

The Need for Cost Effective Anaerobic Digestion Solutions in Enlargement Countries - the Example of Latvia

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The bio gas production in Latvia is a new challenge for energy production. The program for development of biogas production in Latvia from years 2008 till 2011, accepted by Cabinet of Ministers in the year 2007, is representing the main prepositions for bio gas production in the country. The main of them are -the development of biogas production will increase the part of renewable energy sources in the total energy consumption in Latvia; the usage of biogas will support the independence of Latvia in the energy production market and it will reduce the environmental pollution created by unsuitable disposal of bio waste and emissions of CO₂ and CH₄ gas.

Today the part of energy production from bio gas is still comparatively small – only 0.35 % , but it is much greater as in the year 2004, when it was only 0.15 %. The total theoretically estimated potential for biogas production in Latvia is 174 mill. m³ per year. This figure is overcoming the data represented the consumption of natural gas used today. The consumption of natural gas in the year 2006. was 1,7 mill. m³). The main components of it are manure and green mass. It is estimated that the biogas from manure will produce 95 mill. m³, but from green mass 16.8 mill. m³ per year

The bio gas production program is the consistent part of the of the renewable energy resource program for years 2006.-2013. The main guidelines for the implementation This document was accepted by the Cabinet of Ministers in 31. 10. 2006. There are stated the present situation of energy consumption in Latvia, estimated the potential of renewable energy sources, detected the main political aspects for development of renewable energy production. According the program statement 49.3% of electro energy must be produced from renewable energy sources in the year 2010 and more than 35% of the total energy must be produced from renewable sources

There are tree main bio gas production facilities in Latvia today - Ltd. "Rīgas ūdens" waste water bio treatment facility "Daugavgrīva" which produce 2.096 MW from anaerobic sludge digestion; sanitary landfill "Getliņi" in Riga district (produces 5.24 MW of energy from landfill gas) and sanitary landfill "Ķivites" in Liepaja region (produces 450 kW of energy from landfill gas). There is planed enlargement of energy production in Liepaja and establishment of additional generator of 1 MW. The total energy production from biogas in the year 2006 was 7.7 MW.

As the main reasons limiting the development of biogas production in Latvia today, can be named the similar problems as in the other new member states. Energy from biogas and its production is still new unknown technology which is on developing stage. We are lacking of the different pilot projects, there is the practice only with the landfill gas collection and treatment. In comparison with other bio treatment methods bio gas production is more expensive. The environmental degradation effects is not sufficient economically tested and calculated, they are not compared with the investments planed for biogas production. In the same time biogas production technology and its product - biogas is new on the energy production and consumption market.

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