



meridian

Confidential and commercially sensitive

29 January 2010

The Chief Executive
Ministry for the Environment
PO Box 10362
Wellington

Attention: Catherine Moss

re: Transfer of emission reduction units for Meridian's Te Apiti Wind Farm

Dear Catherine

Meridian Energy Ltd is pleased to deliver this report outlining the emission reduction benefits of the Te Apiti wind farm during the 2009 calendar year. This completes the reporting requirements for the 6th calendar year of electricity generation by the wind farm as required by the 2003 Project Agreement between Meridian Energy Ltd. and the Crown.

Meridian would like to request the transfer of 120,000 emission reduction units to Meridian in accordance with the process outlined in the Project Agreement.

If you have any questions or queries please call me on the number below.

Yours sincerely

Christopher More

Product and Market Development Manager

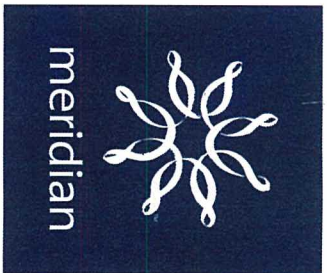
DDI: 04 381 1398

cc: Russel Thomas – Asset Manager Wind, Meridian Energy
Attachment: Te Apiti Wind Farm 2009 Annual Emission Reduction Report

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Te Apiti Wind Farm

2009 Annual Emission

Reduction Report

Version 1
29 January 2010

CONFIDENTIAL

Te Apiti Wind Farm 2009 Annual Emission Reduction Report

1 Background

This report fulfils the reporting obligations set out in the 2003 Project Agreement between Meridian and the Crown.

2 The project

The 90 MW Te Apiti wind farm is located on Saddle Road north of the Manawatu Gorge. It is situated across 1,150 ha of farmland owned by four separate land owners including Meridian. The 55 turbines each have a capacity of 1.65 MW. The generation output is fed directly into the national grid. The electricity generated from the site is sufficient to generate electricity for approximately 45,000 average homes.



Key dates during the development and construction of Te Apiti Wind Farm	
Project announced and public consultation commenced	8 May 2003
Resource consent applications lodged	20 June 2003
Resource consents granted with no appeals	4 September 2003
Karakia and construction commencement ceremonies	7 November 2003
First turbine erected	27 May 2004
First power	July 2004
Full power	November 2004
Official opening by Prime Minister	9 December 2004

3 Emissions generated – 2009 calendar year

The emissions generated have been assessed using the methodology of Schedule 2 – Methodology for Determining Emission Reductions, of the PRE 2 Project Agreements.

Emissions generated on-site at Te Apiti Wind Farm in 2009 comprise 42.1231 tCO₂e from diesel and petrol used in vehicles for site operation and maintenance.

Emissions generated – 2009 calendar year (operational emissions)			
Material	Quantity	Emission factor¹	Emissions generated
Diesel	14,619 litres	0.00271 tCO ₂ e/litre	39.6175 tCO ₂ e
Petrol	1,080 litres	0.00232 tCO ₂ e/litre	2.5056 tCO ₂ e
Iron and steel imported	114 tonnes	0 tCO ₂ e/tonne	0 tCO ₂ e
Iron and steel produced in New Zealand	0 tonnes	2.01 tCO ₂ e/tonne	0
Aluminium imported	0 tonnes	0 tCO ₂ e/tonne	0
Aluminium produced in New Zealand	0 tonnes	1.62 tCO ₂ e/tonne	0
Cement	0 tonnes	0.46 tCO ₂ e/tonne	0
Total operational emissions generated 2009			42.1231 tCO₂e

4 Electricity exported – 2009 calendar year

This table shows the total electricity exported by the Te Apiti wind farm in 2009 as recorded at the Grid Injection Point by the Marketplace Company (MCo).

Revenue Meter	kWh
Total electricity exported 2009 (kWh)	317,892,555
Total eligible generation² 2009 (kWh)	317,892,555
Total eligible generation³ 2008 (kWh)	305,114,802
Total eligible generation to date over the commitment period⁴ (kWh)	623,007,357

¹ Emission factor as prescribed in Schedule 2

² As required in Section 7.1 b i of the Project Agreement.

³ As required in Section 7.1 b i of the Project Agreement.

⁴ As required in Section 7.1 b i of the Project Agreement

Appendix 1 sets out the generation from each turbine and a combined generation total of 327,689,415 kWh. The total electricity output of the Project as measured by the Revenue Meter is 9,796,860 kWh less than this combined total because the revenue meter output incorporates generation losses. Generation losses include wind farm distribution losses (i.e. cables between turbines), transformer losses, transmission losses, and local service supply at the Te Apiti substation. This is within expected limits.

There is no other generation that is not part of the project that flows through the above meters.

Meridian expects to generate the full amount of Eligible Generation during the commitment period.

5 Emission reductions generated – 2009 calendar year

The table below sets out the emission reductions generated by the project for the 2009 calendar year.

Element	Annual Production	Factor	t CO ₂ -e
Total electricity generation (GWh)	317.892555 GWh	440 tCO ₂ /GWh ⁵	139,872.7242
Less other generation not part of the project, recorded by the meters (GWh)	0 GWh	Less operational emissions	42.1231
		Net emission reductions generated for the 2009 calendar year	139,830.60

Appendix 2 shows the emission reductions that will be reported to the Dutch Government based on the emission reduction calculation methodologies of the ERUPT 3 Contract.

6 Emission Units claimed

Meridian claimed 120,000 ERUs for the 2009 calendar year in January 2009 as set out in clause 6.1 of the Project Agreement. These have been transferred to Meridian Energy via the New Zealand Emission Unit Register.

Meridian claims 120,000 ERUs for the 2010 calendar year as set out in clause 6.1 of the Project Agreement.

⁵ Crown's risk weighted emission factor

7 How the generation is measured

The total electricity generated is recorded at the Grid Injection Point by the Marketplace Company (MCo).

Appendix 3 contains “a report which verifies the total electricity generated from the Project and injected into the national transmission system in that Year by the person responsible for the reconciliation of electricity injected into and taken from electricity networks in New Zealand or any other person authorised to administer and certify the reconciliation of such data by that person”.

Appendix 4 contains evidence that the metering and recording equipment has been certified as compliant by a reputable, independent quality assurance service provider.

8 Purchasers of Emission Reduction Units (ERUs)

As required in the Project Agreement⁶, a summary of all sales contracts for Kyoto Compliant Emission Units and the rights to any additional emissions abatements that Meridian has entered into since the Effective Date and up to the end of 2009 relating to the emissions abatement brought about by the Te Apiti wind farm during the commitment period follows.

Summary of sales contracts			
Vintage Year	Purchaser	Type and number of units	Delivery schedule
2008 - 2012	SenterNovem through ERUPT3 (delivery address TBA)	530,000 ERUs	5 equal tranches of 106,000 units from 2009-2013

⁶ Project Agreement Section 7.1 b vi



9 Statements

As at 31 December 2009, nothing has, or has the potential, to be an impediment to achieving the agreed emission reductions during the first commitment period.

This report:

- Has been prepared in accordance with the Project Agreement dated 17 December 2003.
- Has been prepared using the methodology of Schedule 2 – Measurement of Emission Reductions (except where detailed in this report) of the Projects to Reduce Emissions Project Agreements.

Signature:

A handwritten signature in blue ink, appearing to read "Chris More", written over a faint, illegible printed name.

Name: Chris More

Position: Product and Market Development Manager

Date: 29 January 2010



10 Unit Transfer Details

1	Project name:	Te Apiti Wind Farm
2	Name of the project developer:	Meridian Energy Limited
3	Project ID:	NZ- 1000001
4	Calendar year for which units are being transferred:	2010
5	Participant's account identifier:	NZ-1024
6	Quantity of units:	120,000
7	Type of units:	ERUs



Appendix 1

Generation for each turbine – 2009
 (This data is generated by the Vestas Windman database)

Park unit	Actual Output (WTG counter) kWh	Park unit	Actual Output (WTG counter) kWh
TAP01	6,015,117	TAP31	6,608,153
TAP02	6,450,713	TAP32	6,066,146
TAP03	6,255,110	TAP33	6,250,559
TAP04	5,425,585	TAP34	6,537,789
TAP05	5,523,381	TAP35	7,121,230
TAP06	6,410,292	TAP36	6,715,840
TAP07	6,676,934	TAP37	6,942,099
TAP08	5,345,096	TAP38	5,313,730
TAP09	5,805,264	TAP39	5,463,743
TAP10	5,925,175	TAP40	5,054,107
TAP11	6,196,772	TAP41	4,687,342
TAP12	6,882,995	TAP42	5,427,509
TAP13	6,376,326	TAP43	5,879,825
TAP14	6,605,927	TAP44	5,876,381
TAP15	6,560,653	TAP45	6,505,610
TAP16	5,211,321	TAP46	6,520,656
TAP17	6,084,146	TAP47	6,101,191
TAP18	6,126,823	TAP48	6,231,016
TAP19	6,747,531	TAP49	6,374,485
TAP20	7,255,839	TAP50	6,399,761
TAP21	5,358,811	TAP51	5,866,218
TAP22	5,110,641	TAP52	5,527,908
TAP23	4,042,727	TAP53	5,171,084
TAP24	4,708,494	TAP54	5,354,051
TAP25	5,916,593	TAP55	5,672,287
TAP26	5,999,435	Total	327,689,415
TAP27	5,710,914		
TAP28	6,089,384		
TAP29	5,915,020		
TAP30	5,287,676		

Appendix 2

Emission Reduction Calculations for ERUPT.

Electricity and emission reduction units generated based on Electricity Emission Factor as per validated PDD 2009 calendar year	
Total electricity generation	317,892,555 GWh
2009 Electricity Emission Factor as per the validated PDD	591 tCO ₂ /GWh
Gross emission reductions generated	187,874,5000 tCO ₂
Less total emissions	42,1231 tCO ₂
Total emission reductions generated	187,832 tCO₂
Emission reduction units claimed from New Zealand Government for 2009 calendar year	120,000 ERUs



Appendix 3

Report from The Marketplace Company confirming net generation from Te Apiti wind farm.



27 January 2010

Toni Nevin
Meridian Energy Limited
P O Box 2128
Christchurch

Dear Toni

Te Apiti windfarm generation for the 2009 calendar year

The reconciliation manager wishes to advise Meridian Energy Limited, that the total generation recorded for the calendar year of 2009 for Te Apiti was 317,892,555 kWhs. The volume reported is net generation, i.e. injection quantities less any load at Te Apiti as supplied by Meridian Energy to the reconciliation manager.

If you have any questions regarding this letter please call me on 04 498 0044.

Yours sincerely

A handwritten signature in black ink, appearing to read "Zane Doran".

Zane Doran
For and on behalf of
The reconciliation manager

We make marketplaces work

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Appendix 4

Metering equipment certification



Meter Test House



CERTIFICATE OF COMPLIANCE

Certificate Number: TSL 100064

Reference Number: 14971

Installation Name: Te Apiti Wind Farm
 Meridian's Te Apiti Wind Farm
 Palmerston North

Equipment Certified: Metering Installation

Component Information:

Component:	Serial No.:	Certification No.:
METER	PL-0402A137-01	14971M
CT	709960, 1, 2,	14971C
VT	404520, 21, 22,	14971V

Conditions of Issue: Refer to Meter Test House Database - Installation Record "comments" section.

Installation Category: 6

This certifies that the above metering equipment has been calibrated in accordance with the Electricity Governance Rules.

Issue Date: 04/04/2007
 Expires: 20/07/2010
 Signatory: 

Malcolm Hoare
 for TSL E&T Meter Test House
 Electronically created by: Godfrey Duke on
 19/02/2008

**TRANSFIELD
SERVICES**
Meter Test House



CERTIFICATE OF COMPLIANCE

(Component Only)

Certificate Number: 14971M

Installation Name:

Te Apiti Wind Farm
Meridian's Te Apiti Wind Farm
Palmerston North

Equipment Certified:

METER: Ion; 7600

Serial Number(s):

PL-0402A137-01

Calibration Report No.:

CMR11722

Conditions of Issue:

Nil

This certifies that the above metering equipment has been calibrated in accordance with the Electricity Governance Rules.

Issue Date: 20/07/2007

Signatory:



Expires: 20/07/2010

Malcolm Hoare
for TSL E&T Meter Test House

Electronically created by: Godfrey Dube on 16/09/2007

**TRANSFIELD
SERVICES**

Meter Test House



CERTIFICATE OF COMPLIANCE

(Component Only)

Certificate Number: 14971C

Installation Name:

Te Apiti Wind Farm
Meridian's Te Apiti Wind Farm
Palmerston North

Equipment Certified:

CT: ESITAS

Serial Number(s):

709960; 1; 2.

Calibration Report No.:

CMR11638

Conditions of Issue:

Nil

This certifies that the above metering equipment has been calibrated in accordance with the Electricity Governance Rules.

Issue Date: 04/04/2007

Signatory:



Expires: 04/04/2017

Malcolm Hoare
for TSL E&T Meter Test House

Electronically Created by: Cadrey Date on 16/04/2007