ANNUAL REPORT TEMPLATE FOR LANDFILL GAS PROJECTS (PRE 1)

Project Title: PNCC Awapuni landfill Gas to Energy Project

Description of Project: Conversion of landfill Gas collected from the closed Awapuni landfill to electricity

Company: Palmerston North City Council

Year Reported on: 2008 (1 January – 31 December)

(1) Break down and total of emissions generated during construction using the emission factors listed in Schedule 2 *(if applicable to the year being reported on).*

CONSTRUCTION EMISSIONS			
Element	**Usage**	**Embodied emission factors**	**tCO_2-e**
Diesel		0.002617 tonnes CO_2-e per litre	N/A
Petrol		0.002298 tonnes per CO_2-e per litre	N/A
Electricity purchased		600 tonnes CO_2-e per GWh	N/A
Iron/Steel		1.95 tonnes CO_2-e per litre	N/A
Aluminium		1.74 tonnes CO_2-e per tonne	N/A
Cement		0.48 tonnes CO_2-e per tonne	N/A
			Total

(2) Once abatement commences the following to be recorded if used in the operation of this project *(if applicable):*

Element	**Annual Usage**	**Factor**	**tCO_2-e**
Diesel	764 (estimated)	0.002617 tonnes CO_2-e per litre	2.0
Petrol	217.5 (estimated)	0.002298 tonnes per CO_2-e per litre	0.5
Electricity purchased	313,652.18 KWh	600 tonnes CO_2-e per GWh	188.2
Iron/Steel		1.95 tonnes CO_2-e per litre	N/A
Aluminium		1.74 tonnes CO_2-e per tonne	N/A
Cement		0.48 tonnes CO_2-e tonne	N/A
			Total 190.7

Reminder: Emission Reductions cannot exist until after the requirements of 4.4 have been met.

(3) (a) If the project produces electricity, a record of the quantity of electricity exported by the Project during the year.

(b) If the project produces steam/hot water, a record of the quantity and energy content of the steam/hot water generated by the Project during the year[1].

A statement of the heat plant efficiency and the equivalent quantity of fuel displaced

Element and Measure	Total
(i) Electricity (GWh)	4.617GWh
OR	
(ii) Steam (tonnes)	N/A
(iii) Steam (energy content)	N/A
(iv) Hot Water (tonnes)	N/A
(v) Hot water (energy content)	N/A
(vi) Heat Plant efficiency	N/A
(vii) Equivalent quantity of fuel displaced[2]	N/A

(4) (a) If the project produces electricity, identify and measure any other generation that is not part of the project that flows through the above meters. *(This generation to be subtracted from the metered electricity generation to determine the electricity output of the project).*

Measure	Total
Electricity (GWh)	0.314

(b) If the project produces steam/hot water, identify and measure any other steam or hot water generation that is not part of the project that flows through the above meters. *(This generation to be subtracted from the metered steam/hot water generation to determine the heat output of the project).*

Measure	Total
(i) Steam (tonnes)	N/A
(ii) Steam (energy content)	N/A
(iii) Hot Water (tonnes)	N/A
(iv) Water (energy content)	N/A

(5) Tonnes of methane combusted (if applicable). This will be calculated from the weekly methane content measurements in accordance with the methodology set out in Schedule 2 of the Project Agreement. Please append the raw data, calculations and explanatory notes.

Measure	Total
Tonnes methane combusted[3]	1641.9

[1] Need to take account of any condensate return

[2] Calculated after subtracting any figures recorded in 4 (b)

[3] Corrected for temperature, pressure and water content

(6) A calculation showing tonnes of CO_2 emitted by the project as a result of methane combusted. (Tonnes of methane combusted; multiplied by 44/16).

Measure	Total CH_4	Total t CO_2-e
Tonnes CO_2 emitted	1641.9	4515

(7) A record of the amount of tCO_2-e Emission Reductions resulting from the Project during the year determined by the relevant emission factors as per Schedule 2 of the Project Agreement.[4] The construction emissions should be subtracted from this total for each of the years that are reported on when construction takes place. Once abatement commences the total of any emissions recorded in (2) above should be subtracted from the total.

Element	Annual Production	Factor	t CO_2-e
Electricity (GWh) (3)(a)(i)	4.617	600 tonnes per GWh	2770.20
OR			
Steam/hot water (tonnes) (3)(b)(ii)/(3)(b)(iv)		As per schedule	N/A
Steam/hot water Energy content (heat output) (3)(b)(iii)/(3)(b)(v)		As per schedule	N/A
Methane Combusting (6)	1641.9	21 t CO_2-e per tonne methane	34,479.0
		Total	37,249.20
		Less construction emissions and/or other project emissions (1),(2)	2.5
		Less tonnes of CO_2 emitted by the project as a result of methane combusted	4515
Less other generation not part of the project, recorded by the meters (GWh) (4)(a)	0.314	600 tonnes per GWh	188.2
		Less steam/hot water energy content (heat output) not part of the project (4)(b)	N/A
		Net Emission Reductions for the year	**32,543.5**

[4] Conversion into tCO_2-e

The tCO2-e in respect of each of the quantities used in, purchased by or introduced into the project, the electricity or steam/hot water generated and the methane combusted in the project will be calculated according to the conditions and emission factors set out in Schedule 2 of the project agreement.

(8) Emission Units claimed for the year using the emission ratio "C" set out in Clause 5.1 of the Project Agreement.

Emission Units claimed for 2008 = 32,543.5

(9) Advice on the location of the meters or how the generation was measured.
(At the turbine(s), or/and at the revenue meter point of entry into the lines network or the national grid, (as the case may be), or/and by National Reconciliation Manager, (currently EMS).

The generation was measured at the LV terminals of the Generator it self using an EGR compliant meter, and at the ICP to the local grid using an import/export meter owned and maintained by NG Corporation.

(10) Evidence that the metering and recording equipment has been certified by a reputable, independent quality assurance service provider.

Certificate for Generation meter attached

(11) A statement detailing anything that has, or has the potential, to be an impediment to achieving the agreed emission reductions during commitment period one.

There are no known impediments affecting this project.

(12) A statement identifying that this report:

- **has been prepared using the methodology of Schedule 2 - Methodology for Determining Emission Reductions (or otherwise as detailed in section ... of this report)**
- **meets all other requirements of Schedule 4 - Contents for Annual Reports,**

of the Project Agreement.

I Philip David Burt confirm that the to the best of my knowledge the majority of the emission reductions claimed has been calculated in accordance with the methodology set out in schedule 2 of the Project Agreement and meets the requirements of schedule 4. Proxy calculations have been used to calculate the emission reductions for April and May 2008 due to a data collection error and are included in the attached spreadsheet.

Signature:

Position: Project Manager

Date: 24/04/2009

Unit Transfer Details

Please Note: To obtain the emission reduction units you will need a NZEUR account to transfer the agreed/allowed Emission Units.

1	Project name:	PNCC Awapuni LFG to Energy Project
2	Name of the project developer:	Palmerston North city Council
3	Project ID:	NZ-1000005
4	Calendar year for which units are being transferred:	2008
5	Participant's account identifier:	NZ-1053
6	Quantity of units (8):	32,543.5
7	Type of units:	ERU's

Note: Units can only be awarded for Emission Reductions during CP1, i.e. from 2008 to 2012.