

# RECOMMENDATIONS ON ENVIRONMENTAL DECISION PROCEDURES FOR BIO GAS POWER PLANT PROJECT

**USAID ENERGY PROGRAM** 

4 April 2019

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**USAID ENERGY PROGRAM** 

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# **DATA**

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Decisions

# **ACRONYMS**

EIA	Environmental Impact Assessment
EnCT	Energy Community Treaty
EU	European Union
GEL	Georgian Lari
GIS	Geographic Information System
GoG	Government of Georgia
MEPA	Ministry of Environmental Protection and Agriculture of Georgia
MW	Megawatt
USAID	United States Agency for International Development

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## INTRODUCTION

In October 2016, Georgia signed the Energy Community Treaty (EnCT) signaling the country's commitment to direct future energy planning and market development towards approximation with the European Union (EU). This step commits Georgia to enhancing the security of energy supply by promoting the development of relevant infrastructure, increasing market integration and gradual regulatory approximation towards key elements of the EnCT, and promoting the use of renewable energy sources. In order for Georgia to meeting its strategic commitments in the energy sector, the United States Agency for International Development (USAID) is providing technical assistance and policy advice on legal, regulatory and institutional reform issues, including facilitating investment and deal structuring, engineering and environmental analyses, financial planning, and outreach, and other consulting. This technical assistance, ("USAID Energy Program") is being rendered by Deloitte Consulting LLP, under a USAID contract, AID-OAA-I-13-00018.

The objective of USAID Energy Program is to support Georgia's efforts to facilitate increased investment in power generation capacity as a means to increase national energy security, facilitate economic growth, and enhance national security. The project will have a significant impact on energy market reform efforts of the Government of Georgia (GoG) to comply with the country's obligations under the EnCT. The investment objective will be achieved through the provision of technical assistance to a variety of stakeholders in the energy sector.

The purpose of USAID Energy Program is to: (1) support Georgia in energy market development per Georgia's obligations under the EnCT, (2) build the capacity of the GoG and relevant institution(s) to evaluate the fiscal and long-term impacts of regulatory changes, (3) promote energy investments, primarily in variable renewable energy development, (4) to support integration of non-hydro renewable energy into the power system, and (5) provide strategic advisory services to the GoG to increase Georgia's energy security.

The ultimate goal of this Program is to enhance Georgia's energy security through improved legal and regulatory framework and increased investments in the energy sector. The ultimate expected outcome of this Program is an energy market legal and regulatory framework that complies with European requirements and encourages competitive energy trade and private sector investments.

USAID Energy Program is tasked under its contract, AID-OAA-I-13-00018, to assist developers with Regulatory Approval, Interconnection, and Institutional Issues. Most projects require guidance on application, power purchase, interconnection and related technical and procedural requirements.

The company Alt Energy Ltd. (Alt Energy) approached the USAID Energy Program requesting assistance in identification whether the proposed project on electricity generation using biogas was subject to environmental procedures and how to comply with the existing legal requirements. Alt Energy is one of the ten selected projects that USAID formally approved USAID Energy Project should support.

The generation of 3 MW by Alt Energy is projected after the first year of the operation of renewable energy facility. The feedstock to produce biogas is primarily Amaranth of the own production as well as manure and biowaste. In addition to the electricity generation production of bio-fertilizers from the wastes of biogas production is projected. Due to the nature of the project environmental procedures are to be applied. Accordingly, the provided recommendation guides on the procedure to be followed to comply with the national environmental requirements.

The provided recommendations by USAID Energy Project concerns how Alt Energy should comply with the existing environmental legislation that is one of the preconditions for successful realization of Alt Energy's project.

# SUMMARY

The main findings are:

- Due to the size and the complexity of the Project it may have significant impact on the environment;
- Alt Energy Ltd should consult with the Ministry of Environmental Protection and Agriculture of Georgia (MEPA) on the early stage of the Project development to comply with the national environmental legislation;
- Commencement of the construction and operation of the biogas electricity generation plant depends on the decision of the MEPA and other relevant agencies issuing permit/licences.

The environmental restrictions that Alt Energy needs to comply with:

- Alt Energy should apply to the MEPA for the screening and scoping decision;
- If the screening procedure determines that the planned project is not subject to Environmental Impact Assessment (EIA), the applicant is obliged to comply with the requirements determined by technical environmental regulations and environmental norms existing in Georgia;
- If the Project is subject to environmental decision Alt Energy should ensure preparation of full EIA report and submission to the MEPA for the environmental decision;

Alt Energy needs to take these steps for compliance with Georgia Environmental Standards:

- For water abstraction from surface waters and emissions to the air Alt Energy should ensure compliance with theN17 Ordinance of the Government of Georgia as of 03/01/2014 on the technical environmental regulations;
- If as a result of the Project fertile topsoil is to be removed or due to the intensive agricultural
  practice the soil quality may deteriorate Alt Energy should consider the N424 Ordinance of the
  Government of Georgia as of 31/12/2013 on the removal, storage, use and cultivation of
  fertile topsoil.

Alt Energy should watch out for:

- Incompliance with the "Environmental Assessment Code" will result in fines within the range of 7000- 10000 GEL:
- Incompliance with the conditions set out in an environmental decision will result in fine of 5000 GEL:
- Incompliance with the technical environmental regulations will result in fine of 500 GEL.

Reviewing this project raises more general issues or areas for new legislation or secondary legislation as follows:

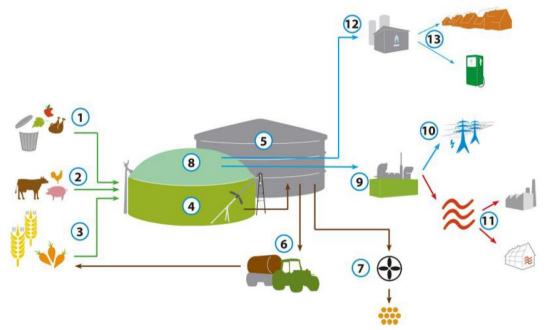
• New secondary legislation as per Renewable Energy Law.

# THE PROJECT OVERVIEW

The proposed project on the Biogas Power Plant intends to build 3 MW power plant that will operate on the bio-waste. Production of 2 MW electricity is planned on the first year of the operation and 3 MW on the second. Feedstock for the plant is projected to be biogas produced from the silage of the plant Amaranth- 60%, manure – 30%, food and beverages processing wastes-10 %. To produce biogas from Amaranth 85 ha land is expected to be used for the first year and 154 ha starting from the second. In addition, production of bio-fertilizers from the residue of biogas production is projected.

The production process consists of several interconnected steps: feedstock for the biogas generation is 1. food wastes; 2. poultry, pig and cow manure; 3. amaranth. The feedstock is supplied to the fermentation tank, where it decays in the presence of bacteria at the t<sup>0</sup> of 38-40 C and in the conditions of darkness biogas is produced. The residue of the process is farther transferred to the storage tank for later use as a liquid or dried fertilizer. The biogas is passed to the biogas generator for the electricity generation. Generated electricity can be transferred to state electro system, sold directly to industrial facilities or be exported. Production heat can be distributed for different uses – heating of houses, industries or greenhouses. As a result of biogas processing the bio-methane that can be provided to households or as a car fuel.

Production cycle envisages work load of 24 / 7.



**Figure 1: Electric Energy Generating Process** 

Source: "ALT-Energy" Ltd.

# **FINDINGS**

USAID Energy Program believes that according to the Law of Georgia – "Environmental Assessment Code" (referred below as the Code) the proposed project falls under the Annex II projects, for which a screening procedure is mandatory. The procedure identifies whether the planned project is subject to full environmental impact assessment. To obtain a screening decision the developer should apply to the MEPA.

Since the project is envisaged by Annex II the developer can submit to the MEPA screening and scoping application at the same time.

The below described procedures for screening, scoping and environmental decision follow the requirements of the Code.

### Documents to be submitted for the screening decision

The developer shall apply to the MEPA with the request to provide a screening procedure on a planned project at an early stage of project planning. The screening application to be submitted by the developer must be in writing and include:

- a) the name of an administrative body to which the applicant has applied;
- b) the identity and the address of the applicant;
- c) the request;
- d) the date of submitting the application and signature of the applicant;
- e) the list of documents attached to the application;
- f) brief information about the planned project;
- g) data on project characteristics, location and the nature of potential impact.

### Procedure for making screening decision

**Within 3 days** after registration of the screening application, the Ministry ensures publication of the application on its official website as well as on the notice board of the relevant local authorities and/or representative bodies and upon request, provides paper copies of abovementioned document in accordance with existing legislation.

**Within 5 days** after the screening application is published on the website and notice board, the public is entitled to submit opinions and comments about the application. The Ministry reviews received opinions and comments and takes them in due account in decision-making process.

Not earlier than 10 (ten) working days and no later than 15 (fifteen) working days after registration of the application on screening the MEPA shall make a decision whether the planned project is subject to Environmental Impact Assessment (EIA) based on the following criteria:

### A) Characteristics of projects:

- aa) the size of the project:
- ab) the cumulation with other existing and/or planned projects;
- ac) the use of natural resources, in particular land, soil, water and biodiversity;
- ad) the production of waste;
- ae) pollution and nuisances;
- af) the risk of major accidents and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge;
- ag) the risks to human health (for example due to water contamination or air pollution).

### B) Location of project:

- ba) the existing and approved land use;
- bb) the relative abundance, availability, quality and regenerative capacity of natural resources including soil, land, water, and biodiversity in the area and its underground;
- bc) the absorption capacity of the natural environment, paying particular attention to the following areas:
- bca) wetlands, riparian areas, river mouths;
- bcb) costal zones and marine environment;
- bcc) mountain and forest areas:
- bcd) protected areas:

- bce) areas in which there has already been a failure to meet the environmental quality standards, laid down in existing legislation and relevant to the project, or in which it is considered that there is such a failure:
- bcf) densely populated areas;
- bcg) cultural heritage and landscapes and sites of historical and cultural significance.

### C) Characteristics of the potential impact:

- ca) Geographical area and size of the population likely to be affected;
- cb) the transboundary nature of the impact;
- cc) the intensity and complexity of the impact;
- cd) the probability of the impact;
- ce) the duration, frequency and reversibility of the impact;
- cf) the cumulation of the impact with the impact of other existing or planned project;
- cg) the possibility of effectively reducing the impact.

If the screening procedure determines that the planned project is not subject to EIA, the applicant is obliged to comply with the requirements determined by technical environmental regulations and environmental norms existing in Georgia.

In particular N17 Ordinance of the Government of Georgia as of 03/01/2014 on the technical environmental regulation, N424 Ordinance of the Government of Georgia as of 31/12/2013 on the removal, storage, use and cultivation of fertile topsoil.

After completion of the screening procedure, the Minister takes a decision on the refusal to implement the project in case:

- a) the project implementation will violate the requirements envisaged by the Georgian legislation:
- b) the project is not reasonable due to its characteristics, volume, location, nature of the impact and/or risks:
- c) there is the enacted Court / Arbitration decision which excludes possibility to accept the request.

**Within 5 days** after completion of the screening procedure, the Ministry ensures publication of opinions and comments submitted by the public and the decision of the MEPA on its official website as well as on the notice board of the relevant local authorities and/or representative bodies and upon request, provides paper copies of above-mentioned documentation in accordance with existing legislation.

If the screening procedure determines that the project is subject to EIA a developer is obliged to submit a scoping application together with the scoping report to the MEPA.

### Documents to be submitted for the scoping decision

The developer should submit to the MEPA a scoping application together with the scoping report. The scoping report shall include:

- a) The brief description of a planned project and possible alternatives;
- b) The location of a planned project including Geographic Information System (GIS) coordinates (with shape files);
- c) The information on general technical specifications of the proposed project (capacity, length, area, output, etc.);
- d) The information on the types and significance of the potential impact:
- e) The information on the potential significant impact on the protected areas;
- f) The information on the potential transboundary environmental impact, if applicable;
- g) The information on the baseline surveys and investigations which should be carried out;
- h) The information on the methods and criteria which are required for EIA;
- i) The information on the considered mitigation measures;
- j) The documentation determined by the Waste Management Code of Georgia, if the projects deals with waste treatment.
- k) The information on the public concerned to be involved in EIA process.
- The information on the potential impact of the planned project on human health, social environment and cultural heritage.

### Procedure for making scoping decision

The Ministry reviews the scoping application together with the scoping report.

The public has a right to provide its opinions and comments regarding the scoping report to the Ministry within **15 (fifteen) days** after the publication of the scoping application. During issuance of scoping opinion, the MEPA shall review all opinions and comments provided by the public and ensure their due account.

With the purpose to review the scoping report the MEPA ensures to organize a public hearing no earlier than **10th day and no later than 15th day** after the publication of scoping application. in accordance with Article 8 Paragraph 2 of the Code. The public hearing is open to the public and any person has a right to participate in it.

No less **than 26 and no more than 30 days** after registration of the scoping application the MEPA issues the scoping opinion which is approved by the individual administrative legal act of the Minister. The scoping opinion includes the assessment of the information provided in the scoping report, determines the scope of the information to be obtained and analyzed for the EIA and the methods to reflect this information in the EIA report.

The scoping opinion is binding for the developer during the preparation of the EIA report.

If the developer fails to obtain Environmental Decision within 2 (two) years in accordance with the procedures determined by the Code the scoping opinion approved by the administrative legal act of the Minister becomes invalid.

After completion of the scoping procedure, the Ministry shall take a decision to refuse the developer on implementation of the project, in case there exists grounds:

- a) the project implementation will violate the requirements envisaged by the Georgian legislation;
- b) the project is not reasonable due to its characteristics, volume, location, nature of the impact and/or risks;
- c) there is the enacted Court/Arbitration decision which excludes possibility to accept the request.

Within 5 (five) days after completion of the scoping procedure the Ministry ensures publication of the scoping report, scoping opinion and/or the decision on the refusal of the implementation of the planned project on its official website as well as on the notice board of the relevant local authorities and/or representative bodies and upon request, provides paper copies of abovementioned documentation in accordance with existing legislation.

After the scoping opinion is approved by the Ministry, the EIA report on the proposed project shall be developed by the developer having relevant qualification or by the consultant. The expenses of developing the EIA report shall be provided by the developer.

EIA report shall be signed by the person(s) participating in its preparation, including the consultant, if any.

EIA report shall include:

A) a description of the project and other relevant features of the project, in particular: aa) a description of the location of the project and GIS coordinates of abovementioned location (with shape files):

- ab) a description of physical characteristics of the whole project, including, where relevant, requisite demolishing works, and the land-use requirements during the construction and operational phases:
- ac) a description of the main characteristics of the operational phase of the project (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, soil, land and biodiversity) used;
- ad) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, radiation) during the construction and operational phases:
- af) type and quantity of produced waste during the construction and operational phases.
- B) a description and justification of the alternatives of the planned project location and technology used, in particular:
  - ba) the alternative proposed by the developer and other reasonable alternatives;

- bb) the alternative, which is most favourable for the environment and the justification of the main reasons for its choice and no action (zero alternative).
- C) a description of technological process, including information on the capacity of installations:
- D) a description of significant aspects of the current state of the environment and an outline of natural changes from the baseline scenario in case of not implementing the project, which can be evaluated on the basis of availability of the information and scientific knowledge.
- E) a description of the aspects of the environment likely to be significantly affected by the proposed project, in particular, population, human health, biodiversity (including fauna and flora, habitats and ecosystems), soil (including soil uptake), land (including organic matter, erosion, composting, degradation), water (including hydro morphological changes, quantity and quality), air, climate (including greenhouse gas emissions), material assets, cultural heritage (including architectural and archaeological aspects) and landscape.
- F) a description of the direct and indirect, secondary, cumulative, transbaoundary, short-term, medium-term and long-term, temporary and permanent, positive and negative likely significant effects of the project on the aspects determined by Paragraph 3, Article 5 of the Code resulting from, inter alia:
  - fa) the construction and operation of the proposed project, including, where relevant, demolishing works:
  - fb) the use of natural resources, (in particular, land, soil, water and biodiversity, considering availability of these resources);
  - fc) the emission of pollutants, noise, vibration, radiation and the disposal and recovery of waste;
  - fd) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters):
  - fe) the cumulative effect of the existing and/or planned projects;
  - ff) the impact of the project on climate and the vulnerability of the project to climate change;
  - fg) the technologies, materials and the substances used;
- G) Determination of the probability of possible accidents deriving from the implementation of the proposed project and assessment of expected consequences;
- H) A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment of implementing the project. That description should cover both the construction and operational phases;
- I) Assessment of irreversible impact on the environment and justification of its necessity, which implies comparative analyses of the loss caused by the irreversible impact and the received benefits in environmental, cultural, economic and social context;
- J) Assessment of risks related to the implementation of the project (during the construction and operational phases) which includes a description of the nature and possibility of the risks and detailed assessment of expected results;
- K) Identification of ways and means of the reinstatement of the environment to its initial state in case of termination of the project;
- L) A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to the risks of major accidents and disasters;
- M) Means of informing the public and assessment of the public opinions and comments received during the scoping procedure;
- N) A description of methods and indication of sources of environmental information;
- O) An indication on identified uncertainties and lack of knowledge encountered in compiling environmental impact assessment report.
- P) A brief non-technical summery of the information provided in this Paragraph, sub paragraphs, a" p" in order to ensure informing the public and its participation.
- Q) A detailed list of methods and sources used during the preparation of the EIA report.
- EIA Report must be annexed with:
  - a) Environmental impact mitigation measures action plan;

- b) Emergency response plan;
- c) Name and registered addresses of the consultant or participating in the preparation of the EIA report, if any;
- d) Project implementation Master Plan including GIS coordinates (with shape files), which will cover the information on the location of the planned project, temporary installations, utility systems and the components that cause impact;
- e) Extract from the State Register for legal entity of private law and individual entrepreneur, copies of identification documents set forth by the existing legislation for a natural person, or certified copies of founding documents in case of legal entity of public law.

Information provided in the EIA report is publicly available. In case the EIA report contains any commercial, state, professional and / or personal secret, the developer shall indicate on the confidentiality of the information in the application. The Ministry shall be responsible for ensuring confidentiality of the information in accordance with the rules set forth in the national legislation.

### **Application to obtain Environmental Decision**

To obtain an Environmental Decision the developer shall submit a written application to the MEPA.

The application submitted by the developer shall be accompanied with the following documents and/or data:

- a) The EIA report;
- b) The projects on estimation of the limits for emission of harmful substances into the atmospheric air and for the discharge of polluting substances into the surface waters together with the waste waters.
- c) The notification about a confidential part of a submitted application, if applicable;
- d) The copy of the document evidencing payment of the fee in accordance with the existing legislation.
- e) Electronic copy of the documents mentioned in this Paragraph.

The Developer is entitled to request the Environmental Decision on several activities through a single application, if the activities are significantly interconnected.

To obtain the Environmental Decision, the developer is obliged to pay the fee which amounts 500 GEL. In case of the refusal on the implementation of the project the fee paid by the developer shall not be refunded.

### Administrative procedure for issuing Environmental Decision

Administrative procedure for issuing the Environmental Decision includes:

- a) Expertise procedure:
- b) Public participation and involvement of the relevant public authorities.

With the purpose to review the EIA report the Minister sets up the Expert Commission within 5 (five) days after registration of the application. The expert commission prepares and submits the expertise conclusion on the EIA report to the Ministry within 40 (forty) days.

The Ministry takes the decision on the finding of a deficiency in **application within 15 days after** registration of the application on issuance of the Environmental Decision.

The public has a right to submit their opinions and comments to the MEPA regarding the EIA report, planned project and conditions of the Environmental Decision, within 40 (forty) days after the publication of the application. The MEPA ensures to review opinions and comments and take them in due account in decision-making.

With purpose to review the EIA report the Ministry organizes the public hearing no earlier than 25th day and no later than 30th day after the publication of the application.

In decision-making process, the MEPA shall review and take due account of opinions and comments provided by the public and the public authorities.

No less than **51 (fifty one) and no more than 55 (fifty five) days** after registration of the application the Minister shall issue the individual administrative legal act on issuance of the Environmental Decision or the decision on the refusal to implement the project in case there exist grounds:

a) the project implementation will violate the requirements envisaged by the Georgian legislation;

- b) the project is not reasonable due to its characteristics, volume, location, nature of the impact and / or risks:
- there is the enacted Court / Arbitration decision which excludes possibility to accept the request.

Within 5 (five) days after issuing the Environmental Decision or the legal act on the refusal to implement the project, the Ministry ensures publication of the EIA report, the Expertise Conclusion, the Environmental Decision or the legal act on the refusal to implement the project and the results of public participation on its official website as well as on the notice board of the relevant local authorities and/or representative bodies and upon request, provides paper copies of abovementioned documentation in accordance with the existing legislation.

Environmental Decision is valid for undefined time. In case the developer fails to start the implementation of the project within 5 years, the Environmental Decision becomes invalid.

### **Content of Environmental Decision**

Environmental Decision shall include:

- a) the type and place of project implementation;
- the conditions for the use of the area at the different stages of the project implementation, with particular consideration given to the need to protect special natural values, natural resources and cultural heritage and to reduce the preventing conditions for the adjacent areas of the planned project;
- c) information on environmental measures, which must be taken into account by other public authorities when issuing licenses or permits;
- d) the conditions determined by the Environmental Decision that must be complied during the construction, operational and post-operational phases;
- e) the objective, scale and timing of post project analysis:
- f) the information on the results of transboundary environmental impact assessment procedure, if applicable.

Except the above information the Environmental Decision may also include:

- a) Requirements to prevent the effects of industrial accidents;
- b) The obligations to prevent, reduce and monitor potential the impact of the project on the environment;

The Ministry is obliged to provide the following information in its legal act on issuance of the Environmental Decision:

- a) the results of public participation procedure and the manner, in which opinions and comments submitted by the public have been considered;
- b) the manner in which the conclusion of expert commission has been considered;
- c) the manner in which the findings of the EIA report have been considered.

### Administrative Offences Code of Georgia prescribes:

Violation of "Environmental Assessment Code" will result in fines within the range of 7000-10000 GEL; Incompliance with the conditions set out in an environmental decision will result in fine of 5000 GEL; Breaching of the technical environmental regulations will result in fine of 500 GEL.

# RECOMMENDATIONS

Though in overall the proposed project will have positive impact through sequestration of greenhouse gases emissions and utilization of agricultural residues it still may exhibit number of adverse impacts on the environment. To prevent and mitigate possible significant environmental impacts the project should undergo the environmental assessment procedure and obtain appropriate decision. Hence USAID Energy Program recommends to Alt Energy:

- 1. To apply to the MEPA for the screening decision according to the procedure described in the findings section;
- 2. In case the decision states that the project is not subject to EIA, to comply with the requirements set out by the following norms:
  - N17 Ordinance of the Government of Georgia as of 03/01/2014 on the technical environmental regulation;
  - N424 Ordinance of the Government of Georgia as of 31/12/2013 on the removal, storage, use and cultivation of fertile topsoil;
  - N297 Order of the Minister of Labour, Health and Social Affairs of Georgia as of 16/08/2016:
  - N383 Ordinance of the Government of Georgia as of 27/07/2018;
  - N137 Ordinance of the Government of Georgia as of 11/08/2005.
- Envisage a timespan and financial resources needed for the preparation of documentation and obtaining of environmental decision, when calculating investment costs and planning for project start date.

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