



DERTERMINATION REPORT

DETERMINATION TO JOINT IMPLEMENTATION CRITERIA AND WWF GOLD STANDARD OF TE APITI WINDFARM PROJECT IN NEW ZEALAND

REPORT No. 2004-0001

REVISION No. 032

DET NORSKE VERITAS



DERTERMINATION REPORT

DET NORSKE VERITAS AS

DNV Certification

Veritasveien 1,
1322 HØVIK, Norway
Tel: +47 67 57 99 00
Fax: +47 67 57 99 11
http://www.dnv.com
Org. No: NO 945 748 931 MVA

Date of first issue: 2004-04-02	Project No.: 22980255
Approved by: Simon Dawes Country Manager	Organisational unit: DNV Certification, Climate Change Services Australia/New Zealand
Client: Meridian Energy Limited	Client ref.: Tracy Dyson

Summary:
 DNV has performed a determination of Meridian Energy’s project for the Te Apiti Wind Farm in New Zealand. The determination was performed on the basis of UNFCCC criteria for Joint Implementation projects taking account of the WWF Gold Standard for CDM applied to JI, in particular the verification procedure under the JI supervisory committee, and ERUPT criteria.
 In our opinion, the project meets the relevant UNFCCC requirements for JI and ERU-PT criteria and in particular fulfils the additional requirements of the WWF Gold Standard for CDM as applied to JI projects. The baseline was prepared against the New Zealand Energy Outlook 2020 and was reviewed against the revised energy forecast described in the Energy Outlook 2025. Cancellation of a significant hydro project and doubt over new natural gas discoveries which form important assumptions in the Outlook 2025 resulted in the assessment that the Outlook 2020 assumptions were more likely to be appropriate.

Report No.: 2004-0001	Subject Group: Environment
Report title: Determination to Joint Implementation Criteria and WWF Gold Standard of Te Apiti Windfarm Project in New Zealand	
Work carried out by: Simon Dawes	
Work verified by: Michael Lehmann	
Date of this revision: 2004-06-30	Rev. No.: 03
Number of pages: 14	

Indexing terms

Key words Climate Change Kyoto Protocol Validation Joint Implementation	Service Area Verification
	Market Sector
	Process Industry

- No distribution without permission from the client or responsible organisational unit
- free distribution within DNV after 3 years
- Strictly confidential
- Unrestricted distribution

© 2002 Det Norske Veritas AS
 All rights reserved. This publication or parts thereof may not be reproduced or transmitted in any form or by any means, including photocopying or recording, without the prior written consent of Det Norske Veritas AS.



Table of Content

Page

1	INTRODUCTION	1
1.1	Objective	1
1.2	Scope	1
1.3	GHG Project Description	2
2	METHODOLOGY	2
2.1	Review of Documents	4
2.2	Follow-up Interviews	5
2.3	Resolution of Clarification and Corrective Action Requests	5
3	DETERMINATION FINDINGS	6
3.1	Project design	6
3.2	Baseline	7
3.3	Monitoring Plan	8
3.4	Calculation of GHG Emissions	9
3.5	Environmental Impacts	9
4	COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS	11
5	DETERMINATION OPINION	12
6	REFERENCES	13

[Appendix A JI WWF Gold Standard Determination Protocol](#)



Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CH ₄	Methane
CL	Clarification request
CO ₂	Carbon dioxide
CO _{2e}	Carbon dioxide equivalent
DNV	Det Norske Veritas
EIA	Environmental Impact Assessment
ERU(s)	Emission Reduction Unit(s)
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
GS	Gold Standard
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
MP	Monitoring Plan
MVP	Monitoring and Verification Plan
N ₂ O	Nitrous oxide
NGO	Non-governmental Organisation
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change
WWF	World Wide Fund for Nature



1 INTRODUCTION

1.1 Objective

Meridian Energy Limited commissioned PricewaterhouseCoopers (PwC) to validate the Te Apiti Wind Farm Project (previously the Lower North Island Wind) in New Zealand during 2002 and 2003, and they completed the validation (sic) of the Te Apiti Wind Farm in late 2003. In early 2004 PwC decided to cease all Joint Implementation (JI) Determination and Verification activities, which necessitated a further determination of the project by an entity that was continuing to engage in these activities. Meridian Energy Limited commissioned Det Norske Veritas (DNV) to perform the renewed determination of the Te Apiti Wind Farm JI project.

Determination is required for all projects under the Netherlands' ERUPT program. The purpose of determination is to have an independent third party assess the project design document, in particular the project baseline, the monitoring and verification plan, the environmental impact assessment and the stakeholder involvement. Determination is necessary in order to confirm that the project design document is sound and reasonable, meets the identified criteria, and to provide assurance to stakeholders of the quality of the project and its intended achievements.

This Report also includes verification of the Te Apiti project against the requirements of the WWF Gold Standard (GS) for CDM as applied to JI. The additional GS requirements and verification of compliance are included in this report in italics and highlighted in yellow for clarity.

1.2 Scope

The scope of this JI determination is to perform an independent and objective review of the project design document. The information in this document was reviewed against the following documents:

- Kyoto Protocol requirements,
- UNFCCC rules and associated interpretations,
- Marrakech Accords for JI;
- Terms of Reference, Carboncredits.nl, ERUPT 3, Senter International, 24 October 2002;
- Operational Guidelines for Project Design Documents for Joint Implementation Projects, Volume 1: Introduction, version 2.1, Ministry of Economic Affairs of the Netherlands, September 2002;
- Operational Guidelines for Project Design Documents for Joint Implementation Projects, Volume 2a: Project Design Document, version 2.1, Ministry of Economic Affairs of the Netherlands, September 2002 (Operational Guidelines for PDD's);
- Host country requirements with respect to the project (Environmental Impact Assessment, Stakeholder consultation).
- *WWF Gold Standard CDM PDD 12 July 2003*

As the project was already previously validated by PwC, DNV Certification also based its determination on the validation opinion, validation report and supporting documents completed by PwC.



DERTERMINATION REPORT

DNV has, based on the recommendations in the Validation and Verification Manual /5/ employed a risk-based approach in the determination, focusing on the identification of significant risks for project implementation and the generation of ERUs. This approach was also followed by PwC in their original validation activity.

The further review of the project against the GS for CDM was completed by identification of the additional requirements in the GS CDM-PDD, adaptation of the requirements (where necessary) to meet the specific requirements of JI, matching of the additional requirements against existing JI criteria and the addition of new criteria where necessary.

The determination is not meant to provide any consulting towards Meridian Energy. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 GHG Project Description

The project concerns the development of the Te Apiti Wind Farm (previously the Lower North Island Wind Generation Project) at Saddle Road, Manawatu, Lower North New Zealand. The project will have a capacity of 90.75 MW. The start of the construction of the project was on 7 November 2003. The finishing date is expected in 2005. The expected annual output of the wind farm is estimated at approximately 325 GWh, based on a capacity of 90.75MW (based on the use of 55 NEG Micon NM72 1.65 MW turbines).

2 METHODOLOGY

The determination executed by DNV consisted of the following activities:-

- review of the PDD for the Te Apiti Wind Farm Project against the key reference documents, including the PwC opinion, report and background comments; and
- assessment of the updated PDD and the stakeholder comments.

On the advice of Senter, the PDD was not publicised for renewed public comment as the PDD was unchanged from the document originally made available for comments by PwC. There were no comments received during the original comment period (16 July to 16 August 2003).

The earlier validation executed by PwC consisted of the following activities:

- customisation of the validation protocol for the project;
- publicising the PDD on the Carboncredits.nl website for 30 days;
- execution of a preliminary scan of the PDD. Based on the preliminary scan request for clarification, additional information and corrective action were sent to the project developer;
- assessment of the updated PDD and the stakeholder comments.

As requested by Meridian Energy, DNV also reviewed the project against the requirements of the GS for CDM as applied to JI. The further determination consisted of the following activities:

- *identification of requirements additional to the JI determination from the GS for CDM;*
- *matching of additional requirements to existing JI criteria;*
- *development of new criteria and amendments to existing criteria where necessary;*
- *review of the PDD against the additional requirements; and*
- *review of additional documentation requested from Meridian Energy.*



DERTERMINATION REPORT

Determination Protocol Table 1: Mandatory Requirements for Joint Implementation (JI) Project Activities			
Requirement	Reference	Conclusion	Cross reference
The requirements the project must meet.	Gives reference to COP decision where the requirement is found.	This is either acceptable based on evidence provided (OK), a Corrective Action Request (CAR) of risk or non-compliance with stated requirements or a request for Clarification (CL) where further clarifications are needed.	Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent determination process.

Determination Protocol Table 2: Requirement Checklist				
Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements in Table 1 are linked to checklist questions the project shall meet. The checklist is organised in six different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I).	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). A request for Clarification (CL) is used when the independent entity has identified a need for further clarification. N/A means not applicable.

Determination Protocol Table 3: Resolution of Corrective Action Requests and Requests for Clarification			
Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
If the conclusions from the draft determination are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.	The responses given by the project proponent or other project participants during the communications with the independent entity should be summarised in this section.	This section should summarise the independent entity's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".

Figure 1 Determination protocol tables



2.1 Review of Documents

The Project Design Document /1/ for the Te Apiti Wind Farm Project submitted by Meridian Energy and additional background documents related to the project design and baseline were reviewed /3/-/15/. The following documents were reviewed by PwC /2/:

- Draft Te Apiti Wind Farm Project Project Design Document Baseline study (July 2003);
- Te Apiti Wind Farm Project Project Design Document (August 2003);
- Resource Consent Application (20 June 2003-revision 1);
- Wind assessment study Garrad Hassan;
- Land agreements (as part of the Assessment of Environment Effects);
- Letter of Approval;
- New Zealand Energy Outlook to 2020 (table of contents and executive summary) (www.med.govt.nz/ers/en_stats/outlook/2000/excutesummary.html);
- New Zealand Government climate change website: www.climatechange.govt.nz;
- New Zealand Government Ministry of Economic Development website: www.med.govt.nz;
- New Zealand Government Ministry of the Environment website: www.mfe.govt.nz;
- National Energy Efficiency and Conversation Strategy 2001: www.eeca.govt.nz;
- Winds of change, Exploring New Zealand's phenomenal wind resource and options to drive renewable energy development. A report for Greenpeace Aotearoa, NZ, prepared by D.G. Pretti, July 2003;
- Transit New Zealand, Letter of support to Mike Brown, Tararua District Council (5 August 2003);
- Letter of support from Tanenuiarangi Manuwatu Ic. to Tararua District Council (4 August 2003);
- Written approvals from landowners (Meridian Energy, Appendix B Resource Consent Application to Tararua District Council).

The documents listed below were also reviewed by DNV:

- Te Apiti Wind Farm Project Project Design Document (August 2003);
- Resource Consent Approval (3 September 2003);
- New Zealand Energy Outlook to 2025, Ministry of Economic Development, October 2003
- Media Release, "Major contracts Awarded for Te Apiti wind farm" Meridian Energy 8pm, 6 October 2003
- Project Te Apiti Issue 2, November 2003, Meridian Energy
- Validation Report, Validation of the Te Apiti Wind Farm Project, New Zealand; PricewaterhouseCoopers, 27 August 2003
- Validation Statement, Validation of the Te Apiti Wind Farm Project, New Zealand; PricewaterhouseCoopers, 27 August 2003
- Quick Scan for the Validation of the Lower North Island Wind Generation Project (now Te Apiti), New Zealand, PricewaterhouseCoopers, 8 August 2002
- Validation Checklist, Te Apiti Wind Farm Project, New Zealand, PricewaterhouseCoopers, Version 1.2
- Media Release, "Meridian announces stop to Project Aqua", Meridian Energy, 2pm, 29 March 2004.
- ***Te Apiti Carbon Credits Timeline, 28 June 2004***



2.2 Follow-up Interviews

In August 2003, PricewaterhouseCoopers New Zealand performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Furthermore, on 19 March 2004 DNV Certification interviewed the project proponent, i.e. Meridian Energy. The following representatives were interviewed:

Table 1 Interview topics

Interviews conducted by PwC	
Interviewed organisation	Interview topics
Mr. B. Otang, Senior Energy Analyst, Ministry of Economic Development	<ul style="list-style-type: none"> ▪ Economic, political and legal factors: are the references used in the PDD most recent
Mr. R. Little, Consent Manager, Meridian Energy Ltd	<ul style="list-style-type: none"> ▪ Agreements with landowners ▪ Transboundary environmental impacts considered in the analysis ▪ Organisation of the stakeholder process (including feedback) ▪ Use of media in stakeholder process ▪ Documentation by Meridian of comments given by stakeholders
Mrs. T. Dyson, Sustainable Energy Development Advisor, Meridian Energy Limited.	<ul style="list-style-type: none"> ▪ Use of references in the PDD (realistic and well-founded)
Mrs. F. Morton, Environmental Manager, Horizon.mw., Regional Council	<ul style="list-style-type: none"> ▪ Compliance with local environmental and social legislation and rules with respect to the project
Mr. M. Brown, Manager Environmental Services, Tararua District Council.	<ul style="list-style-type: none"> ▪ Compliance with local environmental and social legislation and rules with respect to the project
Additional interviews conducted by DNV	
Interviewed organisation	Interview topics
Mr R Beatty, Reconciliation Manager, Meridian Energy Limited	<ul style="list-style-type: none"> ▪ Metering systems ▪ Metering QA
Mr A Muldoon, Wind Development Manager, Meridian Energy Limited	<ul style="list-style-type: none"> ▪ Equipment selection ▪ Construction project management

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation was to resolve the requests for corrective actions and clarification and any other outstanding issues, which needed to be clarified to enable a conclusion to be reached regarding the project design. The Corrective Action Requests and Clarification Requests raised by PwC Certification were resolved during communications between Meridian Energy and PwC Certification.

Based on the draft PDD Baseline study, a request was made for a number of clarifications. The most important issues were:

- clarification of the calculated emission factor;
- clarification of wind speed measurement;



DERTERMINATION REPORT

- explanation of the status and possible decisions with respect to the Resource Consent Application;
- textual changes.

Meridian Energy revised the documentation and resubmitted the project design documentation on 20 August 2003. The issues raised were clarified and where necessary subsequent changes have been made in the final PDD.

After reviewing the revised and resubmitted project documentation, PwC Certification issued a final unqualified validation report.

After review of the PDD, DNV requested additional information from Meridian relating to public announcement of the project. The publicly reported news releases and newspaper articles clearly demonstrated that the project was not announced prior to the availability of carbon financing.

3 DETERMINATION FINDINGS

In the following sections the findings of the determination are summarised. The determination criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the determination protocol in Appendix A. The determination findings relate to the project design as documented and described in the revised project design documentation of August 2003.

3.1 Project design

The project concerns the development of the Te Apiti Wind Farm (previously the Lower North Island Wind Generation Project) at Saddle Road, Manawatu, Lower North Island New Zealand. The project will have a capacity of between 90.75MW. Construction of the project commenced on 7 November 2004, with completion expected in 2005. The expected annual output of the wind farm is estimated at 325 GWh, based on a capacity between 90.75MW (based on the use 55 NEG Micon NM72 1.65MW turbines). The Government of New Zealand ratified the Kyoto Protocol on 19 December 2002. Meridian Energy has received a Letter of Approval (LoA) of the New Zealand Government on the 26th of August 2003. As stated in the LoA the Government of New Zealand has agreed in principle to allocate a maximum of 530,000 emission reduction units (ERUs) to the project for verified reductions generated by the project should the Kyoto Protocol be ratified. Those units will be allocated on the achievement of 1,500 GWh of generation during 2008-2012 from the Te Apiti wind farm (yet to be built); and those units will be allocated pursuant to the terms of a project agreement between the New Zealand Government and the Supplier (the 'Project Agreement') which was concluded on 17 December 2003. The level of allocation will be reduced proportionately for reduced generation. Should the Protocol not enter into force then all emission reductions actually arising from the Project, subject to the completion of all necessary agreements, may be transferred to the Netherlands.

A number of new GS annexes to the CDM-PDD relate to project design.

Annex 6 Sustainable Development Assessment – this annex provides for a detailed consideration of local/global sustainability, social sustainability and development and economic and technological development indicators. The impacts described in the PDD were assessed against

DERTERMINATION REPORT

the requirements in the CDM-PDD and found to be of an acceptable level. Many of the issues were not relevant as New Zealand is a developed country, with infrastructure in place.

Annex 7 Project Eligibility – the project is a wind power project, which is approved under the GS. Clarification was sought regarding whether the project had been announced prior to recognition of the availability of carbon financing, and it was found that no announcement had been made.

Annex 8 Official Development Assistance Additionality Screen – as New Zealand is a developed country it does not receive ODA. This Annex was considered to apply in relation to Government funding for the project. The project is privately financed.

Annex 9 Barrier Analysis – the screen was used to assess the project, and it was determined that the financial barrier applied.

3.2 Baseline

PwC reviewed the baseline during 2003, and made the following observations.

The identification of the most likely baseline is based on the procedures of the Guidelines for JI Projects-Volume 2A Annex B. The listed scenarios are assessed in a qualitative way. The selected scenario is based on the Energy Outlook 2020 and the Energy Data Files 2002 (March Year Ending) of the Ministry of Economic Development. Based on statistics and assumptions of both documents a calculation has been made of emission rates for the period 2008-2012. The calculations steps are presented in a transparent way and are mathematically correct. Relevant information in order to determine the project baseline is given for the period 2008- 2012. The key references used have been compared with information available from the New Zealand Government websites and discussed with Mr. B. Otang, a senior analyst from the New Zealand Ministry of Economic Development. Based on document review and interview with a representative of the New Zealand Ministry of Economic Development, the description of the key factors (legal, political, environmental, sociodemographic, technical) are realistic and well-founded.

DNV reviewed the matters raised above, and has found no information to suggest that the findings are materially incorrect. We also considered issues raised by the New Zealand Energy Outlook 2025 issued in October 2003 shortly after finalisation of the initial PwC validation, which could now have been considered to have been the most current information. The revised Energy Outlook considered the full impact of the New Zealand Government ratification of the Kyoto Protocol and the implications of new domestic policy issues. Major changes with a potential impact on the Te Apiti baseline determination were the inclusion of 570MW of new hydro generation and an assumption that 30PJ pa of new domestic gas would become available during the later parts of the Outlook period. As a result of these changes, the Outlook suggested that no new coal fired generation would be required during the Outlook period, a significant change from the earlier Outlook 2020. However, it has subsequently been announced that the new hydro capacity has been permanently cancelled (Media Release, Meridian announces stop to Project Aqua, 29 March 2004), and the PDD itself calls into serious question the assumed gas discoveries.

We also conducted a sensitivity analysis of the baseline determination using data from the Energy Data File July 2003 and found the difference between the two calculated baselines during the crediting period is less than 5%. Generally, the New Zealand electricity market is not large



DERTERMINATION REPORT

and the ratios between gas and coal and primary generation and cogeneration change dynamically between periods and across different years. This can affect the value of the baseline at any particular point in time. Hence, a revision of the baseline emission factor prior to the start of the crediting period would increase the accuracy of the baseline emission calculations. Nonetheless, the assumptions made for the *ex-ante* determination of the emission factors, used for *ex-post* calculation of baseline emissions in the period 2008-2012 are appropriate in the light of the information available today.

Confirmation was received by letter from the New Zealand Climate Change Office that an extensive review of the investment additionality of the project had been completed by the New Zealand government. The review found that the sale of ERUs was needed to ensure the project would be started promptly.

On this basis, and after discussions with Senter, DNV considers that the existing baseline (previously validated by PwC) is appropriate.

A number of new GS annexes to the CDM-PDD relate to the project baseline.

Annex 5 Baseline Data – a conservative approach is to be adopted, a local or regional expert should be consulted and current and future regulations need to be considered. A conservative baseline approach was adopted. Detailed information on the factors used was available from official Government sources, and was used in an appropriate way to develop the baseline. Legal issues were considered as part of the resource consent approval from the local authority.

3.3 Monitoring Plan

PwC reviewed the monitoring plan during 2003, and made the following observations.

The monitoring methodology is in compliance with the New Zealand Metering and Reconciliation Information Agreement (MARIA). This is an arrangement enabling electricity wholesalers and retailers to compete for customers and allocate volumes of energy in the national wholesale market. The NZ Government has announced (May 2003) that it intends to replace the industry self-regulation structure implicit in MARIA with statutory rules and regulations. The initial indications from the Government is that the codes of practice and rules relating to metering and data administration will not be subject to significant change, although the ability to change rules will now rest with the Electricity Commission (the regulator) and the Ministry of Energy. The proposed monitoring and verification plan is expected to meet the requirements for appropriate collection and archiving of the relevant data in order to:-

- estimate or measure emissions occurring within the project boundary,
- estimate changes in emissions outside the project boundary.

Generation information will be measured and recorded half hourly. Issues of monitoring metering systems, data integrity, validation of information and estimation of missing data is contained within the Rules and Codes of Practice. Metering errors must be notified to the National Reconciliation Manager and are open for audit.

DNV conducted a telephone interview with Mr R Beatty, the Meridian Energy Reconciliation Manager, who has responsibility for the metering data managed by Meridian. Metering equipment at the site is installed by an independent external test house which carries certification to ISO9001, accreditation to ISO17025 and is recognised by the NZ Government in accordance



with the Electricity Governance Regulations (EGR). The equipment is a Category 6 site, with annual maintenance and 2 yearly certification, and statutory metering accuracy at $\pm 0.75\%$, but with normal operation at $\pm 0.5\%$. Data is downloaded via modem. It was indicated during this interview that Meridian Energy is also certified to ISO9001 and is recognised by the NZ Government as an Half Hour Data Administrator under the EGR. Half Hour Data Administrators are competent to collect data, identify abnormalities and reconstruct half hour data. Our findings are in agreement with the original observations made by PwC.

3.4 Calculation of GHG Emissions

GHG sources and project boundaries

GHG sources relevant for this type of project that were indicated in the ERUPT-guidelines are covered in the PDD. The flow chart in the PDD gives a clear indication of the system boundaries of the project.

Relevant emissions

PwC identified the following.

The relevant information in order to calculate the project emissions is given for the period 2008-2012 (PDD, section 6):-

- Net output of the Te Apiti Wind Farm Project: 313-342 GWh per year, calculated by Garrad Hassan and based on a capacity of 82.5-96.25MW. Meridian Energy expects the most likely generation to be 325 GWh. This level of generation is expected to offset a reduction in the order of 980kt CO₂ for a period of five years.
- The relevant indicators have been filled out that are needed to check the amount of ERU's.
- The calculation of direct and indirect on-site emissions, relevant for this type of project, is covered.

As well as the PDD, DNV has reviewed documents released since completion of the PwC validation. Design of the Wind Farm has now been completed and has a net output of approximately 325GWh pa and an installed capacity of 90.75MW. This would result in a net reduction of approximately 970kt CO₂ over the five year crediting period.

Correctness and transparency of formulas and factors used

The level of precision is indicated in the tables as requested in the ERUPT guidelines. The calculations steps are presented in a transparent way and are mathematically correct.

3.5 Environmental Impacts

Assessment of Environment Effects

At the time of the initial validation by PwC, made the following comments.

In August 2003 PwC noted that Meridian Energy still required resource consent to be issued under the Resource Management Act 1991. This consent process was then currently underway and a full assessment of environmental effects (AEE) for the project had been submitted to the Tararua District Council in June 2003. The resource consent process was expected to be



DERTERMINATION REPORT

completed and approval gained by October 2003. An accepted and signed resource consent is for this project a major requirement and, if not complete, would prohibit an Unqualified Validation Opinion. The key piece of legislation with respect to this project is the Resource Management Act 1991. In addition, this project must comply with the relevant Regional and District Council rules and regulations, which have been outlined in Sections 6, 15 and 16 of the Assessment of Environment Effects (AEE). Section 13 of the AEE details how this project will avoid, remedy or mitigate the effects resulting from this project, including, but not limited to:-

1. visual effects;
2. construction effects;
3. ecology;
4. radio interference;
5. air traffic effects;
6. noise effects;
7. traffic effects.

To provide a full assessment of environmental effects, external consultants have been widely used to undertake assessment of effects based on the project description. These assessments include, but are not limited to:-

1. visual impacts;
2. air traffic assessments;
3. noise impacts;
4. ecology;
5. tele and radio communication impacts;
6. flora and fauna impacts;
7. impact of project development (ie construction traffic) and tourism traffic impacts;
8. archaeological studies;
9. iwi (indigenous peoples) cultural impact assessment;
10. greenhouse gas impacts.

Discussions with the regional council confirmed project Te Apiti had been deemed a “permitted activity”. This means the project falls within and complies with the rules set out in the Regional Plan.

DNV reviewed the documentation and noted that Resource Consent was issued on 3 September 2003, and did not place any unexpected requirements on the project.

PwC reviewed the stakeholder consultation process as part of the first validation exercise, and made the following notes.

Stakeholder consultation is a key aspect of the Resource Management Act 1991. The resource consent application document prepared by Meridian Energy clearly outlines the consultation process undertaken in regards to the Te Apiti wind farm. Prior to making a public announcement,



DERTERMINATION REPORT

Meridian consulted many organizations, which were identified as having a significant or potential interest in Project Te Apiti (these organizations are referred to as 'key stakeholders'). The preliminary meetings provided a general introduction of Meridian's intention to construct a wind farm north of the Manawatu Gorge and a request for issue identification in order to initiate preliminary effects assessments. The first consultation relating to the current proposal, other than with the landowners, began in November 2002 with Meridian staff meeting separately with Tararua District Council and horizons.mw. All other parties were consulted directly in early 2003 and have continued to be involved up to the stage of lodgement of the resource consent application. In many instances, consultation is expected to continue until the completion of the resource consenting process. Stakeholders have been invited to comment through the following channels:

- direct meetings with councils;
- public announcement;
- free phone number and website;
- open days;
- mailbox drop.

Discussions with the Tararua District Council confirmed the stakeholder consultation process has been carried out as required under the Resource Management Act 1991.

DNV did not conduct any further review of these matters.

A new GS annex to the CDM-PDD relates to assessment of environmental impacts.

Annex 10 Environmental Impact Assessment – an EIA was required and reported. The EIA was used as an integral part of resource consent. The stakeholder consultation requirements were met in full. No additional monitoring requirements were identified for inclusion in the Monitoring Plan.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

PwC Certification published the project documents on the Carboncredits.nl website on 16 July 2003 and invited comments by 16 August 2003 by Parties, stakeholders and accredited observers. No comment was received.

As agreed with Senter, and taking into account that there have been no changes to the PDD from the version exhibited for comment, a further comment period was not required.

A new GS annex to the CDM-PDD relates to stakeholder consultation criteria.

Annex 11 – Stakeholder Consultation Criteria – the stakeholder consultation process was comprehensively reported in the original PwC review, and has been included in full in the checklist for the GS determination. No additional monitoring requirements were identified from the stakeholder consultation process for inclusion in the Monitoring Plan.



5 DETERMINATION OPINION

DNV has performed a determination of Meridian Energy's project for the Te Apiti Wind Farm in New Zealand. The determination was performed on the basis of UNFCCC criteria for Joint Implementation projects, in particular the verification procedure under the JI supervisory committee, and ERUPT criteria.

In our opinion, the project meets the relevant UNFCCC requirements for JI and ERU-PT criteria. The baseline was prepared against the New Zealand Energy Outlook 2020 and was reviewed against the revised energy forecast described in the Energy Outlook 2025. Cancellation of a significant hydro project and doubt over new natural gas discoveries which form important assumptions in the Outlook 2025 resulted in the assessment that the Outlook 2020 assumptions were more likely to be appropriate.

By displacing fossil fuel-based electricity with electricity generated from a wind power source, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Confirmation that emission reductions attributable to the project and are hence additional to any that would occur as a consequence of the selected baseline scenario was extensively reviewed by the New Zealand government, and this was confirmed by the New Zealand Climate Change Office. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.

PwC in their original Validation report of 27 August 2003 found that the following issue affected their audit opinion:

“to be allowed to proceed with the project Meridian Energy requires a resource consent to be issued under the Resource Management Act 1991. The consent process is underway but not yet finalized. The council who is responsible for issuing the consent is expecting this to be completed by October 2003.”

We note that consent under the Resource Management Act 1991 has now been issued by Tararua District Council on 3 September 2003.

Based on our further review of the submitted PDD, associated documentation and later information supplied by Meridian Energy against the requirements of the WWF GS CDM-PDD, we have found that the project also meets the requirements of the WWF Gold Standard.

The determination is based on the information made available to DNV and the engagement conditions detailed in this report. DNV can not guarantee the accuracy or correctness of this information. Hence, DNV can not be held liable by any party for decisions made or not made based on the determination opinion.



6 REFERENCES

Documents provided by the project proponents that relate directly to the GHG components of the project. These have been used as direct sources of evidence for the determination conclusions.

- /1/ Meridian Energy Limited: *Te Apiti Wind Farm Project (Previously the Lower North Island Wind Project) - Project Design Document*. July 2003 and revised August 2003.
- /2/ PricewaterhouseCoopers Certification: Validation of the 'Te Apiti Wind Farm Project' in New Zealand. Validation report PwCC/FV/RR/sl/03-152, 27 August 2003.
- /3/ Assessment of Environment Effects/ Resource Consent Application (20 June 2003)
- /4/ Resource Consent Approval, Tararua District Council, 3 September 2003
- /4a/ Letter of confirmation of additionality, New Zealand Climate Change Office, 7 April 2004

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents. Where applicable, Category 2 documents have been used to check project assumptions and confirm the validity of information given in the Category 1 document.

- /5/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): *Validation and Verification Manual*. <http://www.vvmanual.info>.
- /6/ New Zealand Energy Outlook to 2020 (table of contents and executive summary) (www.med.govt.nz/ers/en_stats/outlook/2000/excutivesummary.html).
- /7/ New Zealand Energy Outlook to 2020 (table of contents and executive summary) (www.med.govt.nz/ers/en_stats/outlook/2000/excutivesummary.html).
- /8/ New Zealand Government climate change website: www.climatechange.govt.nz.
- /9/ New Zealand Government Ministry of Economic Development website: www.med.govt.nz.
- /10/ New Zealand Government Ministry of the Environment website: www.mfe.govt.nz.
- /11/ National Energy Efficiency and Conservation Strategy 2001: www.eeca.govt.nz.
- /12/ Winds of change, Exploring New Zealand's phenomenal wind resource and options to drive renewable energy development. A report for Greenpeace Aotearoa, NZ, prepared by D.G. Pretti, July 2003.
- /13/ Transit New Zealand, Letter of support to Mike Brown, Tararua District Council (5 August 2003).
- /14/ Letter of support from Tanenuiarangi Manuwatu Ic. to Tararua District Council (4 August 2003).
- /15/ Written approvals from landowners (Meridian Energy, Appendix B Resource Consent Application to Tararua District Council).

**Persons interviewed:**

Persons interviewed during the validation, or persons contributed with other information that are not included in the documents listed above.

/16/ Meridian Energy Limited, 19 March 2004:

- Mr A Muldoon, Wind Development Manager
- Mr R Beatty, Reconciliation Manager (Responsible for management of metering data collection)

/17/ Te Apiti Carbon Credits Timeline

Persons interviewed by PwC:

- Mr. R. Little, Consent Manager, Meridian Energy Limited;
- Mrs. T. Dyson, Sustainable Energy Development Advisor, Meridian Energy Limited;
- Mr. B. Otang, Senior Energy Analyst, Ministry of Economic Development;
- Mrs. F. Morton, Environmental Manager, Horizon.mw., Regional Council;
- Mr. M. Brown, Manager Environmental Services, Tararua District Council.

- o0o -