Ecoprod biogas power plant non-technical summary

1 Introduction

This document provides a non-technical overview of a biogas plant construction project in Volnovakha Town, Donetsk Oblast, proposed by private company Ecoprod. It also presents a summary of potential environmental and social impacts and other environmental and social issues relevant to the proposed activities. Appropriate measures to mitigate key adverse environmental and social effects that may arise during project construction and operation are also provided in *Table 1* at the end of this document.

This Non-Technical Summary (NTS) document and other materials will be placed in the locations shown below for public disclosure. Anyone can provide comments and recommendations on the environmental, social and other aspects of the project.

Environmental and social documents will be available for review during normal business hours at the following location:

- Ecoprod company office
  Address: 16, Vorovskogo Str., Volnovakha Town Phone: +38 06244 4 16 41

- Volnovakha Town Council
  Address: 88, Lenina Str., Volnovakha Town Phone: +38 06244 4 24 40

- Volnovakha District Administration
  Address: 1, First of May Str., Volnovakha Town Phone: +38 06244 4 11 52

For further information on this project, or to provide comments on the project or the environmental and social documentation, please contact:

Name	**Contact information**
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2 Description of the Proposed Development

Private Joint Stock Company (PJSC) Ecoprod is a large farming company located in Volnovakha, Donetsk Oblast. The main activities of the company include:

- Growing of cereal and technical crops;
- Wholesale trade with grains, seeds and animal feed;
- Wholesale trade with chemical goods;
- Breeding of cattle;
- Production of bread and bakery products.

Ecoprod is planning to construct a biogas plant as part of its agricultural production facilities. The plant will be constructed at a land plot leased by Ecoprod for this purpose, close to its main production facilities in the vicinity of Volnovakha Town.

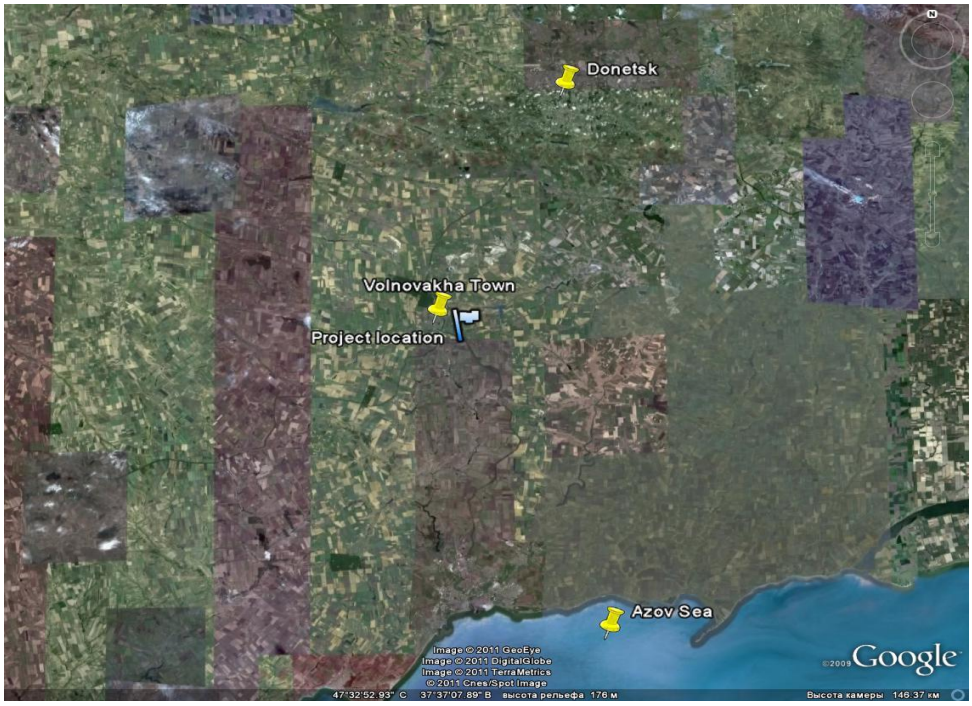
The project is expected to result in significant environmental benefits through utilising cattle manure and waste biomass. It will create new jobs and improve security of energy supply in the area.

The plant will be fed with around 44,500 tonnes of feedstock per year and produce about 5.8 million m^3 of biogas per annum. The feedstock will comprise cattle and poultry manure, and energy crops (silage of grain, grass, corn etc.) supplied mainly from own sources. Ecoprod has sufficient capacity and land available for growing the energy crops required as feedstock.

Generated biogas will be burnt to produce electricty, which will be fed into the main network. Total net electricity generation (after auxiliary consumption) will amount to around 9,900 MWh per year, which will be sold to the grid at the feed-in tariff under the "Green Tariff Law".

In addition, the plant will generate heat, which will be used for internal production processes. As a byproduct, the plant will also produce valuable organic fertilizer, which will be used to enhance the productivity of agricultural lands in the region.

Figure 1: Location of the project site



3 Environmental, Health, Safety and Social Review

3.1 Project studies and documents

Several documents collectively make up the environmental and social documentation for the project. In addition to this Non-Technical Summary, the other materials include the following documents:

Local Environmental Impact Assessment (OVNS)

A local-style Environmental Impact Assessment (OVNS in Ukrainian) of the project has been prepared to meet the national regulatory requirements. This report has been prepared by Donetsk-based environmental consultants from the State Environmental Academy.

Environmental and Social Action Plan (ESAP)

As part of the environmental and social due diligence evaluation, a wide review was conducted of corporate environmental, health, safety and social management arrangements in the company. From the overall review, an Environmental and Social Action Plan (ESAP) has been developed, which identifies mitigation measures to minimise, reduce, eliminate or control potential adverse impacts of the Project on the environment and the people. Key mitigation measures are summarised in *Table 1* of this document further below.

Stakeholder Engagement Plan (SEP)

The Stakeholder Engagement Plant (SEP) has been developed to describe how Ecoprod will communicate with people and institutions who may be affected by, or interested in the Project, at various stages of project preparation and implementation. Ecoprod has assigned a social liaison officer, who will be responsible for keeping open dialogue with stakeholder groups and local residents. At any time before and during construction and operation, any stakeholder can raise concerns, provide comments and feedback about the Project. All such comments and grievances from people will be accepted, processed and answered by Ecoprod in a timely manner.

3.2 Sensitive locations

The project is situated in a non-sensitive area, which is used for light industrial and agricultural purposes. The nearest residential properties are located at approximately 600m from the site, which is well beyond the statutory 300m Sanitary Protection Zone. There are no surface water bodies, protected areas or other environmentally sensitive sites nearby.

3.3 Project impacts and their mitigation

An evaluation of potential environmental and social impacts determined that, in addition to its benefits, the project could have negative impacts on the environment and people, if not managed carefully. Therefore, Ecoprod will implement certain actions (called “mitigation measures”) to prevent, reduce, or mitigate negative impacts of this project. A summary of key impacts and mitigation measures that have been identified, is provided in *Table 1* below.

Table 1 Overview of Key Potential Project Impacts and Their Mitigation

No	Issue	Potential impact	Mitigation measures
1	Climate and air quality	The most significant impacts are air emissions during the operation of the biogas plant. The emissions include mostly carbon dioxide, which is not regulated, and minor volumes of other ingredients (such as carbon monoxide, nitrogen dioxide, and sulphur dioxide). Although the emission of carbon dioxide (CO_2) is one of key causes of climate change, the same amount of CO_2 has already been captured by the plants the biomass of which is used as feedstock for the biogas plant. In addition, the climatic impacts of CO_2 are 21 times weaker than those of methane (CH_4) released directly from manure. The maximum concentrations of pollutants in the air at the boundary of the Sanitary Protection Zone (300m) will not exceed the national requirements.	Implement mitigation measures and best management practices to prevent / reduce / control air pollution from operational biogas generation process. Emissions controls should ensure compliance with Ukraine standards, including consideration of: - Gas cleaning (to remove contaminants in source gas); - Monitoring and control of emissions of nitrogen oxides, sulfur oxides, volatile organic compounds, carbon monoxide , carbon dioxide and particulate matter; - Emergency flaring of methane; - Controls on odour emissions.
2	General construction impacts	Impacts during construction, such as land excavation, dust, noise, air emissions from vehicles involved, increased road traffic, etc. No construction of associated objects (such as access road) is planned, as the project will utilize the existing infrastructure, which is located adjacent to the site.	- Prepare and implement construction management plan to mitigate general construction impacts; - Continuously monitor impacts to comply with appropriate environmental standards and requirements.
3	Waste management	Solid waste generation, storage and disposal	Develop and implement comprehensive waste management plans for the project, including: - Preparation of annual waste generation limits and disposal permit; - Procedures for proper handling of all waste generated (including hazardous and non-hazardous waste); - Methods to verify proper off-site disposal of wastes by licensed contract waste managers;

			- Measures to minimise waste generation and maximise reuse and recycling.
4	Wastewater management	Wastewater and other potentially polluting materials	- Ensure appropriate containment and disposal (reuse, treatment) of wastewater, including sanitary water, wastewater from feed digestion process, and contaminated storm water; - Take measures to prevent run-off of potentially polluting materials to the soil and groundwater, keep hard-standing areas and road surfaces clean from mud and oil build up; - Store hazardous and potentially polluting materials (including animal manure, which is mobile and could cause pollution of surface water) in bunded, secure, areas away from watercourse and pathways to watercourses (e.g. drains, ditches).
5	Traffic management	Increased local road traffic due to the biogas plant construction, transportation of feedstock during operation, and disposal of byproducts (organic fertilizers).	Develop and implement a traffic management plan to mitigate an increased road traffic including: - Careful consideration and consultation should be given to the agreement of delivery routes to the site area; - Design routes so as to avoid unnecessary conflict with other road users, schools, hospitals, and other areas where there may be heavy bicycle, pedestrian or child use; - Notify communities and place signs on public roads and in the vicinity of the site; - Confine road traffic to daylight hours if possible; - Establish and enforce strict delivery times; - Establish and enforce speed limits on- and off-site; - Provide training to all drivers, enforce compliance with traffic plan.