

JOBURG LANDFILL GAS TO ENERGY PROJECT



Document Prepared By ENER-G Systems Joburg (PTY) LTD

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1 PROJECT DETAILS

1.1 Summary Description of the Project

The Joburg Landfill Gas to Energy Project developed by ENER-G Systems Joburg (Pty) Ltd is a landfill gas (LFG) collection and utilisation project located at the Johannesburg landfill sites in South Africa. The landfill site addresses and coordinates are detailed in section 1.9 below.

The objective of the project is to collect and destruct/utilise the landfill gas (LFG) generated at five of the Johannesburg landfill sites. The project activity will consist of two distinct stages. In the first stage, LFG will be captured and destroyed by using a LFG flare, while in the second stage the captured LFG will be fed to the LFG flare and a modular electricity generation plant. The purpose of LFG flaring is to dispose of the flammable constituents, particularly methane, safely and to control odour nuisance, health risks and adverse environmental impacts. The generator once installed will combust the methane in the LFG to produce electricity for export to a local power purchaser. Excess LFG, and all gas collected during periods when electricity is not produced, will be flared.

The project consists of five landfill sites in and around the Johannesburg municipality. The project brings benefits of consolidating five landfill sites into one project.

1.2 Sectoral Scope and Project Type

Scope 13 – Waste Handling and Disposal. This is not a grouped project but a single project that consists of five landfill sites.

1.3 Project Proponent

ENER-G Systems Joburg (PTY) LTD

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Email: dcornish@gessa.co.za

Address: Unit 2, The Firs, 5 Humber Street, Woodmead, Johannesburg, South Africa

Project Proponent is the owner of the project and is represented by David Cornish as the General Manager and Director of ENER-G Systems Joburg (PTY) LTD.

1.4 Other Entities Involved in the Project

None.

1.5 Project Start Date

27-05-2011.

1.6 Project Crediting Period

27-05-2011 through to the 11-11-2012 with a total of one year, five months and fifteen days a total of 533 days.

1.7 Project Scale and Estimated GHG Emission Reductions or Removals

Project	
Large project	X

Years	Estimated GHG emission reductions or removals (tCO ₂ e)
2010	196,733
2011	351,282
2012	365,126
Total estimated Ers	913,141
Total number of crediting years	2.5 year
Average Annual Ers	304,380

1.8 Description of the Project Activity

As per CDM PDD.

1.9 Project Location

All five landfill sites are located in the Gauteng Province of The republic of South Africa, and have the following co-ordinates:

Name of Site	Address	GPS Coordinates
Linbro Park	Marlboro Drive, Sandton	26° 05' 41.85" S 28° 07' 13.43" E
Marie Louise	Dobsonville Drive, Roodepoort	26° 11' 23.89" S 27° 53' 00.13" E
Robinson Deep	Turffontein Road, Turffontein	26° 13' 59.03" S 28° 02' 14.77" E
Goudkoppies	Houthammer Road, Devland, Lenasia	26° 16' 52.31" S 27° 55' 24.93" E
Ennerdale	Old Lawley Road, Lawley	26° 22' 07.78" S 27° 50' 02.80" E

1.10 Conditions Prior to Project Initiation

The conditions prior to the project being initiated is the landfilling of municipal solid waste into a five landfill sites which results in the generation of landfill gas production which contains Methane as a green house gas. This landfill gas is released into the atmosphere in an uncontrolled manner from all five of the landfill sites. The project developer is not involved in the operations of the landfill site nor is it involved in the collection or disposal of the waste. There is not legislative requirement to flare landfill gas at any of the sites.

1.11 Compliance with Laws, Statutes and Other Regulatory Frameworks

As per CDM PDD.

1.12 Ownership and Other Programs

1.12.1 Right of Use

ENER-G Systems Joburg has secured a gas rights agreement allowing them access to utilise the landfill gas from the five sites with the City Of Joburg through the Infrastructure and Services department within the City.

1.12.2 Emissions Trading Programs and Other Binding Limits

There is no binding obligation or limits on the project the City or the project proponent to have to trade or reduce emissions. The project activity is being undertaken on a voluntary basis.

1.12.3 Participation under Other GHG Programs

The Joburg Landfill Gas to Energy Project has been registered as a CDM project under the UNFCCC with project registration number 6797 with the registration date being the 12 November 2012.

1.12.4 Other Forms of Environmental Credit

We confirm that project has and will not have any form of environmental credit other than those being applied for hereunder.

1.12.5 Projects Rejected by Other GHG Programs

The project has not been rejected under any other GHG Programs.

1.13 Additional Information Relevant to the Project

Eligibility Criteria

Although the five sites have been registered as basket of projects we are not able to include new projects under its registration.

Leakage Management

There is no leakage applicable to this project activity.

Commercially Sensitive Information

No commercial sensitive information has been withheld from the public consultation process.

Further Information

The project has been registered as a CDM project and was implemented before obtaining registration which was delayed to the end of 2012 which has lead the generation of a large volume of VERs.

2 APPLICATION OF METHODOLOGY

2.1 Title and Reference of Methodology

N/A

2.2 Applicability of Methodology

N/A

2.3 Project Boundary

Source		Gas	Included?	Justification/Explanation
Baseline	Source 1	CO ₂		
		CH ₄		
		N ₂ O		
		Other		
	Source 2	CO ₂		
		CH ₄		
		N ₂ O		
		Other		
Project	Source 1	CO ₂		
		CH ₄		
		N ₂ O		
		Other		
	Source 2	CO ₂		
		CH ₄		

Source		Gas	Included?	Justification/Explanation
		N ₂ O		
		Other		

2.4 Baseline Scenario

N/A

2.5 Additionality

N/A

2.6 Methodology Deviations

N/A

3 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

3.1 Baseline Emissions

N/A

3.2 Project Emissions

N/A

3.3 Leakage

N/A

3.4 Summary of GHG Emission Reductions and Removals

N/A

Years	Estimated baseline emissions or removals (tCO ₂ e)	Estimated project emissions or removals (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated net GHG emission reductions or removals (tCO ₂ e)
Year A				
Year B				
Year C				
Year...				
Total				

4 MONITORING

4.1 Data and Parameters Available at Validation

N/A

Data Unit / Parameter:	
Data unit:	
Description:	
Source of data:	
Value applied:	
Justification of choice of data or description of measurement methods and procedures applied:	
Any comment:	

4.2 Data and Parameters Monitored

N/A

Data Unit / Parameter:	
Data unit:	
Description:	
Source of data:	
Description of measurement methods and procedures to be applied:	<i>Identify how the data/parameter is measured</i>
Frequency of monitoring/recording:	<i>Identify measurement and recording frequency</i>
Value applied:	<i>Provide estimated value for the purpose of calculating ex-ante GHG emission reductions or removals</i>
Monitoring equipment:	<i>Identify equipment used to monitor the data/parameter including type, accuracy class, serial number of equipment</i>
QA/QC procedures to be applied:	<i>Identify calibration information such as frequency, date of last calibration and validity</i>
Calculation method:	<i>If applicable</i>
Any comment:	

4.3 Description of the Monitoring Plan

N/A

5 ENVIRONMENTAL IMPACT

N/A

6 STAKEHOLDER COMMENTS

N/A