

Ukraine Biogas Update of the Global Methane Initiative (GMI)

Global Methane Forum
Washington, DC, USA

29 March 2016
Bioenergy Association of Ukraine
Renewable Energy Agency



Biogas Update (Preconditions)

■ Energy

- High energy intensity of Ukrainian economy, unreasonably large consumption of natural gas
- The critical dependence of Ukraine on NG supplies from external markets, including Russia
- Unstable NG prices, tendency of increasing for all categories of consumers
- Developed transport infrastructure of NG including both main pipelines to EU and distribution pipelines network, providing 75% of the population of Ukraine.

■ Agriculture

- Large potential of biogas production from agribusiness waste and residuals (3.2 bill $\text{nm}^3 \text{CH}_4$)
- Large potential of biogas production from silage (corn, sweet sorghum, grass, etc.) using available arable land (at least one million hectares) (3.3 billion. $\text{nm}^3 \text{CH}_4$)
- Large potential of agriculture efficiency improvements (up to 30 billion. $\text{nm}^3 \text{CH}_4$ per annum)
- Large number of agricultural holdings having potential for large-scale projects

■ Transport

- Tradition of CNG use as transport motor fuel, developed CNG infrastructure

■ Policy

- Commitments to increase RES share in the structure of energy production and consumption
- Commitments to reduce GHG emissions

Ukraine Biogas Regulatory Update

- Implementation of national plans/directives
 - *Ukraine adopted the National Renewable Energy Action Plan with general target for RES as 11% by 2020 in the gross final energy consumption (290 Mw_e of electrical capacity from biogas), October 2014*
- Regulatory updates
 - *The Law of Ukraine "On Amending the Laws of Ukraine providing Competitive Conditions for Producing Electricity from Alternative Energy Sources" No. 514-VIII, June 2015*
 - *The Law of Ukraine "On the natural gas market" № 329-VIII, April 2015*
- New trends in the biogas sector
 - *Increase in production*
 - *Decrease GHG emissions*

Specific project updates (agriculture and food industry)

■ Feedstock

- Pig and cattle manure
- Chicken litter
- Sugar beet pulp
- Maize and sugar sorgho silage
- Food industry wastewater
- MSW (LFG)



■ Biogas use

- Electricity (feed-in-tariff)
- Heat



■ Capacity

- Up to 5.0 MW_e
- Up to 6000 m³/h



■ Technology

- Germany
- The Netherlands
- Denmark
- Ukraine



Specific project updates (MSW landfills and waste dumps)

■ Project types

- *Demo projects - SCS Engineers, USA (within M2M/GMI activities)*
- *Flaring under Kyoto JI Projects*
- *Green tariff system*

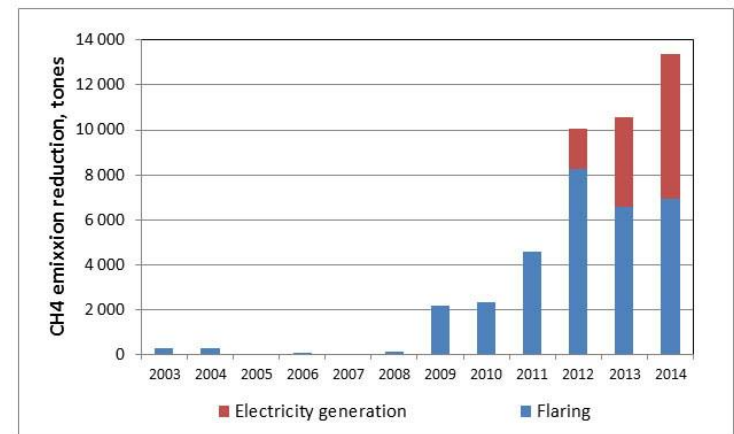


■ Capacity

- *Up to 2.0 MW_e*
- *Up to 2000 m³/h*

■ Technology

- *HOFGAS flaring, Switzerland*
- *Biogas Ltd. UK*
- *GE Jenbacher*
- *Ukrainian developers*



Biogas Project Outlook

- Challenges to emission reduction projects in Ukraine:
 - *Weak energy prices*
 - *Soft carbon market*
 - *Others*
 - *general bad economical situation*
 - *military crisis in the Eastern region of the country*

- Anticipated and planned projects
 - *Anaerobic treatment of agriculture and food industry waste and residuals (chicken litter, sugar beet pulp, etc.)*
 - *Biomethane production and export in EU*

Biogas Project Outlook (2)

- Approaches to overcoming challenges
 - *Implementation of the Strategy for Sustainable Development "Ukraine – 2020" that includes:*
 - *reforms of the energy sector*
 - *energy efficiency program for agriculture*
 - *land reforms*
 - *Elaboration of specific incentive mechanisms for biomethane production*
 - *Creation of a national registry for biomethane production and consumption to confirm the source of its origin*
 - *Capacity building*
 - *Technology transfer*
 - *Training and workshops*
 - *Agreements and/or partnerships*

Contact Information and Announcements

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- **Announcements –**

XII International Conference on Biomass
for Energy, Kiev, 20-21 September, 2016

<http://biomass.kiev.ua/en/conference/conference-2016>