

JI/CDM Project Presentation and Investors Forum

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Lusakert Biogas Plant (LBP), methane capture and combustion from poultry manure treatment

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**UNDP/GEF “Enabling Activities for the Preparation of Armenia’s
Second National Communication” Project**



Lusakert Biogas Plant

Project Entity: Lusakert Biogas Plant Closed Joint Stock Company

Applicant: Lusakert Biogas Plant CJSC

Project Location: The project is located in Nor Geghi village, Kotayk region, Republic of Armenia.

Project entity background: Lusakert Biogas Plant CJSC was registered in the State Registry of the Republic of Armenia on January 22, 2007.

The company's core activity is development and realization of biogas projects.

Contact information:

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Lusakert Biogas Plant

LBP CJSC CO-FOUNDERS

Lusakert Pedigree Poultry Plant LLC (Armenia)

Main activity: manufacture of chicken eggs, broiler meat, chicken products and convenience food, breeding layers and broilers (livestock about 2 mln chickens)

Vekst Project Financing Facility AS (Norway)

Investment in renewable energy and environmental projects.

Bigadan A/S (Denmark)

Supplier of biogas technology. The products include turn-key plants, engineering, process equipment, service and maintenance, as well as operation of biogas plants.

Industrialization Fund for Developing Countries – IFU (Denmark)

IFU has been created for the purpose of promoting economic activity in developing countries in collaboration with Danish trade and industry. IFU participates as a partner in the joint ventures through committing equity capital and/or loans and through board membership.

Lusakert Biogas Plant

Current Situation

The manure treatment system which is currently used at the plant consists of traditional open stabilization lagoons serving for treatment of liquid waste from poultry production.

This approach is considered economical, efficient and reliable animal waste management system.

Nevertheless,, anaerobic lagoons lead to the direct release of methane and nitrous oxide into the atmosphere as a result of anaerobic digestion process that takes place inside the lagoons.

Lusakert Biogas Plant

Project Objective

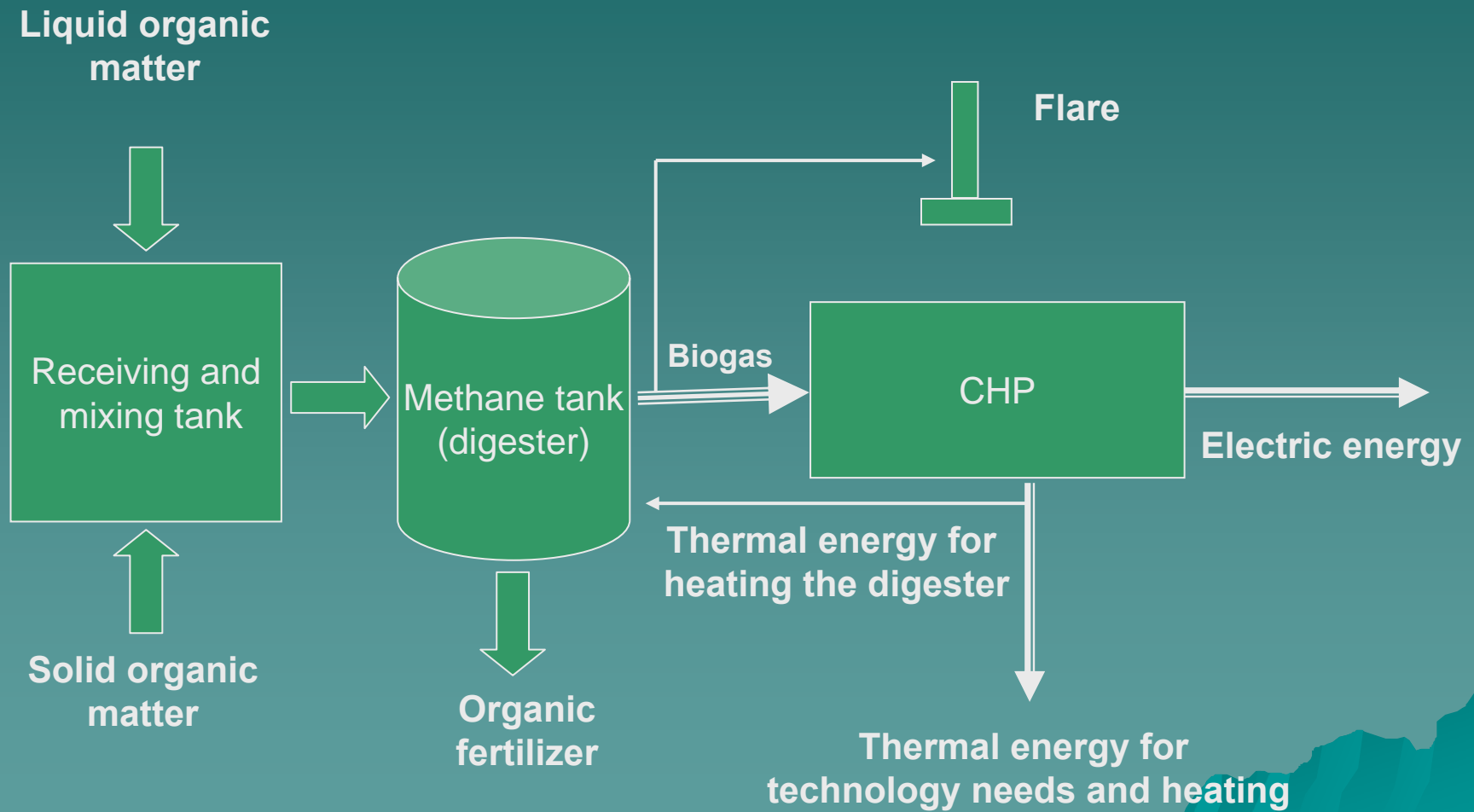
The purpose of the project is to mitigate Lusakert Pedigree Poultry Plant's animal effluent related GHG emissions, by improving the farm's Animal Waste Management System practices.

The technology implementation is based on the use of anaerobic digester treatment as the first step before a lagoon system. Produced effluent from the biogas plant will be routed to the existing lagoons. The captured gas will be used in a gas engine generator to produce heat and electricity. The heat from the cogeneration plant is used for heating the digester, in order to optimize operation and increase the speed of decomposition of the organic matter of effluents .

The operational income will derive from sale of electrical energy to the distribution grid as well as realization of a fertilizer from the biogas production.

Lusakert Biogas Plant

Project Scheme



Lusakert Biogas Plant

CERs generated by the project:

Total annual GHG emissions reductions due to the project activity are estimated as 62,832 tCO₂e, or 439,824 tCO₂e over the first 7 years of the 21 year crediting period.

Methodologies Applied:

AM0016 ver.3 – Greenhouse gas mitigation from improved animal waste management systems in confined feeding operations

Project Implementation:

Pre-feasibility study: finalized in August 2007.

Licensing: land use permit.

Construction license: provided by the Public Services Regulatory Commission of Armenia in August 2007.

Lusakert Biogas Plant

The project benchmarks

May 16, 2005 – PIN endorsement by the DNA

November 7, 2005 – Public hearings on the project

December 8, 2005 – Validation report (the first version)

May 5, 2006 – Project approval by the DNA

July 15, 2006 – PDD submission to the CDM EB

September 11, 2006 – Registration by the CDM EB

August 2007 – Construction works

April 2008 - Commissioning

Lusakert Biogas Plant

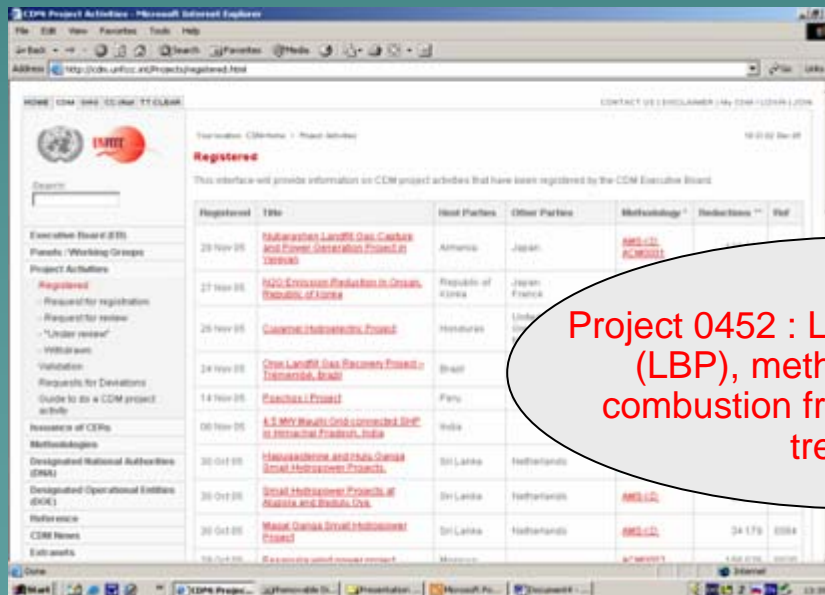
Construction works started in July 2007

Basements for methane-tank, receiving and mixing tank as well as for other equipment have been prepared.

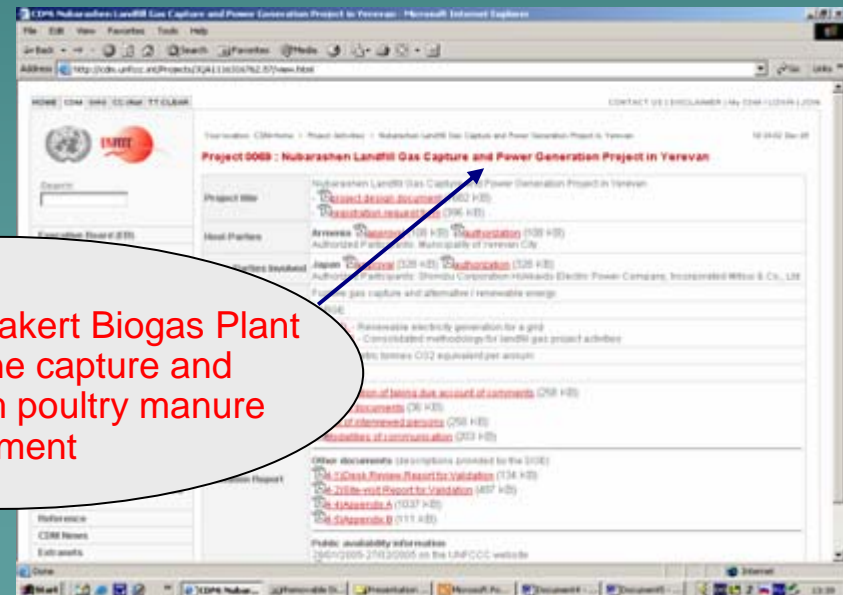
Expected date of commencement: April 2008

CDM Status of the project:

PDD was approved by the Armenian CDM DNA on May 5, 2005 and registered by the CDM EB on September 11, 2006.



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Expected contribution to sustainable development:

The environmental impacts due to the development of this project can be summarized as ancillary benefits:

- ◆ Reducing atmospheric emissions of Volatile Organic Compounds that cause odor;
- ◆ The use of the biogas collected as an energetic resource for power generation;
- ◆ Reducing the risk of releasing disease-transmitting vectors and airborne pathogens;

Other benefits:

- ◆ Generation of permanent and temporary employment opportunities;
- ◆ Professional and intellectual capacity building;
- ◆ Transfer of technologies and know-how

Lusakert Biogas Plant

Cost and financing:

Expected costs of project implementation: 3.4 mln €

Expected scheme of financing the project:

Project financing structure will include a combination of debt and equity financing in proportion 65% to 35%. Equity will be provided by principal shareholders.

The co-founder Vekst Project Financing Facility has a mandate from the LBP Board of Directors to market the CERs from LBP project. A particular share of the CERs are already sold and an ERPA contract signed.

The rest part of CERs is still available for potential buyers.

THANK YOU!



More information on CDM in Armenia is available on the website of Climate Change Informational Center of Armenia at: www.nature-ic.am

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