

## ANNUAL REPORT TEMPLATE FOR WINDFARM PROJECTS (PRE 2)

**Project Title:** Tararua Wind Farm – Stage III

**Description of Project:** Wind Farm located in Tararua ranges consisting of 31 Vestas V90 – 3MW turbines..

**Company:** TrustPower Limited

**Year Reported on:** 2010

**(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 <sub>2</sub> -e
Diesel	0	0.00271 tonnes CO <sub>2</sub> -e per litre	
Petrol	0	0.00232 tonnes per CO <sub>2</sub> -e per litre	
Iron/Steel – produced in New Zealand		2.01 tonnes CO <sub>2</sub> -e per litre	
Aluminium – produced in New Zealand		1.62 tonnes CO <sub>2</sub> -e per tonne	
Cement	0	0.46 tonnes CO <sub>2</sub> -e per tonne	
			<b>Total 0</b>

**(2) Once abatement commences the following, if applicable to your project, to be recorded if used in its operation:**

Element	Annual Usage	Factor	tCO <sub>2</sub> -e
Diesel	negligible	0.00271 tonnes CO <sub>2</sub> -e per litre	
Petrol	negligible	0.00232 tonnes per CO <sub>2</sub> -e per litre	
Iron/Steel – produced in New Zealand		2.01 tonnes CO <sub>2</sub> -e per litre	
Aluminium – produced in New Zealand		1.62 tonnes CO <sub>2</sub> -e per tonne	
Cement		0.46 tonnes CO <sub>2</sub> -e tonne	
			<b>Total 0</b>

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

**(3) A record of the amount of electricity exported by the Project during the year.** *(How this is to be metered and recorded is listed in Schedule 2 of the Project Agreement).*

The following table records the output for each Stage III turbine as generated at the machine.

Revenue Meter	kWh	OR	Turbine Identifier	kWh
			<b>Stage III WTG</b>	<b>Machine kWh</b>
			T301	7,648,143
			T302	9,406,954
			T303	9,213,017
			T304	9,204,497
			T305	9,092,457
			T306	10,456,978
			T307	9,035,791
			T308	9,099,659
			T309	10,284,164
			T310	10,715,170
			T311	13,535,542
			T312	12,005,933
			T313	13,540,055
			T314	12,447,581
			T315	11,287,869
			T316	10,935,356
			T317	10,169,261
			T318	9,808,718
			T319	9,927,961
			T320	9,787,427
			T321	9,502,425
			T322	9,973,010
			T323	9,932,785
			T324	10,128,235
			T325	10,975,031
			T326	11,101,931
			T327	11,037,101
			T328	10,026,526
			T329	9,558,230
			T330	9,791,427
			T331	10,150,185
<b>Total Electricity Generated (GWh)</b>				<b>314.066</b>

**(4) 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 generation to determine the electricity output of the project).*

The data above data is measured at the turbine and includes only the project generation, however the data below shows the generation for NZ Wind Farms that is reconciled at the same connection point.

Element and Measure	Total
Electricity (GWh)	75.266

**(5) If the electricity is measured at the turbine provide an estimate of electrical losses at the wind farm and before connection to the lines network or Transpower grid. (Attach calculation).**

The total generation measured at all machines for the year was 319.779 GWh and the total metered output to the Network was 314.066 GWh, giving eligible generation of 314.066 GWh.

Electrical Losses for the site was 1.82%.

Calculation  $(319.779 - 314.066) / 319.779$

**(6) A record of the amount of tCO<sub>2</sub>-e Emission Reductions resulting from the Project during the year determined by the relevant emission factors as per Schedule 2 of the Project Agreement. 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 (if applicable to your project).**

Element	Annual Production	Factor	t CO <sub>2</sub> -e
Electricity (GWh) (3)	389.331	625 tonnes per GWh	243,332
		Less construction emissions and or/other project emissions (1),(2)	
Less other generation not part of the project, recorded by the meters (GWh) (4)	75.266	625 tonnes per GWh	47,041
		<b>Net Emission Reductions for the year</b>	<b>196,291</b>

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

Clause 5.1 calculation

$A = B \times C$

$164,884 = 196,291 \times 0.84$

**(8a) Advice on the location of the meters or how the generation was measured. For example at the turbines, at the revenue meter point of entry into the lines network or the national grid.**

There are meters located at the turbines and also at the point of entry into the Network. TrustPower reads the Generation meters for Tararua Stage III and also NZ Wind Farms and checks that the totals match what has been submitted for each.

**(8b) Advice on how the generation was measured.** *For example, metered directly, or using meter readings and adjusting for losses.*

To ensure accuracy of the data, we use both the meters on each of the turbines and the total generation including losses.

**(8c) Advice on the quantity of electricity generated or exported.** *Attach a relevant statement (or statements) from the Reconciliation Manager or an Electricity Commission Approved Half Hour Data Administrator identifying the volume of electricity used in determining the net emission reductions in section 6.*

Letter attached.

**(9) Evidence that the metering and recording equipment has been certified by a reputable, independent quality assurance service provider.** *Attach copies of relevant certificate(s) of compliance for meters/metering installations for the full 12 months of the reporting year.*

See attached certificates.

**(10) A statement detailing anything that has, or has the potential, to be an impediment to achieving the agreed emission reductions during commitment period one.** *This should include circumstances where the final milestone is achieved later than the final milestone date.*

TrustPower is not aware of any impediments to the delivery of Eligible Generation during commitment period one.

**(11) A verification report for this year (if undertaken by the participant)**

A verification report is to be completed by DNV.

**(12) A statement identifying that this report:**

- **has been prepared using the methodology of Schedule 2 – Measurement of Emission Reductions (or otherwise where another measure is used as a proxy measure as detailed in section ... of this report)**
- **meets all other requirements of Schedule 4 - Contents for Annual Reports, of the Project Agreement.**

The information in this report meets all the requirements of schedule 2 of the Project Agreement. And a letter is attached from our Data Administrator to meet the requirements of Schedule 4 of the Project Agreement.

**Signature:**



Simon Darmody

**Position:**

Wholesale Markets Systems manager

**Date:**

7/2/11

## 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:	Tararua Wind Farm III
2	Date of project agreement:	29 March 2005
3	Name of the project developer/company:	TrustPower Limited
4	Project ID:	NZ- 1000004
5	Calendar year for which units are being transferred:	2010
6	Participant's account identifier:	NZ- 1060 TrustPower Limited
7	Project Participant (investor): <sup>1</sup>	Kansai Electric Power Co. Inc.
8	Quantity of units (7):	60,000
9	Type of units:	ERU

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4	Project ID:	NZ- 1000004
5	Calendar year for which units are being transferred:	2010
6	Participant's account identifier:	NZ- 1060 TrustPower Limited
7	Project Participant (investor): <sup>2</sup>	TrustPower is in the process of adding Barclays Capital as a Project Participant
8	Quantity of units (7):	104,884
9	Type of units:	Please hold the balance of units until the Barclays application is completed.

<sup>1</sup> Project Participant (investor) is a party that the project developer/company has an agreement with to transfer emission reduction units (ERUs) or assigned amount units (AAUs) to.

<sup>2</sup> Project Participant (investor) is a party that the project developer/company has an agreement with to transfer emission reduction units (ERUs) or assigned amount units (AAUs) to.