FEELING THE HEAT OF GLOBAL WARMING: EMOTION AS AN ANTECEDENT OF MANAGERS’ PRO-ENVIRONMENTAL BEHAVIOUR

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Profile: Sally Russell is a PhD Student at the University of Queensland Business School. Her research aims to further develop understanding of the antecedents of pro-environmental action in organisations. More specifically, her research examines the role of emotion and issue ownership in driving pro-environmental action within organisations.
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ABSTRACT

In this paper we present the findings of a study that investigates the role of emotion as an antecedent of managers’ pro-environmental behaviours. Based on the theory of issue ownership, we argue that emotional reactions to environmental issues are likely to inform the resulting pro-environmental behaviours. Using a content analysis of interview transcripts at the individual level of analysis, the three concepts of environmental issues, emotional expressions and pro-environmental behaviours are explored in detail. Findings reveal that environmental issues and pro-environmental behaviours often evoke emotional reactions in managers. Additionally, results suggest that emotional responses are often specific to certain types of environmental issues. Implications for research, theory and practice are discussed.

Key words: sustainability, corporate responsibility

Managers are now facing mounting pressure to respond to environmental issues (Hoffman, 2005; KPMG, 2005; Shrivastava, 1995). This trend parallels the increasing global awareness and potential significance of issues such as global warming, severe weather events and environmental degradation (Hughes et al., 2003; Loh & Wackernagel, 2004). In order to redress these global environmental issues, there is wide consensus that organisations must play a role in the solution (Dunphy, Griffiths, & Benn, 2003), and therefore so too must managers. This study aims to examine managers’ recognition of environmental issues and their subsequent emotional responses and actions. We argue that examining the antecedents of environmental action from the perspective of individual managers will have important implications for organisational decision making, and organisational responses to environmental issues.

Within this paper, and consistent with Forgas (1994), we use the term emotion to describe a feeling directed at a specific issue or person, feelings that are generally considered to be quite intense. Moreover, we use this term because object specificity towards environmental issues is our focus of interest, and is therefore most representative of the construct under study. Also, based on Pratt and Dutton (2000) and Weiss and Cropanzano (1996), we regard emotion as comprising of two components: valence and intensity. Intensity refers to the strength of the emotional experience, while valence relates to the direction of the emotion: positive versus negative.

Based on Ramus and Steger (2000: 606), we define pro-environmental behaviour as “any action taken by employees that she or he thought would improve the environmental performance of the company.” More specifically, we identify organisational pro-environmental behaviour as “the changing of organisational practices to more environmentally sound ones” (Ramus & Killmer, in press: 3).

THEORETICAL BACKGROUND

In order to frame the current study, we use the theory of issue ownership (Pratt & Dutton, 2000). This theory posits that emotional reactions to issues influence how issues are responded to
within organisations, through a process of issue ownership. Issue ownership is defined as “a concept that involves a feeling of possession of an issue, and a feeling that the issue is a legitimate action focus” (Pratt & Dutton, 2000: 123). By applying this theory to environmental issues it becomes a useful tool to explain why some environmental issues are owned and acted upon in organisations, and others are not.

**Environmental Issues and Emotions**

Within environmental psychology literature there is empirical evidence that environmental issues often evoke emotional reactions in individuals. Researchers have shown that positive emotional expressions are often evoked due to a favourable experience in a natural environment (Kaplan, 2000; Ulrich, 1983). Conversely, negative emotions have also been evoked when nature is threatened (Kals, Schumacher, & Montada, 1999). Similarly, Koole and van den Berg (2005) have shown that negative emotional reactions can arise from a fear of the natural environment.

Within an organisational context Fineman (1996) found that managers expressed both positive and negative emotions in relation to environmental issues. In the more environmentally proactive organisations he studied, Fineman found that managers spoke of positive emotions in relation to commitment to environmental issues, citing emotions such as belonging, respect, awe, and loyalty. However, he also found that negative emotions, such as fear and embarrassment were prevalent responses in the managers he studied.

From this literature, it is clear that environmental issues can evoke both positive and negative emotions for individuals. It is still necessary to examine the environmental issues that evoke emotion in the context of this study, however, so the first research question we explore is:

**Research Question 1**: What environmental issues evoke expressions of emotion in managers?

**Emotion as a Motivation for Pro-Environmental Behaviour**

Researchers within environmental psychology have demonstrated that behaviour change can be accomplished through interventions designed to cause negative emotion. For example, Aronson (1980) argued that persuasive communications that generate negative emotion are more effective in stimulating behavioural change than persuasive communications that are merely informational in nature. Other researchers have had similar results (Aitken, McMahon, Wearing, & Finlayson, 1994; Dickerson, Thibodeau, Aronson, & Miller, 1992; Kantola, Syme, & Campbell, 1984). The results from these studies demonstrate that participants who received an intervention designed to cause negative emotion achieved the most significant improvement in their level of pro-environmental behaviour.
There is also empirical evidence to suggest that both positive and negative emotions play a significant role in motivating pro-environmental behaviour (Kals et al., 1999; Pooley & O'Connor, 2000; Vining, 1992)

In contrast, management researchers have found contrary results. In their study of environmental champions, for example, Andersson and Bateman (2000) hypothesised that the use of a dramatic and emotional, or “hot”, style in presenting environmental issues to gain top management support would be positively related to championing success. They found, however, that the use of drama and emotion did not predict the outcome of any championing episodes. Additionally, their results were opposite to their hypothesised direction, suggesting that the use of drama and emotion may have had a negative impact on the success of the championing episodes.

Andersson and Bateman’s (2000) findings indicate disparity between the environmental management and environmental psychology literatures, suggesting that this is an issue worthy of further research. In order to explore this disparity further the second research question is:

**Research Question 2:** What emotions are expressed when describing the enactment of pro-environmental behaviours?

**Emotional intensity and pro-environmental behaviour**

In developing their theory of issue ownership, Pratt and Dutton (2000) found, while both positive and negative emotions could result in action, it was the degree of emotional intensity that differentiated issues that were fully owned and acted upon, from those that were not. Consistent with findings from the environmental psychology literature (Kals et al., 1999; Vining, 1987), Pratt and Dutton’s findings also suggest that both positive and negative emotions resulted in strong ownership. Additionally, Pratt and Dutton’s theoretical findings suggest that the intensity of the emotion was more important than the valence of emotion in determining whether an issue was strongly owned and acted upon. This is likely also true for environmental issues.

For example, Vining’s (1987) study of environmental decision making found that intense emotional messages were more likely to elicit pro-conservation decisions by respondents. Other studies have also shown that strong positive and strong negative emotions are significant predictors of pro-environmental behaviour (Kals et al., 1999; Lord, 1994; Pooley & O’Connor, 2000). Within an organisational context, Fineman’s (1996) findings also hint at the issue of emotional intensity. For example, in describing his findings in relation to fear, he found that those managers who engaged in pro-environmental behaviours, and had responsibility for environmental issues within their organisations, displayed a greater level of fear and embarrassment than did those managers who were

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1 Specifically, researchers aligned with the Organizations and the Natural Environment (ONE) Division of the Academy of Management.
less proactive in addressing environmental issues. Based on these research findings a third research question is explored:

**Research Question 3:** To what extent are more intense emotional expressions associated with more pro-environmental behaviours?

**METHODS**

We employed interviews as the main data collection method, and analysed our data using both qualitative (thematic analysis) and quantitative (content analysis) methods. Participants were recruited by targeting senior managers with responsibility for environment or sustainability issues, or a senior manager with substantial strategic responsibilities. The resultant sample for this study was a group of 31 top and middle managers from 17 Australian companies. Participants took part in a single, one-on-one interview with one of three interviewers over a period of seven months.

**Data analysis**

Data analysis involved three phases. The first phase involved a line by line analysis of each of the transcripts in order to identify the main themes from the data. The second phase involved the author and two independent research assistants conducting a content analysis of the textual data using the identified themes as the coding scheme. The final phase was conducted to inform Research Question 3, to explore relationships between pro-environmental behaviours and the intensity of emotional expression. The focal unit for all phases of the analysis process was a line of text, or approximately one sentence.

**Phase 1. Thematic analysis.** The procedure recommended by Miles and Huberman (1994) and Straus and Corbin (1990) was followed to identify environmental issues, and pro-environmental behaviours. This process involved the reviewing of each transcript line by line, paying attention to the themes within each paragraph. From this process a list of themes was developed for issues raised, and behaviours described.

Managers’ emotional expressions were coded using an initial “start list” (Miles & Huberman, 1994) of categories and themes based on Shaver’s taxonomy of emotion (Shaver, Schwartz, Kirson, & O’Connor, 1987). Additional emotions were added to this list during the line by line analysis of transcripts. Emotional intensity was coded using the Circumplex Model of emotion (Larsen & Diener, 1992) as a guide. This model classifies discrete emotions into positive and negative valence, and high, medium and low levels of intensity and has been used successfully for this purpose in previous research (Dasborough, 2006).

**Phase 2. Content analysis.** We used the themes identified in the first phase of the analysis as the content analysis scheme for this second phase of data analysis. The coding scheme was stored in the qualitative data analysis software program *Nvivo 7*, which was used to assign coding categories to each textual unit. Each transcript was independently coded by two research assistants and the first
author in a similar process that occurred during Phase 1. After all three researchers had completely
coded all transcripts, the initial inter-rater reliability was calculated using a random sample of five
interview transcripts. The initial proportions of agreements were: between the Author and RA1, 69%;
between the Author and RA2, 72%; and between RA1 and RA2, 68%. Reliability at this level is
considered acceptable and indicates convergence across the three raters (Miles & Huberman, 1994).
Coding decisions that were not agreed upon by all three coders were examined and final agreements
negotiated, essentially resulting in 100% agreement across the coders (Larsen, 1993; Miles &
Huberman, 1994).

Phase 3. Pro-environmental behaviour and intensity analysis. This phase involved an
additional categorisation of the pro-environmental behaviours identified in the thematic analysis
according to the extent to which they were considered to be “proactive”. There is a significant
literature that provides typologies of levels of pro-activity, which largely categorises behaviours on a
continuum from pro-active to reactive responses to environmental issues (Sharma & Vredenburg,
1998). Following this literature, the behavioural categories identified in this study were further
categorised. Subsequently, “environmental compliance and reporting,” and “eco-efficiency” were
classified as reactive behaviours, whereas “advocating environmental change,” “conservation of
natural biodiversity” and “environmental leadership” were classified as proactive behaviours. A cross-
tab analysis was conducted to compare the frequencies of coding of the two types of behaviours —
proactive or reactive — with the level of emotional intensity expressed. The results from each phase of
the analysis are described in the following section.

RESULTS

In presenting the results of this study the findings relevant to each research question are
presented in turn. Based on the thematic analysis 1,952 lines of text were identified as including an
environmental issue, an emotional expression or a discussion of a pro-environmental behaviour at the
individual level.

Research Question 1: Environmental Issues

The environmental issues that resulted from the thematic analysis included the categories of
issues described in Table 1, including illustrative quotes for each category. Overall 471 lines of text
were coded for environmental issues, with more lines of text including an expression of emotion
(56%) than no emotion (44%). Emotional expressions that were identified during the thematic analysis
are presented in Table 2.

The most common environmental issue raised by managers was limited resources. This issue
was also associated with the widest range of emotions and accounted for almost half of all expressions
in response to environmental issues. Table 3 illustrates this by cross-tabulating the issues identified
and emotions expressed. Managers who recognised this issue commonly expressed negative emotions when they described limited resources. For example, one manager described his feelings as “the deep dark moments that I can have – not quite depression – but the scary thing is that the Western world [is dependent on oil]”. Other managers also expressed hope and excitement at the opportunities for saving resources that arose from recognition that resources are limited.

Recognition of the value of biodiversity was also identified often by the managers. This issue was associated with expressions of caring for natural biodiversity, coupled with both fear and sadness around potential loss of natural environments. The issue of future generations was exclusively associated with the positive emotion of joy, specifically around hope for the future. In contrast, pollution and waste and major global events were exclusively associated with the negative emotions of anger and fear respectively.

Insert Table 3 about here

Research Question 2: Pro-environmental behaviours

Five broad categories of pro-environmental behaviour were identified. These categories are described with illustrative quotes in Table 4. In total, 1,128 lines of text were coded for pro-environmental behaviours at the individual level. Similar to the findings for environmental issues, more discussions of pro-environmental behaviours at the individual level included an expression of emotion (56%), than no emotion (46%).

Insert Table 4 about here

A cross tabulation of the pro-environmental behaviour categories and emotions expressed is presented in Table 5. More than half of the managers who participated in the study identified themselves as advocates for environmental change. These individuals cited both fear and joy in relation to this role. Fear was described both in terms of being concerned about how others would respond to an attempt to change behaviour, as well as a means to impact others. For example, one manager described his attempts to change behaviour were “…very much an emotional thing” and he also suggested in order to be a successful advocate “… sometimes you have to frighten them [others].” Positive emotions were also associated with advocating change, particularly hope that the managers’ efforts would be successful. Anger, frustration, sadness and hopelessness were also expressed when managers described unsuccessful attempts at advocating change as well as global issues that the managers couldn’t affect.

Insert Table 5 about here

Descriptions of eco-efficiency behaviours, or the more efficient use of natural resources, were also commonly described by individuals. Eco-efficiency was most commonly associated with enthusiasm or excitement. For example, “…whenever I tell the solar cities story people get excited.”
Other emotions included hope that eco-efficiency behaviours would be successful and frustration when they weren’t. Environmental leadership or “walking the talk” was also regularly identified, most commonly expressed with pride.

Conservation of natural biodiversity was the next most commonly cited behaviour and it was most often associated with joy. Other emotional expressions included satisfaction in contributing to preserving natural biodiversity, as well as cynicism around the amount of change that could be achieved. Environmental compliance and reporting were also mentioned at the individual level, and these behaviours were described in relation to joy that regulatory compliance could reduce environmental harm, and fear that it might not.

Pro-environmental behaviours and environmental issues. Pro-environmental behaviors were also found to be associated with certain categories of environmental issues. At the individual level, advocating environmental change was particularly associated with limited resources and pollution and waste. Eco-efficiency behaviors were associated with the widest range of issues, and were described in association with future generations, biodiversity conservation, limited resources and pollution and waste. Environmental leadership was most associated with limited resources and biodiversity value respectively. When managers described participating in conservation of natural biodiversity they also described the two issues of pollution and waste, and future generations. In contrast, compliance and reporting were not associated with any of the environmental issue categories at the individual level.

Research Question 3: Emotional Intensity

In exploring the extent to which more intense emotional expressions were associated with pro-environmental behaviours, a cross-tabulation of emotional intensity and level of pro-environmental behaviour was derived from the content analysis (see Table 6). At the individual level there were significant differences between proactive and reactive behaviours in terms of the level of intensity of emotion expressed, $\chi^2 (5) = 223 \ p<0.001$. In examining the negative emotional expressions, Table 6 shows that proactive behaviours were associated with high intensity emotions, more so than reactive behaviours. This pattern is not consistent in looking at positive emotions, however, where reactive behaviours were associated with significantly more intense emotional expressions than proactive behaviours.

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**IMPLICATIONS AND LIMITATIONS**

The findings from Research Question 1 support the notion that environmental issues evoke emotional reactions in individuals (Fineman, 1997; Vining, 1992). In particular, using a framework based on the theory of issue ownership (Pratt & Dutton, 2000), we extend the earlier research by identifying emotional responses specific to certain types of environmental issues. Inherent in this finding, and based on the theory of issue ownership, there is the implication that issues that evoke
intense emotional reactions are likely to be related to stronger issue ownership, and therefore greater levels of proactive environmental behaviours. Taken together, the results from Research Question 1 and 2 provide support for this theory.

For example, results from Research Question 1 indicated that the issue of limited resources evoked the strongest emotional reactions in the managers studied. In examining results from Research Question 2 this issue was also most commonly associated with the proactive environmental behaviour of advocating environmental change. While this data provides support for the presence of a relationship between strong emotional reactions and proactive behaviours, issue ownership was not a measured variable. Further research would be of benefit to examine how emotional reactions impact on pro-environmental behaviours and the extent to which this relationship can be explained by the presence of issue ownership.

In relation to Research Question 3, the results suggest that the relationships between environmental issue recognition, intensity of emotional response and subsequent pro-environmental behaviour are more complex than extant literature propose (Fineman, 1996; Kals et al., 1999; Pratt & Dutton, 2000; Vining & Ebreo, 2002). Particularly, we found that emotions expressed when describing proactive environmental behaviours at the individual level were more commonly associated with high and medium intensity negative emotional expressions whereas reactive behaviours were described most often in association with high intensity positive emotions.

This result could be explained by introducing other moderating variables that may affect the relationship between environmental issues, emotions and pro-environmental behaviours. For example, it is possible that managers’ emotional expressions were linked to their identification with organisational or personal environmental values. Pratt and Dutton (2000) suggest that identification that allows members to feel connected, attached, and part of the issue impacts on the extent to which an issue is acted upon. This variable is also identified as important in the management literature by Bansal (2003), who found that congruence between an individual’s concern about an issue and the values of the organisation were key variables in the success of addressing environmental issues. Perhaps it is likely then that managers who had stronger identification with individual or organisational environmental values also displayed more emotion when describing environmental issues or behaviours.

The results also indicate that expressions of emotion may be particular to the issue or action being described. While I found some environmental issues and pro-environmental behaviours were associated with a wide range of emotions, others were associated with a much narrower range and more specific expressions of emotion. Research that examines a narrower range of emotional expressions may enhance the value of this finding and will likely be a rewarding area for future research. For example, the findings from this study reflect the prevalence of expressions of embarrassment, guilt and pride. Emotions such as these are considered to be self-conscious in that they are derived from evaluations of the self against social or personal norms (Tangney & Fischer, 1995).
Vining and Ebreo (2002) suggest that self-conscious emotions may be particularly relevant to environmental issues and this is certainly an area worthy of future research.

The findings of this research study can also be used to assist policy makers and environmental change agents to be more effective in their efforts to stimulate action in organisations. We argue that understanding emotional reactions to environmental issues may help focus change efforts towards targeting specific pro-environmental behaviours. For example, the results of this study suggest that using an intervention that evokes intense negative emotion may be successful in motivating individuals to engage in pro-environmental behaviours within organisations.

Limitations

The results of this study are derived from a qualitative research design, which has some inherent limitations. It is possible that personal biases and subjective preferences may have intruded into the research process (Flick, 2002). While attempts were made to validate the findings to ensure these biases were kept to a minimum (Miles & Huberman, 1994), they remain a potential limitation. Additionally, the study relied upon participants’ self-reports of engagement in pro-environmental behaviours. Without direct observations of these behaviours, managers’ discussions may have been influenced by social desirability bias (Podsakoff & Organ, 1986) where managers inflated their own or their organisations’ participation in pro-environmental behaviours (Andersson & Bateman, 2000). Additionally, although the sample of managers was drawn from a broad range of organisational contexts further research is necessary to confirm the application of the findings of this study to a wider management context.

CONCLUSION

The aim of this study was to investigate the relationships between environmental issues, emotions and pro-environmental behaviours. Results from previous empirical studies highlighted divergent findings across literatures from environmental psychology and management scholarship. In order to further investigate these concepts, a qualitative study was employed to examine what environmental issues evoked emotional expressions, what emotions were evoked when describing pro-environmental behaviours, and to examine the extent to which the intensity of emotional expressions were associated with pro-environmental behaviours. The findings revealed that environmental issues were a significant source of emotional expressions. Additionally, results suggest that emotional responses are often specific to certain types of environmental issues. The results of this study extend extant research and highlight some of the many fruitful paths for further research.
REFERENCES


### TABLE 1: Environmental Issues

<table>
<thead>
<tr>
<th>Environmental Issue</th>
<th>Illustrative quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiversity Value</td>
<td>“…the springs have fish, snails, crustaceans, and plants, and spiders and other things, they are only known from that place… its been there for millions of years, its fed by very deep artesian water…”</td>
</tr>
<tr>
<td>Future Generations</td>
<td>“… making sure that at that impact doesn’t really limit the future generation’s use of that resources.”</td>
</tr>
<tr>
<td>Major Global Events</td>
<td>“…or you know climate change induced major tsunamis and earthquakes and who knows what else.”</td>
</tr>
<tr>
<td>Limited Resources</td>
<td>“… we have a finite natural resource, and we can’t continue to live as if it’s an infinite resource.”</td>
</tr>
<tr>
<td>Pollution and Waste</td>
<td>“I’m responsible for all of our waste emissions, be they solid waste, waste water, air emissions, noise, odour…”</td>
</tr>
</tbody>
</table>

### TABLE 2: Emotions Expressed

<table>
<thead>
<tr>
<th>Shaver’s Category</th>
<th>Emotions expressed</th>
<th>Illustrative Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Love</td>
<td>Caring</td>
<td>“…contentment and compassion and empathy for others you know that kind of thing, I think that just naturally rubs off on a respect for the environment you know”</td>
</tr>
<tr>
<td></td>
<td>Compassion</td>
<td></td>
</tr>
<tr>
<td>Joy</td>
<td>Happiness/Satisfaction</td>
<td>“You have to hope”</td>
</tr>
<tr>
<td></td>
<td>Enthusiasm/Excitement</td>
<td>“I find I get very proud when I put a system in place and the company is seen as, we follow those, that system and we don’t impact (on the environment).”</td>
</tr>
<tr>
<td></td>
<td>Hope</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pride</td>
<td>“I’m amazed every day how the earth can support everyone.”</td>
</tr>
<tr>
<td>Surprise</td>
<td>Amazement</td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td>Anger/Frustration</td>
<td>“I do get annoyed when I see water getting sprinkled on the concrete. I get even more annoyed when I see people hosing concrete. I’m a bad person to be with, I’m just a cranky little man.”</td>
</tr>
<tr>
<td></td>
<td>Annoyance</td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>Sadness</td>
<td>“You know you become part of the problem (because) you say you can’t do anything or you’re hopeless…”</td>
</tr>
<tr>
<td></td>
<td>Hopeless/Depressed</td>
<td>“We feel really guilty if we have one plastic bag.”</td>
</tr>
<tr>
<td></td>
<td>Embarrassment/Guilt</td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>Fear/Alarm</td>
<td>“When we have water crises we get serious about it and we alarm people about it and we have water restrictions.” “I can challenge people, and to do that sometimes you have to frighten them.”</td>
</tr>
<tr>
<td></td>
<td>Cynical/Sceptical</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 3: Environmental Issues and Emotions (Individual Level of Analysis)

<table>
<thead>
<tr>
<th>Biodiversity Value</th>
<th>Future Generation s</th>
<th>Major Global Events</th>
<th>Limited Resources</th>
<th>Pollution and Waste</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Love</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Joy</td>
<td>30</td>
<td>27</td>
<td>-</td>
<td>42</td>
<td>99</td>
</tr>
<tr>
<td>Surprise</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Anger</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>14</td>
<td>26</td>
</tr>
<tr>
<td>Sadness</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fear</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>76</td>
<td>93</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>27</td>
<td>-</td>
<td>132</td>
<td>233</td>
</tr>
</tbody>
</table>

NB: Numbers in table represent frequencies of text units (lines), not the actual number of issues raised or emotions expressed.

### TABLE 4: Pro-Environmental Behaviours

<table>
<thead>
<tr>
<th>Pro-Environmental Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocating environmental change</td>
</tr>
<tr>
<td>“…we have to try and influence these same people who are indeed our clients and customers to thinking in a different way.”</td>
</tr>
<tr>
<td>Conservation of Natural Biodiversity</td>
</tr>
<tr>
<td>“…we’ve got programs in place where we go to areas and replant mangroves… We’ve just finished constructing a twelve hectare roost site, for shore birds.”</td>
</tr>
<tr>
<td>Eco-efficiency</td>
</tr>
<tr>
<td>“We have high efficiency light bulbs. We have, we’re getting water tanks, we’re on gas as opposed to electricity in terms of heating and that. We’re got the whole place insulated.”</td>
</tr>
<tr>
<td>Environmental Compliance and Reporting</td>
</tr>
<tr>
<td>“Now we have to comply to the EPA regulations in order for us to have a license to operate in our business.”</td>
</tr>
<tr>
<td>Environmental Leadership</td>
</tr>
<tr>
<td>“So good leadership is important, you need champions who are prepared to stand up and say this is what we’re doing.”</td>
</tr>
<tr>
<td>“…it’s a company leading by example and as a result getting profits along the way.”</td>
</tr>
</tbody>
</table>
### TABLE 5: Emotions and Pro-Environmental Behaviours (Individual Level of Analysis)

<table>
<thead>
<tr>
<th></th>
<th>Advocating Environmental Change</th>
<th>Conservation of Natural Biodiversity</th>
<th>Eco-Efficiency</th>
<th>Environment Compliance and Reporting</th>
<th>Environmental Leadership</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Love</td>
<td>-</td>
<td>-</td>
<td>19</td>
<td>-</td>
<td>14</td>
<td>33</td>
</tr>
<tr>
<td>Joy</td>
<td>52</td>
<td>52</td>
<td>81</td>
<td>53</td>
<td>164</td>
<td>402</td>
</tr>
<tr>
<td>Surprise</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Anger</td>
<td>14</td>
<td>-</td>
<td>-</td>
<td>69</td>
<td>3</td>
<td>86</td>
</tr>
<tr>
<td>Sadness</td>
<td>-</td>
<td>-</td>
<td>40</td>
<td>-</td>
<td>-</td>
<td>40</td>
</tr>
<tr>
<td>Fear</td>
<td>14</td>
<td>-</td>
<td>-</td>
<td>42</td>
<td>-</td>
<td>56</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>52</td>
<td>140</td>
<td>165</td>
<td>181</td>
<td>618</td>
</tr>
</tbody>
</table>

NB: Numbers in table represent frequencies of text units (lines), not the actual number of emotions expressed or pro-environmental behaviours described.

### TABLE 6: Emotional Intensity and Pro-Environmental Behaviours (Individual Level of Analysis)

<table>
<thead>
<tr>
<th>Emotional Intensity</th>
<th>Proactive</th>
<th>Reactive</th>
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</thead>
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<td>High Positive</td>
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<td>33</td>
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<tr>
<td>Medium Positive</td>
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<td>113</td>
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<tr>
<td>Low Positive</td>
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<td>8</td>
</tr>
<tr>
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<tr>
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</tr>
<tr>
<td>Low Negative</td>
<td>-</td>
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