MONITORING REPORT FORM (CDM-MR) *
Version 01 - in effect as of: 28/09/2010

CONTENTS

A. General description of the project activity
   A.1. Brief description of the project activity
   A.2. Project participants
   A.3. Location of the project activity
   A.4. Technical description of the project
   A.5. Title, reference and version of the baseline and monitoring methodology applied to the project activity
   A.6. Registration date of the project activity
   A.7. Crediting period of the project activity and related information
   A.8. Name of responsible person(s)/entity(ies)

B. Implementation of the project activity
   B.1. Implementation status of the project activity
   B.2. Revision of the monitoring plan
   B.3. Request for deviation applied to this monitoring period
   B.4. Notification or request of approval of changes

C. Description of the monitoring system

D. Data and parameters monitored
   D.1. Data and parameters used to calculate baseline emissions
   D.2. Data and parameters used to calculate project emissions
   D.3. Data and parameters used to calculate leakage emissions
   D.4. Other relevant data and parameters

E. Emission reductions calculation
   E.1. Baseline emissions calculation
   E.2. Project emissions calculation
   E.3. Leakage calculation
   E.4. Emission reductions calculation
   E.5. Comparison of actual emission reductions with estimates in the registered CDM-PDD
   E.6. Remarks on difference from estimated value

MONITORING REPORT
Version 1 9/02/2011

Jinan Landfill Gas to Energy Project
Reference number: 0933
Monitoring period number: 5th
Monitoring period: 01/03/2010-31/01/2011

SECTION A. General description of the project activity

A.1. Brief description of the project activity: >>

>>

1. Purpose of the project activity and the measures taken to reduce greenhouse gas emissions;

   The purpose of the proposed project is to utilize landfill gas to generate electricity, while excess landfill gas is flared. The Project generates certified emission reductions (CERs) by displacing electricity generation from grid connected fossil fuel-fired power plants that would otherwise be generating electricity needed and destroying methane within the landfill gas that would other have been vented directly into the atmosphere.

2. Brief description of the installed technology and equipments;

   The project is chiefly comprised of a gas collection system, flare system and a modular power generation system. Seven 500 kW SD500 modular reciprocating engines are installed as part of the project. Small modular reciprocating engine generator units make it possible to adapt the equipment to the site-specific gas volumes.

3. Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.).

   Construction completed: 01/05/2006
   Equipment commissioned: 01/05/2006 (old generators and flare), 25/07/2008 (generators replaced)
   Continued operation period started: 01/05/2006

4. Total emission reductions achieved in this monitoring period.
   78,317 tCO_2e

A.2. Project Participants

>>

Host Parties **China**, involved indirectly; Authorized Participants: Shandong Shifang New Energy Co., Ltd

Other Parties Involved **United Kingdom of Great Britain and Northern Ireland**, involved Authorized Participants: EcoSecurities Ltd ; EcoSecurities Group Plc ; EDF Trading Ltd.

A.3. Location of the project activity:

>>

Jinan City, Jiyang County, Shandong Province, the People's Republic of China. The landfill itself is located in the central part of the province approximately 10 km north of the provincial capital city of Jinan, in the southeastern region of the Jiyang County.

A.4. Technical description of the project

>>

Description of the technology applied in the project activity and detailed technical process, including diagrams

Landfill Gas Collection System

The project activity involves the installation of LFG collection technology. This includes:

- Vertical wells used to extract gas;
- Blowers to draw the LFG into the flare and/or the energy generator;
- Landfill capped by soil to provide cover for the site;

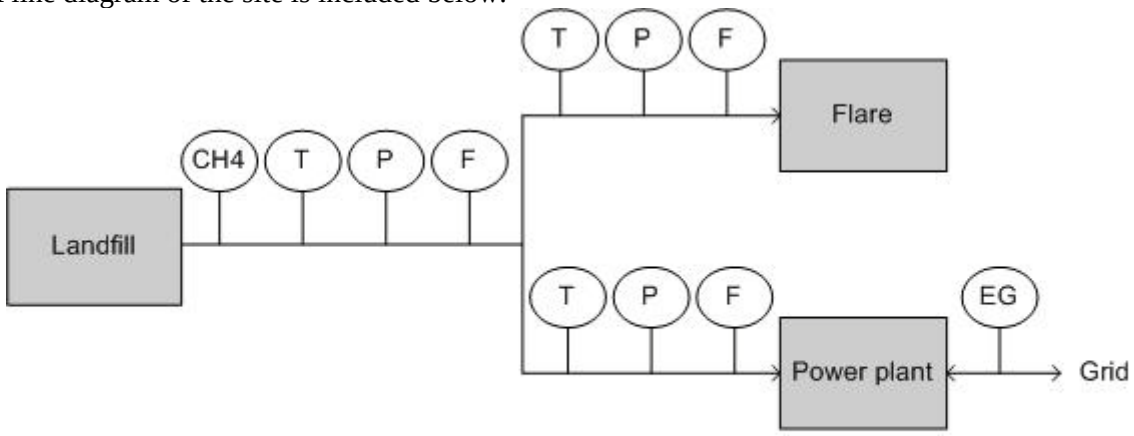
Flare technology:

The proposed project activity utilises a domestically manufactured flaring system to flare excess landfill gas.

Energy generation technology:

The project has seven 500 kW generators that combusts the methane in the landfill gas to produce electricity, total capacity of the project is 3.5 MW.

A line diagram of the site is included below:



A.5. Title, reference and version of the baseline and monitoring methodology applied to the project activity:

>>

AMS-I.D. version. 9 - Grid connected renewable electricity generation dated 28 July 2006
ACM0001 version. 4 - Consolidated methodology for landfill gas project activities dated 28 July 2006

A.6. Registration date of the project activity:

>>

13 May 2007

A.7. Crediting period of the project activity and related information (start date and choice of crediting period):

>>

13 May 07 - 12 May 14 (Renewable). There was no post-registration change to the start date of the crediting period.

A.8. Name of responsible person(s)/entity(ies):

>>

The monitoring report is compiled by EcoSecurities International Ltd.

Ms. Xuetao Bai	EcoSecurities	Project Manager	Xuetao.Bai@ecosecurities.com
Mr. Jialiang Zhang	EcoSecurities	Verification Lead	liang@ecosecurities.com
Mr. Edouard Perroy	EcoSecurities	Technical Reviewer	Edouard.Perroy@ecosecurities.com

Address: Unit 1708, China Resources Building, No.8, JianGuoMen Bei Avenue, Beijing 100005, China
Telephone: +8610-65181081
Email: Xuetao.Bai@ecosecurities.com

SECTION B. Implementation of the project activity

B.1. Implementation status of the project activity

>>

1) Starting date of operation

Project started operation in 01/05/2006. The project consists of one site only and the implementation is not phased. However the old generators of the project were replaced with the new generators coming into operation from 25/07/2008, a subsequent revision of the PDD was made and has been approved on 09/04/2010. .

2) Actual operation of the project activity during this monitoring period.

The site was shut down from 1 October 2010 to 13 November 2010 for maintenance. No emission reductions are claimed during down time. The old aging flow meters measuring total LFG flow and total LFG flow to generators were replaced on 13 November 2010. As part of the normal site and industry practice some of the old pressure meters and temperature probes nearing their calibration period expiry date are swapped for new, calibrated replacements.

3) Events affecting the applicability of the methodology

No events occurred that affected the applicability of the methodology.

B.2. Revision of the monitoring plan

>>

The monitoring plan was not revised and no revision is pending.

B.3. Request for deviation applied to this monitoring period

>>

No request for deviation was applied during this monitoring period.

B.4. Notification or request of approval of changes

>>

Following the procedures Annex 66 of EB48 and “Guidelines on Assessment of Different Types of Changes from the Project Activity as Described in the Registered PDD” – Annex 67 of EB48, the PDD was revised and has been accepted by the EB on 9 April 2010. The capacity is within the original 3.5 MW, this is in conformity with the approved revised PDD version 05 completed on 31 July 2009.

SECTION C. Description of the monitoring system

>>

Data collection procedures

Data generation: Quantity, temperature and pressure of total LFG captured, and LFG sent to generators and the flare were continuously measured by the flow meters, pressure and temperature probes mentioned in section D.2. Methane fraction in LFG was measured by a portable gas analyzer and electricity exported and imported was measured continuously by electricity meter (please see section D.2 for details)..

Data recording: Measurements of the quantity, temperature and pressure of total LFG captured, and LFG sent to generators and the flare were recorded electronically on an hourly basis, backed up with a manual recording every 8 hours. Methane fraction readings were manually recorded every 8 hours and electricity meter readings were recorded manually on a monthly basis. All manual recordings were subsequently entered into an excel sheet.

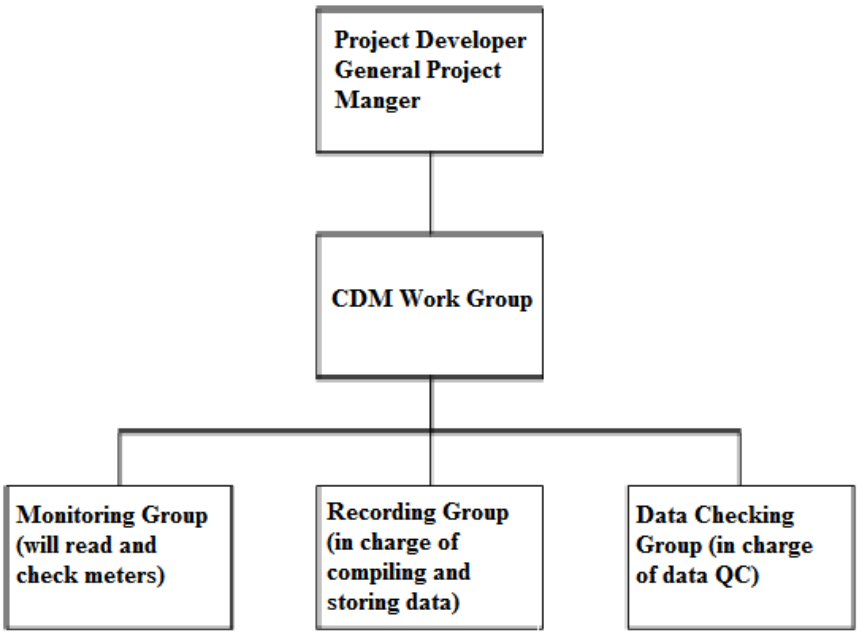
Data aggregation: The monitored landfill gas data and electricity supplied to the grid are respectively summed over the monitoring period.

Calculation: see section D.2. and section E.

Reporting: The calculated values are included in an Excel sheet and reported in the CDM-MR.

Organizational structure, roles and responsibilities

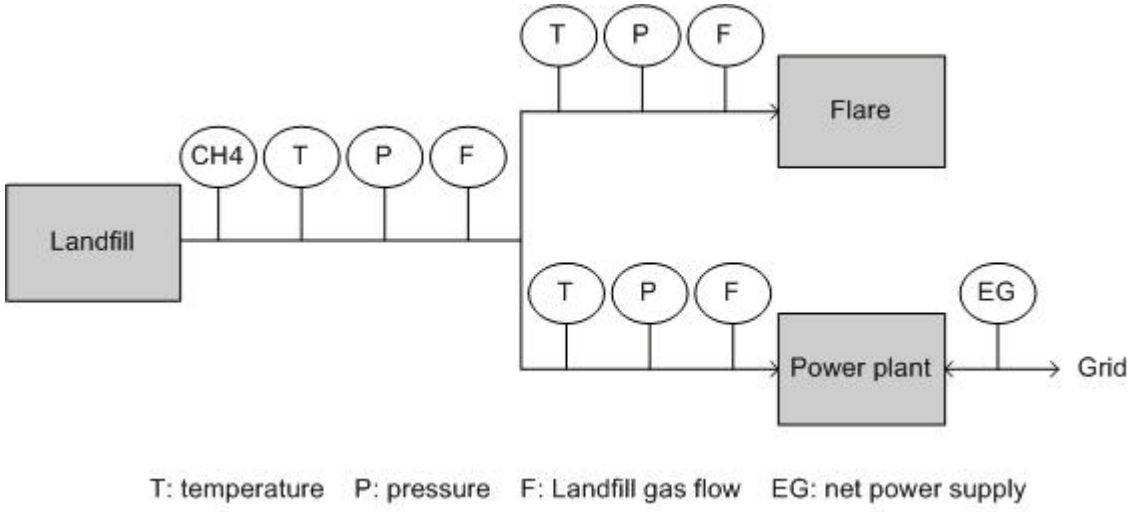
A CDM workgroup has been established and trained to be responsible for the CDM monitoring system. Under the CDM workgroup, three sub groups (Monitoring group, Recording group and Data Checking group) are set up. The roles and responsibilities of each group are shown in the organisational chart as below:



Emergency procedures for the monitoring system

In case there is doubt about the correct functioning of the electricity meters, the grid company and the site will check and where necessary replace the meter. No CERs are claimed for the period during the time when meter was not functioning correctly. In case there is malfunction of flow meters and Gas analyzer, the CERs of methane destroyed are not claimed for the period.

The figure below shows a line diagram showing all relevant monitoring points.



SECTION D. Data and parameters

D.1. Data and parameters determined at registration and not monitored during the monitoring period, including default values and factors

Data / Parameter:	**Carbon Emission Factor ($CEF_{electricity,y}$)**
Data unit:	tCO2/MWh
Description:	CO2 emissions intensity of the electricity displaced
Source of data used:	Official statistics from The China Electric Power Yearbook and the China Energy Statistical Yearbook 2005, 2004 and 2003
Value(s) :	0.9840
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emission
Additional comment:	

Data / Parameter:	**GWP_{CH4}**
Data unit:	tCO_{2e}/tCH_4
Description:	Global warming potential value for methane
Source of data used:	IPCC default value
Value(s) :	21
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emission

Additional comment:	

Data / Parameter:	**D_{CH4}**
Data unit:	tCO_2/m^3_{CH4}
Description:	Methane Density
Source of data used:	ACM0001 ver. 4
Value(s) :	0.00067
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emission
Additional comment:	Since LFG is expressed in Sm3 [20 C, 1 atmosphere], Methane density of 0.00071 [0 degree Celsius and 1,013 bar] from the methodology was converted to 0.00067 [20 C, 1 atmosphere] for calculation.

D.2. Data and parameters monitored

Data / Parameter:	**$LFG_{total,y}$**
Data unit:	Sm^3 [20 °C, 1 atmosphere]
Description:	Total amount of LFG captured
Measured /Calculated /Default:	Measured
Source of data:	Project Developer
Value(s) of monitored parameter:	8,705,895
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions calculation
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	The flow meter 8C004B18000 was replaced by D704EE18000 on 13/11/2010.

Type	Vortex meter (Model No. 72F1H-SB0BA1DAA4AW)	Vortex meter (Model No. 72F1F-SE0AA1DAA4AW)
Serial nr.	8C004B18000	D704EE18000
Accuracy	1.0	1.0
Date of calibration	08/02/2010	08/10/2010
Frequency of calibration	Yearly	Yearly
Validity of calibration	08/02/2010-07/02/2011	08/10/2010-07/10/2011

Measuring/ Reading/ Recording frequency:	The meters provide a cumulative flow reading. Measurements of cumulative flow were recorded electronically once per hour, backed up with a manual recording every 8 hours, these recorded values were entered into a spreadsheet. In case of breakdown or suspected problems, the manufacturer would have been called in.
Calculation method (if applicable):	-
QA/QC procedures applied:	The meters were subject to maintenance and calibration according to manufacturer's recommendations. On site staff received training in CDM monitoring and the maintenance requirements of the flow meters. Calibrations were carried out by a suitably qualified external

	company. Calibration and maintenance records were retained. Data were recorded in hard copy format and transferred to an electronic file. Checks of the data entry process were conducted by someone other than the person entering the data.

Data / Parameter:	**$LFG_{flared,y}$**
Data unit:	Sm^3 [20 °C, 1 atmosphere]
Description:	Amount of LFG flared
Measured /Calculated /Default:	Measured
Source of data:	Project Developer
Value(s) of monitored parameter:	603,152
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions calculations
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Type: Vortex meter (Model number 72F1H-SB0BA1DAA4AW) Serial nr.: 94021B18000 Accuracy: 1.0 Date of calibration: 08/02/2010 Frequency of calibration: Yearly Validity of calibration: until 07/02/2011
Measuring/ Reading/ Recording frequency:	The meters provide a cumulative flow reading. Measurements of cumulative flow were recorded electronically once per hour, backed up with a manual recording every 8 hours, these recorded values were entered into a spreadsheet. In case of breakdown or suspected problems, the manufacturer would have been called in.
Calculation method (if applicable):	-
QA/QC procedures applied:	The meters were subject to maintenance and calibration according to manufacturer's recommendations. On site staff received training in CDM monitoring and the maintenance requirements of the flow meters. Calibrations were carried out by the manufacturer or a suitably qualified external company. Calibration and maintenance records are retained. Data were recorded in hard copy format and transferred to an electronic file. Checks of the data entry process were conducted by someone other than the person entering the data.

Data / Parameter:	**$LFG_{electricity,y}$**
Data unit:	Sm^3[20 °C, 1 atmosphere]
Description:	Amount of LFG combusted in power plant
Measured /Calculated /Default:	Measured
Source of data:	Project Developer
Value(s) of monitored parameter:	7,732,718
Indicate what the data are used for (Baseline/ Project/	Baseline emissions calculations

<table>
<tr><td>Leakage emission calculations)</td><td></td></tr>
<tr><td>Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)</td><td>The flow meter 8C004A18000 was replaced by D704EF18000 on 13/11/2010.

<table><tr><td>Type</td><td>Vortex meter 72F1H-SB0BA1DAA4AW</td><td>Vortex meter 72F1F-SE0AA1DAA4AW</td></tr><tr><td>Serial nr.</td><td>8C004A18000</td><td>D704EF18000</td></tr><tr><td>Accuracy</td><td>1.0</td><td>1.0</td></tr><tr><td>Date of calibration</td><td>08/02/2010</td><td>08/10/2010</td></tr><tr><td>Frequency of calibration</td><td>Yearly</td><td>yearly</td></tr><tr><td>Validity of calibration</td><td>until 07/02/2011</td><td>until 07/10/2011</td></tr></table></td></tr>
<tr><td>Measuring/ Reading/ Recording frequency:</td><td>The meters provide a cumulative flow reading. Measurements of cumulative flow were recorded electronically once per hour, backed up with a manual recording every 8 hours, these recorded values were entered into a spreadsheet. In case of breakdown or suspected problems, the manufacturer would have been called in.</td></tr>
<tr><td>Calculation method (if applicable):</td><td>-</td></tr>
<tr><td>QA/QC procedures applied:</td><td>The meters were subject to maintenance and calibration according to manufacturer’s recommendations. On site staff received training in CDM monitoring and the maintenance requirements of the flow meters. Calibrations were carried out by the manufacturer or a suitably qualified external company. Calibration and maintenance records were retained.
Data were recorded in hard copy format and transferred to an electronic file. Checks of the data entry process were conducted by someone other than the person entering the data.</td></tr>
</table>

Data / Parameter:	**$P_{total,y}$**
Data unit:	Pa
Description:	Pressure of the total amount of LFG captured
Measured /Calculated /Default:	Measured
Source of data:	Project Developer
Value(s) of monitored parameter:	Flow meter reads directly in Sm^3 using measured P
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions calculations

<table>
<tr><td>Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)</td><td>The pressure meter 90206 was replaced by meter 850219 on 22/11/2010.

<table>
<tr><td>Type</td><td>721GKIC11-P</td><td>DPSY-AS</td></tr>
<tr><td>Serial nr.</td><td>90206</td><td>850219</td></tr>
<tr><td>Accuracy</td><td>0.5</td><td>0.5</td></tr>
<tr><td>Date of calibration</td><td>07/12/2009</td><td>22/11/2010</td></tr>
<tr><td>Frequency of calibration</td><td>Replace every two year as per standard. Calibrate yearly in this project</td><td>Replace every two year as per standard. Calibrate yearly in this project</td></tr>
<tr><td>Validity of calibration</td><td>06/12/2010</td><td>21/11/2011</td></tr>
<tr><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Measuring/ Reading/ Recording frequency:</td><td>Continuous measurement by pressure meters. Measurements were recorded electronically once per hour, backed up with a manual recording every 8 hours, these recorded values were entered into a spreadsheet. In case of breakdown or suspected problems, the manufacturer would have been called in.</td></tr>
<tr><td>Calculation method (if applicable):</td><td>-</td></tr>
<tr><td>QA/QC procedures applied:</td><td>The meters were subject to maintenance and calibration according to manufacturer’s recommendations. On site staff received training in CDM monitoring and the maintenance requirements of the flow meters. Calibrations were carried out by the manufacturer or a suitably qualified external company. Calibration and maintenance records were retained.
Data were recorded in hard copy format and transferred to an electronic file. Checks of the data entry process were conducted by someone other than the person entering the data</td></tr>
</table>

Data / Parameter:	$\mathbf{P_{flared,y}}$
Data unit:	Pa
Description:	Pressure of the amount of LFG flared
Measured /Calculated /Default:	Measured
Source of data:	Project Developer
Value(s) of monitored parameter:	Flow meter reads directly in Sm^3 using measured P
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions calculations

<table>
<tr><td>Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)</td><td>The meter 90810 was replaced by the meter 850218 on 01/08/2010. The meter 850218 was replaced by 90206 on 22/12/2010.

<table>
<tr><td>Type</td><td>721GK2C11-P</td><td>DPSR-AS</td><td>721GK1C11-P</td></tr>
<tr><td>Serial nr.</td><td>90810</td><td>850218</td><td>90206</td></tr>
<tr><td>Accuracy</td><td>0.5</td><td>0.5</td><td>0.5</td></tr>
<tr><td>Date of calibration</td><td>13/08/2009</td><td>26/07/2010</td><td>21/12/2010</td></tr>
<tr><td>Frequency of calibration</td><td>Replace every two year as per standard. Calibrate yearly in this project</td><td>Replace every two year as per standard. Calibrate yearly in this project</td><td>Every two year as per standard. Calibrate yearly in this project</td></tr>
<tr><td>Validity of calibration</td><td>12/08/2010</td><td>25/07/2011</td><td>20/12/2011</td></tr>
</table></td></tr>
<tr><td>Measuring/ Reading/ Recording frequency:</td><td>Continuous measurement by pressure meters. Measurements were recorded electronically once per hour, backed up with a manual recording every 8 hours, these recorded values were entered into a spreadsheet. In case of breakdown or suspected problems, the manufacturer would have been called in.</td></tr>
<tr><td>Calculation method (if applicable):</td><td>-</td></tr>
<tr><td>QA/QC procedures applied:</td><td>The meters were subject to maintenance and calibration according to manufacturer’s recommendations. On site staff received training in CDM monitoring and the maintenance requirements of the flow meters. Calibrations were carried out by the manufacturer or a suitably qualified external company. Calibration and maintenance records were retained.
Data were recorded in hard copy format and transferred to an electronic file. Checks of the data entry process were conducted by someone other than the person entering the data.</td></tr>
</table>

Data / Parameter:	$\mathbf{P_{electricity,y}}$
Data unit:	Pa
Description:	Pressure of the amount of LFG combusted in the power plant
Measured /Calculated /Default:	Measured
Source of data:	Project Developer
Value(s) of monitored parameter:	Flow meter reads directly in Sm^3 using measured P
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions calculations

<table>
<tr><td>Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)</td><td>The meter 91205 was replaced by 90810 on 22/11/2010.

<table><tr><td>Type</td><td>721GK1C11-P</td><td>721GK2C11-P</td></tr><tr><td>Serial nr.</td><td>91205</td><td>90810</td></tr><tr><td>Accuracy</td><td>0.5</td><td>0.5</td></tr><tr><td>Date of calibration</td><td>07/12/2009</td><td>22/11/2010</td></tr><tr><td>Frequency of calibration</td><td>Every two year as per standard. Calibrate yearly in this project</td><td>Replace every two year as per standard. Calibrate yearly in this project</td></tr><tr><td>Validity of calibration</td><td>06/12/2010</td><td>21/11/2011</td></tr></table></td></tr>
<tr><td>Measuring/ Reading/ Recording frequency:</td><td>Continuous measurement by pressure meters. Measurements were recorded electronically once per hour, backed up with a manual recording every 8 hours, these recorded values were entered into a spreadsheet. In case of breakdown or suspected problems, the manufacturer would have been called in..</td></tr>
<tr><td>Calculation method (if applicable):</td><td>-</td></tr>
<tr><td>QA/QC procedures applied:</td><td>The meters were subject to maintenance and calibration according to manufacturer’s recommendations. On site staff received training in CDM monitoring and the maintenance requirements of the flow meters. Calibrations were carried out by the manufacturer or a suitably qualified external company. Calibration and maintenance records were retained.
Data were recorded in hard copy format and transferred to an electronic file. Checks of the data entry process were conducted by someone other than the person entering the data</td></tr>
</table>

<table>
<tr><td>Data / Parameter:</td><td>$T_{total,y}$</td></tr>
<tr><td>Data unit:</td><td>^{o}C</td></tr>
<tr><td>Description:</td><td>Temperature of the total amount of LFG captured</td></tr>
<tr><td>Measured /Calculated /Default:</td><td>Measured</td></tr>
<tr><td>Source of data:</td><td>Project Developer</td></tr>
<tr><td>Value(s) of monitored parameter:</td><td>Flow meter reads directly in Sm^3 using measured T</td></tr>
<tr><td>Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)</td><td>Baseline emissions calculations</td></tr>
<tr><td>Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)</td><td>The meter 701002 was replaced by 701003 on 23/11/2010.

<table><tr><td>Type</td><td>WZPB-240SF</td><td>WZPB-240SF</td></tr><tr><td>Serial nr.</td><td>701002</td><td>701003</td></tr><tr><td>Accuracy</td><td>-</td><td>-</td></tr><tr><td>Date of calibration</td><td>7/12/2009</td><td>23/11/2010</td></tr><tr><td>Frequency of calibration</td><td>Replace every two year as per standard. Calibrate yearly in this project</td><td>Every two year as per standard. Calibrate yearly in this project</td></tr><tr><td>Validity of calibration</td><td>6/12/2010</td><td>22/11/2011</td></tr></table></td></tr>
</table>

Measuring/ Reading/ Recording frequency:	Continuous measurement by thermometers. Measurements were recorded electronically once per hour, backed up with a manual recording every 8 hours, these recorded values were entered into a spreadsheet. In case of breakdown or suspected problems, the manufacturer would have been called in.
Calculation method (if applicable):	-
QA/QC procedures applied:	The meters were subject to maintenance and calibration according to manufacturer's recommendations. On site staff received training in CDM monitoring and the maintenance requirements of the flow meters. Calibrations were carried out by the manufacturer or a suitably qualified external company. Calibration and maintenance records were retained. Data were recorded in hard copy format and transferred to an electronic file. Checks of the data entry process were conducted by someone other than the person entering the data.

Data / Parameter:	$\mathbf{T_{flared,y}}$
Data unit:	^{o}C
Description:	Temperature of the amount of LFG flared
Measured /Calculated /Default:	Measured
Source of data:	Project Developer
Value(s) of monitored parameter:	Flow meter reads directly in Sm^3 using measured T
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions calculations
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	The meter 701001 was replaced by 1007657on 06/08/2010.

Type	WZPB-240SF	WZPB-240SF
Serial nr.	701001	1007657
Accuracy	-	-
Date of calibration	18/8/2009	06/08/2010
Frequency of calibration	Replace every two year as per standard. Calibrate yearly in this project	Every two year as per standard. Calibrate yearly in this project
Validity of calibration	17/8/2010	05/08/2011

Measuring/ Reading/ Recording frequency:	Continuous measurement by temperature sensors. Measurements were recorded electronically once per hour, backed up with a manual recording every 8 hours, these recorded values were entered into a spreadsheet. In case of breakdown or suspected problems, the manufacturer would have been called in.
Calculation method (if applicable):	-
QA/QC procedures applied:	The meters were subject to maintenance and calibration according to manufacturer's recommendations. On site staff received training in CDM monitoring and the maintenance requirements of the flow meters. Calibrations were carried out by the manufacturer or a suitably

	qualified external company. Calibration and maintenance records were retained. Data were recorded in hard copy format and transferred to an electronic file. Checks of the data entry process were conducted by someone other than the person entering the data.

Data / Parameter:	$\mathbf{T_{electricity,y}}$
Data unit:	^{o}C
Description:	Temperature of the amount of LFG combusted in the power plant
Measured /Calculated /Default:	Measured
Source of data:	Project Developer
Value(s) of monitored parameter:	Flow meter reads directly in Sm3 using measured T
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	The meter 606098 was replaced by 810265 on 23/11/2010.

Type	WZPB-240SF	WZPB-240SF
Serial nr.	606098	810265
Accuracy	-	-
Date of calibration	7/12/2009	23/11/2010
Frequency of calibration	Replace every two year as per standard. Calibrate yearly in this project	Every two year as per standard. Calibrate yearly in this project
Validity of calibration	6/12/2010	22/11/2011

Measuring/ Reading/ Recording frequency:	Continuous measurement by temperature sensors. Measurements were recorded electronically once per hour, backed up with a manual recording every 8 hours, these recorded values were entered into a spreadsheet. In case of breakdown or suspected problems, the manufacturer would have been called in.
Calculation method (if applicable):	-
QA/QC procedures applied:	The meters were subject to maintenance and calibration according to manufacturer's recommendations. On site staff received training in CDM monitoring and the maintenance requirements of the flow meters. Calibrations were carried out by the manufacturer or a suitably qualified external company. Calibration and maintenance records were retained. Data were recorded in hard copy format and transferred to an electronic file. Checks of the data entry process were conducted by someone other than the person entering the data.

Data / Parameter:	$\mathbf{w_{CH4}}$
Data unit:	m^3 CH_4 / m^3 LFG
Description:	Methane fraction in the LFG
Measured /Calculated /Default:	Measured

<table>
<tr><td>Source of data:</td><td>Project Developer</td></tr>
<tr><td>Value(s) of monitored parameter:</td><td>Portable Gas Analyzer meter reads directly in %. Please refer to CER calculation sheet for measured values.</td></tr>
<tr><td>Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)</td><td>Baseline emissions calculations.</td></tr>
<tr><td>Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)</td><td>The meter G3822106 was replaced by G3840106 on 01/07/2010.

<table><tr><td>Type</td><td>GA25</td><td>GA25</td></tr><tr><td>Serial nr.</td><td>G3822106</td><td>G3840106</td></tr><tr><td>Accuracy</td><td>3%</td><td>3%</td></tr><tr><td>Date of calibration</td><td>04/08/2009</td><td>30/06/2010</td></tr><tr><td>Frequency of calibration</td><td>Yearly</td><td>Yearly</td></tr><tr><td>Validity of calibration</td><td>03/08/2010</td><td>29/06/2011</td></tr></table></td></tr>
<tr><td>Measuring/ Reading/ Recording frequency:</td><td>Methane content was measured with a portable gas analyser by the project developer once every 8 hours. Recorded values were entered into a spreadsheet. In case of breakdown or suspected problems, the manufacturer would have been called in.</td></tr>
<tr><td>Calculation method (if applicable):</td><td>-</td></tr>
<tr><td>QA/QC procedures applied:</td><td>The meters were subject to maintenance and calibration according to manufacturer’s recommendations. On site staff received training in CDM monitoring and the maintenance requirements of the flow meters. Calibrations were carried out by the manufacturer or a suitably qualified external company. Calibration and maintenance records were retained.
Data were recorded in hard copy format and transferred to an electronic file. Checks of the data entry process were conducted by someone other than the person entering the data.</td></tr>
</table>

Data / Parameter:	**FE**
Data unit:	%
Description:	Flare/combustion efficiency and the operation hours
Measured /Calculated /Default:	Default setting
Source of data:	ACM0001 version 4
Value(s) of monitored parameter:	Default Flare efficiency of 90% Operation hours of flare: 5005:02:09 (hours:mins:secs).
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	-
Measuring/ Reading/ Recording frequency:	1) The enclosed flare operation was continuously monitored by continuous measurement of operation time of flare using a run

	time meter connected to a flame detector. 2) When there was no flaring, or the flare's flame did not reach the height that is detectable by the flame detector, gas flow volume to flare during that time period was discounted automatically by the data collection system software, ensuring that this volume is not accounted as flared. Default efficiency of 90% was used, when the flame was detected
Calculation method (if applicable):	-
QA/QC procedures applied:	The flare was operated and maintained as per manufacturers' specifications, as part of the daily operation. Regular maintenance in accordance to manufacturers' recommendations revealed no faults with the system An initial flare test involving methane concentration analysis of inflow and flue gas of flare was conducted on 25 September 2006, giving a result of 53% in inflow and 0.05 % in flue gas. A second comprehensive flare efficiency testing was carried out on 25 April 2008. This revealed that the flare efficiency is 95.1%, therefore the conservative default flare efficiency value of 90% is used.

Data / Parameter:	**$EG_{EX,LFG}$**
Data unit:	MWh
Description:	Electricity exported to grid
Measured /Calculated /Default:	Measured
Source of data:	Grid operator
Value(s) of monitored parameter:	10,950
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Type: DSSD5(A) Location: Substation Serial nr.: 100711000384 Accuracy: 0.5s Date of calibration: 24/03/2009 Frequency of calibration: Every 3 years Validity of calibration: until 23/3/2012
Measuring/ Reading/ Recording frequency:	Electricity measured continuously using an electricity meter which was maintained and calibrated regularly to assure high levels of accuracy. Net electricity = Export electricity – import electricity
Calculation method (if applicable):	-
QA/QC procedures applied:	Electricity meter maintained and calibrated regularly to assure high levels of accuracy. Readings crossed check with sales invoices and other meters.

Data / Parameter:	**EL_{IMP}**
Data unit:	MWh
Description:	Electricity imported from grid
Measured /Calculated /Default:	Measured
Source of data:	Grid operator
Value(s) of monitored parameter:	0
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	<table><tr><td>Type</td><td>DSSD5(A)</td></tr><tr><td>Location</td><td>Substation</td></tr><tr><td>Serial nr.</td><td>100711000384</td></tr><tr><td>Accuracy</td><td>0.5s</td></tr><tr><td>Date of calibration</td><td>24/03/2009</td></tr><tr><td>Frequency of calibration</td><td>Every 3 years</td></tr><tr><td>Validity of calibration</td><td>until 23/3/2012</td></tr></table>
Measuring/ Reading/ Recording frequency:	Electricity measured continuously using an electricity meter which was maintained and calibrated regularly to assure high levels of accuracy. Net electricity = Export electricity – import electricity
Calculation method (if applicable):	-
QA/QC procedures applied:	Electricity meter maintained and calibrated regularly to assure high levels of accuracy. Readings crossed check with sales invoices and other meters.

Data / Parameter:	Operation of the power plant
Data unit:	hour
Description:	This is monitored to ensure methane destruction is claimed for methane used in electricity plant when it is operational.
Measured /Calculated /Default:	Measured
Source of data:	Project developer
Value(s) of monitored parameter:	26,697 Total hours of operation for 7 generators, since at periods more than 1 generator may be operational at the same time, the total hours of operation may be larger than the total hours in a year
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	-
Measuring/ Reading/ Recording frequency:	Data measured by the project developer. Data is monitored to ensure methane destruction is claimed for methane used in electricity plant when it is operational.

	.
Calculation method (if applicable):	-
QA/QC procedures applied:	-

SECTION E. Emission reductions calculation

E.1. Baseline emissions calculation

The calculation of baseline emissions applying actual values and including formulae used is shown as follows. See the CER spreadsheet for details.

Calculation of baseline emissions	Symbol	Amount	Unit
Electricity exported to the grid	$EG_{EX,LFG}$	10,950	MWh
Electricity imported from the grid	EL_{IMP}	0	MWh
Net quantity of electricity exported to the grid	EL_y	10,950	MWh
Emission factor	$CEF_{electricity}$	0.9840	tCO_2e/MWh
Landfill gas to power generation	$LFG_{electricity}$	7,732,718	Sm^3
Landfill gas to flare	LFG_{flared}	603,152	Sm^3
Landfill gas to heat	$LFG_{thermal}$	-	Sm^3
Landfill gas generated	LFG_{total}	8,705,895	Sm^3
Methane density	D_{CH4}	0.00067	tCH4/Sm3
Flare Efficiency	FE	0.9	
Quantity of methane used to generate electricity	$MD_{electricity}$	3,013	tCH_4
Quantity of methane flared	MD_{flared}	235	tCH_4
Quantity of methane generated (crosschecked)	$MD_{project(crosschecked)}$	3,216	tCH_4
Adjustment Factor	AF	0	%
Quantity of methane would have been destroyed before project	MD_{reg}	0	tCH_4
Global Warming Potential value of methane	GWP_{CH4}	21	CO2e/tCH4
Total baseline emissions	BEy	78,317	tCO_2e

$$BE_y = (EG_{EX,LFG} - EL_{IMP}) * CEF_{electricity} + (MD_{project(crosschecked)} - MD_{reg}) GWP_{CH4}$$

E.2. Project emissions calculation

>>

Total project emissions	PEy	0	tCO_2e

The calculation of project emissions applying actual values and including formulae used is shown as follows. See the CER spreadsheet for details.

$$PE_y = 0$$

E.3. Leakage calculation

>>

Total leakage emissions	Ly	0	tCO_2e

The calculation of leakage emissions applying actual values and including formulae used is shown as follows. See the CER spreadsheet for details.

$$L_y = 0$$

E.4. Emission reductions calculation / table

>>

Calculation of emission reductions	Symbol	Amount	Unit	Remarks
Total baseline emissions	BEy	78,317	tCO_2e	1
Total project emissions	PEy	0	tCO_2e	2
Total leakage emissions	Ly	0	tCO_2e	3
Total emission reductions	ERy	78,317	tCO_2e	4
*Installed capacity		3.5	MW	
*Operating hours of generators		26,697	hours	5
*Operating hours of the flare		5005:02:09	hours:mins:secs	6

The calculation of emission reductions applying actual values and including formulae used is shown as follows. See the CER spreadsheet for details.

$$ER_y = BE_y - PE_y - L_y$$

E.5. Comparison of actual emission reductions with estimates in the CDM-PDD

>>

Item	Values applied in ex-ante calculation of the registered CDM-PDD	Actual values reached during the monitoring period
Emission reductions (tCO_2e)	**112,908**	**78,317**

E.6. Remarks on difference from estimated value in the PDD

>>

There was not any **increase** in the actual emission reductions achieved during the current monitoring period.

ER PDD: 112,908tCO2e/365 days = 309 tCO2e/day average.
ER monitoring period: 78,317 tCO2e / 337 days = 232 tCO2e/day average.
ER PDD > ER monitoring period; there was no increase in the actual emission reductions achieved during the monitoring period compared to the registered CDM-PDD.