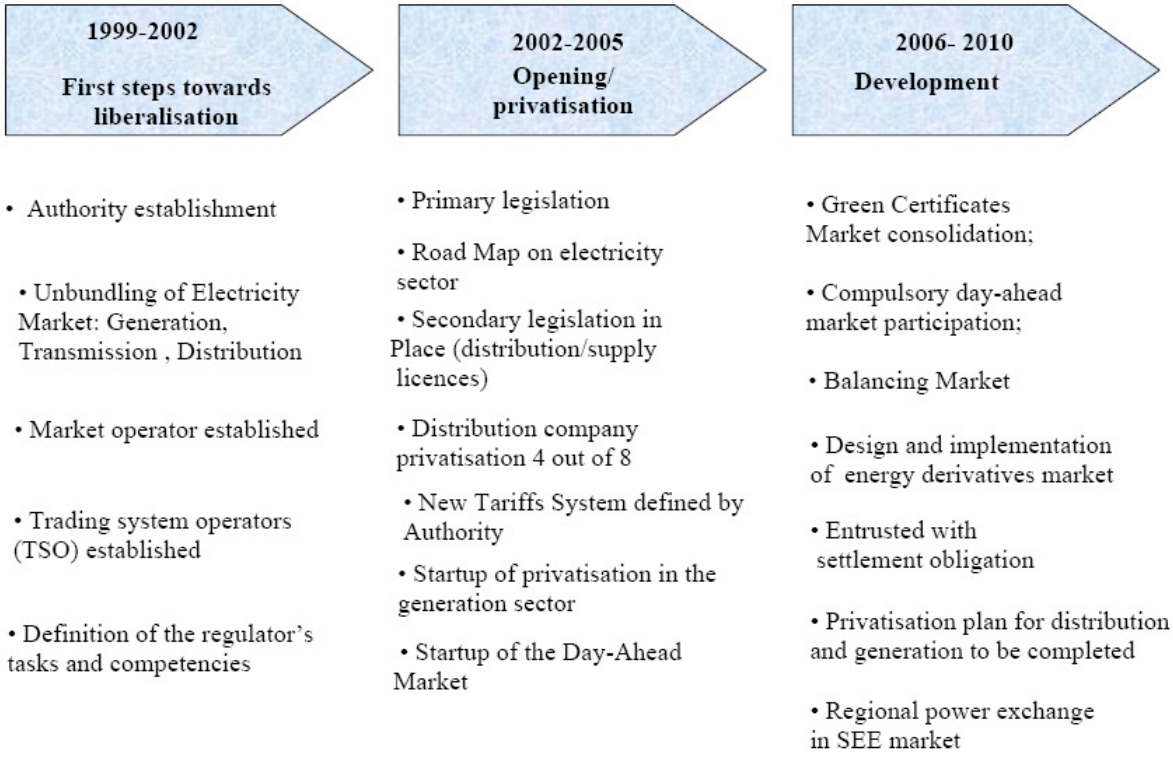
- Support Instruments (eg. feed-in tariff system, Quota regulation / certificate mechanisms, tax incentives / investments grants, other financial resources)

- Market Reform & Investment Environment

The process of transformation/changes in the energy market in Romania has started several years ago with some important steps like: unbundling of the electricity market generation, transmission and distribution, establishment of a market operator and appointment of a trading system operator, road map for electricity privatization of the distribution companies as well as the production, development of green certificate market (almost 3 years ago), the development of the day-ahead market.

An overview of the last 20 years in terms of reforms and support instruments, including energy market development, is presented in the next Figure:

REFORMS overview –main changes in the Romanian energy market

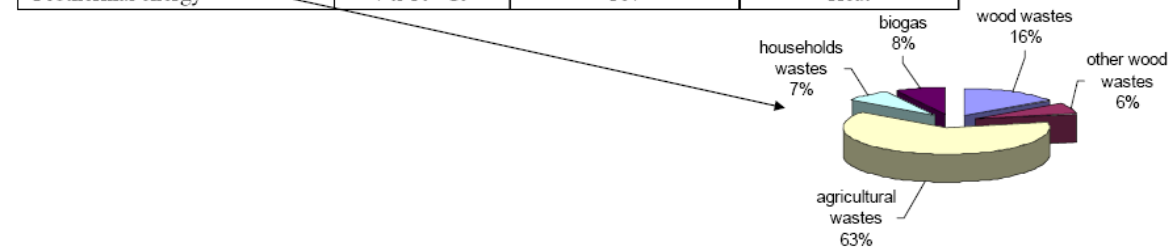


The regulations apply to both energy generated from renewable sources (such as wind, geothermal, hydro, biomass, waves) and energy generated from hybrid plants, using renewable and conventional sources. To benefit from the facilities provided by law, the production units using renewable sources have to obtain a certificate for the guarantee of origin attesting the provenience of the electricity.

Governmental statistics assessments on renewable energy potential were included in the National Strategy for Energy. Rough data shows a picture as follows:

The Romanian assessed potential for renewable energy.

Source	Annual potential		End use
		ktoe	
Solar energy			
• thermal	60 x 10^6 GJ	1 433	Heat
• photovoltaics	1 200 GWh	103	Electricity
Wind energy	23 000 GWh	1 978	Electricity
Hydro energy	40.000 GWh		Electricity
Of which small HPPs < 10 MW	*6 000 GWh*	516	
Biomass	318 x 10^6 GJ	7 595	Heat
Geothermal energy	7 x 10^6 GJ	167	Heat



A system of mandatory green quota, representing the proportion of electricity generated from renewable sources out of the aggregate gross domestic electricity consumption combined with the trading system for green certificates has been established. All electricity suppliers have the obligation to acquire electricity from renewable energy sources at least in the quotas indicated by law. If they do not comply with the above requirement important penalties are applied. The mandatory quotas have been established until 2010 in line with the target assumed by Romania during the negotiations for EU accession, starting from 0.7% for 2005 and ending at 8.3% for 2010-2012.

In august 2008 a new program started,with the support of Ministry of Environment for the development of RES. The program support the development of project for renewable energy with a state support of 90% with a limit regarding tne a ount of money that could be invested. The program was schedduled to start at the end of 2008. The start of the program was delayed for february 2009.

- Comparison to EU policies (eg. adaptation of EU policies and in what extent)

Romania is a country characterized by the transition process towards market economy and also towards standards in use in the EU in all field. A transposition process was carried out during many years. Currently all the major directives have been included in the national legislative framework as described previously in chapter 3.1.

Romania will acces in 2009 3 billions Euros from EU (Structural Funds). First project financing with 50 % the eligible costs was acceptedin 2008 under the program FEADR, skema XS. The project is going to develop a biogas plant in Maramures region, Romania.

5. Biogas contribution to national targets

- Contribution to National Energy and Environmental targets (eg. estimations on present status and future contribution referring to RES targets and greenhouse gas emissions reduction. Based on the results of WP2 too).

Contribution to National Energy and Environmental targets (eg. estimations on present status and future contribution referring to RES targets and greenhouse gas emissions reduction. Based on the results of WP2 too).

The biogas production in the past (prior to 1989) had high targets. Nevertheless, the actual situation shows an almost inexistent industry in the field, even if the National Development Strategy theoretically support the development of renewable energies sector.

This is confirmed also by the domestic energy strategy for the period 2007-2020, which suggests an indicative target for the E-RES potential as follows: hydro energy – 40 TWh of which 6 TWh (21,6 PJ) in units smaller than 10 MW; wind energy with a potential of 23 TWh (82,8PJ); solar 1,2 TWH and biomass with a equivalent energy saving potential of 318 PJ. A balanced development and use of all this renewable sources could prove the most effective strategy at national level.

Romanian biomass potential is one of the most important in the region. Current situation of biomass use for energy production in Romania is mainly focusing on domestic purposes so we have more than 14 millions stoves or wood ovens for domestic purposes (using wood, wood waste or biomass); 550 steam and water industrial boilers (wood); 10 water boilers (45 Mw in total; 0,7 Mw-7 Mw) for urban heating (using wood waste). We could say that the huge potential is just in a very limited measure used for energy production. What it is needed is a strong injection of capital from private companies and in the same time a better informed public and investors about different other ways to use the biomass.

As we have already presented, no major contribution of the biogas is expected in the near future. The strategy for the energy development has important aspects referring to the renewable energy. **The National Strategy on Harnessing Renewable Energy Sources** takes an overall look at the potential of renewable sources in Romania and sets forth the main objectives to be reached by the country in the near future. Based on the above mentioned guidelines, but also taking into consideration Romania's renewable sources potential for solar, wind, water and geothermal energy, the said strategy establishes as target for Romania the generation of 33% of the overall electricity consumption from renewable sources by the year 2010.

The National Strategy on Energy Efficiency sets forth the objectives concerning energy efficiency for the period up to the year 2015. The main purpose of the strategy is to identify the possibilities and means to increase energy efficiency at all levels of the energy chain, by implementing specific programs in order to reach its ultimate goal: the increase of primary energy efficiency by 30% to 50% by the year 2015.

6. Conclusions

Based on the gained experience in the target country the first conclusions will summarize aspect like:

- Is the National legislative framework adequate for further RES (biogas) penetration?

A series of obstacles to the investment in the renewable energy sources from financial to technical up to social and environmental acceptance are still in place. First of all is the up-front cost of the investment.

The situation has complicated even more with the recent low cost of oil due to economy slow down. Nevertheless this should be regarded as a potential opportunity for future investments in the RES technologies. The actual crisis is just the start of a process of reforms that will transform the society.

The recent gas crisis is just a remembering that even in this situation-with low energy costs-energy is still a problem.

Despite the existence of a clear strategy at European and national level there is a need of real actions (available funds for developing new infrastructures) supporting both the up-front costs and the long term economic benefits. On long term there are different ways to support the implementation of the renewable energy policy: one – which is the followed pattern across Europe and USA is to create huge facilities (for biodiesel, biogas, wind etc) replacing in the former oil refineries with the new era refineries ("green based") and placing another pressure on the environment, the second one – which we consider is the most appropriate one, is the development of renewable scale application for local communities with the possibility to develop at industrial scale only in places that this is economic, environmental and social accepted and needed on long term. This paradigm change is requiring thinking of long term and restructuring of the renewable energy policy so that every single home could implement such technologies leading to a more decentralized energy production and use. The technical obstacles are simple to grasp but we have to stress the direct link between the cost of the solution and the number of facilities on the market. The renewable energy sector is having a great social and environmental acceptance level at least at a more general view. But there are still some issues when it comes to build one in the back of the house -the response is usually NIMBY (not in my back yard). The investment in the biogas has the same drawbacks as other RES in the country.

On the other hand it seems that the green certificate quotas adopted by Romania is not the most suitable one for the actual position of the RES (other than hydro-electrical power plants) with very low funds attracted. The solution used in Romania with green certificates (despite the advantages, see next) is the not necessary the most suitable one for a not so developed production capacities in the renewable energy.

- What is the role & the contribution of the support measures to RES investments so far? Any reforming needed?

Both systems (the fix feed tariff- feed in tariff and the GC market) have their advantages and disadvantages and different countries have responded differently to this.

Many of them have implemented the fixed feed tariff. Romania together with some other countries is implementing the GC market for some 3 years now. There are some issues to be discussed and this are linked mainly to the lack of governmental subsidies (and so the price is directly transferred to the consumer), promotion of the most competitive renewable technologies, market decide on the additional price of green electricity and the possibility to trade on international markets of green certificates. It has also to point out that are one very important difference between the fix feed tariff and the GC market is that in the first we have a fix price and in the second a fix volume. As it is especially focusing on the volume we consider this regulation (the GC market) as most suitable for a country with well developed renewable energy sector in which the state lets the market decide on its future development. On the other hand it has to be stressed that this should be the future of the renewable energy sector in terms of trade as this is a less controlled market and has a much bigger elasticity and possibility to adjust to changes.

- How promising is the Biogas Exploitation at a country level in order to contribute to National Energy and Environmental Commitments?

One of the advantages of Romania for a positive trend of the biogas industry is his huge biomass potential, coming mainly from the approximate 9 millions Ha agricultural land.

A high annual growth rate (6%), and a high dependency over the external fossil energy sources (mainly Russia), put Romania in position to accelerate the process of development for renewable energy sector. Hence, based on biomass the potential, it is expected to have a rapid growth of both interest and investments in biogas sector, as a reliable and relatively easy to get in terms raw materials availability. It is expected that most of the biogas projects to be developed based on agricultural wastes (both primary and secondary production).

7. Annex 1: EU Legislation

Directives

► DIRECTIVE **2000/76/EC**

"on the **incineration of waste**"

To prevent and limit negative environmental effects by emissions into air, soil, surface and ground-water, and the resulting risks to human health, from the incineration and co-incineration of waste.

► DIRECTIVE **2001/77/EC**

„on the promotion of **electricity produced from renewable energy sources** in the internal electricity market"

The purpose of this Directive is to promote an increase in the contribution of renewable energy sources to electricity production in the internal market for electricity and to create a basis for a future Community framework thereof.

For the purposes of this Directive, the following definition applies: 'renewable energy sources' shall mean renewable non-fossil energy sources (wind, solar, geothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases);

► DIRECTIVE **2001/80/EC**

"on the **limitation of emissions of certain pollutants** into the air from large combustion plants"

This Directive shall apply to combustion plants, the rated thermal input of which is equal to or greater than 50 MW, irrespective of the type of fuel used (solid, liquid or gaseous).

► DIRECTIVE **2002/91/EC**

„on the **energy performance of buildings**"

The objective of this Directive is to promote the improvement of the energy performance of buildings within the Community, taking into account outdoor climatic and local conditions, as well as indoor climate requirements and cost-effectiveness.

Article 5 of the Directive is related to new buildings and is relevant to the use of biogas since Member States shall take the necessary measures to ensure that new buildings meet the minimum energy performance requirements referred to in Article 4. For new buildings with a total useful floor area over 1 000 m^2, Member States shall ensure that the technical, environmental and economic feasibility of alternative systems such as:

- decentralised energy supply systems based on renewable energy,
- CHP,
- district or block heating or cooling, if available,
- heat pumps, under certain conditions,

is considered and is taken into account before construction starts.

► DIRECTIVE **2003/30/EC**

„on the promotion of the use of **biofuels** or other renewable fuels for transport“

This Directive aims at promoting the use of biofuels or other renewable fuels to replace diesel or petrol for transport purposes in each Member State, with a view to contributing to objectives such as meeting climate change commitments, environmentally friendly security of supply and promoting renewable energy sources.

Upgraded biogas (biomethane) can be used as renewable transport fuel. For the purpose of this Directive, the following definitions are related to the biogas sector:

- 'biofuels' means liquid or gaseous fuel for transport produced from biomass;
- 'biomass' means the biodegradable fraction of products, waste and residues from agriculture (including vegetal and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste;
- 'biogas': a fuel gas produced from biomass and/or from the biodegradable fraction of waste, that can be purified to natural gas quality, to be used as biofuel, or woodgas;

► DIRECTIVE **2003/55/EC**

"concerning common rules for the **internal market in natural gas** and repealing Directive 98/30/EC"

This Directive establishes common rules for the transmission, distribution, supply and storage of natural gas. It lays down the rules relating to the organisation and functioning of the natural gas sector, access to the market, the criteria and procedures applicable to the granting of authorisations for transmission, distribution, supply and storage of natural gas and the operation of systems.

The rules established by this Directive for natural gas, including liquefied natural gas (LNG), also applies 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.

Since this directive was introduced, biogas industry has been working to obtain a priority for biogas feed-in into the pipeline system, analogous to EEG in Germany. In Germany it is possible to feed biogas into the natural gas system.

► DIRECTIVE **2003/87/EC**

„establishing a scheme for **greenhouse gas emission allowance trading** within the Community and amending Council Directive 96/61/EC“

This Directive establishes a scheme for greenhouse gas emission allowance trading within the Community (hereinafter referred to as the 'Community scheme') in order to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner.

► DIRECTIVE **2004/8/EC**

„on the promotion of **cogeneration** amending Directive 92/42/EEC“

The purpose of this Directive is to increase energy efficiency and improve security of supply by creating a framework for promotion and development of high efficiency cogenera-

tion of heat and power based on useful heat demand and primary energy savings in the internal energy market, taking into account the specific national circumstances especially concerning climatic and economic conditions.
Cogeneration technologies covered by this Directive are

(a) Combined cycle gas turbine with heat recovery
(b) Steam backpressure turbine
(c) Steam condensing extraction turbine
(d) Gas turbine with heat recovery
(e) Internal combustion engine
(f) Microturbines
(g) Stirling engines
(h) Fuel cells
(i) Steam engines
(j) Organic Rankine cycles
(k) Any other type of technology or combination thereof falling under the definition laid down in Article 3(a)

► DIRECTIVE **2006/12/EC**

„on **waste**"

For the purposes of this Directive 'waste' shall mean any substance or object in the categories set out in Annex I of this directive (e.g. industrial waste, agricultural waste, waste from households, etc.) which the holder discards or intends or is required to discard. However, gaseous effluents emitted into the atmosphere, animal carcases and the following agricultural waste (faecal matter and other natural, non dangerous substances used in farming) and waste waters, with the exception of waste in liquid form are excluded from this directive since these materials are covered by other directives.
The directive requests Member States to take appropriate measures to encourage the prevention or reduction of waste production and its harmfulness, in particular by:

(i) the development of clean technologies more sparing in their use of natural resources;
(ii) the technical development and marketing of products designed so as to make no contribution or to make the smallest possible contribution, by the nature of their manufacture, use or disposal, to increasing the amount or harmfulness of waste and pollution hazards;
(iii) the development of appropriate techniques for the final disposal of dangerous substances contained in waste destined for recovery;

It also requests Member States to take appropriate measures to encourage

(i) the recovery of waste by means of recycling, reuse or reclamation or any other process with a view to extracting secondary raw materials; or
(ii) the use of waste as a source of energy.

► COUNCIL DIRECTIVE **86/278/EEC**

"on the protection of the environment, and in particular of the soil, when **sewage sludge** is used in agriculture"

The purpose of this Directive is to regulate the use of sewage sludge in agriculture in such a way as to prevent harmful effects on soil, vegetation, animals and man, thereby encouraging the correct use of such sewage sludge.

► COUNCIL DIRECTIVE **91/676/EEC**

„concerning the protection of waters against pollution caused by **nitrates** from agricultural sources“

This Directive has the objective to reduce water pollution caused or induced by nitrates from agricultural sources and to prevent further such pollution.
With the aim of providing for all waters a general level of protection against pollution, Member States shall, within a two-year period following the notification of this Directive: (a) establish a code or codes of good agricultural practice, to be implemented by farmers on a voluntary basis, which should contain provisions covering at least the items mentioned in Annex II A of the Directive, and (b) set up where necessary a programme, including the provision of training and information for farmers, promoting the application of the code(s) of good agricultural practice.
Furthermore, Member States shall submit to the Commission details of their codes of good agricultural practice and the Commission shall include information on these codes in the report referred to in Article 11. In the light of the information received, the Commission may, if it considers it necessary, make appropriate proposals to the Council.

► COUNCIL DIRECTIVE **96/61/EC**

“concerning **integrated pollution prevention and control**”

The purpose of this Directive is to achieve integrated prevention and control of pollution arising from the activities listed in Annex I. It lays down measures designed to prevent or, where that is not practicable, to reduce emissions in the air, water and land from the abovementioned activities, including measures concerning waste, in order to achieve a high level of protection of the environment taken as a whole, without prejudice to Directive 85/337/EEC and other relevant Community provisions.

► COUNCIL DIRECTIVE **1999/31/EC**

“on the **landfill** of waste”

The EU Landfill Directive represents a step change in the way we dispose of waste in this country and sets demanding targets to reduce the amount of biodegradable municipal waste that is landfilled. These targets are:

- By 2010 to reduce biodegradable municpal waste landfilled to 75% of that produced in 1995
- By 2013 to reduce biodegradable municipal waste landfilled to 50% of the produced in 1995
- By 2020 to reduce biodegradable municipal waste landfilled to 35% of that produced in 1995.

► COUNCIL DIRECTIVE **2003/96/EC**

“restructuring the Community framework for the **taxation of energy products and electricity**”

The Directive widens the scope of the EU's minimum rate system for energy products, previously limited to mineral oils, to all energy products including coal, natural gas and electricity. In particular, the Directive will:

- reduce distortions of competition that currently exist between Member States as a result of divergent rates of tax on energy products;
- reduce distortions of competition between mineral oils and the other energy products that have not been subject to Community tax legislation up to now;
- increase incentives to use energy more efficiently (to reduce dependency on imported energy and to cut carbon dioxide emissions); and
- allow Member States to offer companies tax incentives in return for specific undertakings to reduce emissions.

► COUNCIL DIRECTIVE **2004/67/EC**

"concerning measures to safeguard **security of natural gas supply**"

This Directive establishes measures to safeguard an adequate level for the security of gas supply. These measures also contribute to the proper functioning of the internal gas market. It establishes a common framework within which Member States shall define general, transparent and non-discriminatory security of supply policies compatible with the requirements of a competitive internal gas market; clarify the general roles and responsibilities of the different market players and implement specific non-discriminatory procedures to safeguard security of gas supply.
This directive also includes the aim to promote domestic production of gas and the diversification of sources of gas supply.

Regulations

► REGULATION **(EC) No 1774/2002**

"laying down **health rules concerning animal by-products** not intended for human consumption"

This Regulation lays down animal and public health rules for (a) the collection, transport, storage, handling, processing and use or disposal of animal by-products, to prevent these products from presenting a risk to animal or public health, and (b) the placing on the market and, in certain specific cases, the export and transit of animal by-products and those products derived therefrom referred to in Annexes VII and VIII of the Regulation.
This Regulation also includes catering waste if it is destined for use in a biogas plant or for composting. It was amended by several new Commission Regulations including also issues on biogas:

- COMMISSION REGULATION (EC) No 808/2003
- COMMISSION REGULATION (EC) No 668/2004
- COMMISSION REGULATION (EC) No 92/2005
- COMMISSION REGULATION (EC) No 93/2005
- COMMISSION REGULATION (EC) No 416/2005
- COMMISSION REGULATION (EC) No 181/2006
- COMMISSION REGULATION (EC) No 208/2006
- COMMISSION REGULATION (EC) No 2007/2006

► REGULATION **(EC) No 2003/2003**

"relating to **fertilizers**"

This Regulation shall apply to products which are placed on the market as fertilisers designated 'EC fertiliser'. This includes only mineral and synthetic fertilizers and does not cover fertilizers from anaerobic fermentation residues.

COUNCIL REGULATION **(EC) No 1782/2003**

"establishing **common rules for direct support schemes under the common agricultural policy** and establishing certain **support schemes** for farmers and amending Regulations (EEC) No 2019/93, (EC) No 1452/2001, (EC) No 1453/2001, (EC) No 1454/2001, (EC) 1868/94, (EC) No 1251/1999, (EC) No 1254/1999, (EC) No 1673/2000, (EEC) No 2358/71 and (EC) No 2529/2001"

This Regulation establishes:

- common rules on direct payments under income support schemes in the framework of the common agricultural policy which are financed by the 'Guarantee' Section of the European Agricultural Guidance and Guarantee Fund (EAGGF), except those provided for under Regulation (EC) No 1257/1999;
- an income support for farmers (hereinafter referred to as the 'single payment scheme');
- support schemes for farmers producing durum wheat, protein crops, rice, nuts, energy crops, starch potatoes, milk, seeds, arable crops, sheep meat and goat meat, beef and veal and grain legumes.

8. Annex 2: Romanian Legislation

- Law No 199/2000 regarding the efficient use of energy, amended and updated by Law No 56/2006, which aims to create the necessary legal framework for the development and implementation of national policies for the efficient use of energy.
- Law No 3/2001 ratifying the Kyoto Protocol to the United Nations Framework Convention on Climate Change. According to the Kyoto Protocol, Romania is obliged to cut its emissions of greenhouse gases by 8% from 1989 levels between 2008 and 2012.
- Government Decision No 163/2004 regarding the approval of the National Strategy for Energy Efficiency. The main objective of this strategy is the identification of possibilities and means to increase energy efficiency over the entire energy network through the implementation of suitable programmes.
- Government Decision No 1535/2003 regarding the "Strategy for the Promotion of Renewable Sources of Energy" and Government Decision No 443/10.04.2003 concerning the promotion of the production of electrical energy from renewable energy sources. This latter Government Decision was amended by Government Decision 958/2005 (transposing Directive 2001/77/EC) and forms a legal framework for the promotion of renewable sources of energy.
- Directive 2003/30/EC for promoting the use of bio-fuels and other renewable fuels for transport GD1844/2005
- Energy Law (no.13/ 2007) – general provisions for renewable promotion