## Comments to the Project 0172: Methane Capture and Description at the Solid Waste Landfill in the City of Lviv, Ukraine

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The our main comments are related to the identification of alternatives to the project activities and baseline scenarios.

1.

REMARK to the Section A.2.

As far as we were informed LLC Gafsa "project developer" signed the agreement with the Lvov Municipality for a 15 year period.

2. COMMENTS Section B.

We would strongly support the use of the landfill gas instead of gas flaring and idea with electricity generation using landfill gas captured from the landfill site (Alternative 1). We recommend reviewing and reconsidering the Project choice made in favor of the gas flaring and propose to make additional analysis for the Alternative 1, especially in light of the most recent Governmental policy documents and regulations.

The costs for Alternative 1 are also seem to be exaggerated -Table 1 (civil works, etc) and might need to be checked.

Ukraine is not "overcapacitied for production of electricity".

Moreover, more than 40 % of electricity is generated by thermal power plants using the fossil fuel that cause emission of CO2.

The following major power generation companies exist in Ukraine at present:

- 5 thermal power generation companies Centrenergo, Donbasenergo, Dniproenergo, Skhidenergo and Zahidenergo comprising 14 powerful thermal power plants with total installed capacity of 27.3 GW;
- 4 nuclear power plants with total installed capacity of 13.8 GW united in the State Enterprise Energoatom;
- 2 hydro power generation companies Ukrhydroenergo and Dniester HPSP comprising cascades of hydro power plants at Dnieper and Dniester rivers with total installed capacity of 4.6 GW.

Besides there is a number of combined heat & power plants (CHPs). Some of them are being operated by local power distribution companies and other institutions while others became separate enterprises. In addition, small electricity producers (small hydro and wind power plants) operate in Ukraine, but their share of total electricity production is insignificant.

As of 2009, total installed capacity amounts to some 52.2 GW with around 66% being installed in thermal power plants, 26% in nuclear power plans and 9% in hydro power plants. Nuclear plants account for the largest share in electricity generation with 47% of the total electricity production of around 192 TWh in 2008 produced in nuclear power plants and 47% in thermal power plants and CHPs with the remaining 6% produced by hydro and renewable energy sources.

## Ukrainian regulations and policy supporting the use of alternative energy sources.

Recently the Government of Ukraine adopted the number of regulations and orders promoting and supporting alternative energy sources and use of biogas as an alternative energy source, including the regulations on special conditions on attachment to the electric networks electricity facilities that produce electricity using alternative sources. Regulation of the Cabinet of Ministers of Ukraine #126, 19/02/2009. Document link in Ukrainian <a href="http://zakonl.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=126-2009-%EF">http://zakonl.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=126-2009-%EF</a>)

Regulation of the Cabinet of Ministers of Ukraine On the measures on use of alternative sources of energy. # 102-r, 04/02/2009. Document link in Ukrainian: <a href="http://zakonl.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=102-2009-%F0">http://zakonl.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=102-2009-%F0</a>

This regulation considers the issues of financial support for projects related to use of alternative sources of energy (including use of loans from the EC and EBRD). It also prescribe to the relevant authorities to draft and present the new law to release the activities related to use of alternative energy and alternative fuel from taxes for 10 years.

Regulation of the Cabinet of Ministers of Ukraine On the issues of production and use of biogas. #217-r 12/02/2009 Document link in Ukrainian: <a href="http://zakon1.rada.gov.ua/cgibin/laws/main.cgi?nreg=217-2009-%F0">http://zakon1.rada.gov.ua/cgibin/laws/main.cgi?nreg=217-2009-%F0</a>

Regulation of the Cabinet of Ministers of Ukraine On approval of the Concept of the State scientific-technical program on development of production and use of biological types of fuel. #276–r 12/02/2009

Document link in Ukrainian: http://zakonl.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=276-2009-%F0

Several others regulations on support of use of alternative energy sources have been adopted recently.

According to the Project description Sec. B.1 (page 10). "The specific circumstances of the Lviv Landfill **combined with the policy and regulatory environment in Ukraine** renders this alternative not probable, but with the nearby offtakers and grid accessibility, the alternative <u>is</u> possible".

The current policy and regulatory environment in Ukraine is going towards the state support and assistance in the use of biogas (including the gas from landfills) as the source of energy and the regulatory framework is promptly and significantly progressing in this direction.

It could be also noted that the Zbyranka landfill uses and needs the energy itself and can use generated energy for different facilities (e.g. the Station for collection of infiltrates, etc.)

We believe that the effective use of landfill gas captured from the landfill site will provide more benefits to the local area and to the Project and only in this case the Project can be considered as the best landfill management practice.

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