



# Assessment of Biogas Policies in Slovenia

Deliverable 3.1

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## 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, Slovenia, Latvia, Romania, and Slovenia. Thereby, policies in Slovenia 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. In Slovenia the Primary Energy Production of biogas in 2006 was 100 GWh, from 80 GWh from landfills and 10 GWh respectively from purifying and agricultural plants<sup>1</sup>. In terms of final Energy the electricity production in 2006 reached a total of 32,2 GWh and 22.7 in 2005 GWh<sup>2</sup>.

In 2003 the capture and use of landfill gas was established only at the three biggest landfills (Ljubljana–Barje, Maribor–Pobrežje, Celje–Bukovžlak), which proportionally account for around 30 % of the total population. In 2003 15 % of the landfill gas was captured and used for energy.

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

- Which is the Policy and Legislative framework in Europe and Slovenia concerning RES and especially biogas?
- Which interactions occur between RES support schemes and other Policies (e.g. Environmental, Agricultural Policy)?
- What is the current level of support for RES, biogas in Slovenia compared to Europe?
- Is this support in Slovenia effective and efficient and if not what is needed?

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1 Source: Biogas barometer 2007 – EurObserv'ER

2 Source: <http://www.energy.eu/renewables/member-charts/biogas-production.html>

## 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<sub>2</sub>) 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.<sup>3</sup>

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<sup>4</sup>. In January 2007 the European Commission presented a "Renewable Energy Roadmap" as part of its "energy-climate change" package<sup>5</sup>. 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"<sup>6</sup>. 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 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.

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3 Source: [http://ec.europa.eu/energy/res/index\\_en.htm](http://ec.europa.eu/energy/res/index_en.htm)

4 Source: COM(2007)1final „An Energy Policy for Europe“

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

6 Source: COM(2007) 723 final „A EUROPEAN STRATEGIC ENERGY TECHNOLOGY PLAN (SET-PLAN) Towards a low carbon future“

## **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<sup>7</sup>, 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<sub>2</sub>-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.

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'.

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<sup>7</sup> COM (2005) 628: "Biomass Action Plan"

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 provided by Rutz & Prassl (2008)<sup>8</sup> 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)<sup>9</sup> and in Annex 1.

## **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<sup>10</sup> 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.

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

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

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

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.
- 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 Energy Policies in Slovenia

### 3.1 Support Instruments

#### 3.1.1 Feed-in tariff system

The electricity production from renewable energies is supported through the feed-in tariff system as shown in the table below. This system is foreseen for independent qualified producers<sup>11</sup> from which distribution companies<sup>12</sup> have to buy electricity on fixed prices electricity from qualified producers of electricity (Official Gazette RS, no. 25/02) and with Decree on prices and premiums for purchase of electricity from qualified producers (Official Gazette RS, no. 75/06).

Uniform annual prices for the purchase of electricity from qualified producers and uniform annual premiums (when independent qualified producer sells at uniform annual premium he get paid a sum of adequate premium and market price, which is not necessary higher as uniform annual price) for electricity that the producers are selling individually to the end consumer or via distributor are shown in the table below.

**Table 1:** Uniform annual prices/premiums for electricity from qualified power plants

| 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                              |
| <b>Other QPP<sup>13</sup></b>                           |                                 | <b>12,09</b>                     | <b>8,33</b>                        |
| Combined QPP (CHP) using RES <sup>14</sup>              |                                 | 6,70                             | 2,94                               |
| QPP or heating plant using communal waste <sup>15</sup> | 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 <sup>16</sup>                  | Up to 1 MW inclusive            | 7,09                             | -                                  |

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

11 Independent qualified producer is a producer which in single object of production produces electricity with above average exploitation of CHP or if he in economically and environmentally adequate way exploits wastes or RES.

12 Prices of electricity sold to the industrial consumers are set in individual contracts with them and are market oriented. Prices for household and small consumers are fixed and set from the government.

13 Power plant using as input other kind of RES, which is not fossil or nuclear. **QPP using biogas from animal waste belong to this group.**

14 Combination of stated RES power plant

15 QPP and heating plant using communal waste include also QPP using biogas and QPP using gas from communal purifying plant

16 Average purchase price for industrial heating plant up to 1 MW inclusive is valid for all surpluses of their own consumption, that qualified producer dispatches to the public grid



In the table QPP refers to but the rest of text is talking about qualified power producer. Qualified power producer can own more different qualified power plants from which he can sell electricity with prices mentioned below regarding the type of power plant.

Uniform annual prices and uniform annual premiums do not include VAT. It is foreseen that the prices will be changed once a year with government decree, taking into account the inflation and other relevant factors. Uniform annual price and premium is valid for 10 years, however it is decreased by 5% after 5 years of operation and for additional 5% after 10 years of operation.

### **3.1.2 Financial subsidies**

RES power plants are stimulated through feed in tariff system and therefore there are no additional subsidies available. There is only one exception and this is only for farmers which have the opportunity to obtain subsidies of up to 50% of investment costs. In this example the uniform purchase price is decreased (for each 10 % of received subsidy the price is decreased by 5%, etc.). Currently farmers have the possibility to apply for these funds by the Agency of Republic of Slovenia for agricultural market. The agency has published a tender for diversification of the activities on farms where energy production is one of the foreseen measures.

### **3.1.3 Soft loans**

Environmental development fund of Slovenia is a public fund offering within calls attractive credits for environmental and RES investments for companies and households. Its main mission is to encourage development in the area of environmental safety.

Eco fund will publish a call for financing environmental investments in next months where investments in biogas plants are also foreseen. It is expected that the interest rate will be EURIBOR + 0,3%, also depending on credit insurance or projects held in regional areas or natural parks.

### **3.1.4 Regulation on the CO<sub>2</sub> Emission Tax**

The government of the Republic of Slovenia passed a regulation on CO<sub>2</sub> emission tax in 1996. The regulation was changed in 2002 (Official Gazette of RS, No 91/2002). The tax is paid on account of the fuel use as well as on the account of the burning of combustible organic substances and it is seen as a state budget income as a whole. Tax is not paid for the use of the biomass, biogas and processed animal albumen and fat. The base for the tax payment represents unit load (UL) and the carbon quantity released with the burning of the particular fuel and combustible organic substance. The government sets the tariff for the unit load (UL) and it currently amounts to 3 SIT/UL.

Companies, which have to pay the CO<sub>2</sub> emission tax, can get these taxes back if they invest in measures for reducing CO<sub>2</sub> emissions. That means that the companies still pay CO<sub>2</sub> emission tax for the amount of the used fuel, but they can get the tax partly back if they invest in the following projects:

1. Introduction of cogeneration of heat and electricity within reconstruction of existing heating power plant,
2. Introduction of combined cycle within reconstruction of existing gas turbine,
3. Realization of measurements of rational use of energy in existing industrial object,
4. Reconstruction of existing devices for heat supply of urban area or other measurements for heat supply,
5. Exchange of fossil fuels with renewable energy sources on existing heating devices,
6. Realization of measurements for reducing of heating losses in objects.

## **3.2 Market Reforms**

There were no major market reforms in last few years. The main mechanism that is driving the market development is uniform purchase price. Currently this price is not very promising and it is expected that the Ministry for economy will publish new uniform purchase prices for biogas plants. Price will also distinguish between biogas plants (smaller up to 500 kW, bigger up to 1 MW and big biogas plants above 1 MW) where price for smaller will be much higher in order to stimulate biogas plants on bigger farms instead of having few large ones.

## **3.3 Comparison with EU policies**

A document setting the long term vision of the energy sector is the National Energy Programme from 2004. It provides a legal basis and political consensus for the instruments/mechanisms to achieve the main requirements regarding energy services, which are key element for the prosperity, economic and technical development. According to National Energy Programme Slovenia plans to:

- Increase the share of RES in primary energy balance from 9% to 12% by 2010,
- Increase the share of RES in heat supply from 22% in 2002 to 15% by 2010,
- Increase the share of electricity produced with RES from 32 % in 2002 to 33,6 % in 2010
- Increase the share of biofuels in transport to 5,75 % by 2010.

Those goals are set but not obligatory. There is no strict measurement if this will not be achieved. The same is with implementing renewables and in energy concepts making the possibility to include renewables is not obligatory.

The resolution also defines incentives and mechanisms for promotion of RES and efficient use of energy. It also obliges local communities to elaborate local energy concepts, where the binding content has to be planning of the RES usage. But no penalties are established when local community does not have the concept, or does not execute measures proposed in the concept. For RES-E resolution plans:

- preparation of development strategies for separate RES-E sources
- ensuring middle term stability of feed-in tariffs
- introduction of certification system of electricity origins
- standardization of grid connection for micro and small power plants
- minimal price for the grid usage in case of direct buy from the qualified producer
- acceptance of regulation determining the share of RES used in public buildings

- realization of promotion programs (public awareness, education etc.)

Resolution gives incentives also for usage of wood biomass, which is not appropriate for industry manufacturing. The exception is wood biomass from wood processing industry, which is already needed for covering energy needs. The government is obliged to prevent any distortions on wood product market caused with incentives for energy use of wood biomass.

Within the EU partnership which resulted from the **Johannesburg Summit**, Slovenia is committed to:

- increase the share of renewable energy sources in domestic consumption to 15 %
- increase the share of wind energy in electricity production to 10 %
- increase the share of biomass in gross domestic consumption to 6 %

On the field of wastes handling several operational programmes were accepted for period until 2006:

- Operational programme in the field of waste handling with goal to decrease quantities of dumped wastes that could be decomposed  
([http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/okolje/varstvo\\_okolja/operativni\\_programi/operativni\\_program\\_odpadki\\_2008.pdf](http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/okolje/varstvo_okolja/operativni_programi/operativni_program_odpadki_2008.pdf))
- Operational programme in the field of handling waste oils  
[http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/okolje/varstvo\\_okolja/operativni\\_programi/operativni\\_program\\_olja.pdf](http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/okolje/varstvo_okolja/operativni_programi/operativni_program_olja.pdf).

All operational programmes can be found in national language on the following website:  
<http://www.arso.gov.si/varstvo%20okolja/odpadki/programi/>.

## 4 Biogas Policies in Slovenia

### 4.1 Relevant legislation framework affecting RES in Slovenia

- **The Law on Energy (1999, amended 2000, 2002, 2004, 2005, 2007);**

The Energy Act (OJ RS, No. 26/05, official consolidated text – EZ-UPB1). Ensures stimulation of the RES use gives priority to efficient use of energy and RES instead fossil fuels and enables different ways for promoting production of energy from RES. It also defines qualified producers of electricity. Qualified producers are producers that generate electricity in an individual generating facility with a higher-than-average efficiency for heat and electricity cogeneration, or that use renewable energy sources in a manner which is in accordance with environmental protection. Also important here is the definition of electricity from renewable sources, this is as follows:

- a) Electricity generated in power stations that use renewable energy sources exclusively
- b) The proportion of electricity from renewable energy sources generated in combined power stations that also use fossil fuels, and
- c) Electricity referred to in Points a) and b) of this indent that is used to fill energy storage systems, without using electricity generated from such systems. Renewable sources of energy are sources of energy that are preserved in nature and are fully or largely renewable, in particular energy from watercourses, wind and biomass and geothermal and non-accumulated solar energy. Biomass is the biodegradable fraction of products, waste and residues from agriculture (including vegetal and animal substances), forestry and timber industries, as well as the biodegradable fraction of industrial and municipal waste, the use of which for energy purposes is permitted by waste management regulations.

- **Regulation for the conditions to acquire the status of qualified electricity producer (G. RS, no.71/2007)**

The new Decree on the conditions for obtaining the status of a qualified electricity producer sets out types of qualified electricity producers in terms of primary source of electricity and nominal electrical power, conditions for obtaining the status of qualified electricity producer and the procedure for obtaining the status of a qualified electricity producer.

- **Governmental regulation of rules for definition of prices and for purchase of electricity from qualified producers of electricity (Of. G. RS, no. 25/2002)**

This regulation sets out the rules and starting points for contractual relations between qualified electricity producers and the operators of the networks to which qualified power plants are connected, and the rules for setting prices and premiums for the purchase of electricity from qualified electricity producers.

- **Decree on Prices and Premiums for Purchase of Electricity from Qualified Producers (Of. G. RS, no 8/2004, 25/2002, 75/2006 )** sets prices for produced and sold electricity to the grid kWh of RES-E.
- **Decree on emission of certificates of origin (Of. G. RS, no 121/2005)**
- **Rules on electricity market operation (Of. G. RS, no. 30/2001, 118/2003)**
- **Decree on common conditions for supply and selling of electricity (Of. G. RS, no. 117/2002 (21/2003 - amended))**
- **Environment protection law, (Of. G. RS, no. 39/2006)**

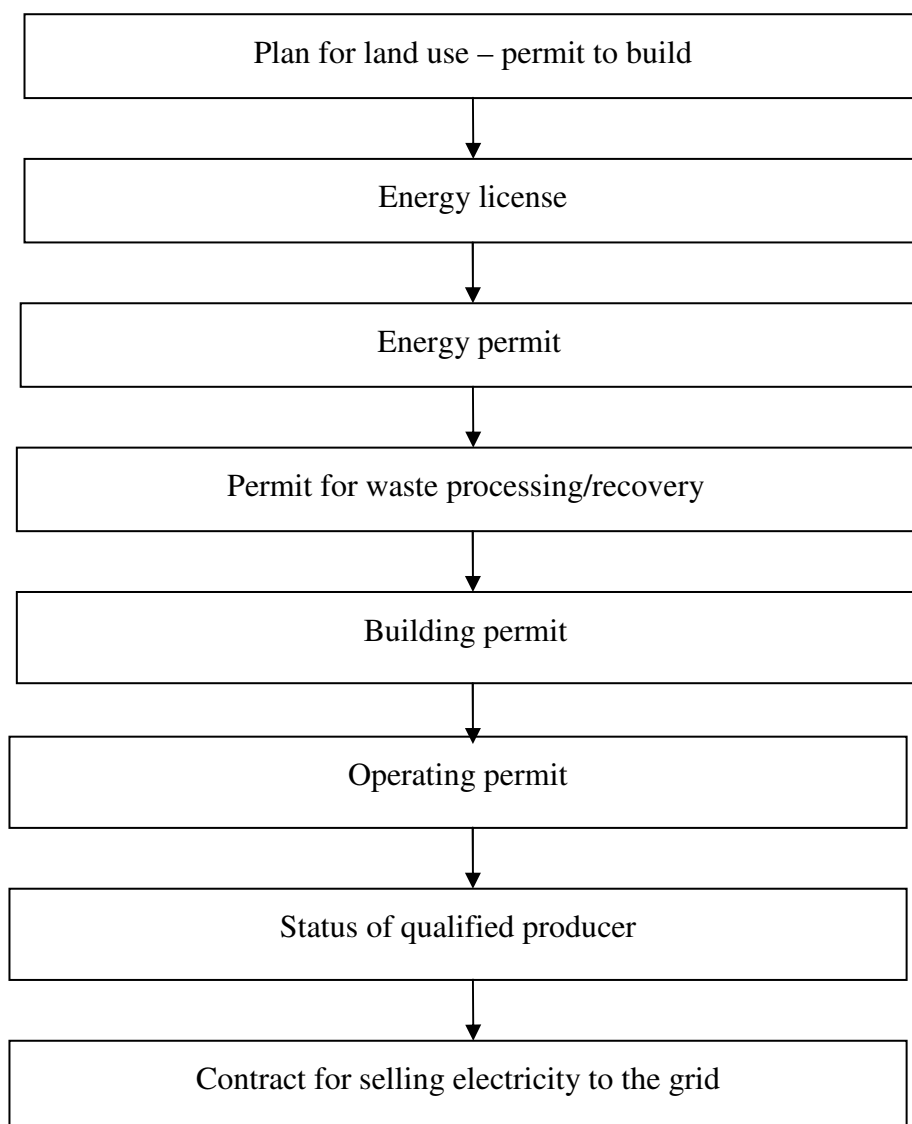
The law is legal basis for numerous instruments stimulation the use of RES, such as CO2 tax and emission trading. The law places the use of RES among the tasks that can be financed from government budget for environment protection and from the sources of the Ecological fund.

- **Decree on environmental tax for air pollution with CO2 emission (Of. G. RS, no 43/2005, 58/2005, 87/2005, 20/2006)**
- **Regulation on waste management (Of. G. RS, no. 84/1998, 45/2000, 20/2001, 13/2003, 41/2004-ZVO-1)**
- **The law for construction of objects (Of. G. RS, no. 102/04)**

## 4.2 Relevant legislation framework for biogas in Slovenia

Building and operation biogas plant requires a set of official document and confirmation for building and operation of biogas plants. Permits and license are described chronologically. It has to be emphasized that not all permit are required for specific biogas plant since it depends on several factors. When you are building a plant that will be for your needs only than you need only building and operating permit. In case that you sell produced energy that you have to acquire also energy license for plant above 1 MW and energy permit. When using organic wastes for biogas production than plant operator has to acquire a permit for waste processing/recovery.

Capture and energy use of landfill gas (status: implemented; gas: CH<sub>4</sub>) The Rules on waste disposal require all landfills to arrange the capture and appropriate management of landfill gas by the end of 2005. An incentive for the capture and energy use of landfill gas has also been provided in the form of a reduction in the waste disposal tax if the landfill is equipped with facilities for the capture and incineration or energy use of biogas.



**Figure 1:** Chronological review of permit acquirement for biogas plants:

### **Plan for land use – Permit to build**

Building any kind of object is allowed only on building land set in Municipal spatial plan. If the potential location of the biogas plant is not addressed as building land than the category of that area should be changed. In many cases municipality asks also for town planning scheme. Both plans can be obtain by the municipality. The whole procedure is normally long lasting and complicated. It usually takes around 6 months.

### **Energy license**

The energy license is required for power plants above 1 MW. Agency for Energy approves the license based on the application for period 5 years. It is relatively easy to obtain the license and it takes around one month and costs around 20 €. More information and application is available on the following website:

[http://www.agen-rs.si/sl/informacija.asp?id\\_meta\\_type=31&id\\_informacija=697](http://www.agen-rs.si/sl/informacija.asp?id_meta_type=31&id_informacija=697).

### **Energy permit**

The investor must obtain energy permit for power plants above 1 MWe before applying for the building permit. With this permit it is set:

- location and area of the plant,
- type of the plant,
- conditions for performing energy activities on the plant,
- conditions related to the plant commissioning,

### **Permit for waste processing/recovery**

In case of using organic wastes for biogas production the plant operator must obtain permit for waste recovery. Ministry for spatial planning sets with the permission:

- source and quantity of the wastes that can be treated on the plant,
- procedure of processing,
- objects and devices for waste recovery.

Nevertheless, it is possible to process the wastes without the permission in case of:

- non hazardous wastes,
- the processing is on the location of source of the wastes,
- processing only own wastes and
- meeting all requirement for waste recovery.

### **Building permit**

For biogas plants it is necessary to obtain building permit.

### **Operating permit**

Operating permit represent permit for using the plant and it should be obtained before the first start of the operation of the plant.

- **Status of qualified producer and contract for selling electricity to the grid**  
Uniform purchase prices are valid only for power plants with status of qualified producers of electricity. Status is obtained based on the application for period from 1 to 10 years. In application is required besides basic information also information of the biogas plants, technical parameters, connection to the grid. Application and requires supporting document are available on <http://www.mg.gov.si/index.php?id=11941>
- **Contract for selling electricity to the grid**  
Plant operator and local utility company sign contract for buying electricity from the plant at valid uniform purchase price. Contract is signed for period of 10 years.

### **Other relevant laws, decrees and permits**

- Zakon o prostorskem načrtovanju **/ZPNačrt/** (Ur.l. RS, št. 33/2007)  
(<http://www.uradni-list.si/1/objava.jsp?urlid=200733&stevilka=1761>)

- Energetski zakon **/EZ/** (Ur.l. RS, št. 79/1999 (8/2000 - popr.), 110/2002, 50/2003  
Odl.US: U-I-250/00-14, 51/2004)  
<http://www.uradni-list.si/1/objava.jsp?urlid=200727&stevilka=1351>

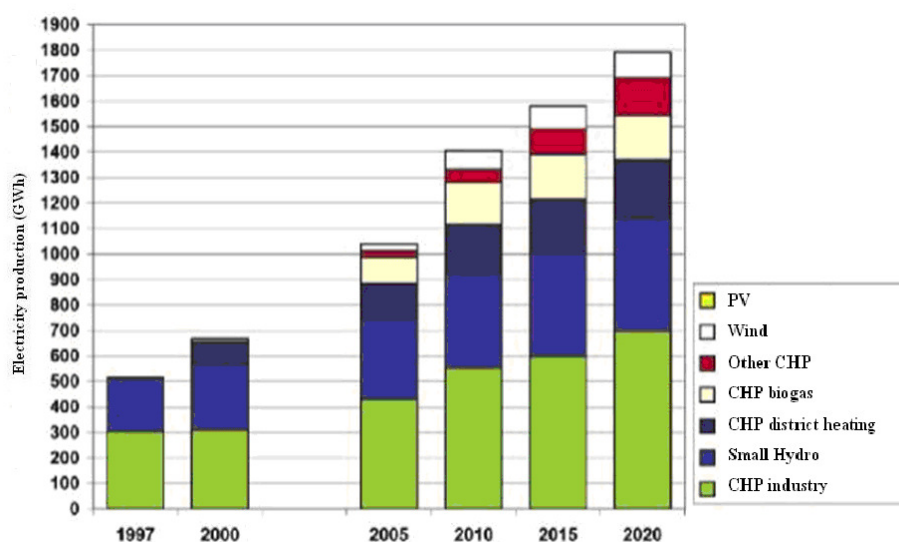
- Uredba o pogojih in postopku za izdajo ter odvzem licence za opravljanje energetske dejavnosti (Ur.l. RS, št. 21/2001, 31/2001, 66/2005)  
[http://zakonodaja.gov.si/rpsi/r07/predpis\\_URED1037.html](http://zakonodaja.gov.si/rpsi/r07/predpis_URED1037.html)
  
- Energetski zakon **/EZ/** (Ur.l. RS, št. 79/1999 (8/2000 - popr.), 110/2002, 50/2003 Odl.US: U-I-250/00-14, 51/2004)  
<http://www.uradni-list.si/1/objava.jsp?urlid=200727&stevilka=1351>
  
- Pravilnik o izdaji energetskega dovoljenja (Ur.l. RS, št. 5/2007)  
<http://www.uradni-list.si/1/objava.jsp?urlid=20075&stevilka=171>
  
- Zakon o varstvu okolja **/ZVO-1/**, (Uradni list RS, št. 41/04)  
<http://www.uradni-list.si/1/objava.jsp?urlid=200639&stevilka=1682>
  
- Pravilnik o ravnanju z odpadki (Ur.l. RS, št. 84/1998, 45/2000, 20/2001, 13/2003, 41/2004-ZVO-1)  
<http://www.uradni-list.si/1/objava.jsp?urlid=199884&stevilka=4330>
  
- Zakon o graditvi objektov **/ZGO-1/** (Ur.l. RS, št. 110/2002, 55/2003, 97/2003 Odl.US: U-I-152/00-23, 36/2004, 37/2004, 41/2004, 45/2004, 47/2004)  
[http://zakonodaja.gov.si/rpsi/r02/predpis\\_ZAKO4182.html](http://zakonodaja.gov.si/rpsi/r02/predpis_ZAKO4182.html)
  
- Pravilnik o podrobnejši vsebini projektne dokumentacije (Ur.l. RS, št. 35/1998 (48/1998 -popr.), 76/1998 Skl.US, 64/1999, 41/2001)
  
- Zakon o graditvi objektov **/ZGO-1/** (Ur.l. RS, št. 110/2002, 55/2003, 97/2003 Odl.US: U-I-152/00-23, 36/2004, 37/2004, 41/2004, 45/2004, 47/2004)  
[http://zakonodaja.gov.si/rpsi/r02/predpis\\_ZAKO4182.html](http://zakonodaja.gov.si/rpsi/r02/predpis_ZAKO4182.html)
  
- Zakon o splošnem upravnem postopku **/ZUP/** (Ur.l. RS, št. 80/1999, 70/2000, 52/2002, 73/2004, 119/2005, 105/2006-ZUS-1)  
<http://www.uradni-list.si/1/objava.jsp?urlid=200624&stevilka=970>



## 5 Biogas contribution in Slovenia

Biogas from agriculture/farms was not exploited before 2006 since there were only few biogas power plants in operation, three of them on farms. Total installed capacity in 2008 is or will be around 5 MWe. Contribution of these plants can not be measured yet since many of them started operating in the middle of 2007 and some of them are not yet fully in operation.

On the long term (2020-2030) we expect that total capacity will be around 20-40 MW. However, our Ministry does not share the same opinion. In National Energy Program from 2004 they had foreseen only 2 MW of installed capacity until 2020. Forecasted electricity production can be seen in the picture below.

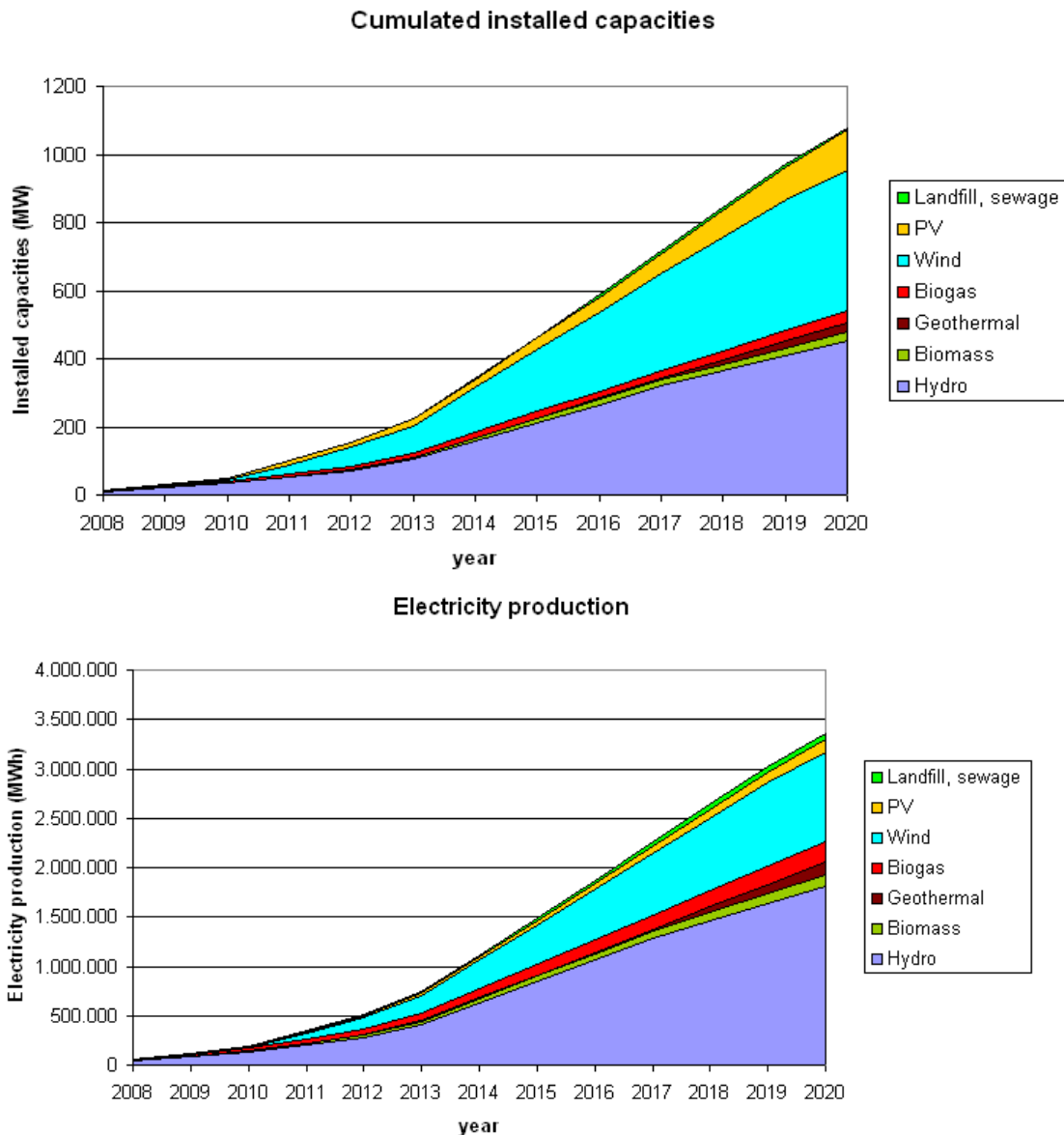


New energy law is under revision where the feed in tariff system will be renewed and purchase prices increased. In this document also projections of new capacities are given and are as follows:

### Yearly installed capacities in MW

| Year               | 2008        | 2009        | 2010        | 2015         | 2020           |
|--------------------|-------------|-------------|-------------|--------------|----------------|
| Hydro              | 10,1        | 21,2        | 34,3        | 211,8        | 452,3          |
| Biomass            | 0,4         | 0,8         | 1,2         | 11,3         | 25,8           |
| Wind               | 0,0         | 0,5         | 1,0         | 181,0        | 411,0          |
| Geothermal         | 0,0         | 0,0         | 0,0         | 3,0          | 28,0           |
| PV                 | 1,0         | 3,5         | 7,0         | 34,0         | 119,0          |
| Biogas             | 1,0         | 3,5         | 6,0         | 18,5         | 35,0           |
| Landfill, sewage   | 0,5         | 0,5         | 1,0         | 4,0          | 8,0            |
| <b>TOTAL in MW</b> | <b>13,0</b> | <b>30,0</b> | <b>50,5</b> | <b>463,6</b> | <b>1.079,1</b> |

As we can see in the table it is foreseen that it is expected that 35 MW of new biogas plants will be built until 2020. New forecasts and expected produced electricity can be seen in the following figures.



## 6 Conclusions

National legislative framework is rather complicated and long lasting especially with all the necessary documentation. However, there is a feed in tariff system that is under revision. It is expected that the supporting period will be 15 years and higher prices for biogas plants, which will stimulate several investors to build a biogas plants. Here smaller, up to 500 kWe plants will be more stimulated.

This was one of the mayor complaints from the local rural sector. Since feed-in premium excluded other type of grants, this led to building of larger and larger plants and leaving out the smaller farms as investment was too much for them and pay-back period too long. The consequence was that some new planned (big) facilities actually stepped over the local sustainabil-

ity boundaries and come across disapproval of the local population. Because of their size and hence the complex logistics the projects became more of a threat to rather than supporting local energy sustainability.

Because of the lack of the input material for the (bigger) biogas plants, development of the smaller – ‘farm plants’ is more likely, especially as from year 2008 new funds (up to 50 % grants) are available to agricultural sector from structural funds.