



UNFCCC Clean Development Mechanism Monitoring Report

Nanjing Tiangjingwa Landfill Gas to Electricity Project

CDM registration number 0071

Monitoring period 30/5/6 – 19/10/6

Document ID: CDM 0071-M2

Date: 31 October 2006

Project background

Nanjing Tiangjingwa Landfill Gas to Electricity Project has been registered as CDM project by the UNFCCC on 18 December 2005 under reference number 0071.

Further background on this project can be found in the PDD and associated documents, which are available on the UNFCCC website: <http://cdm.unfccc.int/Projects/DB/DNV-CUK1129289693.13/view.html>.

Parties involved are China (Host Country) and the United Kingdom of Great Britain and Northern Ireland (other Parties). The project participants are Nanjing Green Waste Recovery Engineering Co., Ltd (project developer and operator) and Ecosecurities (carbon buyer).

Monitoring background

Basis for the calculation of emission reductions is the monitoring plan in the Project Design Document. The calculation of emission reduction applies methodologies ACM0001 (version 02 of 30/9/5) and AMS-I-D (3/3/6). The validated monitoring plan has been made operational by the project developer in the Monitoring Protocol [CDM project management and operation manual, June 2005]. This document is necessary to make the monitoring plan operational, but is not an official document in the CDM project cycle.

There are no remaining open issues related to monitoring after completion of project validation.

Monitoring results

Emission reduction

The calculated emission reductions amount to **15624 ton CO₂eq**. A summary of the monitoring results is included in the Annex of this report.

Monitoring period covered

This is the second monitoring report of this project. It covers the period 30/5/6 – 19/10/6.

Presentation of monitoring results - spreadsheet

All monitoring data have been included in an Excel workbook. This includes:

1. Summary. This worksheet contains an overview of the calculation of emission reductions and general notes [Annex 1].
2. Calculations. Shows the calculation of emission reductions on the basis of raw data.
3. Raw data. Contains the raw monitoring data submitted by the project developer.

No landfill gas flared

The project planned to flare part of the landfill gas. Due to the lower than expected flow of landfill gas, the flare has not been used during the monitoring period. The flare efficiency and landfill gas flow to flare have therefore not been measured.

Calculation methodology

Calculation took place in the following steps:

1. Calculate time difference between 2 observations of flow and methane. Flow of landfill gas and methane content of the landfill gas are normally recorded every hour.
2. Calculate the flow in landfill gas flow in m³/h under standard conditions;
3. Multiply time difference with calculated flow to get the LFG flow in m³ /time period
4. Multiply with vol% methane to get m³ of CH₄ per time period;
5. multiply with the density of CH₄ to get ton CH₄ per time period;
6. Apply the adjustment factor AF (5%) to calculate ton CH₄ per time period;
7. Multiply with 21 (global warming potential of CH₄) to get ton CO₂-equivalent per time period;
8. Take net MWh delivered to the grid from the records of the power company and multiply with the emissions factor for displaced power (here: 0.874 tCO₂/MWh).
9. Add the subtotals of step 7 and 8.

Issues from previous verifications

The first verification of this project [Tuv-Sud Industrie Service Gmbh, report nr. 828295 version 1 of 14 June 2006] resulted in the following forward action requests:

- Recommendation to install a flow meter on the flare.
- Signature of monitoring reports.

The following actions were taken:

- The flare has not been in operated during the monitoring period, no flow meter has been installed.
- This document has been signed with an electronic certificate.

ANNEX

CDM 0071-M2
Ecosecurities, October 2006

Monitoring report nr. 2
From 30/05/2006 00:20
To 19/10/2006 07:28
days 142

Activity data				Notes
Landfill gas to power generation	LFGelectricity	1,554,638	Nm3	1
Landfill gas to flare	LFGflare	-	Nm3	2
Landfill gas to heat	LFGthermal	-	Nm3	3
Power displaced	EG	3,052	MWh	4

Calculations				Notes
Methane combusted	MDelectricity	649	tCH4	5
	MDflared	-	tCH4	6
	MDthermal	-	tCH4	7
	MDproject	649	tCH4	8
	AF	5%		9
	MDreg	617	tCH4	10
	MDreg	12,956	tCO2eq	11
Avoided CO2 emissions grid	EG	3,052	MWh	12
	CEFelectricity	0.874	tCO2/MWh	13
	Reduction	2,668	tCO2	14
Total emission reduction	ER	15,624	tCO2eq	15

Notes	
	1 Calculations worksheet cell T2
	2 No flaring took place
	3 Not applicable
	4 Worksheet cell M10
	5 Worksheet cell AF2/0.95
	6 The flare has not been used during the crediting period
	7 Not applicable
	8 Sum flared, heat, € um
	9 As validated PDD
	10 MDproject * (1-AF)
	11 MDproject * (1-AF)*21; check AH2
	12 Power displaced EG
	13 As validated PDD
	14 EG * EF
	15 Sum of MDreg (tCO2eq) + avoided CO2 emissions grid