

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** of a Board of Inquiry appointed under section 146 of the Resource Management Act 1991 to consider an application by Mighty River Power Limited for resource consents to construct, operate, and maintain a wind farm at Turitea.

**STATEMENT OF EVIDENCE OF EMANUEL KALAFATELIS**

|  |           |
|--|-----------|
| <b>1. INTRODUCTION.....</b>  | <b>3</b>  |
| QUALIFICATIONS AND EXPERIENCE .....  | 3         |
| PURPOSE AND SCOPE OF EVIDENCE .....  | 3         |
| <b>2. SUMMARY OF EVIDENCE.....</b>   | <b>5</b>  |
| <b>3. SURVEY PURPOSE AND OBJECTIVES .....</b>                                    | <b>6</b>  |
| <b>4. SURVEY DESIGN.....</b>   | <b>7</b>  |
| <b>5. SURVEY SAMPLING (INCLUDING RESPONDENT DEFINITION) .....</b>                | <b>9</b>  |
| <b>6. SURVEY INTERVIEWING.....</b>   | <b>11</b> |
| <b>7. SURVEY ANALYSIS AND REPORTING (INCLUDING ACCURACY OF THE RESULTS).....</b> | <b>14</b> |
| <b>8. DETAILED RESULTS .....</b>   | <b>15</b> |
| <b>9. SUMMARY .....</b>  | <b>20</b> |

## 1. INTRODUCTION

### **Qualifications and experience**

- 1.1 My name is Emanuel Kalafatelis. I am one of five owners and partners of Research New Zealand Limited (“Research New Zealand”), the largest research and evaluation company in Wellington. This company was first established in 1990 as BRC Research Limited.
- 1.2 I am the partner responsible for managing the company’s research and evaluation work and have held this position for three years. As such, I am responsible for over 25 professional research and support staff through four direct reports.
- 1.3 I hold a Bachelors degree and an Honours degree in Social Geography from the Victoria University of Wellington.
- 1.4 I have been involved in the New Zealand research and evaluation industry for over 35 years in various roles. Between 1982 and 1992 I was the Managing Director of the Heylen Research Centre, responsible for both the Auckland and Wellington operations.
- 1.5 At a professional level, I have held various positions on the Wellington Committee of the Market Research Society of New Zealand Inc. and have recently been made a Fellow of that Society. For three years, until 2006, I was the New Zealand representative of the European Society of Marketing and Opinion Research.
- 1.6 In addition to being a current full member of the Market Research Society of New Zealand Inc., I am also a member of the Australasian Evaluation Society and its equivalent body, *anzea*.

### **Purpose and scope of evidence**

- 1.7 I have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court. Except where I state that I am relying upon the specified evidence of another person, my evidence in this statement is within my area of expertise. I have endeavoured to be accurate and to cover all relevant matters

relating to the topic on which I am giving evidence. I am not aware of any matters which might adversely affect my conclusions which I have not included. The assumptions on which my evidence is based are not, in my view, unlikely or unreasonable assumptions and, therefore, my evidence complies with Section 5.3 of the Environment Court's Code of Conduct for Expert Witnesses.

- 1.8 The purpose of my evidence is to outline the results of a public perception survey, which was undertaken between 27 March and 7 April 2009 with residents living within approximately 15 kilometres of the proposed wind farm. I was fully involved in all stages of the survey, including the design of the survey questionnaire, decisions made with respect to sampling, the analysis of the survey results and the reporting of these results.
- 1.9 Specifically, in my evidence, I will cover the following:
  - (a) The purpose and objectives of the survey (Section 3);
  - (b) How the survey was designed (Section 4);
  - (c) How the sampling for the survey was completed (Section 5);
  - (d) How the survey was conducted (Section 6);
  - (e) How the results of the survey were analysed and reported, including the accuracy of the results (Section 7); and
  - (f) Comment on the detailed results of the survey (Section 8).
- 1.10 A summary of my key points is set out in Section 2.
- 1.11 This evidence is given in respect of resource consent applications by Mighty River Power Limited ("Mighty River Power") for the construction, operation and maintenance of the Turitea Wind Farm.

## 2. SUMMARY OF EVIDENCE

- 2.1 Mighty River Power has applied for resource consents to build, operate and maintain a wind farm in the Turitea Valley, 10km south east of the Palmerston North City centre. Mighty River Power's resource consent applications were publicly notified on 24 January 2009 with a closing date for submissions on 23 February 2009. Of the total 702 submissions received, 134 were in favour (19 percent), 477 were against (68 percent), 77 were mixed (11 percent) and the remaining 14 were a mix of neutral or not stated (two percent).
- 2.2 Against this background, the purpose of the public perceptions survey was to provide a scientifically-based and representative view of the opinions of residents living within approximately 15 kilometres of the proposed wind farm. This survey was conducted by telephone between 27 March and 7 April 2009, with a total sample of 601 respondents aged 18 years old or more.
- 2.3 The main findings of the survey are as follows:
- (a) Compared to other methods of generating power, wind was most frequently identified by respondents as the preferred method (71 percent). Against this background, 78 percent of all respondents supported the building of wind farms in the Manawatu area in general, while 87 percent supported their building in New Zealand.
  - (b) 27 percent of all respondents were aware of the proposal to build a wind farm at Turitea. This increased to 85 percent after prompting. However, many respondents stated they were not well informed about the proposal to build a wind farm at Turitea, with 21 percent considering themselves to be 'not at all informed' and 31 percent 'not very informed', compared to 12 percent rating themselves as 'well informed' and 35 percent 'somewhat informed'.
  - (c) Three times as many respondents supported the proposal to build a wind farm at Turitea (60 percent) as opposed the proposal (18 percent). The remaining respondents were either neutral or undecided.

- (d) Support was almost universal across the five sub-areas of interest (as explained further below). While support was lower amongst those residents living in the Turitea Valley, at 48 percent the level of support within this group for the Turitea project was slightly higher than the level of opposition (45 percent).
- (e) The main reasons respondents gave for supporting the proposal were that the wind farm will use a natural, clean, renewable and/or sustainable resource, that wind power is generally a good option, and that more power generation is needed.
- (f) In comparison, the main reasons respondents gave for opposing the Turitea project were the negative impact on the environment (particularly in relation to the Turitea Reserve area), that there are already a number of wind farms in the area, and the negative visual impact of a wind farm.

### 3. **SURVEY PURPOSE AND OBJECTIVES**

3.1 As noted above, the purpose of the public perception survey was to provide a representative view of the opinions of residents living within approximately 15 kilometres of the proposed wind farm at Turitea. To do this, the main questions included in the survey were questions which would measure:

- (a) The extent to which, on a top-of-mind or unprompted basis, “wind farms” were a “local issue of concern or interest” relative to other issues such as, for example, the state of the economy, matters relating to the provision of health services, matters relating to the provision of educational services, issues around safety, etc.
- (b) The extent to which respondents, generally, had a preference for wind farms to be used for power generation in New Zealand relative to other methods.
- (c) The extent to which respondents were aware of the Turitea project, how knowledgeable they felt they were about it, and how they had obtained most of their information about the proposal.

- (i) Against this background, the extent to which they supported or opposed the Turitea project, and their reasons for saying this.
- (d) How their level of support for the Turitea project was similar or different from their level of support for wind farms being built in the Manawatu area more generally, and in New Zealand as a whole.
  - (i) Where there was a difference in the level of support, the main reasons for this.
  - (ii) Whether their level of support had changed over time to be more positive or negative, and the main reasons for this.
- (e) The extent to which respondents had direct experience of wind farms (e.g. because they had lived, or currently lived, in close proximity to them).

3.2 In addition to these questions, other questions of a demographic/classification nature were asked in order to be able to categorise respondents into distinct sub-groups for analysis and reporting purposes (e.g. based on age and gender, geographic location and whether in the last 12 months they had visited the area immediately adjacent to the proposed wind farm site).

#### 4. **SURVEY DESIGN**

4.1 As noted above, the purpose of the public perception survey was to provide a quantitative, scientifically-based and representative view of the opinions of residents living within approximately 15 kilometres of the proposed wind farm at Turitea. In order to design the survey questionnaire for this purpose, the following process was followed:

- (a) Following a briefing from Mighty River Power, I examined the information provided on the Ministry for the Environment's website regarding the proposal to build a wind farm at Turitea. Specifically, I examined the results of the public consultation process. This involved randomly sampling approximately 50 of the submissions and examining the range of reasons provided for supporting and opposing the proposal.

- (b) Simultaneous with this process, I examined the international research literature on researching public perceptions about wind farms. I did this in order to familiarise myself with the manner in which this type of research had been done in other jurisdictions, as well as to identify the key learnings from these studies which might need to be incorporated into the survey questionnaire.
- (c) Up to 10 iterations of the survey questionnaire were drafted and tested/piloted in a number of stages before the questionnaire used to interview respondents was finalised. This is typical for most surveys generally. The specific testing and piloting that was completed can be summarised as follows:
  - (i) Once an appropriate draft of the survey questionnaire was available, this was “tested” using an approach developed by an eminent UK social researcher, Dr William Belson. Belson’s “double-back” method of testing involves conducting a small number of face-to-face interviews with respondents and then doubling-back with each respondent in order to determine what they understood by each question and how they intended to respond given the answer they provided. Ten interviews were completed using this method and changes were made to the draft survey questionnaire as a result of the feedback received.
  - (ii) The second phase involved completing telephone interviews with a cross-section of 20 respondents randomly selected from the Wellington area. Wellington was chosen for cost-efficiency and logistical reasons, given that the purpose of this piloting was to assess how well the survey questionnaire flowed from a respondent and interviewer point of view. This piloting was also completed to ensure pre-coded lists of response categories were as complete as they could possibly be, as well as to assess the average interview length in minutes in order to assist with the scheduling of interviewers for the survey proper. Minor changes to the wording of some questions were made as a result.

- (iii) The third and final phase involved completing a further 30 telephone interviews with respondents randomly selected from the Palmerston North City area. The purpose of this phase of piloting was to make one final check of the survey questionnaire from the perspective of people living in close proximity to the proposed Turitea Wind Farm. Minor changes to the wording of some questions were made, as well as to the order of some questions.
- (iv) All design phases were subject to independent peer review by Deborah Burns of DMB Research Consultant Limited.

## 5. SURVEY SAMPLING (INCLUDING RESPONDENT DEFINITION)

- 5.1 Having examined the location of the proposed Turitea Wind Farm, as well as the logic used to identify the “survey catchment area” for other public perception surveys, the “survey catchment area” for the survey was determined to be that area within an approximately 15 kilometre radius of the proposed wind farm site. (See Figure 1 attached to my evidence)
- 5.2 This area can in turn be divided into five sub-areas of interest. In addition to those residents living directly to the west of Turitea (Area 1), also of interest were the perceptions of those residents living in Ashhurst, Woodville and the northern Tararua environs (Area 2), those living in the south-eastern Tararua environs (Area 3), those living between Tokomaru and Palmerston North and the environs in the south-west (Area 4), and those living in Palmerston North City in the west (Area 5):
  - (a) Ashhurst, Woodville and the northern Tararua environs are in close proximity to existing wind farms (Te Apiti, Tararua and Te Rere Hau Wind Farms). The research literature points to the fact that perceptions of wind farms can be different if residents of an area have directly experienced them.
  - (b) Tokomaru/Motorimu and their environs in the south-west are in close proximity to the site of the consented, but yet to be built, Motorimu Wind Farm.

- (c) Palmerston North City accounts for a significant proportion of the population of the area.
  - (d) Note that Area 1 above included areas of the Wairarapa that would be within close proximity to the proposed Turitea Wind Farm.
- 5.3 Respondents for the public perception survey were defined as being residents of these areas on the basis that they resided in the area and were aged 18 years or more.
- 5.4 In order to strictly define the boundaries of the “survey catchment area” (and the five sub-areas of interest), and therefore ensure that all eligible respondents had an equal opportunity of being selected for the survey, the “survey catchment area” was mapped onto Statistics New Zealand’s population meshblocks for the area. A meshblock is the smallest statistical unit used by Statistics New Zealand for census purposes and usually comprises approximately 100 households. The “survey catchment area” comprises 810 meshblocks, and a total population 18 years or more of 60,546 according to the 2006 Census of Population & Dwellings.
- 5.5 Having strictly defined the “survey catchment area” using meshblocks, contact telephone numbers for the households in these meshblocks were then sourced via a service that Veda Advantage Solutions Group provides, based on electronic White Pages databases. These numbers were then loaded onto Research New Zealand’s computer-based interviewing system.
- 5.6 Because of the five sub-areas of interest and the unequal population sizes for these sub-areas, it was decided to sample on a stratified basis. This effectively means that the smaller sub-areas were over-sampled (i.e. more interviews were conducted in these areas than would normally have been the case had the sampling been done on a simple random basis across the whole “survey catchment area”).
- 5.7 If the survey did not involve over-sampling, the numbers of interviews completed would have been too small to report the survey results for some of the sub-areas with any degree of certainty or confidence.

## 6. SURVEY INTERVIEWING

6.1 Telephone interviewing was selected as the most appropriate interviewing methodology because it is the most cost-effective and allows for some human interaction, which I consider to be important from a quality perspective:

(a) A face-to-face interviewing method would have been both time and cost-prohibitive. Given the mobility of people, this method would also be unlikely to have resulted in a higher rate of response than for a telephone methodology. Therefore, the representativeness of the survey would likely be compromised.

(b) A self-completion, mail-back method would have compromised the rate of response, the representativeness of the response and the quality of the response, given that there would have been limited control over who in a household completed the survey questionnaire and whether it was returned.

(c) An on-line interviewing method would have compromised the representativeness of the response given that not everyone in the population has Internet connectivity and/or the opportunity to complete on-line surveys.

6.2 Research New Zealand's call centre is fully computerised, meaning that interviewers read the questionnaire on their computer screen and immediately key in the answer given by respondents to questions as they are given. In this way, there is less chance of error (as is the case, for example, with a self-completion, paper-based interviewing method) and the interviewing is completed more cost-efficiently (compared, for example, to face-to-face interviewing). A major advantage of this computer assisted interviewing system is that the survey results are immediately uploaded onto our computer system and available for analysis.

6.3 Like other major research companies in New Zealand, Research New Zealand belongs to the Association of Market Research Organisations of New Zealand ("AMRO"). As such, our call centre is accredited with AMRO's interviewing quality standard ("IQS"). This sets minimum standards for the recruitment of interviewers, their training (and on-going training), their briefing on specific projects, their

supervision and management while conducting interviews for these projects, and the storage of data from these projects. Importantly, it also sets standards in terms of quality assurance process (a minimum of five percent of each interviewer's interviews must be monitored live) and interview verification (a minimum of five percent of all completed interviews must be verified by re-contacting the respondent and asking them to respond, again, to key questions). Research New Zealand has had its IQS accreditation renewed for the tenth consecutive year this year.

6.4 In terms of our survey of public perceptions, the following specific features should be noted with respect to the interviewing:

- (a) Interviewing was completed between 27 March and 7 April 2009.
- (b) When the paper-based survey questionnaire was converted to an electronic format so that it would operate on our computer-assisted interviewing system, the Scripting Team that took responsibility for this thoroughly tested it with the assistance of the Senior Researcher (Mr Kelvin Lange) responsible for the survey. The testing ensures that all automatic skips, based on responses to previous questions, occur in the intended sequence and that all possible response scenarios are accounted for.
- (c) A total of 12 interviewers worked on the survey. These interviewers were personally briefed by the Senior Researcher prior to the survey's commencement. This briefing was supported by extensive written briefing notes.
- (d) At the commencement of the interviewing, the Senior Researcher stayed in the call centre in order to respond to any issues or answer any queries. Later, he remained available at all times by phone. No major issues or queries arose.
- (e) Once selected to be interviewed, interviewers made up to eight calls to contact and interview the selected respondent. In households where there was more than one eligible respondent, the respondent for the interview was selected at random using the "next birthday" technique (i.e. based on

all those persons who qualify to be interviewed, the one who has their birthday next). This is common practice.

- (f) When the interviewing was completed, a preliminary stage to the data analysis was the completion of a thematic analysis of the responses to open-ended questions asking respondents to explain, for example, their support or opposition to the Turitea Wind Farm Proposal. The “coding frame” (or list of common themes expected in response to a particular question) for this step in the process was based on the reasons given for supporting or opposing the proposal in the submissions that were made in respect of the Turitea Wind Farm.

6.5 Other important points to note about the interviewing process include the following:

- (a) The survey was initially presented to respondents as a survey about “local issues of interest or concern”. This was so that an objective indication could be gained of the extent to which “wind farms” were a local issue of interest or concern relative to other issues.
- (b) Respondents were not told that Mighty River Power was the sponsor of the survey. This was so that their response to the questioning was not influenced by the sponsor. To ensure they were not told, the interviewers were also not told who the sponsor was (“blind surveying”).
- (c) The response rate to the survey was 20 percent. Compared to other public surveys this is an above average result and would have been higher had we not set quotas to interview set numbers of residents living in particular sub-areas. Feedback from the interviewers suggests that respondents were engaged and interested in responding.
- (d) The demographic profile of the respondents to the survey has been examined to the extent possible. This is so as to establish whether there were any particular groups that did not respond. I am confident that the profile of respondents is a good match with the profile of the population living in the area in question.

**7. SURVEY ANALYSIS AND REPORTING (INCLUDING ACCURACY OF THE RESULTS)**

- 7.1 The analysis and reporting of the results was completed for the total “survey catchment area”, and for each of the five sub-areas of interest, for the reasons given above. It is important to note that results are quoted on a “weighted” basis, meaning that at the post-interviewing stage, the over-sampling that occurred in relation to some of sub-areas was corrected.
- 7.2 This weighting procedure ensures that results quoted are truly representative based on the population distribution for the area. If this was not done, the over-sampling could potentially introduce a source of bias. Weighting is common practice.
- 7.3 The weighting parameters used were based on the population figures for the area and sourced from the 2006 Census of Population & Dwellings.
- 7.4 The accuracy of the results for any survey may be arithmetically calculated, provided the sample has been selected randomly, with the level of accuracy expressed in terms of the “maximum margin of error” at a particular “confidence level”. As a general rule, the larger the sample, the more accurate the results, although any sized sample would need to be tripled before there is a significant improvement on its level of accuracy.
- 7.5 With the results of the public perception survey based on a total sample of 601, the maximum margin of error of any result based on this sample size is plus or minus 6.3 percent at the 95 confidence level. This means that if 50 percent of the total sample were found to have supported the Turitea Wind Farm Proposal, there would be 95 percent chance of obtaining the same result, give or take 6.3 percent, had everyone in the population been interviewed.

7.6 Given the smaller sample sizes for the sub-areas of interest, a larger maximum margin of error applies. These are shown in the table below.

**Table 1: Population counts, interview numbers and margins of error**

| Sub-area                  | Actual population 18 years + (number) | Actual population (% of total) | Interviews completed (number) | Interviews completed (% of total) | Maximum margin of error * (%) |
|---------------------------|---------------------------------------|--------------------------------|-------------------------------|-----------------------------------|-------------------------------|
| 1. Turitea Valley         | 1,257                                 | 2.1                            | 57                            | 9.5                               | +/- 20.0                      |
| 2. Northern Tararuas      | 4,406                                 | 7.3                            | 150                           | 25.0                              | +/- 12.5                      |
| 3. South-east of Tararuas | 2,375                                 | 3.9                            | 110                           | 18.3                              | +/- 14.3                      |
| 4. South-west of Tararuas | 1,074                                 | 1.8                            | 22                            | 3.7                               | +/- 32.6                      |
| 5. Palmerston North City  | 51,434                                | 85.0                           | 262                           | 43.6                              | +/- 9.5                       |
| <b>Total</b>              | <b>60,546</b>                         | <b>100</b>                     | <b>601</b>                    | <b>100</b>                        | <b>+/- 6.3</b>                |

Total may not sum to 100% due to rounding.

\* Maximum margin of error expressed at the 95 percent confidence level.

## 8. DETAILED RESULTS

8.1 The following information is of contextual importance in understanding the level of support or opposition to the Turitea Valley Wind Farm Proposal:

- (a) Most respondents stated they had direct experience of wind farms. In particular, 71 percent reported they had ‘visited a wind farm’ and 73 percent stated they ‘currently live or have lived in a house from which they can see a wind farm’. In comparison, four percent reported they ‘currently live or have lived in a house from which they can hear a wind farm’.
- (b) Ten percent of respondents identified “wind farms” as a “local issue of interest or concern” without prompting.
- (c) Wind was most frequently identified by respondents as being their preferred method of electricity generation. At 71 percent, this was significantly more than the next preferred method, being hydro generation (52 percent).
- (d) Overall, 30 percent of respondents reported their views of wind farms had changed over time. Similar proportions of these respondents now had more positive views (47 percent) or more negative views (48 percent).

- (e) Over three-quarters of all respondents (78 percent) supported the building of wind farms in the Manawatu area in general (13 percent opposed their building) and 87 percent supported the building of wind farms in New Zealand (eight percent opposed their building).

8.2 Against this background, less than one-third of all respondents (27 percent) identified the proposal to build a wind farm at Turitea when invited to name the existing or proposed wind farms in the Manawatu area. This increased to 85 percent after prompting.

- (a) More of these respondents considered they were either 'not at all informed' (21 percent) or 'not very informed' (31 percent) about the Turitea proposal, compared to those who said they were 'somewhat informed' (35 percent) or 'very informed' (12 percent).
- (b) Most respondents had heard/learnt about the proposal from a 'newspaper' (62 percent). Less than 10 percent of respondents identified other particular sources of information, including 'other media' (e.g. television and the radio) and the 'local city council'.
- (c) Forty percent of respondents had visited the Turitea Valley in the last 12 months. I assume that this does not include people simply driving through the Turitea Valley, but this was not confirmed during surveying.
- (d) Four percent reported they had made a submission on the Turitea Wind Farm Proposal.

8.3 Three times the number of respondents supported the Turitea Wind Farm Proposal (60 percent) as opposed it (18 percent). Another 16 percent 'neither supported nor opposed' the proposal and six percent 'did not know':

- (a) In terms of the extremes, 34 percent of respondents 'strongly supported' the proposal compared to nine percent of respondents 'strongly opposing' it.

- (b) The main reasons that respondents supporting the proposal gave when they were asked to explain their support were that the wind farm will use a natural, clean, renewable and/or sustainable resource, that wind power is generally a good option, and that more power is needed (Table 2):

**Table 2: Reasons for support for Turitea Valley Wind Farm Proposal**

*Q9. For what particular reasons do you say this? – Strongly support/somewhat support*

|   | Base = | Total<br>381*<br>% |
|---|--------|--------------------|
| Will use a natural, clean resource (renewable, sustainable) |        | 29                 |
| Wind Power is a good option – generally                     |        | 18                 |
| We need more power / will ensure continuity of supply       |        | 14                 |
| There are no negative environmental issues/effects          |        | 12                 |
| We have good wind that can be used                          |        | 12                 |

\* Sub sample of those that support the Turitea Wind Farm Proposal.  
Total may exceed 100% because of multiple response.

- (c) The main reasons that respondents opposing the proposal gave when they were asked to explain their opposition were the negative impact on the environment (particularly in relation to the Turitea Reserve area), that there are already a number of wind farms in the area, and the negative visual impact of a wind farm (Table 3):

**Table 3: Reasons for opposition to Turitea Valley Wind Farm Proposal**

*Q9. For what particular reasons do you say this? – Strongly oppose/somewhat oppose*

|   | Base = | Total<br>113*<br>% |
|---|--------|--------------------|
| Negative impact on the environment – specific to Turitea reserve                          |        | 25                 |
| Negative impact on the environment – in general   |        | 22                 |
| We have already got a lot of wind farms / already done our bit / it's someone else's turn |        | 22                 |
| Visual impact – in general  |        | 19                 |
| Noise impact – in general   |        | 12                 |
| Visual impact – specific to Turitea project   |        | 10                 |
| Negative economic impact on the area in general   |        | 10                 |

\* Sub sample of those that oppose the Turitea Wind Farm Proposal.  
Total may exceed 100% because of multiple response.

8.4 In terms of the 60 percent of all respondents who supported the proposal, the following should be noted:

- (a) Over one-half of respondents living in four of the five sub-areas of interest supported the Turitea Wind Farm Proposal. The specific levels of support were as follows (Table 4):
- (i) Respondents living in the Northern Tararua sub-area: 62 percent support (17 percent opposition).
  - (ii) Respondents living in the South-eastern Tararua sub-area: 75 percent support (six percent opposition).
  - (iii) Respondents living in the South-western Tararua sub-area: 80 percent support (12 percent opposition).
  - (iv) Respondents living in the Palmerston North City sub-area: 58 percent support (19 percent opposition).
  - (v) While support was lower amongst residents living in the Turitea Valley (48 percent support), this is slightly higher than the level of those opposing the proposal (45 percent).

**Table 4: Level of support/opposition for Turitea Valley Wind Farm Proposal – by sub-area of interest**

*Q8. Do you support or oppose the/a proposal to build a new wind farm near Turitea? And do you strongly support/oppose or somewhat support/oppose this proposal?*

|   | Total | Turitea | Northern Tararuas | South-east of Tararuas | South-west of Tararuas | Palmerston North City |
|---|-------|---------|-------------------|------------------------|------------------------|-----------------------|
| Base =                                  | 601   | 57      | 150               | 110                    | 22**                   | 262                   |
|   | %     | %       | %                 | %                      | %                      | %                     |
| Strongly oppose                         | 9     | 31      | 12                | 4                      | 12                     | 9                     |
| Somewhat oppose                         | 9     | 14      | 5                 | 2                      | 0                      | 10                    |
| Neither support nor oppose / No opinion | 16    | 7       | 14                | 9                      | 3                      | 16                    |
| Somewhat support                        | 26    | 25      | 22                | 30                     | 62                     | 25                    |
| Strongly support                        | 34    | 23      | 40                | 45                     | 18                     | 33                    |
| Don't know                              | 6     | 0       | 6                 | 10                     | 5                      | 6                     |
| Total                                   | 100   | 100     | 100               | 100                    | 100                    | 100                   |

Total may not sum to 100% due to rounding.

\*\*Caution: low base number of respondents - results are indicative only.

- (b) Support for the Turitea Wind Farm Proposal is also higher amongst the following sub-groups of respondents:
  - (i) Respondents who supported the building of wind farms in the Manawatu area generally (71 percent compared to 60 percent for all respondents). (Refer to Table 5 in Appendix 1).
  - (ii) Respondents who supported the building of wind farms in New Zealand (66 percent compared to 60 percent for all respondents). (Refer to Table 6 in Appendix 1).
  - (iii) Respondents whose opinions of wind farms had changed over time and had become more positive (72 percent support compared to 60 percent support for of all respondents). (Refer to Table 7 in Appendix 1).

8.5 In terms of the 18 percent of all respondents who opposed the proposal to build a wind farm in the Turitea Valley, the following should be noted:

- (a) Forty-five percent of residents living in the Turitea Valley opposed the proposal (the highest level of opposition for the residents of any of the five sub-areas of interest). However, a similar proportion supported the proposal (48 percent).
- (b) Opposition was also higher for the following sub-groups of respondents:
  - (i) Respondents who opposed the building of wind farms in the Manawatu area in general. Just 25 percent supported the Turitea Wind Farm proposal compared to 60 percent for all respondents (Refer to Table 6 in Appendix 1).
  - (ii) Respondents who opposed the building of wind farms in New Zealand. Just 12 percent supported the Turitea Wind Farm proposal compared to 60 percent for all respondents (Refer to Table 7 in Appendix 1).

- (iii) Respondents whose opinion of wind farms had changed over time and had become more negative. Just 22 percent supported the Turitea Wind Farm proposal compared for 60 percent of all respondents (Refer to Table 8 in Appendix 1).
- (c) Respondents who had visited the Turitea Valley in the last 12 months were similar in their level of support of the proposal to build a wind farm in the Turitea Valley. Fifty-four percent of these respondents supported the proposal compared to 60 percent for all respondents. Refer to Table 8 in Appendix 1.
- (d) Similarly, respondents who lived or had lived in a home from which they could see a wind farm were no more or less supportive of the proposal to build a wind farm in the Turitea Valley. Sixty-one percent of these respondents supported the proposal compared to 60 percent for all respondents (refer to Table 9 in Appendix 1).

## 9. SUMMARY

- 9.1 The results of this survey are based on a scientifically conducted survey public perceptions with respect to the proposal to build a wind farm at Turitea.
- 9.2 Overall, 60 percent or three times as many respondents supported the proposal, with one-third (34 percent) 'strongly supporting' it. In contrast, 18 percent opposed the proposal with nine percent 'strongly opposing' it.
- 9.3 There is 95 percent confidence that the same results would have been obtained, had everyone in the 'survey catchment area' been interviewed, give or take 6.3 percent.

**Emanuel Kalafatelis**

**1 May 2009**

## Appendix 1

Table 5: Support for Turitea Wind Farm proposal – by support for Wind Farms in the Manawatu

*Q8. Do you support or oppose [the/a] proposal to build a new wind farm near Turitea?*

|   | Base = | Total      | Support in the Manawatu | Oppose in the Manawatu |
|---|--------|------------|-------------------------|------------------------|
|   |        | %          | %                       | %                      |
| Strongly oppose                         |        | 9          | 4                       | 43                     |
| Somewhat oppose                         |        | 9          | 7                       | 27                     |
| Neither support nor oppose / No opinion |        | 16         | 13                      | 1                      |
| Somewhat support                        |        | 26         | 29                      | 20                     |
| Strongly support                        |        | 34         | 42                      | 5                      |
| Don't know                              |        | 6          | 5                       | 4                      |
| <b>Total</b>                            |        | <b>100</b> | <b>100</b>              | <b>100</b>             |

Total may not sum to 100% due to rounding.

Table 6: Support for Turitea Wind Farm proposal – by support for Wind Farms in New Zealand

*Q8. Do you support or oppose [the/a] proposal to build a new wind farm near Turitea?*

|   | Base = | Total      | Support in New Zealand | Oppose in New Zealand |
|---|--------|------------|------------------------|-----------------------|
|   |        | %          | %                      | %                     |
| Strongly oppose                         |        | 9          | 7                      | 35                    |
| Somewhat oppose                         |        | 9          | 7                      | 34                    |
| Neither support nor oppose / No opinion |        | 16         | 13                     | 15                    |
| Somewhat support                        |        | 26         | 28                     | 12                    |
| Strongly support                        |        | 34         | 38                     | 0                     |
| Don't know                              |        | 6          | 6                      | 3                     |
| <b>Total</b>                            |        | <b>100</b> | <b>100</b>             | <b>100</b>            |

Total may not sum to 100% due to rounding.

Table 7: Support for Turitea Wind Farm proposal – by opinion of Wind Farms has changed

*Q8. Do you support or oppose [the/a] proposal to build a new wind farm near Turitea?*

|   | Base = | Total      | Became more positive | Became more negative |
|---|--------|------------|----------------------|----------------------|
|   |        | 601        | 84                   | 86                   |
|   |        | %          | %                    | %                    |
| Strongly oppose                         |        | 9          | 4                    | 31                   |
| Somewhat oppose                         |        | 9          | 8                    | 35                   |
| Neither support nor oppose / No opinion |        | 16         | 10                   | 11                   |
| Somewhat support                        |        | 26         | 22                   | 22                   |
| Strongly support                        |        | 34         | 50                   | 0                    |
| Don't know                              |        | 6          | 6                    | 1                    |
| <b>Total</b>                            |        | <b>100</b> | <b>100</b>           | <b>100</b>           |

Total may not sum to 100% due to rounding.

Table 8: Support for Turitea Wind Farm proposal – by visited the Turitea Valley

*Q8. Do you support or oppose [the/a] proposal to build a new wind farm near Turitea?*

|   | Base = | Total      | Visited the Turitea Valley | Not visited the Turitea Valley |
|---|--------|------------|----------------------------|--------------------------------|
|   |        | 601        | 230                        | 361                            |
|   |        | %          | %                          | %                              |
| Strongly oppose                         |        | 9          | 14                         | 6                              |
| Somewhat oppose                         |        | 9          | 12                         | 8                              |
| Neither support nor oppose / No opinion |        | 16         | 12                         | 17                             |
| Somewhat support                        |        | 26         | 23                         | 28                             |
| Strongly support                        |        | 34         | 31                         | 35                             |
| Don't know                              |        | 6          | 8                          | 5                              |
| <b>Total</b>                            |        | <b>100</b> | <b>100</b>                 | <b>100</b>                     |

Total may not sum to 100% due to rounding.

Table 9: Support for Turitea Wind Farm proposal – by lived where they can see a Wind Farm

*Q8. Do you support or oppose [the/a] proposal to build a new wind farm near Turitea?*

|   | Base = | Total      | Have lived where can see wind farm | Have <u>not</u> lived where can see wind farm |
|---|--------|------------|------------------------------------|---|
|   |        | 601        | 464                                | 137   |
|   |        | %          | %                                  | %   |
| Strongly oppose                         |        | 9          | 10                                 | 7   |
| Somewhat oppose                         |        | 9          | 10                                 | 8   |
| Neither support nor oppose / No opinion |        | 16         | 14                                 | 20  |
| Somewhat support                        |        | 26         | 26                                 | 25  |
| Strongly support                        |        | 34         | 35                                 | 31  |
| Don't know                              |        | 6          | 5                                  | 9   |
| <b>Total</b>                            |        | <b>100</b> | <b>100</b>                         | <b>100</b>                                    |

Total may not sum to 100% due to rounding.

**Figure 1: Survey Catchment Area**

